MSA University

DISTINGUISHED GRADUATION PROJECTS

2017 / 2018

DISTINGUISHED GRADUATION PROJECTS
2017/2018

MSA University
October University for Modern Sciences and Arts
Established by Dr. Nawal El Degwi in 1996

Our best wishes for success in a life full of learning in pursuit of knowledge and responsible research and innovation.

Prof Dr Khairy Abdel Hamid
President

Dr Nawal El Degwi
Head of Board of Trustees

MSA UNIVERSITY FACULTIES:

Faculty of Arts and Design

Faculty of Biotechnology

Faculty of Computer Science

Faculty of Dentistry

Faculty of Engineering

Faculty of Languages

Faculty of Management Sciences

Faculty of Mass Communication

Faculty of Pharmacy

MSA University
October University for Modern Sciences and Arts
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Faculty of Arts and Design

Graduation Projects

2017/2018

MSAUniversity.News MSAUni_Official +MsauniversityInfo

Dean's Word

The graduation projects of the Faculty of Arts and Design this year reflects the link between academic reality and national projects , as we usually targeted real topics

A group of experts, industry specialists and academic design professors from Egypt and British universities who have shown their admiration for the outstanding production of students and unconventional ideas

The fashion designer, Ann Mary Louis , was very impressed with the production of the students at the fashion design department which shows the students' awareness and creative thinking

Graphic and Media Arts Department , the committee praised the issue of a group of experts and academics on the diversity of the work of students from the campaigns of complete advertising and awareness campaigns , films , cartoons and packaging products

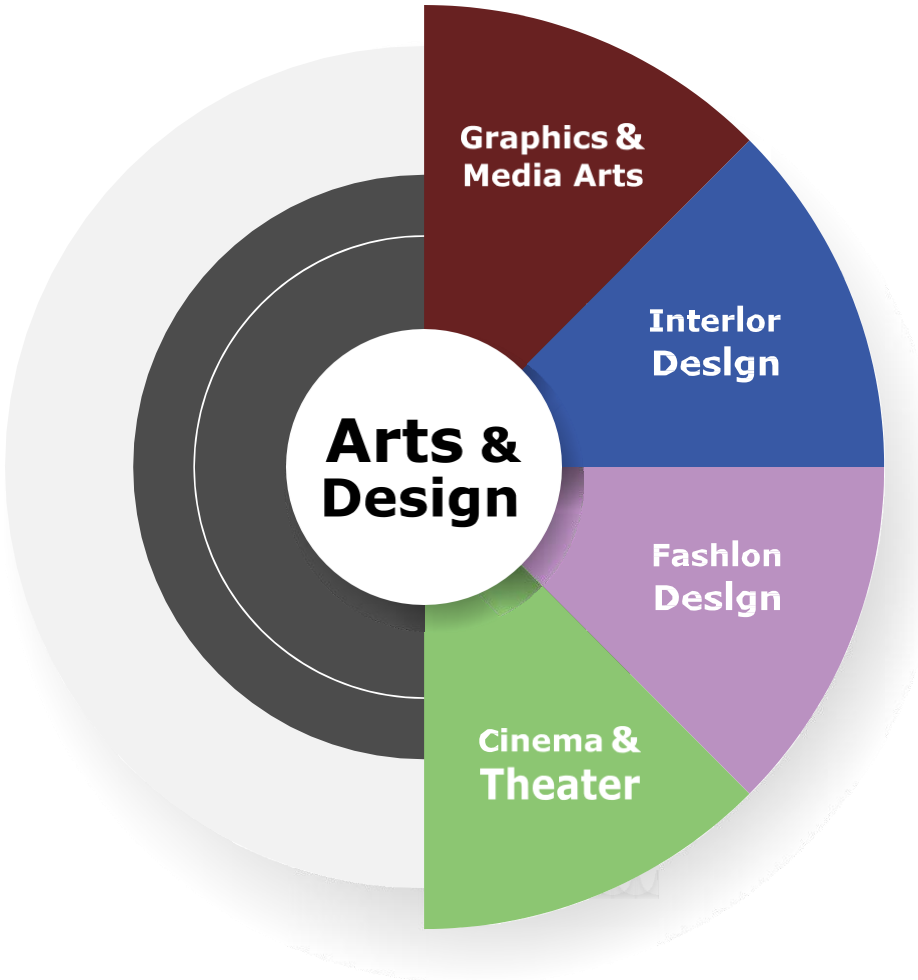
The Department of Cinema and Theater Design presented integrated treatments for a series of novel works in a modern and unconventional vision. The committee praised the students' level of awareness of the temporal and spatial dimensions of the dramas they chose, as well as the design of the characters of these works and the construction of dramatic scenes and the working environment in a new generation of directors of production and executive directors

In addition to the interior design solutions within the framework of the State Strategic Plan for Development 2030, our talented students at the Faculty of Arts and Design, Department of Interior Design have studied carefully the needs of Egypt 2030 and have designed many cultural centers and research centers in the new and updated needs that meet the latest requirements of the era. A range of service centers and educational buildings, service stations that cover all the life needs of Egypt's future and a unique and distinctive vision for youth working for the homeland

This reflects the serious thinking, planning and excellent implementation of the graduation projects, thank you to the faculty members and members of the support staff and students, thanks to the University administration and the Board of Trustees

Prof..Tarek.Saleh.Said

Dean of the Faculty of Arts and Design
October University for Modern Sciences and Arts (MSA)
Cairo , August 2018


Graphics &
Media Arts
Interlor
Deslgn
Arts &
Design
Fashlon
Deslgn
Cinema &
Theater

Graphics & Media Arts

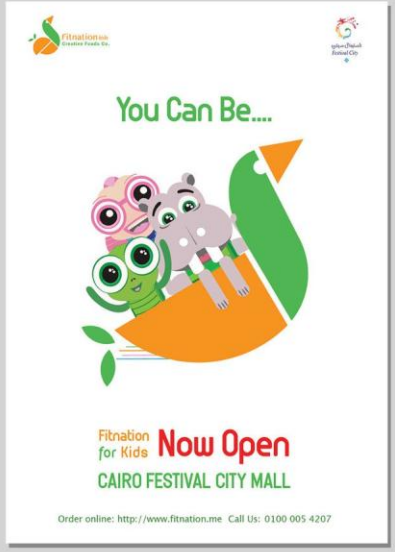
Re-Branding

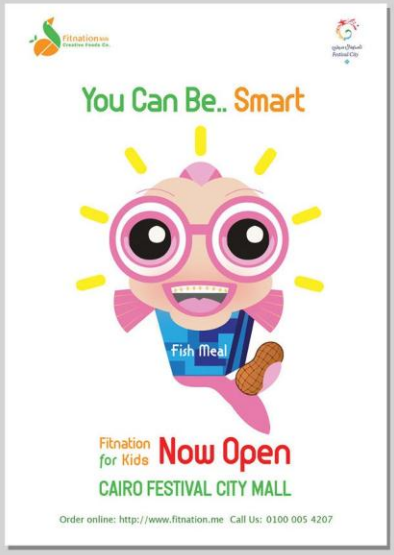
1

Mona Ramy

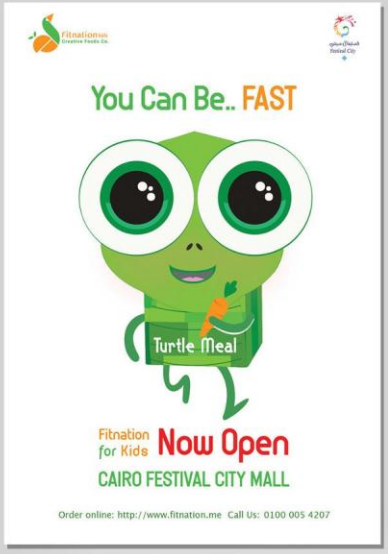
Fitnation Kids

The purpose of this project is to introduce FITNATION for Kids as a potential sub-brand for the existing FITNATION brand, a healthy food .delivery chain





Fitnation kids
Creative Foods Co.



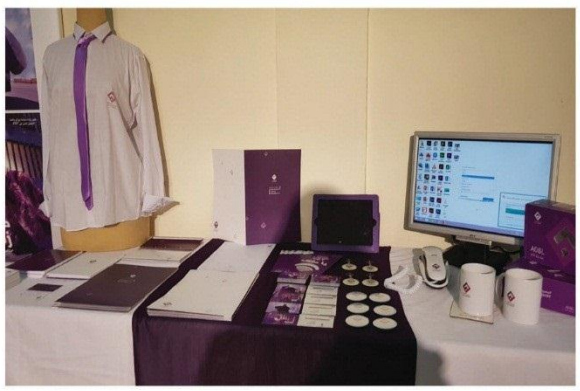
Reham Hisham

Telecom Egypt is Egypt's primary telephone company. It with the first 1854 started in 1998 telegraph line in Egypt. In it replaced the former Arab Republic of Egpyt National Telecommunication Organization (ARENTO)

Telecom Egypt Rebranding

Campaign Concept:

The target audience in this campaign is the C class. The main concept of the campaign class feel they are "The King of Their Time" were wealth is not needed.



Unit Name / Code: Graduation Project II / GRPH 406
Student Name: Reham Hisham Gamaleldin Mohamed
Unit Supervisor: Dr. Nagwa El Adway - Dr. Hisham Nagy
LA. Ola Suliman - TA. Marwa Shahbour - TA. Mona Emam - TA. Shaimaa Essa

Branding

Mahmoud Ahmed

Lobestroll

Re-branding for a new food truck lserving Lobster in a form of roll depending on three sales points, Fast , Cheap and first one

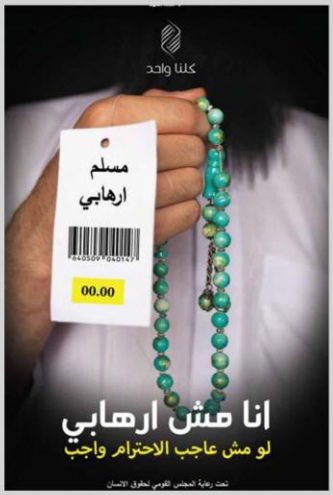
Awarness Campaigns

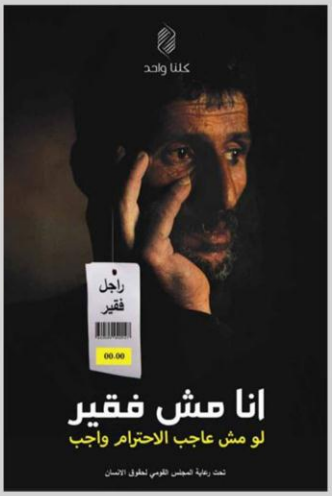
1

Sarah Jamal

Kolina Wahid

Most of us are familiar with the danger of stigmatizing people and being stigmatized by someone else





كلنا واحد

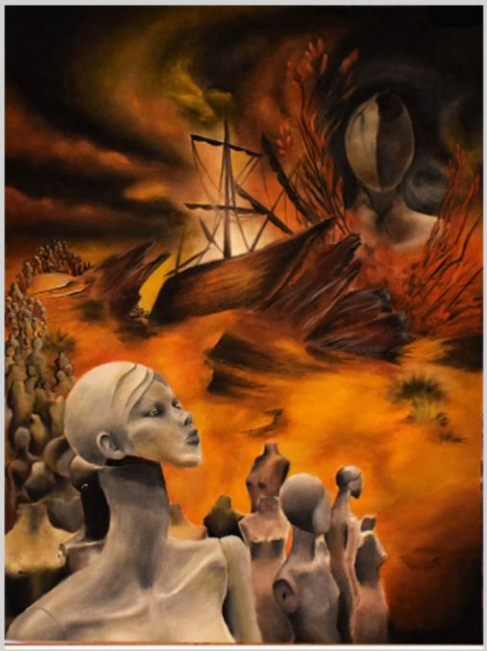
Illustration

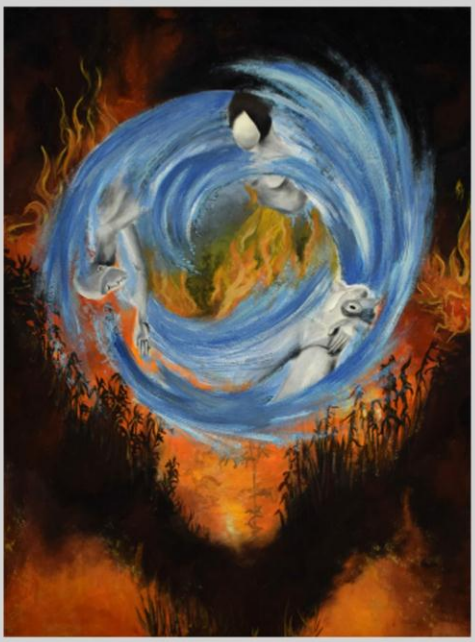
1

Nour Khaled Koraa

GLOBAL DEATH

Global warming is something that is well known, we all sense it, we all know it started, so it is time to make a change.





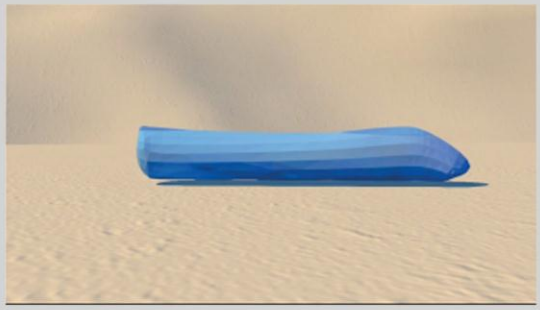
Animation

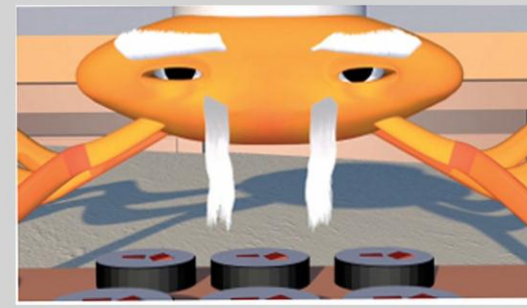
1

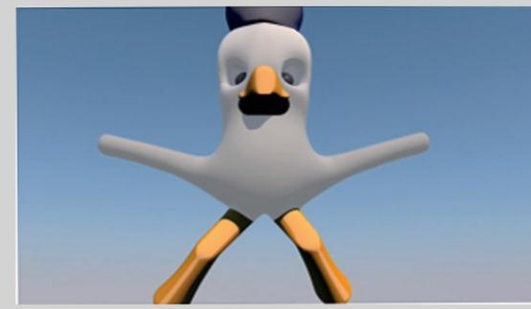
Yusuf Hassan Abdel-Aal

MoTOPUS

An octopus his dream to put his flag on the moon . With every level of the Game its become more harder , and his life . became lower





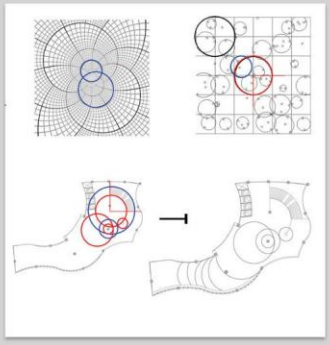


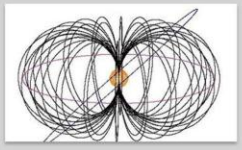
Interior Design

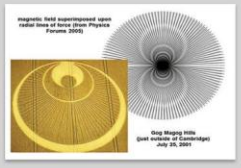
Sherwette Abdelaziz

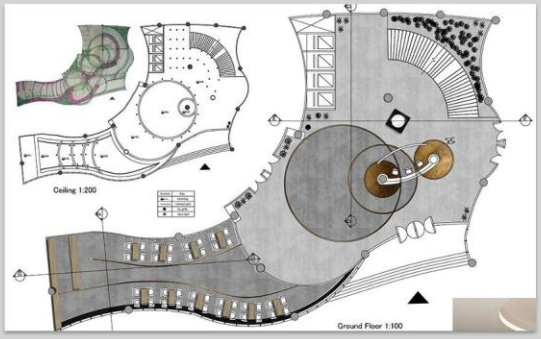
Antigravity Laboratory and Research Center

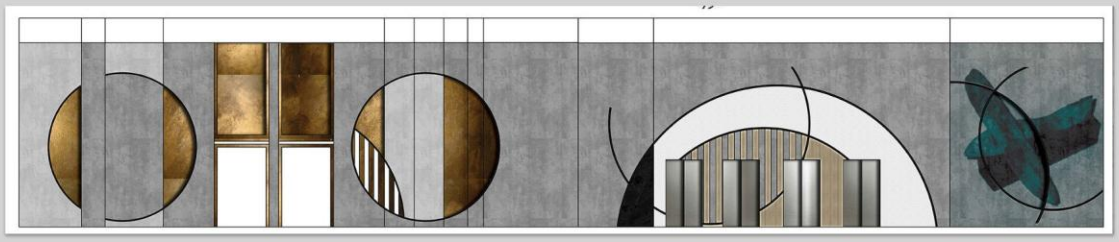
The project aims to represent the theoretical and practical studies for the science of "Antigravity" objects









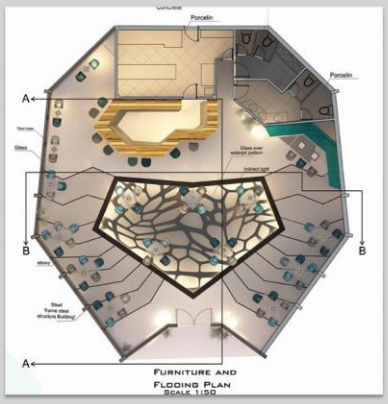


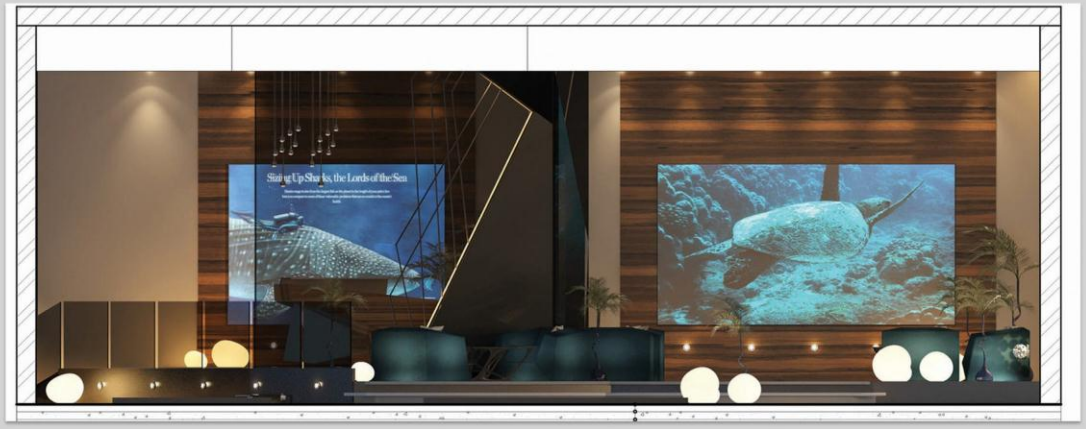
10

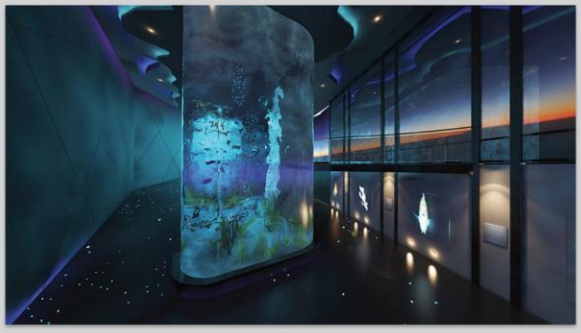
Sama Hussam

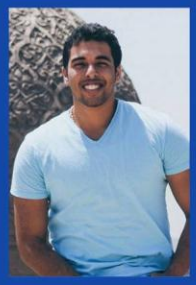
National Research Center and Aquarium

This Project includes aquarium, museum, library, entertainment areas, educational and medical support





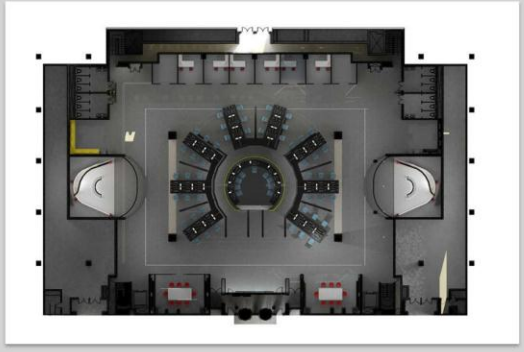




Abdelrahman Osama

EANP-Egyptian Agency for News Broadcasting

EANB is an Egyptian News Agency supported with a sattelite broadcasting studios and located in Cairo

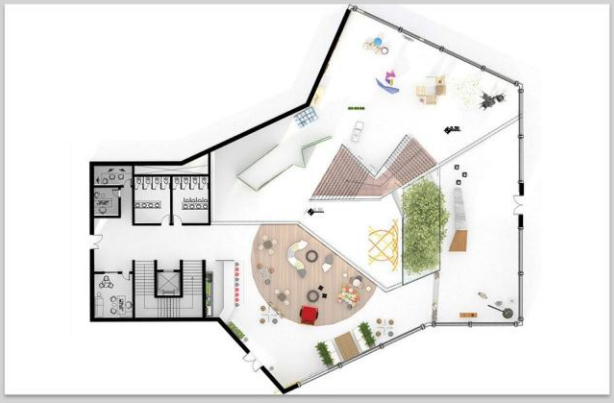


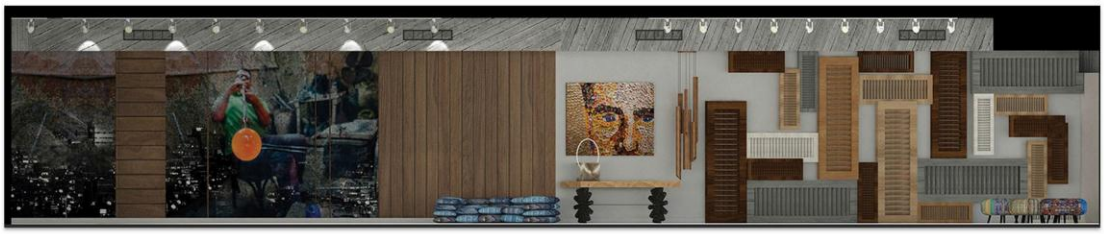
10

Nayera Ahmed Wael

Junk Art City - Scrap Recycling Institution in Muqatam

The Recycling/ Junk Art institute aims to provide the community with a new perspective to junk



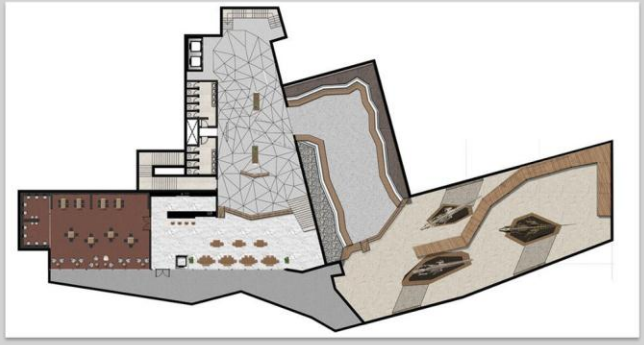


1

Salma Fahmy

The Egyptian Zoological Musum

The aim of this project is to integrate multiple technologies to fossil museums in Egypt that helps in developing the Egyptian western dessert



10

Sandy Yasser

Cairo Cartoon Land

This project is for the Egyptian children, to develop the Egyptian cartoon by talented Egyptian designers.







Cinema & Theater

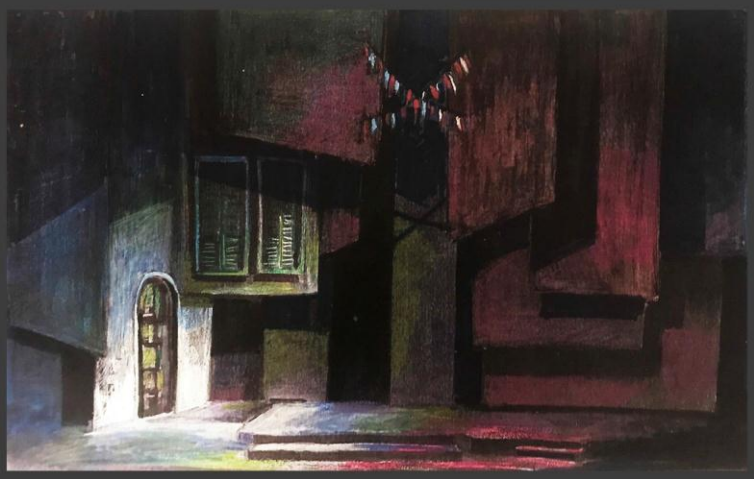
Theatrical Adaptation

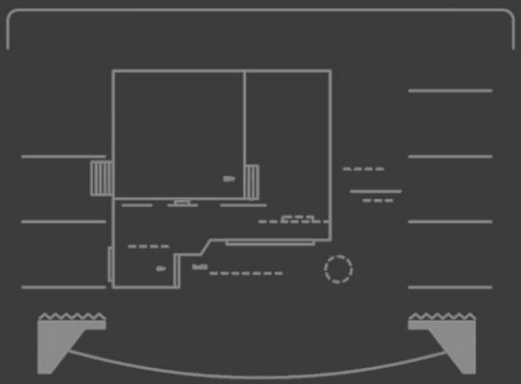
1

Najla Amr Saleh

"The power of now"

In the novel of "my fair lady " Eliza Doolittle who came from the lower status of society was placed by fate in the route of Mr. Higgins.





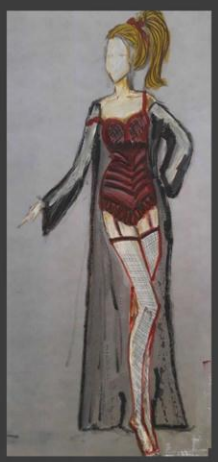
Cinematic Adaptation

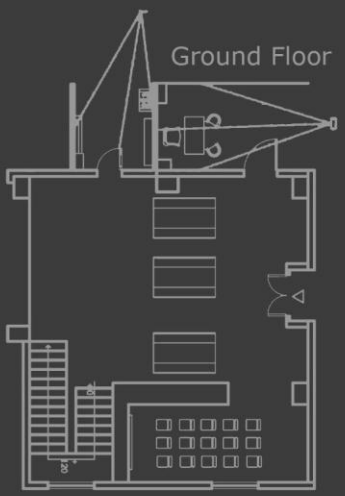
1

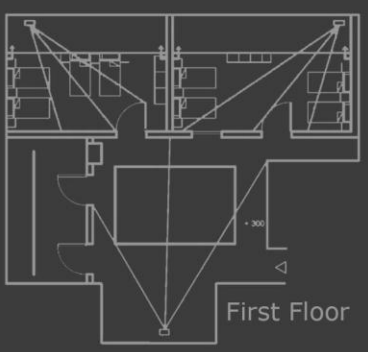
Miral Raafat

"Love Heals"

A beautiful girl named Sara was rejected by her father and lived a hard life with her mom. She was sold to a duke at the age of 8 but he raped her and turned her into a prostitute.







1

Seif Eldeen Sayed

"The Greatest Sedition"

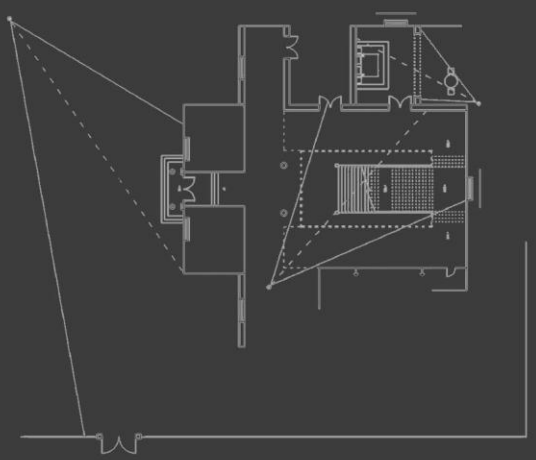
At the times when wars, poverty, hunger and droughts are spreading, the myth of Antichrist "Al-Dajjal" will rise, and a Leader of the army of believers will prevail.

1

Shorouq Abu Bakr

"People create their own prison"

An adaptation for a social-political story in Egypt in the1930's through King Farooq's era till the revolution of 1952.



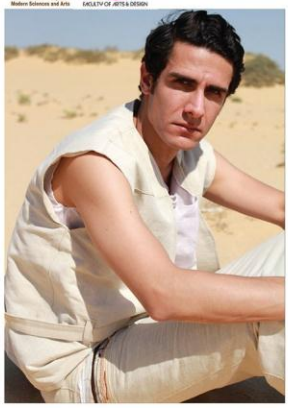
Fashion Design

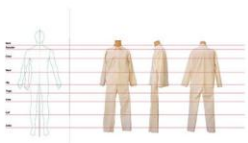
Sustainable Fashion

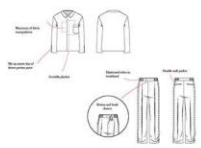
Alaa Hosem Hindia

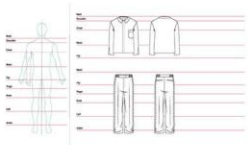
A Collection Inspired by Menswear of Egyptology Using Low-waste and Decorative Techniques

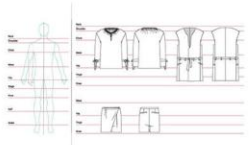
Unearthed Calm











Course: FSHN406 Graduation Project II

Student Name : Alaa HosemEldin Hindia

Instructors : Dr. Noha Fawzy, Dr. Hazem Abd El Fattah, Dr. Bahira Gebaly, L.A Walaa Salem, L.A Mohamed Khafagy, Consultant : Bilal Ashraf, T.A Soha Rafiq, T.A Mohammad Salah

Menna Tarek Boudy

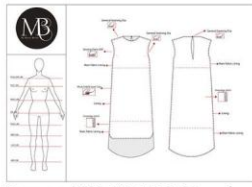
Revive

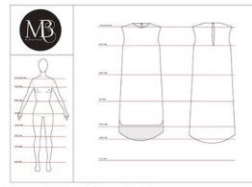
THE PHARAONIC "BOOK OF DEAD"
UTILISING SUSTAINBLE FASHION

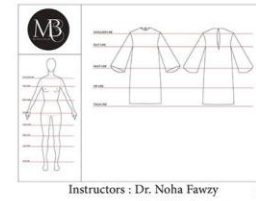
MSA University
October University for Modern Sciences and Arts
FACULTY OF ARTS & DESIGN

University of Bedfordshire

Revive







Course: FSHN406 Graduation Project II
Student Name : Menna Tarek Boudy

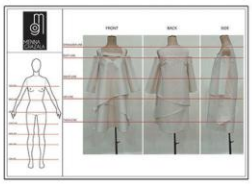
Instructors : Dr. Noha Fawzy Dr. Hazem Abd El Fattah Dr. Bahira Gebaly
L.A Walaa Salem L.A Mohamed Khafagy
T.A Nahla Maamoun T.A Mohammad Salah

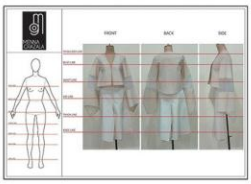
Mennatallah El-Sayed

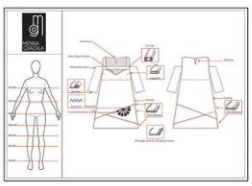
Arabesque

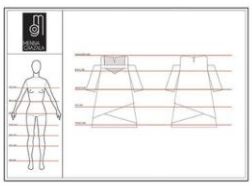
WOMENSWEAR INFLUENCED BY
ARABESQUE RETAINING PATCHWORK

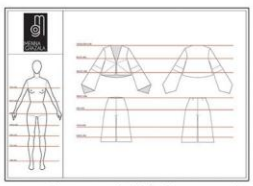
ARABESQUE

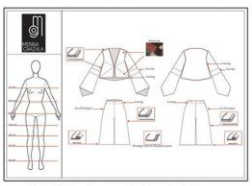












Course: FSHN406 Graduation project ll
Student name: Mennatallah El-Sayed Mohamed Ghazala

Instructors : Dr. Noha Fawzy Dr. Hazem Abd El Fattah Dr. Bahira Gebaly
L.A Walaa Salem L.A Mohamed Khafagy
Nahla Maamoun

MSA University
October University for Modern Sciences and Arts
Established by Dr. Nawal El Degwi in 1996

Faculty of Biotechnology

Graduation Projects

2017/2018

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GRADUATION PROJECTS BOOKLET

2017 / 2018

Faculty of Biotechnology

The Journey Starts……

At the Faculty of Biotechnology, MSA University, the graduation projects are done individually. Each student performs two different graduation projects during fall and spring at two different host places according to their requests and upon their interests.

More than 40 host places are offered to meet the students' interests and preferences, covering almost all areas of Biotechnology. Such projects are characterized by their applicability as well as their health and socioeconomic importance.

The graduation projects at faculty of biotechnology are" the jewels on MSA crown" - Prof. Patricia Lund, External Examiner from Univeristy of Greenwich.

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Dean's Welcome

Welcome to the faculty of Biotechnology

The graduation project discussion day is always such a special occasion the actualization of goals attained and acknowledgement of successes achieved. So, it is only fitting that today we commemorate the road that we have all travelled together these past few years. It has been a journey that started with tentative steps perhaps, but one that has taken us to remarkable heights. We have encountered some trials and tribulations along the way...soldiered on and have brought out the strongest of them. We have experienced exceptional moments, magical moments and created memories that will be fondly remembered in the years ahead.

And, may I have the opportunity to thank the parents who always believed in us and worked with us to build up a great future generation. Finally, I am very much grateful to the staff members at the faculty of biotechnology who are always working from their hearts. Let's continue to work together to help each other to be our best for the world.

Prof. Ayman Diab

Dean of the Faculty of Biotechnology

Dr. Gehan Safwat's Word

Deputy Dean

I am so privileged to have been a part of the students' exciting and insightful graduation projects journey. Watching them expand their creative boundaries, venture into new territories, and prepare for life beyond borders has been the highlight of my year. I am pleased to say that it has been a learning experience not only for these students but also for me. I think that's what I love the most about this whole process. These students have immensely worked and their huge efforts are clear in their wonderful results. I would like to thank our dean, Prof. Ayman Diab, for assigning me the task of supervising and co-coordinating the graduation projects because witnessing young and bright minds push themselves to their full potential is always such an honor.

Dr. Gehan Safwat

Deputy Dean of the Faculty of Biotechnology
Graduation Projects' Coordinator

Faculty of Biotechnology 2017/2018 during

- A total of 119 students ran their graduation projects in Fall 2017
- A total of 112 students ran their Graduation projects in Spring 2018
- During 2017-2018, 40 host places were offered to the students including 10 that were newly offered in Fall 2017 while 7 were newly offered in Spring 2018
- Four Publications in Fall 2017
- Five Publications in Spring 2018

This booklet represents 38 graduation projects covering all areas of Biotechnology, 11 projects were in Fall 2017 while 27 projects were in spring 2018

Fall 2017

Medical Biotechnology

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Research Article

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OCT4 Expression in HCV-Related Hepatocellular Carcinoma

Tarek Aboushousha[1], Caroline Ashraf[2], Ashraf Bakkar[3]

[1]Pathology department, Theodore Bilharz Research Institute, Cairo, Egypt
[2]Faculty of Biotechnology, at October University for Modern Science & Arts, Cairo, Egypt
[3]Biochemistry department, at October University for Modern Science & Arts, Cairo, Egypt

Abstract These Incidence rates of hepatocellular cancer are rising in the United States due to increasing prevalence of cirrhosis caused by chronic hepatitis C and steatohepatatis (non-alcoholic fatty liver disease). Overall, HCC is still associated with a poor prognosis depending on delayed diagnosis, the clinical status of the patient but also tumor behavior showing a great propensity for angioinvasion. Most of the studies about OCT4 function demonstrated that OCT4 as a factor for pluripotency regulation in human embryonic stem cells, and cancer is the most studied part of OCT4-related human disease. Our study included 68 biopsy materials (tumor and non-tumor) from cases of partial hepatectomy done for patients suffering from hepatocellular carcinoma. Sections were stained with hematoxylin and eosin stain for routine histopathological examination, grading and staging of hepatitis activity and tumor grade by Masson's trichrome stain for assessment of fibrosis stage using METAVIR scoring system. Immunohistochemical staining of liver sections was done using the monoclonal antibody Oct4 (ab18976). Tumor tissue showed over-expression of OCT4 compared to non-tumor tissue. Also high grades of hepatocellular carcinoma showed higher expression of OCT4 than low grade ones. As regard hepatitis activity and liver fibrosis, it was found that high grades activity and cirrhotic livers showed higher levels of OCT4 expression. Conclusion: OCT4 expression pattern could be used in association of other tissue markers for diagnosis and follow up of hepatocellular carcinoma.

Keywords Hepatocellular carcinoma, Immunohistochemistry, HCV, OCT4

1. Introduction

Primary liver cancer is the state when the cells become abnormal in appearance and behavior, the cancer cells can destructive to adjacent normal tissue where these cells go under invasion and metastasis [1]. There are many causes for the liver cancer where people who have HCC get it in the set on chronic liver disease and increases the risk of liver cancer, where the conditions that cause liver cirrhosis are alcohol, hepatitis C and hepatitis B virus as well as cancer can be caused by environmental factors such as wrong diet way [2].

Cirrhosis of the liver due to any cause is a risk factor for liver cancer. Also, even hepatitis B infection without cirrhosis is a risk factor for liver cancer. The liver cancer can be diagnosed through many ways such as ultrasound, blood testing, imagining studies, and liver biopsy [3], but the best way to detect liver cancer is by ultrasound every 6 months for the patient. Blood testing is using alpha fetoprotein (AFP) is elevated by 70% in case of patients with liver cancer, also AFP level could be normal and not high but once it is high it indicates serious liver cancer [4].

According to the American cancer society, Stages of cancer describes how cancer is spread out, and it is very important to know the stages of cancer to select the selective treatment, also the staging system is to know how far is cancer spreading out [5].

Liver biopsy as well as imaging studies help in classifying liver cancer stages as per the American Joint

OCT4 Expression in HCV-Related Hepatocellular Carcinoma

تعبير OCT4 في سرطان الكبدي الوبائي المرتبط بفيروس HCV

Caroline Ashraf
Fall 2017

Host place: Theodor Bilharz Research Institute
Internal Supervisor: Dr. Ashraf Bakkar
External supervisor: Dr. Tarek Abou-Shousha

Abstract:

These Incidence rates of hepatocellular cancer are rising in the United States due to increasing prevalence of cirrhosis caused by chronic hepatitis C and steatohepatatis (non-alcoholic fatty liver disease). Overall, HCC is still associated with a poor prognosis depending on delayed diagnosis, the clinical status of the patient but also tumor behavior showing a great propensity for angioinvasion. Most of the studies about OCT4 function demonstrated that OCT4 as a factor for pluripotency regulation in human embryonic stem cells, and cancer is the most studied part of OCT4-related human disease. Our study included 68 biopsy materials (tumor and non-tumor) from cases of partial hepatectomy done for patients suffering from hepatocellular carcinoma. Sections were stained with hematoxylin and eosin stain for routine histopathological examination, grading and staging of hepatitis activity and tumor grade by Masson's trichrome stain for assessment of fibrosis stage using METAVIR scoring system. Immunohistochemical staining of liver sections was done using the monoclonal antibody Oct4 (ab18976). Tumor tissue showed over-expression of OCT4 compared to non-tumor tissue. Also high grades of hepatocellular carcinoma showed higher expression of OCT4 than low grade ones. As regard hepatitis activity and liver fibrosis, it was found that high grades activity and cirrhotic livers showed higher levels of OCT4 expression.

Keywords: *Hepatocellular carcinoma, Immunohistochemistry, HCV, OCT4.*

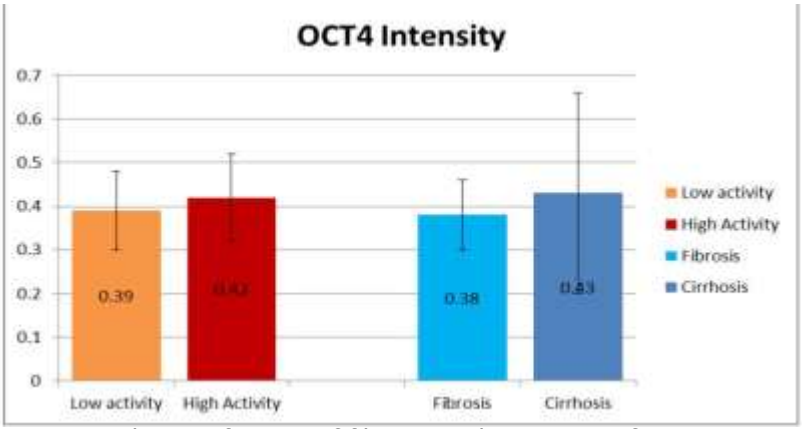


Figure 1: Relation of Stage of fibrosis with intensity of OCT4 expression in non-tumor liver tissue

Evaluation of Lnc-PVT-1 dependent pathway in prognosis of t(8:21) associated acute myeloid leukemia

تقييم المسار المعتمد ل Lnc-PVT-1 في تشخيص **t(8:21)** المرتبط باللوكيميا النخاعية الحادة

Ashraqat Sami
Fall 2017

Host place: Global Medical Labs
Internal Supervisor: Prof. Ayman Diab
External supervisor: Dr. Nashwa Nagy

Abstract:

Acute myeloid leukemia (AML) associated with t(8;21) is the most common karyotype abnormality in acute myeloid leukemia; it is found in approximately 10 - 22% of AML class M2 cases with maturation. The prognosis of t(8;21) associated AML is controversial; whereas; some studies considered it favorable as it often associated with a good respond to therapy , high rate to complete remission with prolonged survival with free of disease, other studies investigated that t(8;21) AML have adverse prognosis with poor outcome, less responsive to treatment, low overall survival and fast rate of relapsing. The current study evaluated the role of lnc-PVT-1/miR-1204/c-Myc pathway "RNA-DNA cross-link" as a predicator in stratification of high risk t(8;21) associated AML. Moreover, it evaluated the impact of these studied biomarkers on disease outcome using Syber green based qPCR. The study showed that peripheral blood levels of lnc-PVT-1 is upregulated 6.5 folds in t(8;21)-AML with highly significant when it compared to control group; Lnc-RVT1 is significantly correlated with miR-1204 and c-Myc. In addition; the upregulation of PVT1 is associated with poor disease outcome and short disease free survival. Therefore, it was found that lnc-PVT1 dependent pathway as a prognostic marker in t(8;21) associated AML and it represents a wide domain for research to reach a solid evidence and implications in the clinical field.

Keywords: *AML, c-Myc, RNA-DNA crosslink*

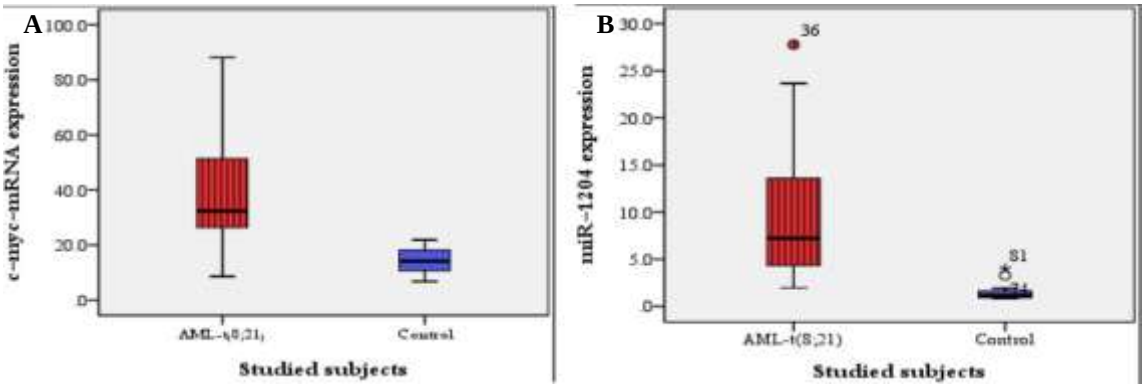


Figure 2: A Shows c-*Myc*-mRNA expression level (log^{10}) in t(8;21)-AML versus control while **B** shows *miR-1204*expression level (log^{10}) in t(8;21)-AML versus control

Relationship between diabetes and natural killer cells in type 2 diabetes mellitus and its relation to infection

العلاقة بين مرض السكر والخلايا المناعية القاتلة الطبيعية من النوع 2 وعلاقته بالعدوى

Amira Abdelnasser
Fall 2017

Host place: El-Ansary laboratories
Internal Supervisor: Prof.Ayman Diab
External supervisor: Prof.Mervat El-Ansary

Abstract:

Diabetes is a fast-growing health problem in Egypt with a considerable effect on health care resources, mortality, and morbidity. Diabetes is acknowledged by a disease in which the ability of the body to produce or respond to the hormone insulin is impaired, leading to abnormal metabolism of carbohydrates and elevated levels of glucose in the blood. The study will be done by testing blood of 12 individuals by collecting blood samples from them and test natural killer cells in the diabetic patients and healthy people. The aim of this study is determining the relation between natural killer cells and diabetes and its role in healthy people (control), diabetic patients and complicated diabetic patients and its relation to infection. Lastly, results shown that natural killer cells are less in diabetic patients than normal people. This decrease in the natural killer cells makes diabetic patients susceptible to infections more than normal ones.

Keywords: *Diabetes, insulin, natural killer cells.*

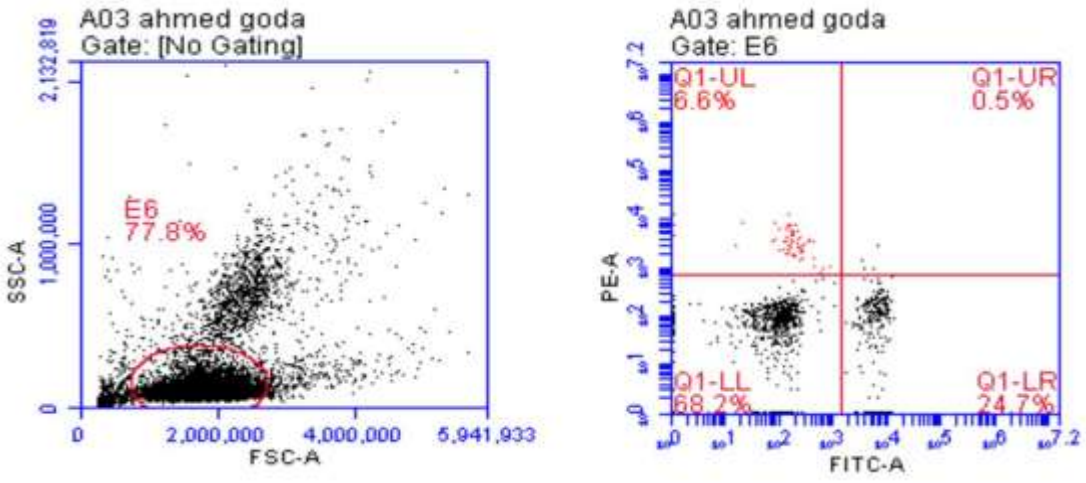


Figure 3: NK cells counts from flow cytometer for diabetic patients

The vitamin D level in serum and semen in infertile males

مستوى فيتامين (د) في مصل الدم والمني عند الذكور العقيمين

Habiba Shedid
Fall 2017

Host place: Genetica DNA Laboratories
Internal Supervisor: Prof. Ashraf Bakkar
External supervisor: Prof. Yasser El-Nahass

Abstract:
In recent years studies have been shown vitamin D plays an important role in reproduction. The deficiency of vitamin D is connected with male infertility, diminishing rate and changing hormonal profile. Aim: this study purposes to evaluate the occurrence of vitamin D in azoospermic, oligospermic and normal fertile Egyptian and to correlate the different levels of Vitamin D with semen parameters (spermatic count, motility and abnormality) hormonal profile (FSH, LH, TT) and duration of infertility. Patients and methods: 30 infertile males were included. Semen analysis was performed according to WHO criteria. Different levels of vitamin D were detected using both Vidas and Elisa techniques, as well as the levels of hormonal profile. Results: Among 30 infertile males; 18/30(60%) patients were azoo/oligozoospermia and 12/30 (40%) fertile. Conclusion: Vitamin D levels in serum is correlated with male infertility. Almost fertile males showed higher levels of vitamin D in oligospermia and azoospermia. As well as semen vitamin D levels is also linked with vitamin D in semen vs count and duration. A wide population is needed to insure this observation.

Keywords: *Vitamin D, infertility, oligospermia, azospermia*

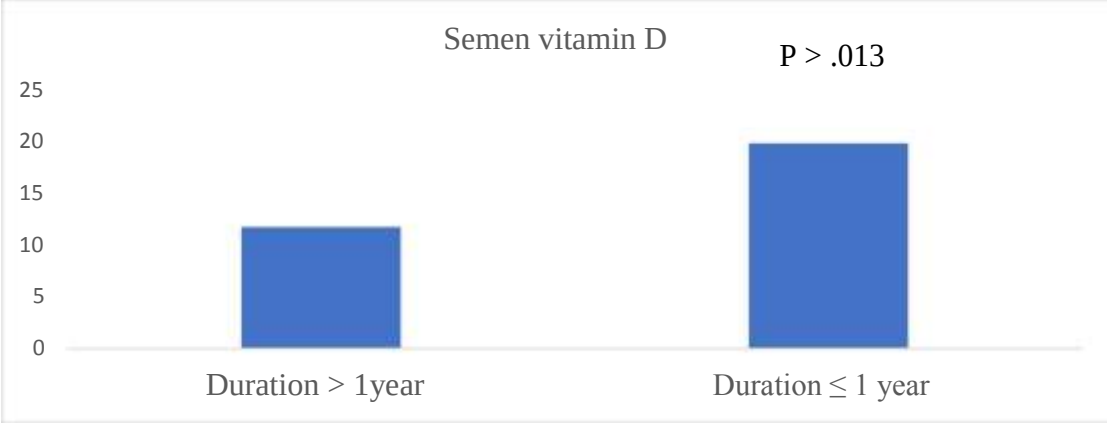


Figure 4: Vitamin D in semen and duration of infertility

Cytotoxic and Biomolecular Study of Five Plant Extracts Against Different Human Cancer Cell Lines

الدراسة السمية والجزيئية للخلايا من خمس مستخلصات نباتية ضد خطوط الخلايا السرطانية البشرية المختلفة

Ezzeldin Nasser Elhawary
Fall 2017

Host place: National Research Centre
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Dr. Salwa El-Hallouty

Abstract:

Natural products offer a wide variety of chemical structures with different biological activities that can be used for the development of novel drugs. Around 60% of the current anticancer drugs were isolated from natural products. In this study, it is attempted to exploit five plant extracts, *Euphorbia hierosolymitana* (herb), *Sapium sebifera* (branch), *Cordyline fruticosa* (leaf and branch), *Dracerna marginata* (bark) and *Dracaena marginata* (leaf and branch), and show their cytotoxic activities on different human cancer cell line including breast carcinoma (MCF-7), hepatocellular carcinoma (HepG2), colon carcinoma (HCT116) and prostate cancer (PC3), and normal skin cell line (BJ-1). Methanol extracts of these plants underwent MTT cytotoxic assay and found that *E. hierosolymitana* selectively inhibited HCT116 cell proliferation with IC_{50} of 4.22 µg/ml, both *Dracaena marginata* extracts showed moderate cytotoxicity on MCF-7 with IC_{50} of 22.4 and 48.2 µg/ml, respectively. The remaining two extracts showed minimal to insignificant percentage inhibition on all cell lines.

Keywords: *Euphorbia hierosolymitana*, *Sapium sebifera*, *Cordyline fruticosa.*

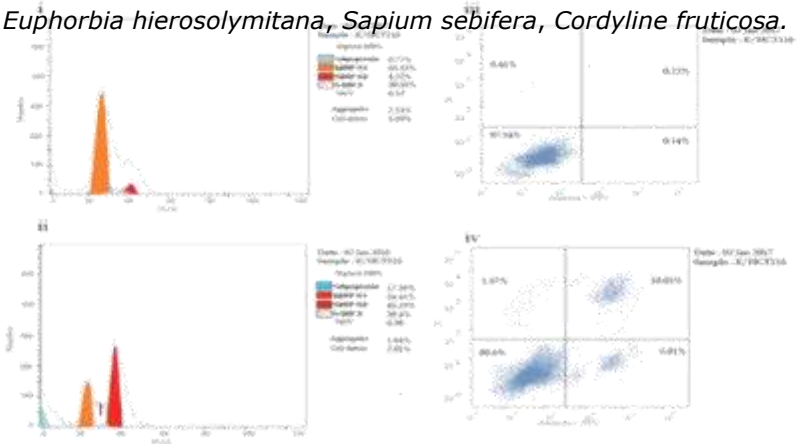


Figure 5: Schematic representation of the apoptotic activity of the *E. hierosolymitana* extract on the HCT116 cell line. ***i*** represents the cell count in stage of cell cycle (untreated control); ***ii*** represents the cell count in stage of cell cycle treated with 4 µg/ml of extract *E. hierosolymitana* for 24h); ***iii*** AnnexinV/PI (untreated control); ***iv*** AnnexinV/PI (untreated with 4 µg/ml of extract *E. hierosolymitana* for 24 h)

The diagnostic and prognostic utility of Anti-Mullerian hormone in predicting success rates of pregnancy success in females undergoing IVF

الأداة التشخيصية والتنبؤية لهرمون مكافحة مولر في التنبؤ بمعدلات النجاح للحمل لدى الإناث اللواتي يخضعن لعمليات التلقيح الصناعي

Maryam Mohammed Mohammed, Fall 2017

Host place: Genetica DNA Laboratory
Internal Supervisor: Dr. Ashraf Bakkar
External supervisor: Prof. Dr. Yasser ElNahass

Abstract:

Infertility is a major social and health problem, where it directly affects couples, destroy futures, and end relationships. In Egypt, one of the main reasons of infertility, is the cervical erosion which is the presence of glandular cells on the outer surface of the cervix that results in cervical electrocautery and potentially causing infertility. Modern medicine focuses on the types of reliable treatments and cures for infertility such as, In-Vitro Fertilization (IVF). In the current study, the diagnostic capabilities of the Anti-mullerian hormone (AMH), are tested as a viable method to evaluate and predict fertility rates, as a method to enhance the (IVF) procedure; where the AMH levels correlate with the number of early antral follicles and correspond them with the ovarian response in (IVF). The results were produced by ELISA and Elecsys assay, in order to measure the AMH levels in the peripheral blood. through the test results it has been concluded that the (AMH) levels correlate directly to the levels of fertile egg production numbers in the ovaries. However, the (AMH) levels are indirectly proportional to the age of the patients, as the levels decrease as the patients' age increase.

Keywords: *Infertility, oocytes, Anti-mullerian hormone (AMH), ELISA.*

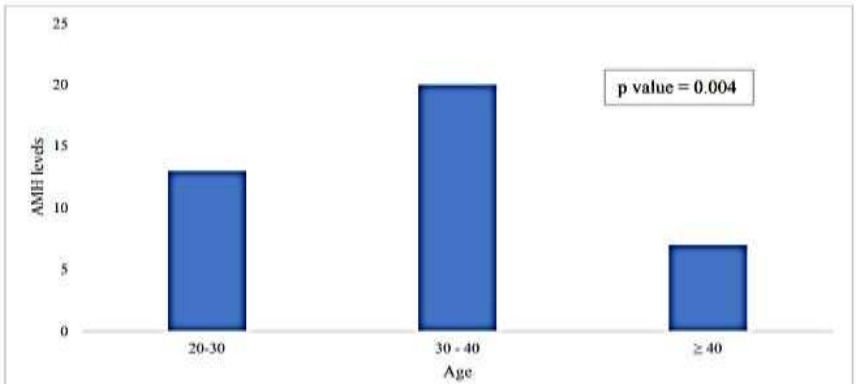


Figure 6: patients are categorized into 3 groups according to age representing their AMH levels.

Fusion Gene Transcripts t(12;21) *ETV6-RUNX1* and t(1;19) *TCF3-PBX1* in Pediatric Acute Lymphoblastic Leukemia (ALL)

اندماج الجينات t(12;12) ETV6-RUNX1 و t(1;19) TCF3-PBX1 في اللوكيميا اللمفاوية الحادة للأطفال

Germine Amr
Fall 2017

Host place: Children Cancer Hospital (57357)
Internal Supervisor: Prof. Ayman Diab
External supervisor: Prof. Dina Yassin

Abstract:

Cancer malignancies are caused by the acquisition of somatic mutations that act with hereditary genetic variations initiating the development of malignant tumors by disrupting the cell's normal machinery. They are caused by mainly three genetic events: copy number alteration, mutations, and translocations. In general, leukemia is considered the most prevalent malignancy affecting children and accounts for one-third of all pediatric malignant tumors. Moreover, three-quarters of the diagnosed childhood leukemia are of ALL type, which is the proliferation of malignant lymphatic cells whose differentiation was stopped at an early stage. The aim of this project was to test for the presence of two translocations t(12;21) and t(1;19), yielding the two fusion genes *ETV6-RUNX1* and *TCF3-PBX1* respectively, in 27 samples of newly diagnosed B-ALL patients in Children Cancer Hospital (57357), for the subsequent risk stratification of these patients. This was done by using the molecular technique RT-PCR, by first extracting the RNA from the samples then converting it into cDNA, then amplifying the housekeeping gene *ABL* to determine the quality of the processed samples, and finally amplifying the two translocations using the conventional PCR methods. The results have shown that 2 patients harbored the translocation t(12;21) and 3 other patients carried the translocation t(1;19), expressing a frequency rate that contradicts the normally reported ones.

Keywords: *Cancer, malignant tumors, acute lymphoblastic leukemia, B-ALL.*

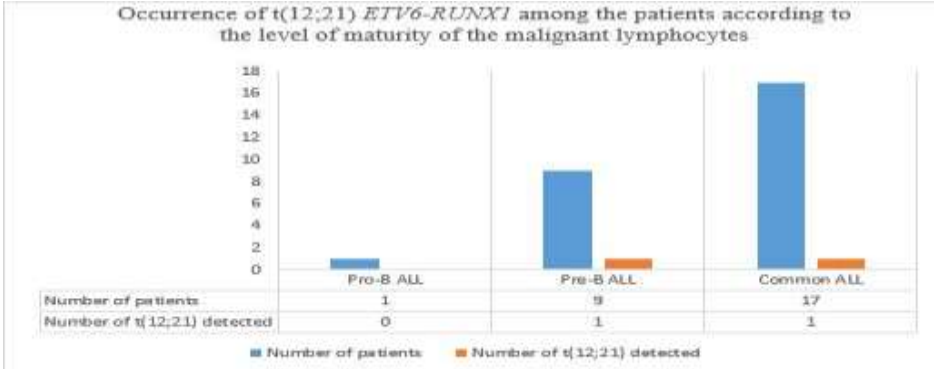


Figure 7: Occurrence of t(12;21) ETV6-RVNX1 among the patients according to the level of maturity of the malignant lymphocytes.

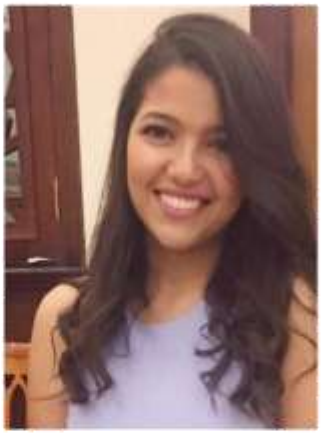
Agricultural Biotechnology

Comparative study between commercial and Nano-fertilizers on plant chemical constituents

دراسة مقارنة بين تأثير الأسمدة التجارية و النانوية على المكونات الكيميائية النباتية في ***Moringa Oleifera***

Yara Mohamed Hassan Shamandy
Fall 2017

Host place: Faculty of agriculture, plant physiology department, Cairo University
Internal Supervisor: Dr Reham Mohsen
External supervisor: Dr Mohamed abdelwahab



Abstract:
Since Moringa (*Moringa oleifera)* tree is called the miracle tree due to the many benefits and various applications, The present study was done to explore the effect of mixed synthesis nano elements symbolized in Manganese (Mn), Iron (Fe) and zinc (Zn) against commercial mixed fertilizers; Nitrogen (N), Phosphorus (P) and Potassium (K) as control on Moringa plant growing in clay soil at faculty of agriculture Cairo University. Results of the experiment exposed that, appliance of nano fertilizers as (Mn Fe, and Zn) significantly improved all morphological traits as (branch height, leaf area, number of leaves, branch girth, leaves fresh and dry weight) additionally to macro and micro elements represented in (N, P, K, Mg, Ca, Na, Fe, Zn, Mn, Cu), also chemical ingredients as (total chlorophyll, total carbohydrate, total phenolic, total flavonoids, thiamine, tannins and ascorbic acid). Our results draw attention to the meaning of protection our environment from overload use and addition of chemical fertilizers. Further developments in using such safety nano nutrients in this sector could have large-scale economic implications and multiple benefits for consumers, producers, farmers, and the ecosystem,

Keywords:- *Moringa plant, nano elements synthesis, morphological constituents.*

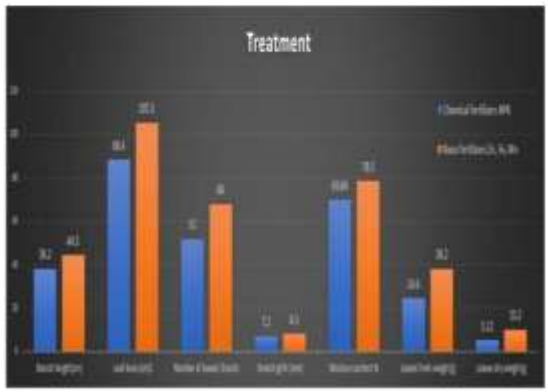


Figure 8: This figure shows the effect of Nano fertilizer on the moringa plant in contrast with chemical fertilizers.

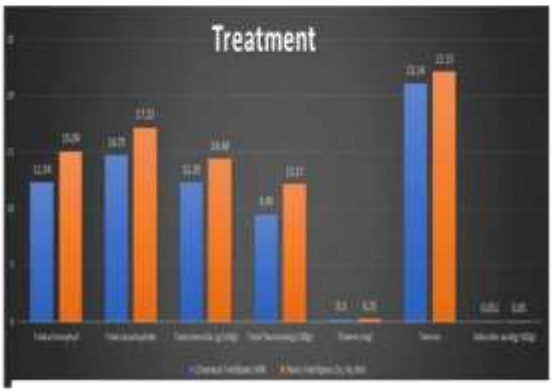


Figure 9: This figure shows the effect of Nano fertilizer on chemical ingredients in the moringa plant in contrast with the chemical fertilizers.

Environmental Biotechnology

Abd-El-Samie et al. Egyptian Journal of Biological Pest Control (2018) 28:56
https://doi.org/10.1186/s41938-018-0058-z

Egyptian Journal of Biological Pest Control

RESEARCH Open Access

Molecular phylogeny and identification of the Egyptian wasps (Hymenoptera: Vespidae) based on COI mitochondrial gene sequences

Emtithal M. Abd-El-Samie[1*], Israa Elkaffawy[2], Mai Osama[2] and Amr Agez[2,3]

Abstract

The Hymenoptera is one of the vital and biggest insect orders comprising the bees, wasps, sawflies, and ants. Wasps are important to natural and biological pest control because they are predators or parasitoids of pest arthropods. This study investigated the genetic diversity among the three wasps, *Vespa orientalis* Linnaeus, *Polistes bischoffi* Erichson, and *Polistes mongolicus* du Buysson, collected from three different governorates in Egypt, using cytochrome oxidase subunit I (COI) DNA barcoding. PCR was performed to amplify COI fragment. The amplified COI regions (710 bp) were sequenced and analyzed. All novel nucleotide sequences of COI gene were deposited into the GenBank database. The genetic distances were estimated using Kimura two parameter model. In spite of the wide geographical range, minor genetic diversity was observed between some populations of the three wasp species, revealing unrestricted gene flow between them. Phylogenetic relationship analysis was performed, using maximum likelihood (ML) method. The results of the phylogenetic analyses recovered *P. bischoffi* more closely related to *P. dominula* and *P. gallicus*. *P. mongolicus* collected from Menofia Governorate formed a distinct branch with 99% support. *V. orientalis* was sister to the yellowjacket *Dolichovespula adulterina*, with 84% support. It can be concluded that DNA barcode is a powerful tool for rapid and accurate identification of Egyptian wasp species.

Keywords: COI, Egypt, Hymenoptera, Vespidae, Phylogeny

Background

Wasps are predators or parasitoids of pest arthropods, so they are imperative to normal and biological control of pests (Hunt 2007). These insects have an essential part in pollination, a few of them in wax and honey production (Grissell 2010). The Vespidae are a large (about 5000 species), assorted cosmopolitan family of wasps, counting about all the known eusocial wasps (such as *Polistes* spp., *Vespa orientalis*, and *Vespula germanica*) and numerous single wasps (Grissell 2010). *V. orientalis* represents enormous issue for beekeepers (Haddad et al. 2005). The paper wasp genus *Polistes* Latreille, 1802, is an imperative model group for behavioral and developmental studies (Tibbetts 2007 and Jandt et al. 2014). It incorporates numerous eusocial species that show different shapes of social organization. In addition, the comparatively little colony size of *Polistes* species and their uncovered nests encourage both field perceptions and tests (e.g., Cervo et al. 2008). Right now, over 220 species are recognized around the world (Arens 2011; Buck et al. 2012; Nagendo et al. 2012). Species identification is a crucial portion of recognizing and portraying biodiversity. Customarily, identification has been based on morphological diagnoses provided by taxonomic studies. Specialists such as taxonomists and prepared technicians can distinguish taxa accurately, since it requires extraordinary aptitudes acquired through extensive experience. Consequently, elective and accurate identification strategies that non-experts can use are required. Progresses in DNA sequencing innovations, advance in biotechnology, and the scientific classification crisis itself played a large role in the creation of DNA barcoding. Identification based on DNA barcode is very

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[1]Faculty of Science, Cairo University, Cairo, Egypt
Full list of author information is available at the end of the article

Molecular phylogeny and identification of the Egyptian wasps (Hymenoptera: Vespidae) based on COI mitochondrial gene sequences

التطور و التعرف على السلالة الجزيئية للدبابير المصرية (Hymenoptera: Vespidae) باستخدام جينات COI في الميتوكوندريا

Mai Osama
Fall 2017

Host place: Faculty of Science, Cairo University.
Internal Supervisor: Dr. Amr Ageez
External supervisor: Dr. Emtithal Abdel-Samie

The Hymenoptera is one of the vital and biggest insect orders comprising the bees, wasps, sawflies, and ants. Wasps are important to natural and biological pest control because they are predators or parasitoids of pest arthropods. This study investigated the genetic diversity among the three wasps, *Vespa orientalis Linnaeus, Polistes bucharensis Erichson, and Polistes mongolicus du Buysson,* collected from three different governorates in Egypt, using cytochrome oxidase subunit I (COI) DNA barcoding. PCR was performed to amplify COI fragment. The amplified COI regions (710 bp) were sequenced and analyzed. All novel nucleotide sequences of COI gene were deposited into the GenBank database. The genetic distances were estimated using Kimura two-parameter model. In spite of the wide geographical range, minor genetic diversity was observed between some populations of the three wasp species, revealing unrestricted gene flow between them. Phylogenetic relationship analysis was performed, using maximum likelihood (ML) method. The results of the phylogenetic analyses recovered *P. bucharensis* more closely related to *P. dominula* and *P. gallicus. P. mongolicus* collected from Menofia Governorate formed a distinct branch with 99% support. *V. orientalis* was sister to the yellowjacket Dolichovespula adulterine, with 84% support.

Keywords: *COI, Egypt, Hymenoptera, Vespidae, Phylogeny*

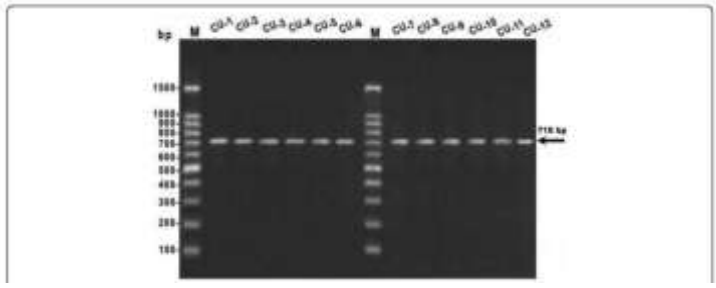

Figure 10: Agarose gel showing polymerase chain reaction (PCR) results using DNA templates from different governorates with the primer sets LCO1490/HCO2198 for COI.

M, marker (100 bp DNA Ladder RTU); Lanes CU_1 and CU_2 Vespa orientalis and CU_7 and CU_8 Polistes bucharensis collected from Giza; CU_3 and CU_4 Vespa orientalis and CU_9 and CU_10 Polistes mongolicus collected from Menofia. CU_5 and CU_6 Vespa orientalis and CU_11 and CU_12 Polistes bucharensis collected from Fayoum, respectively of the head of the adult individual.

The Use of CASA to Monitor Effects of Red Laser on Post-Frozen Buffalo Semen

استخدام CASA لرصد آثار الليزر الأحمر على السائل المنوي الجاموسي المتجمد

Ahmed Tawfik
Fall 2017

Host place: Cairo University Research Park (CURP), Artificial insemination lab
Internal Supervisor: Dr. Samer Al-Sayed
External supervisor: Dr. Sherif Dessouki
Competitions: SOLE 2018 – Graduation project (2nd place)

Abstract:
Live biological tissue reacts to irradiation effects from different light sources and wavelengths, sperm cells especially exhibit physiological changes when exposed to laser light irradiation. The motility characteristics of the buffalo bull (*Bubalus bubalis*), are considered to be the most important qualities necessary for a successful fertilization process. The buffalo's population in Egypt have a major socioeconomic impact, where Egypt is one of the major buffalo population holding countries in the African continent with 5,231,162 heads; and in the world with 3.1% of the world's total population. Economically, the buffalo meat makes up 46% of the market consumption of red meat in 2016, which highly effects the Egyptian economy. Therefore, this study focused on the improvement of semen motility characteristics and fertility capabilities of post-frozen Egyptian buffalo semen, through the use of red laser irradiation. The study described the potential of utilizing laser irradiation as a simple and inexpensive method to improve the *in situ* characteristics of semen motility and overall quality, for the purpose of enhancing the fertility capabilities of the semen samples to be used in the artificial insemination processes. Results showed that the red laser light irradiation were highly capable of exciting and enhancing the post-frozen buffalo semen motility characteristics, both over the long term and short term evaluations.
Keywords: *Post-frozen buffalo semen, Red laser light.*

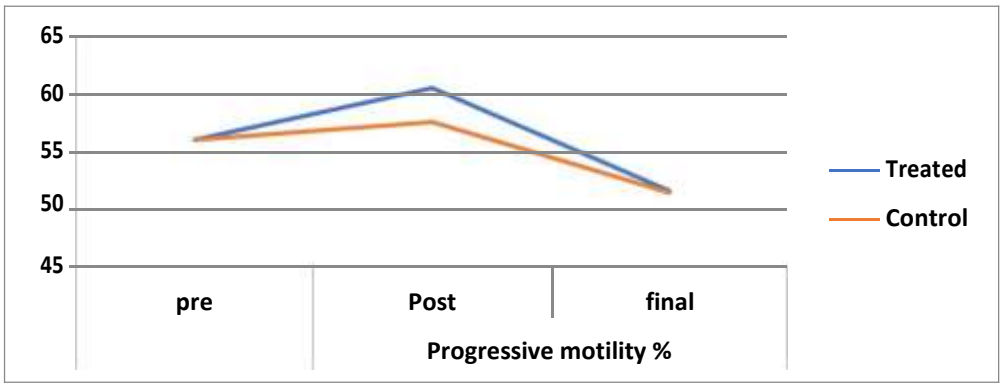

Figure 11: The Progressive motility over the three stages of the experiment

Pharmaceutical Biotechnology

April 30, 2018

PharmacologyOnLine

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STUDIES OF THE BIOLOGICAL ACTIVITY OF *CASSIA FISTULA*

Safwat GM[1], Hamed MM[2*], Moatamed SA[1]

[1]*Faculty of Biotechnology, October University for Modern Sciences and Arts, Giza, Egypt.*

[2]*Medicinal Chemistry, Theodor Bilharz Research Institute, Giza, Egypt*

manalaymango@yahoo.com

Abstract

Cancer has been the most dreadful disease from ages till now. However, with the passage of time it been more understood its mechanism, types, some causing factors, and way of its cell duplication. By the progress of science there are now more than one available method for treatment, diagnosis or prevention of cancer. But this progress did not reach till now cheap, fast and effective specific targeting treatment for all types or even one type. For this aim, the field of searching for alternative natural compounds extracted from plants to replace those expensive non effective targeting compounds has been wider and advanced. One of familiar plant families is Leguminosae specifically class of *Cassia fistula* plant. This type of plant has been examined to ensure its biological activity and by detecting and analysis it show anticancer activity against liver cancer cell line; hepatocellular carcinoma HepG2. *C. fistula* volatile oil extract was able to inhibit proliferation for HepG2 cancer cell lines at 3.05 ± 0.08µg/ml. The methanolic and oil extracts of *Cassia fistula* showed good brine shrimp larvicidal activity with lethality concentration (LC_{50}) of 15 and 55 µg/mL, respectively. Finally using GC-MS, the essential oil compounds were identified, whereas 39 compounds produces and accounted for 90.46% of the total oil, the major compound was compound sulfurous acid; cyclohexyl-methyl octadecyl ester (21.62%).

Keywords: *Fabaceae, essential oil, HepG2 treatment, Cassia fistula, phytochemical.*

STUDIES OF THE BIOLOGICAL ACTIVITY OF *CASSIA FISTULA*

Cassia Fistula دراسات النشاط البيولوجي ل

Shurouk Atef
Fall 2017

Host place: Theodor Bilharz research institute
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Prof. Manal Hameed
Name of the journal: PharmacologyOnline

Abstract:
Cancer has been the most dreadful disease from ages till now. However, with the passage of time it been more understood its mechanism, types, some causing factors, and way of its cell duplication. By the progress of science there are now more than one available method for treatment, diagnosis or prevention of cancer. But this progress did not reach till now cheap, fast and effective specific targeting treatment for all types or even one type. For this aim, the field of searching for alternative natural compounds extracted from plants to replace those expensive non effective targeting compounds has been wider and advanced. One of familiar plant families is Leguminosae specifically class of *Cassia fistula* plant. This type of plant has been examined to ensure its biological activity and by detecting and analysis it show anticancer activity against liver cancer cell line; hepatocellular carcinoma HepG2. *C. fistula* volatile oil extract was able to inhibit proliferation for HepG2 cancer cell lines at 3.05 ± 0.08µg/ml. The methanolic and oil extracts of *Cassia fistula* showed good brine shrimp larvicidal activity with lethality concentration (LC_{50}) of 15 and 55 µg/mL, respectively.

Keywords: *Fabaceae, essential oil, HepG2 treatment, Cassia fistula, phytochemical*

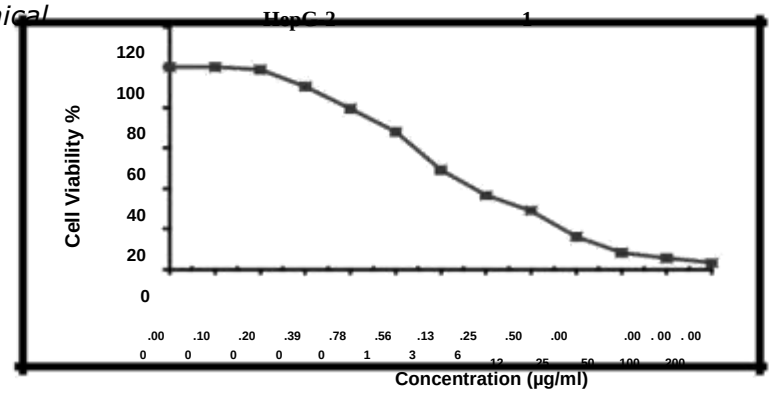


Figure 12: The cytotoxic activity of *C. fistula* against HepG2 liver cancer.

Spring 2018

Medical Biotechnology

The Antiviral Mechanisms of Chitosan Nanoparticles Encapsulating Curcumin against Hepatitis C Virus Genotype – 4a on Human Hepatoma Cell Lines

الآليات المضادة للفيروسات من جسيمات ال **Chitosan** النانوية المغلفة بالكركمين ضد النمط الجيني لفيروس الالتهاب الكبدي سي – 4 أ في خلايا الكبد البشرية

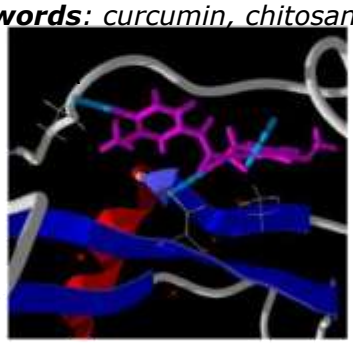
Aya Ali
Spring 2018

Host place: Virology & Immunology Unit, Cancer Biology Department, National Cancer Institute (NCI)
Internal Supervisor: Dr. Hossam Taha
External supervisor: Prof. Samah Loutfy
Name of the journal: International Journal of Nanomedicine

Abstract:
Current double and triple treatments with direct acting antivirals (DAAs) were recently reported to cause several side effects and thereby effective, less toxic antiviral agents are still needed. Accordingly, this study aimed at investigating the role of some natural and synthetic antivirals; curcumin, chitosan nanoparticles (CSNPs) and chitosan encapsulating curcumin nanocomposite on HCV-G4 replication in Huh7.5 cells. Viral Replication was quantified in HCV/G4 infected Huh7.5 cells either treated or not with curcumin, chitosan nanoparticles (CSNPs) and chitosan encapsulating curcumin nanocomposite using quantitative real time PCR assay. Nanocomposite (chitosan nanoparticles encapsulating curcumin) was successfully prepared and controlled to the size of 15 nm and charges of 25 mV, characterized by TEM, XRD, FTIR. Curcumin was encapsulated at concentration of 42mg/gm of chitosan nanoparticles. Chitosan nanoparticles at concentration of 100µg/mL showed almost 100% reduction of viral replication whereas the non-toxic dose of curcumin (13 µm) showed 50% reduction in the viral initial titer as detected by real-time PCR assay. Combining both agents in the nanocomposite led to a higher reduction in viral replication. Nanocomposite showed a significant reduction in viral replication when compared to curcumin and chitosan alone which suggests the potential role of nanocomposite as a novel, safe and effective antiviral agent.

***Keywords**: curcumin, chitosan, nanocomposite, HCV – 4*

A



B

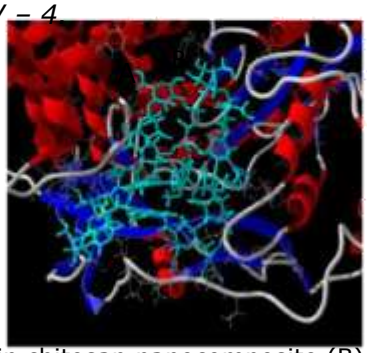


Figure 13: Ligand interaction of Curcumin (A) and curcumin chitosan nanocomposite (B) with NS5B polymerase

Antioxidant, Antimicrobial and Anticancer Activity of *Beta vulgaris*

تأثير مضادات الأكسدة، مضاد الميكروبات ومضادات السرطان لنبات البيتا الشائع ***Beta vulgaris***

Basma Megahed
Spring 2018

Host place: Embryo Lab in Cairo University. Research Park
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Dr. Hossam ElBeltagi
Name of the journal: Parlar Research and Technology- **Scopus (IF 0.36)**

Abstract:
Beta vulgaris is belonging to the family Chenopodiaceae and has several varieties with bulb colors ranging from yellow to red. Deep red-colored beet roots are the most popular for human consumption, both cooked and raw as salad or juice. The ethanolic extract of beetroots contains valuable and active compounds such as carotenoids, phenols, flavonoids, tannin, alkaloids, vitamins C, B3, B6 and B9. Therefore, beetroot extract has antioxidant and antimicrobial activity against gram positive and negative bacteria. Gram-positive bacteria *Staphylococcus aureus* and *Bacillus cereus* demonstrated higher susceptibility than Gram-negative *Escherichia coli* and *Pseudomonas typhimureum*. *Beta vulgaris* ethanolic extract exhibit significant anticancer activity against lung (A549) but slight effect against colorectal adenocarcinoma Caco-2 cell lines at the high concentrations of ethanolic extract (800 µg/ml).
Keywords: *Beetroots, Staphylococcus, ethanolic extracts, anti-oxidants*

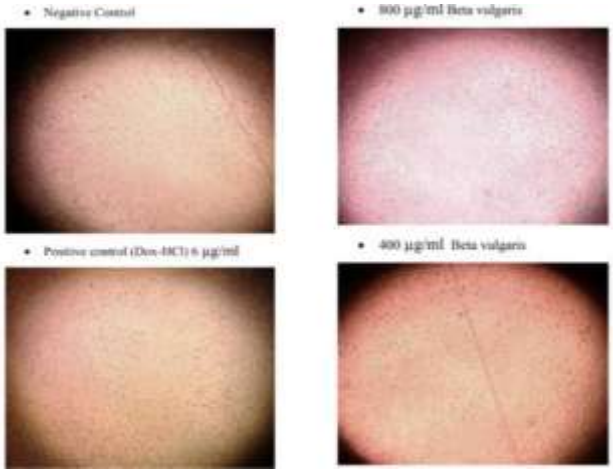


Figure 14: Morphological observation of cancer cell lines (A549) by 40X magnification power, which show that the percentage of lung cancer cell lines viability decreases with the increase of the concentration

EVALUATION OF *SCARABAEUS SACER BEETLES'* DERIVED-CHITOSAN, ANTI-CANCER POTENTIALS AND RELATED CHANGES: *IN VITRO* STUDY

تقييم مشتقات ال chitosan، مضادات السرطان والتغيرات ذات الصلة لخنفساء ال ***SCARABAEUS SACER***

Amr Abdelkader
Spring 2018

Host place: VACSERA / ICTAR EGYPT
Internal Supervisor: Dr. Mohamad Maged Galal
External supervisor: Prof. Aly Fahmy Mohamed
Name of the journal: The Egyptian society of Parasitology – **Scopus (IF 0.18)**

Abstract:
Lung and colorectal cancer represent a major health problem worldwide. This study evaluated the cytotoxic effect, anti-cancer properties of beetles derived chitosan.
The study conducted using lung (A549) and colorectal (HCT-116) cancer cell lines to identify the anti-cancer effect. Cytotoxicity was evaluated by describing and measuring recoding morphological changes. The viability and related IC50 were cell type and concentration dependent. Also, related cell apoptosis was monitored using PI stain where early and late apoptosis of treated A549 cells was significantly elevated than in case of HCT-116 cell line ($P<0.05$) than control. In the meantime, the necrotic % of treated cells didn't perform any changes between the two cell lines but significantly elevated than that of cell control ($P<0.05$). Apoptotic profile was examined and showed up regulation of both proapoptotic genes (P53 and Bax) accompanied with down regulation of BCL-2 in both cell lines.
Keywords: *Beetles' chitosan, Toxicity, Cell cycle, Apoptosis, Anti-cancer.*

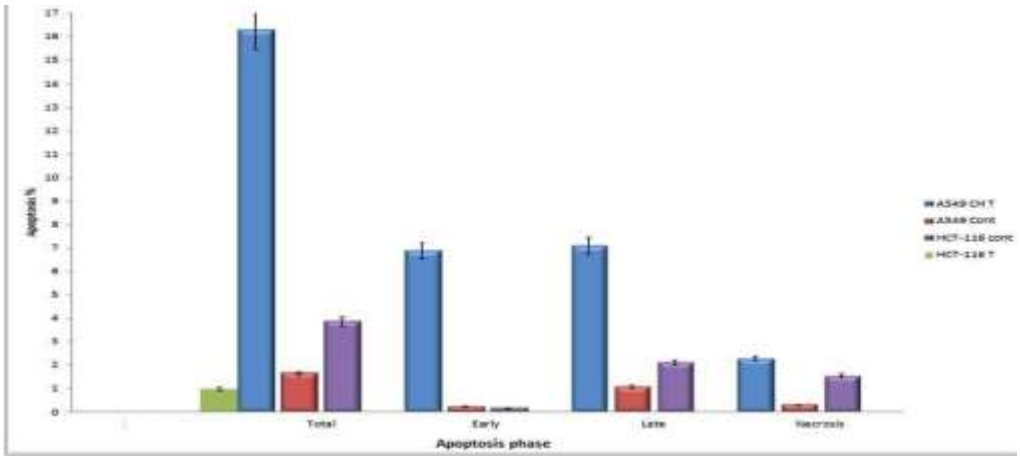


Figure 15: Apoptotic and necrotic profile for both A549 and HCT-116 cell lines.

EVALUATION OF *SCARABAEUS SACER* DERIVED-CHITOSAN, ANTI-CANCER POTENTIALS AND RELATED CHANGES: IN VITRO STUDY

By

AMR ABDELKADER ABDEL WAHID[1]*, MOHAMED MAGED[1]**
AND ALY FAHMY MOHAMED[2]***

Faculty of Biotechnology, October University for Modern Sciences and Arts (MSA), Egypt[1] and VACSERA, Dokki, Giza[2]

(Amr.abdelkader@msa.edu.eg*, mmglal@msa.eun.eg**, Fahmy.aly@gmail.com***)

Abstract

Lung and colorectal cancer represent a major health problem worldwide. This study evaluated the cytotoxic effect, anti-cancer properties of beetles derived chitosan. The study conducted using lung (A549) and colorectal (HCT-116) cancer cell lines to identify the anti-cancer effect. Cytotoxicity was evaluated by describing and measuring recoding morphological changes. The viability and related IC_{50} were cell type and concentration dependent. Also, related cell apoptosis was monitored using PI stain where early and late apoptosis of treated A549 cells was significantly elevated than in case of HCT-116 cell line ($P<0.05$) than control. In the meantime, the necrotic % of treated cells didn't perform any changes between the two cell lines but significantly elevated than that of cell control ($P<0.05$). Apoptotic profile was examined and showed up regulation of both proapoptotic genes (P53 and Bax) accompanied with down regulation of BCL-2 in both cell lines.

Keywords: Beetles' chitosan, Toxicity, Cell cycle, Apoptosis, Anti-cancer.

Introduction

Cancer is a leading cause of death in both economically and developing countries (Torre *et al.* 2015). Logan *et al.* (2012) reported that Bowel Cancer Screening Programme in England began operating in 2006 with the aim of full roll out across England by December 2009. Subjects aged 60-69 were invited to complete three guaiac faecal occult blood tests (6 windows) every 2 years, aiming to reduce mortality from colorectal cancer by 16% in those invited for screening. Cancer (n=1772) and higher risk adenomas (n=6543) were found in 11.6% & 43% of men and 7.8% & 29% of women respectively. 71% of cancers were 'early' (10%polyp cancer, 32%Dukes A, 30%Dukes B) and 77% were left-sided (29%rectal, 45%sigmoid) with only 14%being right-sided compared with expected figures of 67% & 24% for left and right side from UK cancer registration. In Egypt, Veruttipong *et al.* (2012) reported that colorectal carcinoma was uncommon, but a high proportion of cases occurred before age 40 years and in rectum. They added that analysis of the 1364 cases of colorectal cancer collected at the Gharbia-population-based cancer registry from 1999-2007 revealed the following important findings: First, a relatively high incidence of colorectal cancer in young subjects under age 40 years and significantly low incidence in subjects 40 years and older. Second, high proportion of tumors located in the rectum. Third, a vast majority of tumors (over 97%) did not have polyps. Fourth, living in an urban area was associated with higher rates of colorectal cancer, with variability in rates across the region. Eser *et al.* (2018) stated that there were wide variations in colorectal cancer (CRC) incidence across the world. Historically, the highest incidence rates were reported historically in more developed countries; however, increasing trends were seen in developing countries. Galal *et al.* (2016) in Saudi Arabia reported that factors that might increase risk of colon cancer include: older age. African-American race, a personal history of colorectal cancer or polyps, inflammatory intestinal conditions, inherited syndromes that increase colon cancer risk. They added that family history of colon cancer, low-fiber, high-fat diet, a sedentary lifestyle, diabetes, obesity, smoking,

Cytogenetics Study in Cases of Gender Crisis

دراسة للعلم الوراثي للخلايا في حالات أزمات نوع الجنس

Emad Adel Bassily Bishay
Spring 2018

Host place: Genetics lab pediatric department, Faculty of medicine, Ain Shams University
Internal Supervisor: Dr. Ahmed Aref
External supervisor: Prof. Ola Khalifa & Prof. Osama Kamal Zaki

Abstract:
Disorder of sex development (DSD) are congenital conditions characterized by atypical development of chromosomal, gonadal, and phenotypic sex, DSD is a rare disease that may affect both male and female with a frequency of 1 in 20,000-25,000 in males, while the female prevalence is 1 in 16,000, as female with disorder in sex development may have uterus but with secondary sexual characters resemble those of males and this is due to the increase levels of the androgen hormone during pregnancy and the karyotyping will be 46 chromosomes that includes 44 autosomal chromosome and XY sex chromosomes instead of XX sex chromosomes of a normal female. This project aims to karyotype three patients one male and two females that was expected to have disorder of sex development, through six steps which starts by set up Harvest that starts by set up step to enable cell growth for 72 hrs. Then followed by harvest of the white blood cells, then Spreading, after that Banding step, Photo, and Karyotyping to detect if there is any gender crisis within this sample or not, for example if there is a female with (XY) instead of (XX) and male with (XX) instead of (XY) in their sex Chromosomes. While the results were positive for the three patients as the two females karyotype was 46, XY and the male karyotype was 46, XX.

Keywords: Disorder of sex development, *SRY* protein, androgen hormone,

Figure 16: Shows the karyotyping of the chromosomes of patient 1.

Incidence of Human Cytomegalovirus DNA in Metastatic Lymph Node in Breast Cancer Patients

تأثير داء الفيروس المضخم لخلايا الإنسان في العقدة الليمفاوية المنتشرة في مرضى سرطان الثدي

Nouran Yehia Hamid Hemida
Spring 2018

Host place: Cancer biology research laboratory Zoology department, faculty of science, Cairo university
Internal Supervisor: Dr. Hossam Taha Mohamed
External supervisor: Prof. Mona Mostafa

Abstract:
The vast majority of breast cancers are carcinomas that originate from cells lining the milk-forming ducts of the mammary gland. The human cytomegalovirus (HCMV) is a multifaceted highly host specific betaherpesvirus that is regarded as asymptomatic or mildly pathogenic virus in immunocompetent host. HCMV may cause acute and chronic complications in immunocompromised individual. HCMV antigens and DNA have been detected in tissue biopsies of breast cancers and sentinel lymph nodes and elevation in serum HCMV IgG antibody levels have been reported to precede the development of breast cancer in some women. The aim of the study is to evaluate the association of human cytomegalovirus (HCMV) incidence and lymph node metastases in Egyptian breast cancer patients. The project was carries out through testing of enrolled breast cancer patients for presence or absence of HCMV IgG antibody in their blood samples. Finally, correlation between incidence of HCMV DNA and lymph node metastasis in breast cancer patients was assessed. Outcome of the study displays that there is a statistical significance between HCMV-DNA and lymph node metastasis.
Keywords*: Breast cancer, betaherpesvirus, HCMV.*

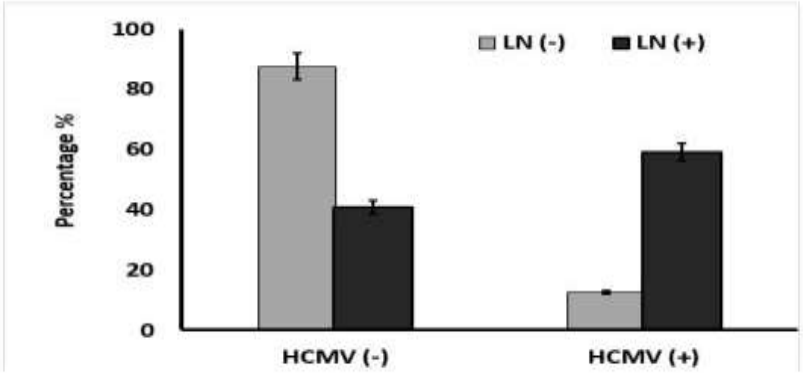


Figure 17: HCMV infection of metastatic lymph node patients versus non-metastatic lymph node patients.

The Therapeutic Effects of Mesenchymal Stem Cells and Taurine in Ovarian Dysfunction in Rat Model

التأثيرات العلاجية للخلايا الجذعية ومركب ال Taurine في خلل المبيض في نموذج الجرذ

Lama Ahmed ElNagdi
Spring 2018

Host place: Faculty of Science, Cairo University.
Internal Supervisor: Dr. Hossam Taha
External supervisor: Prof. Emad ElZayat

Abstract:
Chemotherapy targets rapidly dividing tissues in the body. It destroys the progenitor cells in gonads resulting in ovarian dysfunction.Studies have suggested that bone marrow- derived stem cells can regenerate oocytes in chemotherapy-treated female rats after transplantation. The present study aimed to assess mechanism of homing, the action of injected BM-MSCs and orally administered taurine on ovarian function after ovarian damage. Experimental design: Fifty female albino rats were randomly allocated into Control, CTX group, The Experimental protocol lasted for 10 weeks during which serum E2 and plasma serum ALT and MDA were monitored. Stem cells identification and homing were evaluated by Flowcytometry. Also, histopathological examination was done to evaluate both degeneration and regeneration of ovarian tissue. Principal observations: Paclitaxel group indicated noticeable ovarian distress. Partial improvement of E2, ALT and MDA levels as well as ovarian architecture. H&E staining showed that there were more healthy ovarian follicles after treatment with BM-MSCs and Taurine. Conclusion: Our results demonstrated that injected BM-MSCs can home in the stroma of the injured ovaries and alongside the supplementation of Taurine, injured ovarian function could be restored.

Keywords: *Ovarian Dysfunction; BM-MSC; Taurine; Paclitaxel*

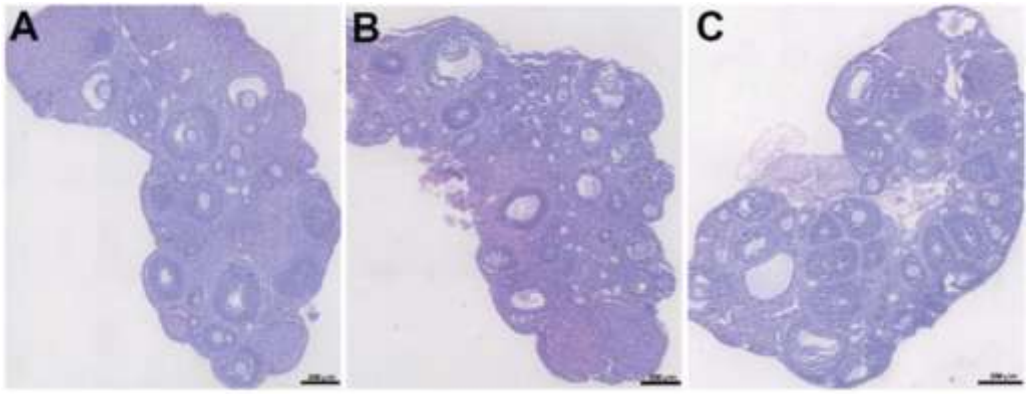


Figure 18: H&E staining of ovarian morphology in Control (A), Paclitaxel (B), BMT and TA (C).

Incidence of Cytogenetic abnormalities in female infertility

تأثير التشوهات الخلوية الوراثية في العقم عند النساء

Nada Ali Yassin
Spring 2018

Host place: Genetica DNA Laboratories
Internal Supervisor: Dr. Mona Kamal
External supervisor: Dr. Yasser ElNahas

Abstract:
Infertility is a common problem and may affect up to 15% of all couples. Genetic disorder is considered to be the commonest correctable cause of female infertility. Their incidence among infertile female is 20-40% – about three times greater than in the general population.This study aims to report the incidence of cytogenetic abnormalities in female infertility and to report karyotype abnormality with AMH hormone levels. Fifty infertile females were included. All- purpose clinical records and blood samples were obtained according to WHO criteria. Different levels of AMH were detected using Vidas techniques. Karyotyping was done using conventional method, and Lucia computerized software. Results**:** Among 50 infertile females; 37/50 females had normal karyotype while, 13/50 females had abnormal karyotype. Patients with abnormal karyotype with AMH hormonal levels; 4/13 (30.8%) were very low, 2/13 (15.4%) were low fertility, 2/13 (15.4%) were satisfactory and 5/13 (38.5%) were optimal fertility levels. From 13 infertile patients with abnormal karyotype; 10/13 (76.9%) patients were 46,XY [20], while 1/13 (7.7%) were 46,XX[15]/45,X[5], 1/13(7.7%) were 46,XX[6]/45,X[14] and 1/13 (7.7%) were 46,XX[10]/45,X[10] karyotype. Conclusion**:** Cytogenetic abnormalities are an important cause of female infertility. That karyotype analysis in both partners should be performed for infertile couples. ***Keywords:*** *Karyotyping, Female infertility, AMH.*

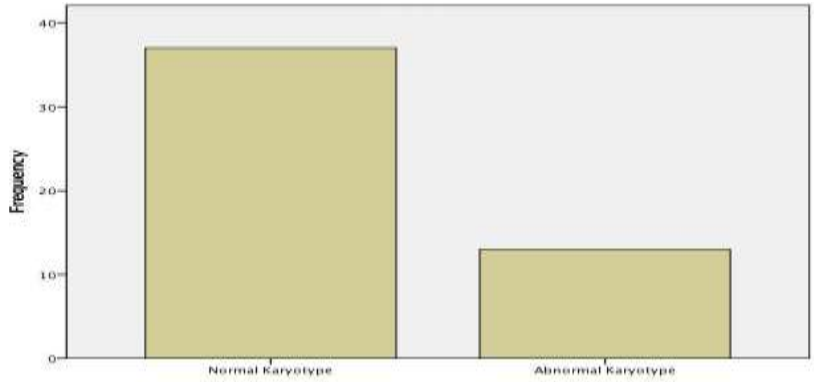


Figure 19: Percent of normal and abnormal karyotype.

Plasma renin activity in Egyptian hypertension patients

نشاط بلازما الرينين في مرضى ارتفاع ضغط الدم المصريين

Noha Ashraf
Spring 2018

Host place: National Cancer Institute (NCI) – Cairo University.
Internal Supervisor: Dr. Mona Kamal
External supervisor: Prof.Yasser El Nahass

Abstract:
Hypertension is one of the most prevalent disease states that occur in approximately one in three adults. Hypertension is a major cause of morbidity and mortality because of its association with coronary heart disease, cerebrovascular disease and renal disease. Plasma renin activity (PRA) is a surrogate of renin-angiotensin system (RAS) activity and potentially serves as a biomarker for hypertension. The relationship between plasma renin activity (PRA) and hypertension still unclear moreover, no previous studies has been assessed their relationship on Egyptian hypertensive patients. Thereby, the purpose of the present study was to determine the relationship between plasma renin activity (PRA) levels and the occurrence of hypertension in Egyptian patients. Plasma renin activity (PRA) was measured by using enzyme-linked immunosorbent assay (ELISA) technique in 30 patients (16 males and 14 females), ranging in age from 17 to 63 years. In systolic blood pressure (SBP) group, patients with high systolic blood pressure (stage 2) and hypertensive crises tended to have high plasma renin activity (PRA) levels than those normal individuals. Also, patients with high diastolic blood pressure greater (stage 2) had higher levels of plasma renin than patients with normal blood pressure. Based on the results, a strong and direct relationship between plasma renin activity (PRA) and hypertension was observed.

Keywords: *Hypertension; Renin-Angiotensin Aldosterone System.*

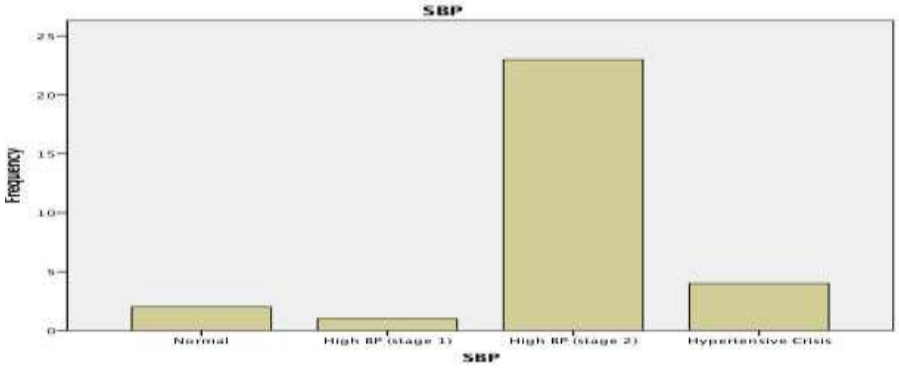


Figure 20: Represents the frequency of systolic blood pressure in the studied patients.

Evaluation of miR-21 dependent pathway on prognosis of B cells childhood acute lymphoblastic leukemia (c-ALL)

تقييم مسار miR-21 لتشخيص خلايا البيتا اللوكيميا الليمفاوية الحادة (c-ALL)

Omnia Ibrahim Elsaeed
Mohamed Spring 2018

Host place: Global Labs
Internal Supervisor: Prof. Ayman Diab
External supervisor: Dr. Nashwa ElKhazragy

Abstract:
Precursor B-cell acute lymphoblastic leukemia (pre-B c-ALL) is a critical disease, frequently distributed in childhood age. With the current treatment protocol; survival rate approach only 90% however and still a significant clinical challenge for relapse persist due to resistance to chemotherapy. LncRNA CASC2 (cancer susceptibility candidate 2) has been characterized as a tumor suppressor in cancer. It has been evident that miR-21 is over-expressed in malignant B-cell lymphoma, thus considered to be a marker of immune cell activation. A recent study demonstrates that lnc-CASC2 is a target of miR-21 in cancer. In the current study, the peripheral blood samples of seventy pre-B c-ALL are analysed for the expression of miR-21 and lnc-CASC2; thirty healthy children are compared as negative control. lnc-CASC2 was down-regulated by 5 folds in pre-B c-ALL versus the control; however; miR-21 was increased. CASC2/miR-21 haven't a prognostic potentiality in pre-B c-ALL. We concluded that lnc-CASC2/miR-21 expression levels cannot predict disease prognosis and outcome in children with pre-B ALL.

***Keywords**: lnc-CASC2, miR-21, pre-B c-ALL, prognostic factor*

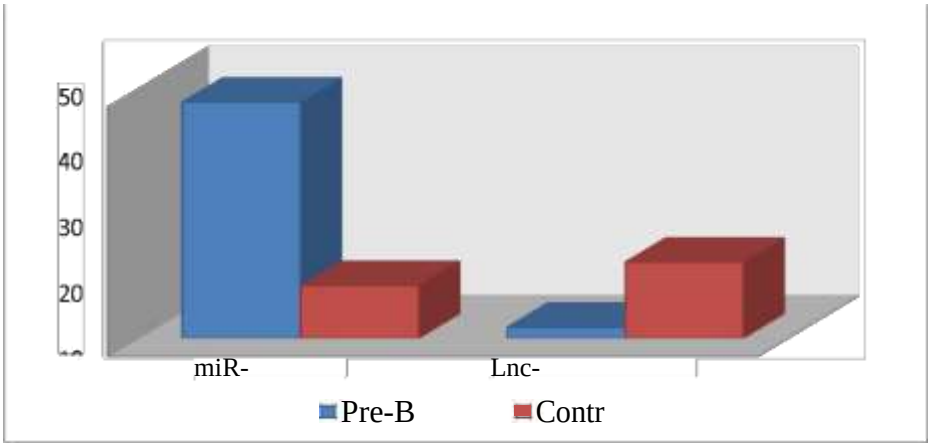


Figure 21: *Expression levels of the studied markers in Pre-B cALL patients versus healthy control*

Agricultural Biotechnology

Effect of some modifications in tissue culture media for banana commercial multiplication

تأثير بعض التعديلات في الوسيط الغذائي لزراعة الأنسجة على التكاثر التجاري للموز

Mazen Ashraf Ahmed AbdElHady Ismail
Spring 2018

Host place: Agriculture Research Center (ARC)
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Prof. Sahar Youssef
Name of the journal: Acta Horticulturae

Abstract:
The goal of this study was to find cheaper alternatives for the micropropagation of banana (Musa sp.). Low cost options adopted in this study included lowering MS concentration in media, lowering benzylaminopurine (BAP) in media, and replacement of distilled water with tap water in media preparation. The effect of 4 different concentrations of BAP (0.6 mgL-1,0.8 mgL-1,1 mgL-1,1.2 mgL-1) on bud initiation and shoot length was investigated. The experiment tested the effect of lowering MS concentration in media with 3 different concentrations (3.0 gL-1, 3.5 gL-1, 4.4 gL-1) in order to reduce the cost of media ingredients. The effect of replacing distilled water with tap water was also studied. The investigated concentrations of BAP has shown that using lower concentrations of BAP (0.6 mgL-1, 0.8 mgL-1) will produce slightly lower number of buds while producing higher shoot length if compared to standard concentrations (1 mgL-1, 1.2 mgL-1). Study shows that using low MS concentration (3 gL-1) provides higher number of buds and shoot length when compared to the standard (4.4 gL-1). Using tap water instead of distilled water was effective in lowering cost of production without compromising the quality of plants. Tested media with lowered ingredients (BAP: 0.6mgL-1, MS: 3.0 gL-1, tap water) was tested against standard media and it showed no difference in number of buds while producing higher shoot length plantlets.

Keywords: Banana, Tissue Culture, Micropropagation, Growth hormones.

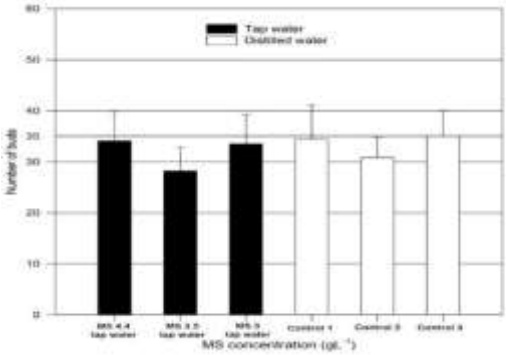


Figure 22: Comparison between the number of buds in different MS concentrations using distilled water and Tap water

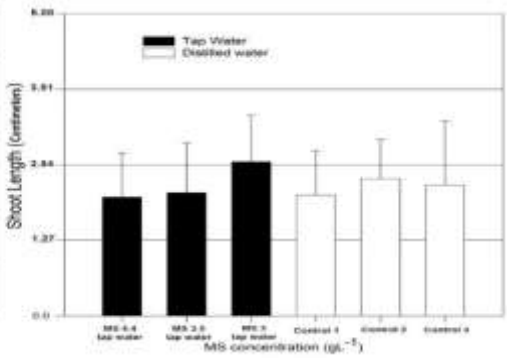


Figure 23: Comparison between the shoot length in different MS concentrations using distilled water and Tap water

Effect of some modifications in tissue culture media for banana commercial multiplication

M.A. Ismail[1], S.A. Youssef[2], G. Safwat[1] ,A.A. Shalaby[2]

[1]Faculty of Biotechnology, Modern Science and Arts (MSA) University, 6th of october, Egypt.
[2]Virus and Phytoplasma Res. Dept. Plant Path. Res. Inst. ARC, Giza, Egypt.

Abstract

The goal of this study was to find cheaper alternatives for the micropropagation of banana (*Musa sp.*). Low cost options adopted in this study included lowering MS concentration in media, lowering benzylaminopurine (BAP) in media, and replacement of distilled water with tap water in media preparation. The effect of 4 different concentrations of BAP (0.6 mgL^{-1},0.8 mgL^{-1},1 mgL^{-1},1.2 mgL^{-1}) on bud initiation and shoot length was investigated. The experiment tested the effect of lowering MS concentration in media with 3 different concentrations (3.0 gL^{-1}, 3.5 gL^{-1}, 4.4 gL^{-1}) in order to reduce the cost of media ingredients. The effect of replacing distilled water with tap water was also studied. The investigated concentrations of BAP has shown that using lower concentrations of BAP (0.6 mgL^{-1}, 0.8 mgL^{-1}) will produce slightly lower number of buds while producing higher shoot length if compared to standard concentrations (1 mgL^{-1}, 1.2 mgL^{-1}). Study shows that using low MS concentration (3 gL^{-1}) provides higher number of buds and shoot length when compared to the standard (4.4 gL^{-1}). Using tap water instead of distilled water was effective in lowering cost of production without compromising the quality of plants. Tested media with lowered ingredients (BAP: 0.6mgL^{-1}, MS: 3.0 gL^{-1}, tap water) was tested against standard media and it showed no difference in number of buds while producing higher shoot length plantlets. Using the tested media will cut the cost of media preparation by nearly 50%.

Keywords: Banana, Tissue Culture, Micropropagation, Growth hormones, Tap water .

Identification and Quantification of *Vis1* Gene in Date Palm Fruits *Phoenix Dactylifera L.*

تحديد و قياس كمية جين ***Vis1*** في نخيل البلح ***Phoenix Dactylifera L***

Sarah Hesham Sayed Bastawi
Spring 2018

Host place: MSA University
Internal Supervisor: Dr. Osama Saad Sayed Hassan

Abstract:
Date palm (*Phoenix dactylifera*) is one of the economic crops in most of semi-arid areas. It is considered as a typical model to study fruit maturation. A lot of technologies were used to study date fruit development and ripening. In this research individual and total sugars in addition to the total phenolic content were extracted and measured. Glucose, fructose and sucrose content had been calculated in two different Saudi date palm cultivars Holwah Al Joof, and Saghai. The total sugar content in the Saghai scored higher than Holwah Al Joof. However, in case of the phenolic content was higher in Holwah Al Joof than Saghai. Fruit softening occurs during ripening as a consequence of progressive cell wall modification and disassembly by enzyme action. Pectin and hemicellulose, two of the major cell wall components, undergo solubilisation and depolymerisation. Therefore, the expression of *vis1* gene had been quantified as one of the fruit quality controlling genes. Compared to the tomato fruit as a positive control, the expression of *vis1* in Holwah Al Joof fruit was lower than in Saghai.

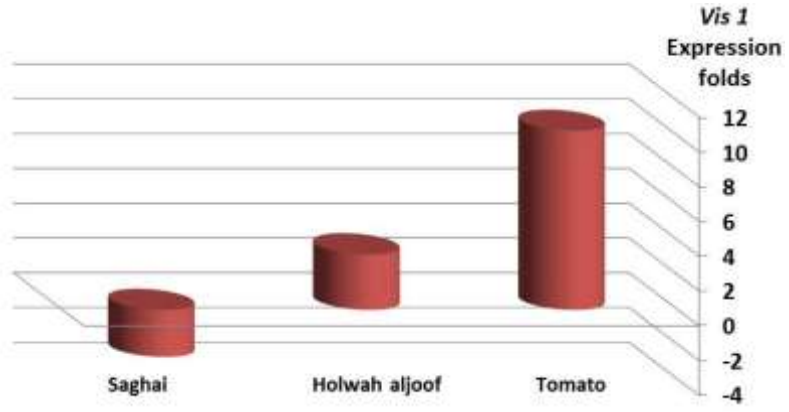


Figure 24: The expression folds of vis1 gene in the dates fruit and tomato and the date fruits (Holwah Al Joof and Saghai). Where in saghai is down regulated and upregulated in tomato more than holw al-joof

Incidence and risk exposure of nitrate and nitrite of Egyptian fruits and vegetables

تأثير و مخاطر التعرض للنترات والنتريت في الفواكه والخضروات المصرية

Alya Ali Mahmoud
Spring 2018

Host place: Central Laboratory of Residue analysis of Pesticides & Heavy metals in Food (Qcap)
Internal Supervisor: Dr. Osama Saad
External supervisor: Dr. Ahmed Salem

Abstract:
Nitrosamine is the derived from nitrate and it seems as one of the factors and causes of gastrointestinal cancer in adults and methemoglobinemia (blue baby syndrome). Eighty percent of nitrate enters to the body through vegetables and fruits; so in this study, nitrate concentration in available vegetables and fruits in Egypt was determined and compared with standard limit. Nitrate reading was done using HPLC, and Excel was used to draw diagrams and statistical calculations. Daily intake estimates were based on a national food consumption and nitric/nitrate content in various foodstuffs. The mean intake of nitrite from Squash was exceeded the ADI among 110 vegetable commodity, with EDI value of o.1mg/kg for children body weight and Fresh strawberry with EDI value of 3.6 for adult body weight. And the water commodity with high and significant EDI for both body weight.

Keywords: *Nitrate, Nitrite, HPLC, Acceptable dairy intake (ADI), HI, EDI & WHO.*

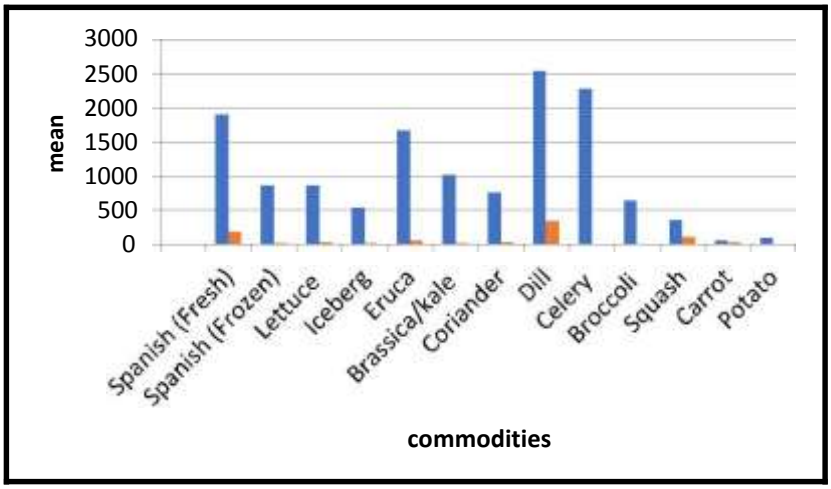


Figure 25: Comparison of Nitrate and nitrite mean Concentration in Vegetables commodity

A qPCR Assay to Monitor and Detect Shiga- Toxin Producing *E. coli* in Raw Materials and Food in the Egyptian Market

رصد وكشف سموم الشيجة الناتجة من بكتيريا الايشيريشية القولونية باستخدام تفاعل البلمرة المتسلسل الكيفي في المواد الخام و الغذائية في السوق المصري

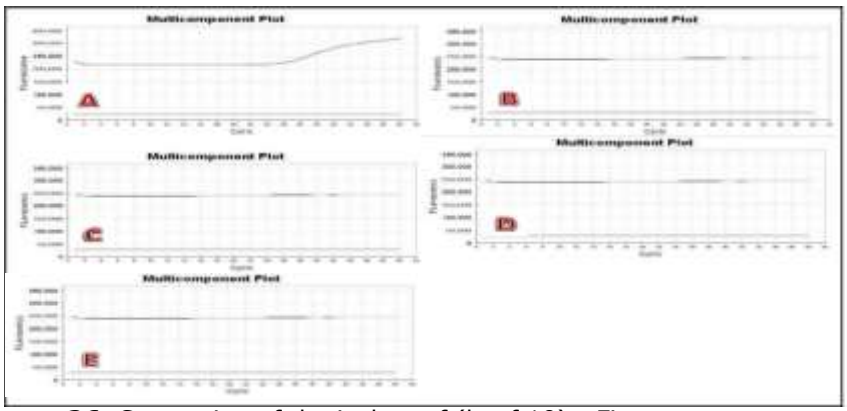
Reem Maged Sheta
Spring 2018

Host place: Central Laboratory of Residue analysis of Pesticides & Heavy metals in Food (Qcap)
Internal Supervisor: Dr Amr Ageez
External supervisor: Dr. Mohamed Abdallah

Abstract:

Shiga toxin producing *Escherichia coli* (STEC) are dangerous foodborne pathogens which represent a severe public health issue worldwide. Raw foods are considered as important sources for STEC infection in human. In the current study, STEC contamination level was determined in 39 raw foods and materials (chicken, beef, milk and water) collected from farms, butchers, and retail markets in different localities using Real-Time PCR (RT- PCR). Moreover, the virulence genes of the isolated strains were characterized. STEC was detected in three samples which represent about 8% of the tested samples, wherein they were all beef samples. Two samples were positive for the *eaeA* (intimin) and *stx2* gene, however; the third sample was *eae*A-negative and *stx2*-positive. The *stx2* gene of STEC bacteria was the most prevalent subtype identified in beef samples. Among the three positive samples, four STEC strains were isolated; two strains belonged to O157 serogroup and the other two belonged to non- O157 serogroup (O26).

Keywords: *STEC, Foodborne pathogens.*



*A:O157
*B: O111
*C: O26
*D:O103
*E: O145

Figure 26: Serotyping of the isolate of (beef 10) - Five serotypes were tested and only O157 was detected

Optimization of the Production of Cry1Ac Protein from *Bacillus Thuringiensis*

تحسين إنتاج بروتين Cry1Ac من *Bacillus Thuringiensis*

Bahaa Khaled ElKhamisi
Spring 2018

Host place: Agricultural Genetic Engineering Research Institute (AGERI)
Internal Supervisor: Dr. Ahmed Nada
External supervisor: Dr. Hisham ElShishtawy

Abstract:
Bacillus thuringiensis is the most commonly used biopesticide producer in the biological control market. Due to the increase of insect resistance from chemical pesticide and the environmental impact it causes, biopesticide are becoming more and more popular. It is very critical for the for the biopesticide industry to produce the highest yield of protein in the fermentation process in order to reduce its cost and to compete with the chemical pesticide industry. This research's aim is to tackle this problem and to improve and optimize the fermentation process by changing its components and environmental conditions in which the bacteria is cultured for maximum efficacy and production. The toxin produced is Cry1Ac produced from the strain DI29 from *Bacillus thuringiensis* and its toxicity was tested on the insect *Spodoptera littolaris*.

Keywords: *Bacillus thuringiensis, Bioinsecticide, Biopesticide, Fermentation, Toxins.*

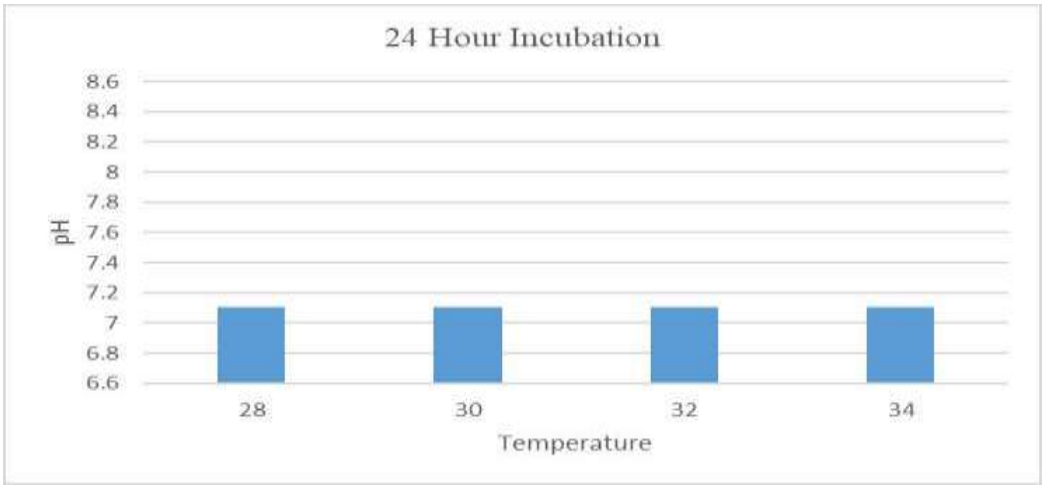


Figure 27: Correlation between temperature and pH after 24 hours

Selection, Characterization and Application of Bioemulsifiers Produced by certain Bacteria Isolated from Egyptian Habitats

إختيار وتوصيف وتطبيق المستمدات الحيوية المنتجة بواسطة بعض البكتيريا المعزولة من البيئة المصرية

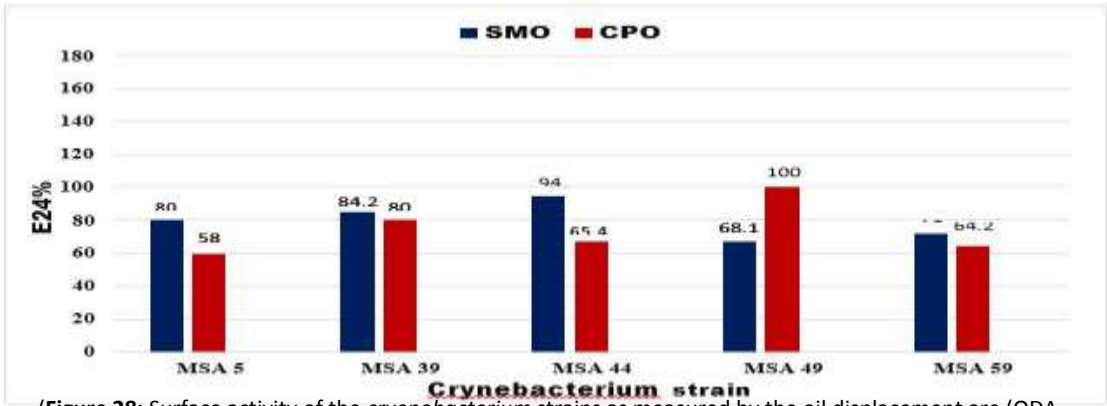
Aya Sayed Abd El-aziz Mohamed
Spring 2018

Host place: MSA University
Internal Supervisor: Prof. Ali Diab

Abstract:

In the first part of this project 59 bacterial strains were isolated from different Egyptian habitats and studied for their biosurfactant/bioemulsifier activities when were grown on one type of culture medium. In this part (the second part) 17 active strains from those of the first part were selected and studied during the second part of this research project. The 17 bacterial strains were identified down to genus as follows: *Corynebacterium* (5 strains), *Bacillus* (5 strains), *Arthrobacter* (3 strains), *Acinetobacter* (2 strains) and *Pseudomonas* (2 srains). The results show that strains of the *Corynebacterium* and *Bacillus* were more surface active especially strains MSA 59, MSA 53, MSA 28, and MSA 5. The results also show that all of the 17 bacterial strains were able to emulsify spent motor oil and crude petroleum oil with E24 of 56.1-100% E24 (except 2 strains of 48.1-48.6 E24). This indicates that these active strains may represent promising candidate in petroleum industries. The results of the emulsification activity 8 selected bacterial strains as affected by the addition of different vegetable oil show that used frying oil followed by corn oil were promising for obtaining high surface activities by the selected 8 strains.

Keywords: *Biosurfactants, Bioemulsifiers, Corynebacterium, Arthrobacter.*



(**Figure 28:** Surface activity of the *cryenobacterium* strains as measured by the oil displacement are (ODA

Pharmaceutical Biotechnology

The biological activity of Golden berry extract as antioxidant, anti-microbial and anti-cancer activity

النشاط البيولوجي لمستخلص التوت الذهبي كمضاد للأكسدة ، مضاد للميكروبات ومكافح للسرطان

Mohamed Gamal Mohamed Zaki
Spring 2018

Host place: Chemistry, Microbiology, Embryology and food safety Departments, Cairo University research park "CURP"
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Dr. Hossam El-Beltagi
Name of Journal: Fresenius Environmental Bulletin – **Scopus (IF 0.36)**

Abstract:
The Physalis peruviana (Goldenberry) is of great importance and vital phytochemical and nutritional properties, as its classified as one of the medicinal plants that possess great features as anti-oxidant, anti-microbial and anti-cancer properties. Physalis peruviana also possess anti-microbial activities towards specific microbial and fungal strains where performing microbial disc diffusion test reveals the high activity by its inhibition zone as following 17.15, 12.46 and 7.5 µg/ml respectively for each of bacillus, E. coli and A. Niger. Also, Physalis peruviana possess anti-cancer activity as the analysis of the golden beery extract toward boss Lung cancer and colon cancer as high neutral red viability assay was found in cases of colon cancer of 94 % and low neutral red viability assay in case of lung cancer of 66.0% for the highest concentration 800µg/ml across variety of concentrations. ***Keywords:*** *Anti-Oxidant, Anti-Microbial and Anti-Cancer Properties.*

Figure 29: Shows two lung cancer cell lines concentrations (400 and 800) µg/ml, the variation in apparent viable cells from the lower concentration passing through the higher one

F\'.,\UIATION OF SOI\IE UIEI\IICAL CONSTITIIE'.'/TS, A:"JTIOXWA,\i T, .\NTIB ACTERL\L AND ANTICANCER ACTIVITIES OF RET/I *VU/, (,ARIS* I .. ROOT

Hossam S. EI-Bcltagi [1] . 2*, Hcha I. Mohamed\ Basma M.H. Mcgahcd[4], I\1ohammcd Carnal\ Gehan Safwat

[1]Faculty or Agriculture. Riochcmistry Department. Cairo University, Giza, Cairo,

[2]Cairo University. Research Park (CURP), Giza, Cairo, Egypt

·' Faculty or Education. Department of Rio logical and Geological Science, Ain shams University. Cairo, Egypt

[4]Faculty of Biotechnology, October University for Modern Science and Art (MSA), Egypt

Abstract

Bl! ta rnlg.aris is belonging to the family Chenopodiaceae and has several varieties with bulb colors ranging f[r]om yellow to red. Deep red-colored beet roots are the most popular for human consumption, both cooked and raw as salad or juice. The ethanolic extract of beetroots contains a valuable and active compounds such as carotenoids, phenols, flavonoids, tannin, alkaloids, vitamins C, 83, 86 and 89. Therefore, beetroot extract has antioxidant and antimicrobial activity against gram positive and negative bacteria. Gram-positive bacteria *Staphylococcus aureus* and *Bacillus cereus* demonstrated higher susceptibility than Gram-negative *Escherichia coli* and *Pseudomonas typhimureum. Beta vulgaris* ethanolic extract exhibit significant anticancer activity against lung (A549) but slight effect against colorectal adenocarcinoma Caco-2 cell lines at the high concentrations of ethanolic extract (800 µg/ml).

KEYWORDS: *Beta vulgaris,* phenols, flavonoids, tannin, carotenoids, vitamins, DPPH, antibacterial, anticancer activity.

INTRODUCTION

In the past few years, its found that the use of synthetic drugs to prokcl thL· human from diseases is unsafe to human and environment. So that, its very 1111purt;111l to use the medicinal plants which have secondary metabolites and a11tiux1d:111t compounds which decrease the effect of free radicals [l, 2].

Beta vulgaris L. subsp. vulgaris is belong to the family Chc110p\ldidL'CdL' (Angiosperm) [3] and it also called beetroot or garden beet [4]. Beetroot ts ;11111u:il

Production of Antibiotics from Soil-Isolated Actinomycetes and Evaluation of their Antimicrobial Activities

إنتاج المضادات الحيوية من البكتيريا الخيطية المعزولة من التربة وتقييم أنشطتها المضادة للميكروبات

Nourhan Magdy Mohamed
Spring 2018

Host place: Metalab Diagnostic Laboratories
Internal Supervisor: Dr. Mohamed Galal
External supervisor: Dr. Mohamed Hussien

Abstract:
The scourge of bacterial infections and diseases has continued to haunt humanity worldwide despite the significant efforts made to understand and treat them. Antibiotics are the usual treatment for such serious bacterial infections. Bacteria are very adaptable, and the overuse of antibiotics has led to the emergence of MDR strains that can no longer be controlled with the usual antibiotics. This has led to the search of novel antibiotics from different sources. The secondary metabolites, especially those isolated from soil inhabitant Actinomycetes have shown an astonishing success for the production of novel effective antibiotics that are harmless to the host tissues. Combination of antibiotics is an effective approach for the elevation of antibiotics' efficiency and demotion of their side effects. In the course of screening for antibiotic producing microorganisms, fourteen isolates showing antimicrobial activity were isolated from a total of thirty three soil samples collected from various habitats in 6th of October city. Several biochemical tests were performed in order to identify the isolated Actinomycetes which were based on Bergey's manual of Determinative Bacteriology. Furthermore, the antimicrobial activity was evaluated by Agar Plug Diffusion, and Broth Dilution methods. The MIC of the soil isolated Actinomycetes was calculated with a value of 0.27 as means of optical density.
Keywords: *Actinomycetes*

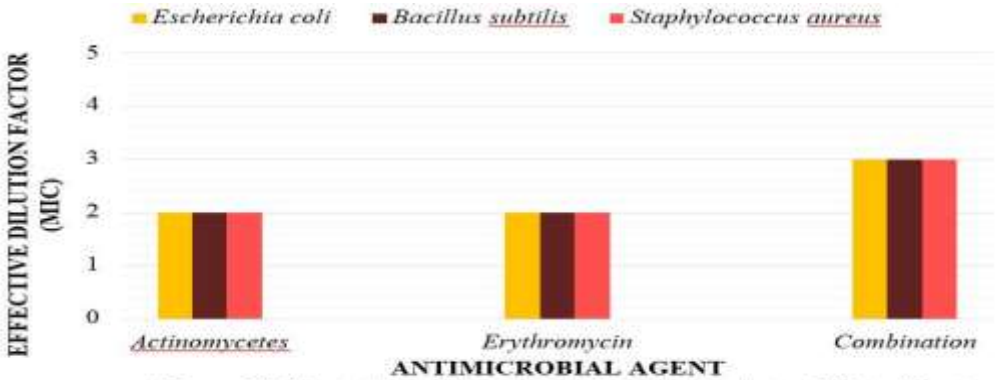


Figure 31: Illustration of the most effective dilution factor (MIC) of Erythromycin, *Actinomycetes*, and their combination on *E. coli*, *B. subtili*, and *Staph. aureus*.

IN VITRO ASSESSMENT OF ANTICANCER ACTIVITY OF SHRIMP DERIVED CHITOSAN AND RELATED APOPTOTIC PROFILE ALTERATION

تقييم النشاط المضاد للسرطان لل **chitosan** المستخرج من الروبيان و تغييرات الموت المبرمج المترتبة على ذلك

Christina Atef Fawzy Ghaly
Spring 2018

Host place: VACSARA
Internal Supervisor: Dr. Ashraf Bakkar
External supervisor: Dr. Aly Fahmy
Name of the journal: Journal of the Egyptian Society of Parasitology – **Scopus (IF 0.18)**

Abstract:
Liver and breast cancer represents a major health problem worldwide. The present study evaluated the anti-cancer properties of Shrimp derived chitosan on human liver (HepG-2) and breast cancer (MCF7) cell lines. The cytotoxicity of chitosan was determined using MTT assay. Chitosan showed an anti-proliferative and cytotoxic effect against (HEPG-2) and (MCF7) cancer cell lines in a dose and cell type dependent manner. The IC50 value of chitosan was 600µg/ml and 348µg/ml for treated HepG-2 and MCF-7 respectively. Anticancer potential of chitosan was monitored via evaluation of cell cycle profile and pro- and anti-apoptotic genes. Cell cycle arrest profile was cell type dependent and occurred insignificantly (P>0.05) during S and G2-M phases in case of HepG2 cells, while it was significantly elevated during G2-M phase in case of MCF-7 treatment. Treated cell lines showed a significant apoptotic % during the Pre-G1 phase (P<0.05). ER and HER-2 as specific markers for MCF-7 and BCL-2 in treated HEPG-2 cells were significantly down regulated (P<0.05), while, p53 was significantly up regulated (P<0.05).

Key words: *Shrimp derived chitosan, Anti-cancer activity, Apoptotic profile*

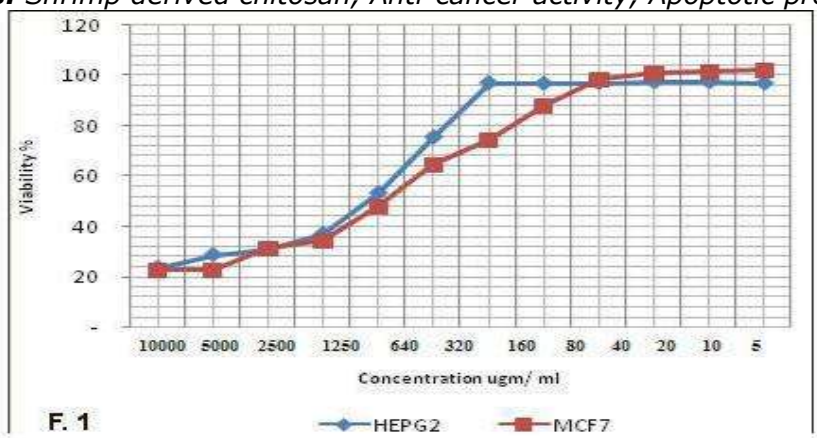


Figure 31: The cytotoxic effect of Chitosan on HepG2 and MCF-7 cellular viability

Journal of the Egyptian Society of Parasitology, Vol.48, No.2, August 2018
J. Egypt. Soc. Parasitol. (JESP), 48(2), 2018: 379 – 388

IN VITRO ASSESSMENT OF ANTICANCER ACTIVITY OF SHRIMP DERIVED CHITOSAN AND RELATED APOPTOTIC PROFILE ALTERATION

By
CHRISTINA ATEF FAWZY GHALY[1*], ASHRAF BAKAAR[1**]
and ALY FAHMY MOHAMED[2***]
Faculty of Biotechnology, MSA University and the International Center
for Advanced and Researches (ICTAR-Egypt) and VACSERA, Dokki, Giza[2]
(*Christina.atef@msa.edu.eg,**abakar@msa.edu.eg. and ***Fahmy.aly@gmail.com)

Abstract

Liver breast cancer represents a major health problem worldwide. The present study evaluated the anti-cancer properties of Shrimp derived chitosan on human liver (HepG-2) and breast cancer (MCF7) cell lines. The cytotoxicity of chitosan was determined using MTT assay. Chitosan showed an anti-proliferative and cytotoxic effect against (HEPG-2) and (MCF7) cancer cell lines in a dose and cell type dependent manner. The IC_{50} value of chitosan was 600µg/ml and 348µg/ml for treated HepG-2 and MCF-7 respectively. Anticancer potential of chitosan was monitored via evaluation of cell cycle profile and pro- and anti-apoptotic genes. Cell cycle arrest profile was cell type dependent and occurred insignificantly ($P>0.05$) during S and G2-M phases in case of HepG2 cells, while it was significantly elevated during G2-M phase in case of MCF-7 treatment. Treated cell lines showed a significant apoptotic % during the Pre-G1 phase ($P<0.05$). ER and HER-2 as specific markers for MCF-7 and BCL-2 in treated HEPG-2 cells were significantly down regulated ($P<0.05$), while, p53 was significantly up regulated ($P<0.05$).

Key words: Shrimp derived chitosan, Anti-cancer activity, Apoptotic profile

Introduction

Cancer is still one of the world's major health problems, resulting in high mortality rates (Jitender *et al*, 2018). Mortality due to cancer accounted for about 15% of all death cases. Mortality rate due to cancer would continue to increase to 20% by 2030 (Chaturvedi, 2013). Chemotherapy is defined as a systemic cancer therapy in the form of direct intravenous injections or infusions, tablets, or capsules that contain anticancer or cytotoxic drugs, which disrupt the cancer cells growth and destroy them (Calastretti *et al*, 2018). Chemotherapy usually became a therapeutic modality for patients with advanced disease stages (III & IV) or in patients treated with surgery and radiation but have recurrences (Wu *et al*, 2018). The drugs damage the molecules that regulate cell division or inhibit the chemical processes that occur when the cells are proliferating (Huang and O'Sullivan, 2013). There are different sources of chitosan to obtain from crab and shrimp shell wastes. Although from the fungi by using fermentation methods, insects, squid, prawn, lobster and Cray fish (Tyllszczak *et al*, 2017). Chitosan is a polysaccharide of biological origin. The characteristics of chitosan have a degree of acetylation and molecular weight that may affect chitosan functional properties, from its solubility and materials-forming capacity to biodegradability (Bautista-Baños *et al*, 2016). The chitosan chemical structure is a straight-chain copolymer composed of D-glucosamine and Na-cetyl-D-glucosamine was obtained by the partial de-acetylation of chitin; a raw material for obtaining of chitosan. Chitosan is the most abundant basic biopolymer and its solubility, biodegradability, reactivity, and adsorption of many substrates depend on the amount of protonated amino groups in the polymeric chain (Balázs and Sipos, 2007). Number of N-acetyl groups determined the degree of de-acetylation of chitosan. Low-molecular-weight chitosan (LMWC) had selective cytotoxic effects on oral cancer cells compared to cisplatin (Wimardhani *et al*, 2012). Besides, observations of the cell death mechanisms of LMWC showed that apoptosis is not the death pathway of the primary cells involved, so remained to be study whether the other cell death mechanisms were the ones involved in

The Biological activity of *Conocarpus erectus* extracts and their application as cytotoxic agents

النشاط الحيوي لمستخلصات ***Conocarpus erectus*** وتطبيقها كعوامل سامة للخلايا

Aseel Talaat
Spring 2018

Host place: Theodor Bilharz Research Institute
Internal Supervisor: Dr. Gehan Safwat
External supervisor: Professor Manal Mortady Hamed,
Name of the journal: PhOL – Pharmacology Online – **Scopus (IF 0.37)**

Abstract:
Essential oils are found to have multiple active components which can show *in vitro* cytotoxic action against various cancerous cell lines. This study reports the *in vitro* cytotoxic effects of the essential oil from *Conocarpus erectus* growing wild in Egypt. Water-distilled essential oil of *C. erectus* was examined for its cytotoxic effects using a modified brine shrimp and MTT assays. The essential oil 50% cytotoxic concentrations were found to be 33µg/ml and 8.7µg/ml against brine shrimp and human liver carcinoma HepG2 cell line, respectively; thus the volatile oil displayed good cytotoxic action against the human tumor cell line. Moreover, *C. erectus* methanol extract was very effective; it exhibited cytotoxic activity against brine shrimp larva within IC_{50} value of 15µg/ml. The investigation from GC Mass, led to the identification of 12 constituents, representing 97.53% of the total oil, of which the major chemical constituents were identified by gas chromatography mass spectrometry as being rich in 3-(2,2 dimethylpropylid ene)bicyclo[3.3.1]nonane-2,4-dione (3) (67.12%), (decanoic acid derevatives (11) (7.77%), 22-tritetracontanone (12) (6.03%), 1-octanol, 2-butyl- (2) (5.51%) and oleic acid (6) (4.33%). This is the first report on anticancer potential and separation of essential oils from *C. erectus.*

Keywords*: Conocarpus erectus, cytotoxicity, HepG2 cells, MTT assay.*

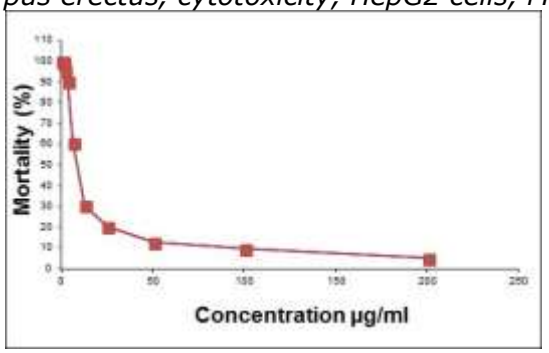


Figure 32: The cytotoxic activity of *C. erectus* against HepG2 liver cancer cells

August 30, 2018

PharmacologyOnLine

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THE BIOLOGICAL ACTIVITY OF *CONOCARPUS ERECTUS* EXTRACTS AND THEIR APPLICATIONS AS CYTOTOXIC AGENTS

Safwat GM[1], Hamed MM[2*], Helmy AT[1].

[1]Faculty of Biotechnology, October University for Modern Sciences and Arts, Giza, Egypt.
[2]Medicinal Chemistry, Theodor Bilharz Research Institute, Giza, Egypt.

[illegible]@yahoo.com

Abstract

Essential oils are found to have multiple active components which can show *in vitro* cytotoxic action against various cancerous cell lines. This study reports the *in vitro* cytotoxic effects of the essential oil from *Conocarpus erectus* (Combretaceae) growing wild in Egypt. Water-distilled essential oil of *C. erectus* was examined for its cytotoxic effects using a modified brine shrimp and MTT assays. Fresh leaves aerial part of *C. erectus* was subjected to hydro distillation using a Clevenger-type apparatusvolatile to obtain its volatile oil. Cytotoxicity of the essential oil was measured against HepG2 cancer cells and brine shrimps larva. The essential oil 50% cytotoxic concentrations were found to be 33µg/ml and 8.7µg/ml against brine shrimp and human liver carcinoma HepG2 cell line, respectively; thus the volatile oil displayed good cytotoxic action against the human tumor cell line. Moreover, *C. erectus* methanol extract was very effective; it exhibited cytotoxic activity against brine shrimp larva within IC_{50} value of 15µg/ml. The investigation from GC Mass, led to the identification of 12 constituents, representing 97.53% of the total oil, of which the major chemical constituents were identified by gas chromatography mass spectrometry as being rich in 3-(2,2 dimethylpropylid ene)bicyclo[3.3.1]nonane-2,4-dione **(3)** (67.12%), (decanoic acid derevatives **(11)** (7.77%), 22-tritetracontanone **(12)** (6.03%), 1-octanol, 2-butyl- **(2)** (5.51%) and oleic acid **(6)** (4.33%). This is the first report on anticancer potential and separation of essential oils from *C. erectus*. The findings of this study necessitate the need for further consideration of this essential oil in anti-neoplastic chemotherapy.

Keywords: *Conocarpus erectus*, cytotoxicity, HepG2 cells, MTT assay, volatile oil, phytochemistry

Monitoring the anti-cancer potential of gold nanoparticles under the influence of electroporation and ultra-low electromagnetic field (ULEMF) frequencies relative to time on colon cancer cell-lines (HCT-116)

مراقبة القدرة المضادة للسرطان للجزئيات النانوية الذهبية تحت تأثير التثقيب الكهربائي والترددات الكهرومغناطيسية المنخفضة (ULEMF) نسبيا للوقت على خلايا سرطان القولون (HCT-116)

Alaa Attia Abdelraouf Attia
Spring 2018

Host place: International centre for advanced researchers (ICAR)
Internal Supervisor: Dr. Reham Mohsen
External supervisor: Prof. Aly Fahmy

Abstract:
The use of nanotechnology in cancer therapy is based on the usage of molecules that can affect cancerous cells as well as mitochondrial membrane in order to induce cancer cell programmed death. This method has shown overwhelming effects; hence the target of this project is to evaluate the role of gold nanoparticles' anti-cancer potential under the effect of electroporation, in addition to the effect of ultra-low electromagnetic field (ULEMF) frequencies on HCT 116 colon cancer cell line. It was noticed that this method of using ULEMF displayed a higher potential of anti-cancer activity than the use of gold nanoparticles used single handed (engulfed endocytosis). At the same time cell apoptosis that is accompanied with high percentage of cell arrest in case of treatment with electroporation, gold nanoparticles as well as electromagnetic field of 50 mT for 30 mins showed the best results in comparison with other treatments. Also, it has been signified that the usage of these treatment combinations resulted in a highly elevated gene expression of pro-apoptotic genes (*P53, Bax)* and down regulation of anti-apoptotic gene (*Bcl-2*). It was also noticed that an arrest of cells occurred at the G2/M phase compared to other treatment regimes. Data recorded revealed that the use of gold nanoparticles, electroporation and electromagnetic field in a dose dependent manner can increase apoptosis and necrosis [200v]- [25 mT— 50 mT]. It can be suggested that the use of electromagnetic field as well as, gold nanoparticles and electroporation can be a promising tool for cancer management.

Key words: *colon cancer, gold nanoparticles, electroporation.*

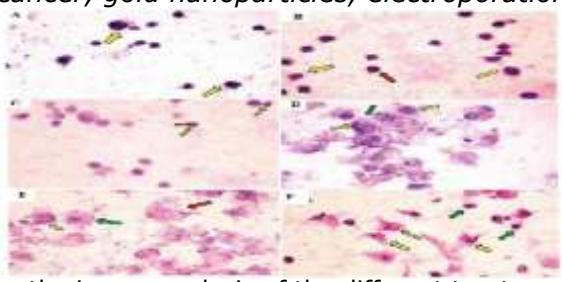


Figure 33: Illustrates the image analysis of the different treatments done to HCT 116 cell line

Investigation of the Anticancer Effect of Azurin Produced from *Pseudomonas Aeruginosa*

دراسة التأثير المضاد للسرطان لمادة **Azurin** المنتجة من ***Pseudomonas Aeruginosa***

Sherry ElFouly
Spring 2018

Host place: Agricultural Genetic Engineering Research Institute (AGERI)
Internal Supervisor: Dr. Ahmed Nada
External supervisor: Dr. Hisham ElShishtawy

Abstract:
Azurin is a low molecular weight protein and member of the Cupredoxin family, it is produced by the bacteria Pseudomonas Aeruginosa, and it is a natural scaffold protein that has antiparasitic, antiviral, and, most notably, anti-cancerous properties. In the course of this study, 5 Pseudomonas Aeruginosa isolates were provided by the University of Mansoura and 4 screening processes took place, including gram stain, gel electrophoresis, SDS-PAGE, and electron microscopy, all in search for the isolate with the optimum azurin producing ability. One isolate was chosen for further testing against the breast cancer cell line MCF-7. Azurin was investigated for its ability to decrease cell viability and increase DNA damage. Azurin was shown to be an anticancer agent which achieves its ability by interacting with multiple targets and interfering in multiple steps in the progression of cancer, such as inhibiting P-Cadherin expression, increasing p53, reducing VEGFR-2 tyrosine kinase activity and interfering in the receptor tyrosine kinase EphB2-mediated signaling process.
Keywords: *Azurin, Pseudomonas Aeruginosa, Cancer, P53.*

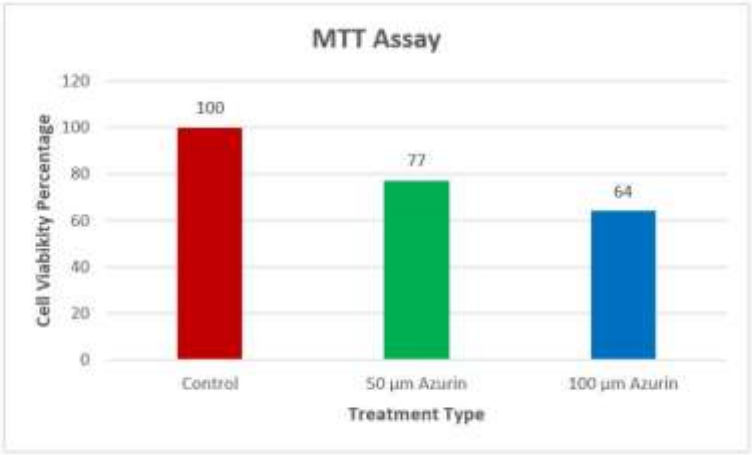


Figure 34: The MTT assay was done to measure cell viability. Red represents the MCF-7 control cells which received no treatment, green represents cells that received 50µM of Azurin, and blue represents MCF-7 cells that received 100µM of Azurin

Assessment of heavy metals via consumption of contaminated Herbal medicine collected from local Egyptian pharmacies

تقييم المعادن الثقيلة عن طريق استهلاك الأدوية العشبية الملوثة المجمعة من الصيدليات المصرية المحلية

Salma Amr
Spring 2018

Host place: Central Laboratory of Residue analysis of Pesticides & Heavy metals in Food (Qcap)
Internal Supervisor: Dr. Amr Ageez
External supervisor: Prof. Mona Khorshid

Abstract:
Medicinal plants have a long history of use in therapy throughout the world and still make an important part of traditional medicine. Thus, medicinal plants and herbal products must be safe for the patient (consumer). However, owing to the nature and sources of herbal medicines, they are sometimes contaminated with toxic heavy metals such as lead, arsenic, mercury and cadmium thus poses a potential health threat to consumers. Thus, the aim of this study is to assess the levels of heavy metal contamination in some frequently used Egyptian medicinal plants and its health risks by the amount of heavy metals: Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Manganese (Mn), Nickel (Ni), Zinc (Zn), Tin (Sn), Cadmium (Cd), Lead (Pb), and Antimony (Sb) that they contain. The results showed that the elements that were found in 100% of the samples analyzed were Iron (Fe) and Manganese (Mn). Iron (Fe) has the highest mean concentration in all the samples with the highest being; 42.1123 mg/kg for drugs used for constipation and digestion for children <1 year.

Keywords: *Medicinal plants, herbal drugs, contamination, heavy metals, ICP – OES.*

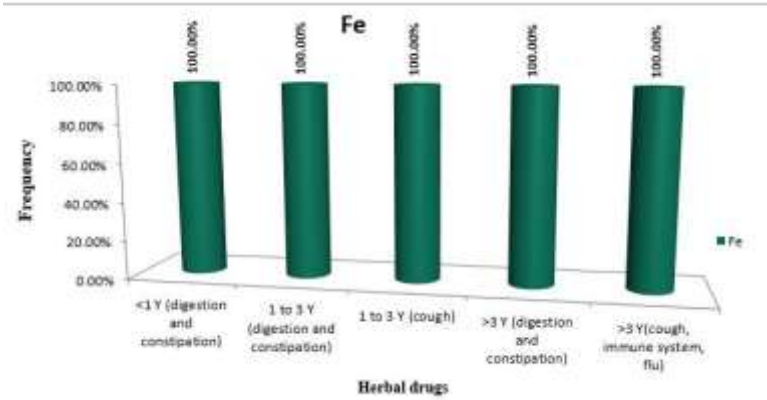


Figure 35: Frequentation of Iron (Fe) in tested herbal drugs

Food Biotechnology

Assessment of potential risk of heavy metals in dried, fluid and flavoured milk collected from local markets in Egypt using ICP-OES technique

تقييم المخاطر المحتملة للمعادن الثقيلة في الحليب المجفف والسائل والمنكه الذي تم جمعه من الأسواق المحلية في مصر باستخدام تقنية **ICP-OES**

Riham Osman
Spring 2018

Host place: Central Laboratory of Residue analysis of Pesticides & Heavy metals in Food (Qcap)
Internal Supervisor: Dr. Amr Ageez
External supervisor: Prof. Mona Khorshid

Abstract:
Milk is very common in our food list due to its nutrient value, since it is a source of vitamins and a lot of mineral constituents which are necessary for proper development and functioning of different tissues and organs. For this reason, milk should be free from any contaminants such as heavy metals. In the past decades, heavy metal contamination has exponentially increased, and is now found particularly high in ingestible beverages such as milk. Thus, this study attempted to assess the potential risk of heavy metal exposure from the dietary consumption of full cream liquid, powdered and flavored milks and its environmental impact and decide which is safer for human consumption and compare the results to the APTWI standards. Focus was given to toxic metals; Lead, Cadmium and chromium as well as non toxic metals; Iron, Manganese, Nickel, Zinc, Copper, Cobalt and Tin, which were digested and processed using typical methods, then analyzed using ICP-OES technique. The results showed that the elements that were found in 100% of the samples analyzed were Iron (Fe), Manganese (Mn) and Tin (Sn). Iron (Fe) has the highest mean concentration in all the samples with the highest being; 29.5859 mg/kg for powder milk. Manganese is the second element with the highest mean concentration in all the samples with the highest being; 1.01116 mg/kg for chocolate milk and the third is Tin with highest being 1.2255mg/kg for powder milk.

Keywords: *Heavy metals, liquid milk, powdered milk, flavored milk, ICP-OES.*

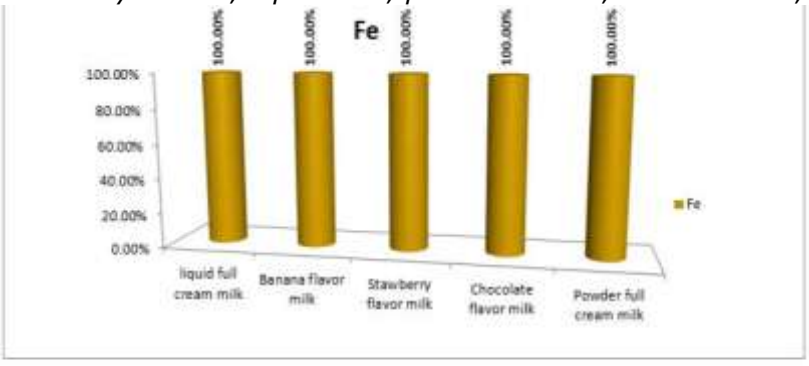


Figure 36: Frequency of Iron (Fe) in tested products

Detection of the adulteration of butter oil with hydrogenated palm kernel oil using traditional and advanced methods

الكشف عن غش زيت الزبدة بزيت بذور النخيل المهدرج باستخدام الطرق التقليدية والمتطورة

Mahmoud Medhat
Spring 2018

Host place: Biochemistry Labs – Cairo University (CURP)
Internal Supervisor: Dr. Reham Mohsen
External supervisor: Dr. Ahmed Hamed

Abstract:
In this research, contrastive Study amid advanced and traditional methods for the Detection of Milk Adulteration. The accuracy and affectability of a few strategies for recognizing palm portion oil (HPKO) in butter oil (BO) was examined. The condensed BO and HPKO were blended in extents of 0:100,25:75, 50:50, 75:25 and 100:0 in order to make five treatments; two of them are going to be for The expansion of HPKO to BO caused considerable changes in fat constants, unsaturated fats creation, and sterols substance. The progressions were corresponding to the expansion level. Specifically, saponification, Reichert-Meissl and Polenske values and in addition short chain, medium chain, and soaked unsaturated fats diminished, while iodine esteem, unsaturated fat, sterols parts expanded with expanding the level of HPKO. The assurance of the SV, IV, RM and Polenske esteems to identify the HPKO in BO was not adequate at expansion level under 50.0% HPKO in BO. In light of the progressions prompted in linoleic corrosive and unsaturated fats gatherings; the debasement of BO with 25.0% HPKO can be identified. Nonetheless, myristic corrosive, which the most inexhaustible MCFAs, was still inside the typical scope of BO.

Keywords: *Adulteration, Detection, Proportion, Milk, Palm kernel oil.*

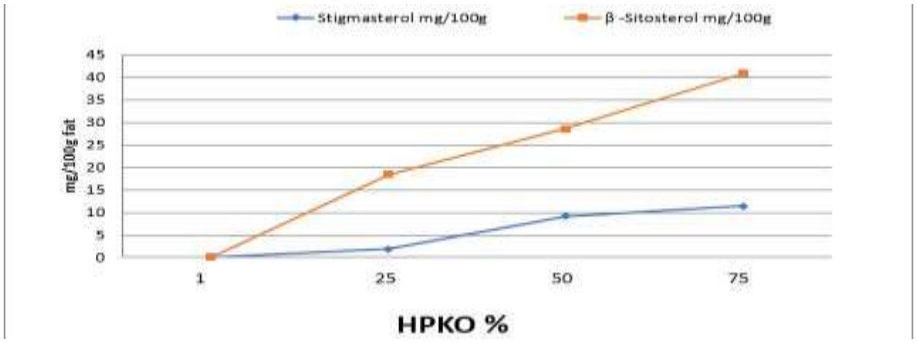


Figure 37: Stigmasterol and β- sitosterol values as affected by addition of palm kernel oil (HPKO) in different ratios

Detection of adulteration of butter oil with palm oil using traditional and advanced methods

الكشف عن غش زيت الزبدة بزيت النخيل باستخدام الطرق التقليدية والمتطورة

Israa Samir Elkafrawy
Spring 2018

Host place: Cairo University - CURP
Internal Supervisor: Dr. Reham Mohsen
External supervisor: Dr. Ahmed Hamed

Abstract:

In this work, comparative study between Some Advanced and Traditional Methods for Detection of Milk Fat Deterioration and Adulteration. The precision and sensitivity of some methods for detecting palm oil (PO) in butter oil (BO) was investigated. The liquefied BO and PO were mixed in proportions of 0:100, 25:75, 50:50, 75:25 and 100:0 (w/w) to create 5 treatments. The addition of PO to BO caused substantial changes in fat constants, fatty acids composition, and sterols contents. The changes were proportional to the addition level. In particular, saponification (SV), Reichert-Meissl (RM) and Polenske (PV) values as well as short chain (SCFAs), medium chain (MCFAs), and saturated (SFAs) fatty acids decreased, while iodine value (IV), unsaturated fatty acid (USFAs), sterols fractions increased with increasing the level of PO. The determination of the SV, IV, RM and Polenske values to detect the PO in BO was not sufficient at addition level less than 50.0% PO in BO. Based on the changes induced in linoleic acid and fatty acids groups (SFAs and USFAs); the adulteration of BO with 25.0% PO can be detected. However, myristic acid, which the most abundant MCFAs, was still within the normal range of BO.

Keywords: *Deterioration, Adulteration, palm oil*

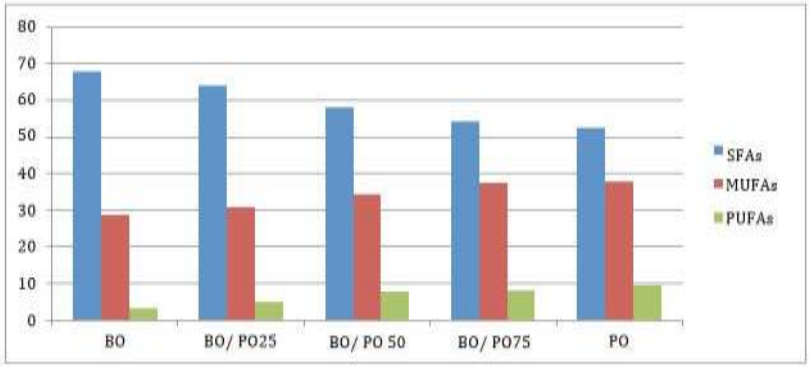


Figure 38: Fatty acids distribution of BO and the mixture with PO

QuEChERS Method Followed by dispersed Solid Phase Extraction Method for Gas Chromatographic-Mass Spectrometric Determination of Polycyclic Aromatic Hydrocarbons in Milk

تحديد هيدروكربونات ارواماتية متعددة الحلقات في الحليب بالفصل الكروماتوغرافي عن طريقة **QuEChERS** يتبعها طريقة الاستخراج الصلبية المشتتة

Esraa Mokhlis Harraz
Spring 2018

Host place: Central Laboratory of Residue analysis of Pesticides & Heavy metals in Food (Qcap)
Internal Supervisor: Dr. Osama Saad
External supervisor: Dr. Ahmed Hassan

Abstract:
Polycyclic aromatic hydrocarbons (PAHs) commonly refers to a large class of organic compounds containing two or more fused aromatic rings made up of carbon and hydrogen atoms. PAHs are formed and released during incomplete combustion or pyrolysis (burning) of organic matter such as waste or food, during industrial processes, fuel burning and other human activities. PAHs are also formed in natural processes, such as carbonization. This study aimed to determine the concentrations of polycyclic aromatic hydrocarbons (PAHs) in both commercial packed milk and raw milk from several cities all over Egypt. It was found that the concentrations of PAHs in the raw milk was higher than commercial packed milk. The analysis was carried using a modified QuEChERS procedure followed by injection on gas chromatography coupled to tandem mass spectrometry. The results showed that 88% of packaged milk contained one or more compound of PAH, and in raw milk 93% of the samples contained one or more compound of PAH.

Keywords: *PAHs, Gas Chromatography, QuEChERS Method, and dispersed Solid Phase Extraction Method.*

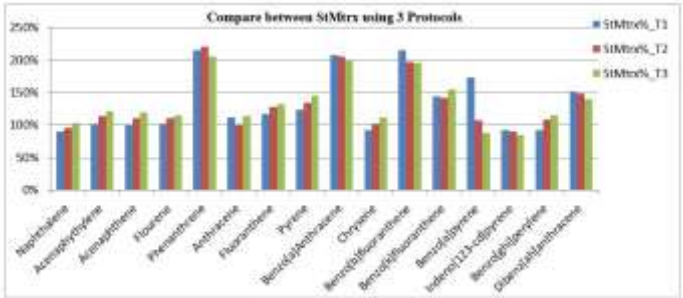


Figure 39: Comparison of StdMtrx effect on T1, T2 & T3

Environmental Biotechnology

Effect of used motor oil on the growth of *Zea mays*

تأثير زيت المحركات المستعملة على نمو الذرة الشامية

Hind Ahmed Mostafa
Spring 2018

Host place: Department of Botany and Microbiology-Faculty of Science, Cairo University
Internal Supervisor: Prof. Ayman Diab
External supervisor: Prof. Ahmad K. Hegazy

Abstract:
Motor oil is considered to be one of pollutants that threaten the environment in appropriate disposal ways of used oil could leak to soil and water causing contamination with poly aromatic hydrocarbons (PAH) and toxic metals. Used motor oil (UMO) affects chemical, physical and biological system of soil where plants could accumulate many PAH and toxic metals. The main purpose of this study is to determine morphological changes of treated *Zea mays* with different volumes of UMO. Sulfur concentration was determined in soil, shoot and root as an indication factor for the presence of PAH. *Zea mays* grains were planted in triplicates in soil with different oil treatments; control, 3, 5, 7, 10 ml. Plant height was measured and number of leaves counted every two days after 2 weeks from germination. Plants were isolated from soil, separated into shoot and root and air dried followed by ovum dry. The relative growth rate and root / shoot ration were calculated. Sulfur concentration was determined in all samples by using ASTM D_4294_98. The results showed that morphological changes had a slight difference among samples. Relative growth rate is not stable among all oil treatments. Sulfur concentration was varied between different treatment of oil in shoot and root with $P<0.0168$. All treated samples with different concentrations of oil were above control. On the other hand, there was no significant difference between root and shoot. Sulfur is a good indication of the presence of aromatic hydrocarbons in plant.

Key words: *SEO, UMO, SLO, Underground storage tanks, Zea mays, Maize.*

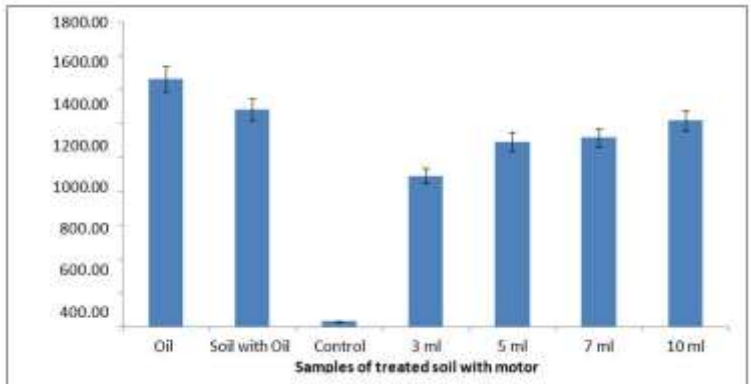


Figure 40: Shows concentration of sulfur in different samples of .contaminated soil

Students' Research Publications

2018

(1) Emtithal AbdelSamie

Israa Elkafrawy

Mai Osama Amr

Ageez

Abd-El-Samie, E. M., **Elkafrawy, I., Osama, M**., & **Ageez**, A. (2018). Molecular phylogeny and identification of the Egyptian wasps (Hymenoptera: Vespidae) based on COI mitochondrial gene sequences. *Egyptian Journal of Biological Pest Control*, 28(1). doi:10.1186/s41938-018-0038-z

Source: Scopus **Impact factor: 0.18**

(2) Christina Fawzy

Ashraf Bakkar

Aly Fahmy

Ghaly, C. A., Bakaar, A., & Mohamed, A. F. (2018). Invitro assessment of anticancer activity of shrimp derived chitosan and related apoptotic profile alteration. *Journal of the Egyptian Society of Parasitology*, 48(2), 379-388.

Source: Scopus **Impact factor: 0.18**

3) Ayman Samy

Reham Mohsen

Aly Fahmy

Samy, A., Mohsen, R., & Mohamed, A. F. (2018). Evaluation of anti-cancer potential of 5-Fluorouracil and doxorubicin against prostate and lung cancer cell lines and related apoptotic alterations. *International Journal of Scientific and Engineering Research.*

Source: ResearchGate **Impact factor: 0.18**

4) Hossam El Beltagy

Heba Mohamed

Basma Megahed

Mohamed Gamal

Gehan Safwat

El Beltagy, H. S., Mohamed, H. I., **Megahed, B**. **M., Gamal**, M., & **Safwat, G**. (2018). Evaluation of some chemical constituents, antioxidant,antibacterial, anticancer activities of BETA VULGARIS L. root. *Fresenius Environmental Bulletin*

Source: Scopus **Impact factor: 0.36**

5) Gehan Safwat

Manal Mortady Hamed

Aseel Talaat Helmy

Safwat, G., Hamed, M. M., & **Helmy, T. A**. (2018). The biological activity of CONOCARPUS ERECTUS extracts and their applications as cytotoxic agents. *Pharmacologyonline*, 2, 14-49.

Source: Scopus **Impact factor: 0.37**

6) Amr Abdel Wahid Mohmed

Maged Aly Fahmy

Abdel Wahid, A. A., **Maged, M**., & Mohamed, A. F. (2018). Evaluation of SCARABEAUS SACER derived-Chitosan, anticancer potentials and related changes in vitro study. *Journal of the Egyptian Society of Parasitology*, 48, 453-458**.**

Source: Scopus **Impact factor: 0.18**

7) Mazen Ashraf

Sahar Youssef

Aly Fahmy

Gehan Safwat

A. Shalaby

Ismail, M. A., Youssef, S. A., **Safwat, G**., & Shalaby, A. A. (2018). Effect of some modifications in tissue culture media for banana commercial multiplication. *Acta horticulturae*

Source: Scopus **Impact factor: 0.17**

Students' research publications

2017

1) Amr Ageez Mostafa Sayed Zawi

Aboushousha, T. S., Zawi, M. S. and Ageez, A. M. (2017). Differential Expression of EGFR in Primary Tumor and Lymph Node Deposits of Breast Carcinoma. *International Journal of Scientific & Engineering Research*, 8(12).

Source: ResearchGate **Impact factor: 0.18**

2) Kamal Magdy Amgad Rady Lamia Ryad Nermine Gad

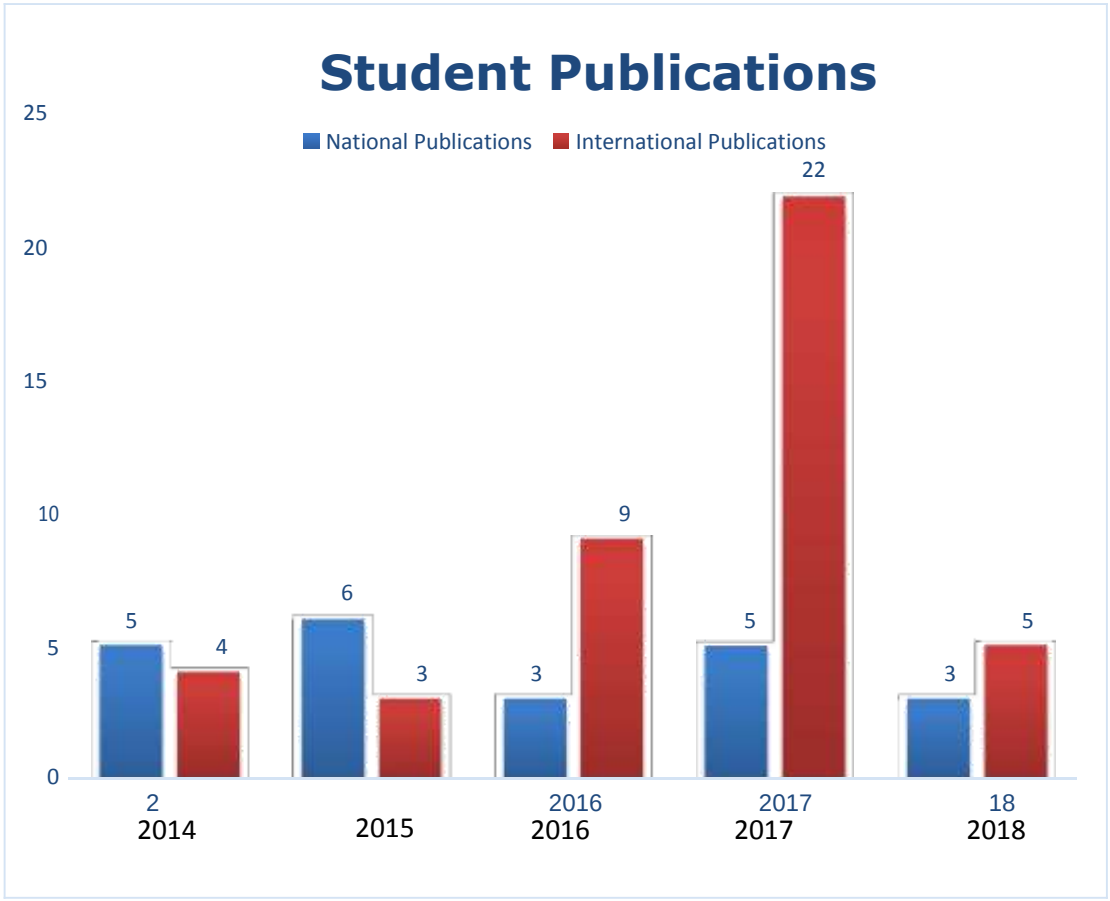
Kamal, K. M., Rady, A. M., Ryad, L., & Gad, N. (2017). Validation for simultaneous determination of tetracycline by using QuEChERS method and LC-MS/MS in liver of buffalo. *New York Science Journal*,10(6), 111-114. doi:10.7537/marsnys100617.15.

Source: N/A **Impact factor: 0.6**

3)Caroline Ashraf Tarek Aboushosha Ashraf Bakkar

Ashraf, C., Aboushousha, T. and Bakkar, A. (2017). OCT4 Expression in HCV-Related Hepatocellular Carcinoma. *International Journal of Scientific & Engineering Research*, 4(12).

Source: ResearchGate **Impact factor: 0.18**


Student Publications
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MSA University
October University for Modern Sciences and Arts
Established by Dr. Nawal El Degwi in 1996

Faculty of Computer Science

Graduation Projects

2017/2018

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CONTENTS

DEAN'S WORD

Prof. Dr. Ali El-Bastawissy

Dean, Faculty of Computer Science

The Faculty of Computer Science seeks to prepare students for careers as computer specialists of the highest international standards, to enter careers in computer or software design, and for advanced study in computer science. The Faculty of Computer Science has accredited undergraduate degree in computer science, internet computing and software engineering disciplines. The degree was evaluated and accredited by the Egyptian Supreme Council of Higher Education in 1998. Furthermore, Computer Science students can successfully join other universities in Europe and North America, to complete their undergraduate and postgraduate studies. Our programme is designed to provide students with a combination of fundamental knowledge and lifelong learning skills that prepare graduates for a successful career in the computer science, software engineering and internet computing fields. At the same time, our curriculum provides students with the necessary practical skills to enable them to be productive from their first day on the job.

Graduates of the Faculty of Computer Science at MSA are specialized in several areas within the computing professions. Their expertise and skills are due to unlimited facilities, an up to date curriculum and a group of prominent faculty members.

Being in touch with international sites, through the Internet and computer usage, is an integrated part of the Computer Science programme. In addition, students receive extra attention as they are divided into small groups. Long contact hours and close supervision give students the chance to make the most of their faculty experience. Students are thus, provided with capabilities that prepare them for practical fields in computer science at an international professional level. The Faculty maintains close relationships with computer companies, which provide support to our programme. We aim to be a centre of excellence in computer science for our students, faculty, and local industry.

Graduates of the Faculty of Computer Science have found satisfying careers in leading computer companies. We welcome all students interested in hard and excellent education in Computer Science, of the highest international standards in a unique pleasant educational environment. We are dedicated in providing a high quality education for all our students.

Your future awaits you here at MSA,

Graduation Projects area's

1- Bioinformatics

2- Security Systems

3- Computer Applications

4- 3D Modeling

5-Image Processing

6- Machine Learning

7- Robotics

1. Bioinformatics Project's

1 Abduallah tarek Ibrahim farahat

Supervisor:
Dr. Ahmed Farouk

Title :Early Diagnosis of Lung Cancer using machine learning

التشخيص المبكر لسرطان الرئة باستخدام التعلم الآلي

Abstract

Lung cancer is one of the deadliest types of cancer because it can spread to other tissue in the body damaging them as well. In 2017 there were 225,000 people who got diagnosed with lung cancer in the U.S only. It made an accumulative cost of 12 billion in health care costs. Early detection is one of the most effective methods to combat cancer. It increases the chance of survival drastically for the patient. A Doctor's job is to classify whether this scan is cancerous or not by analyzing nodules. But human beings can analyze nodules that are bigger than 7mm in diameter and doctors can sometimes make a patient wait to see whether this nodule will grow, or it won't because if it doesn't grow it will be a harmless nodule. And this gives a chance for a nodule to grow more undetected by the human eye. This project is aimed to detect nodules that are as small as 3mm to detect cancer as early as possible.

Machine learning and Deep Learning are now the state of the art techniques at almost all calcification problems. It can learn to classify a scan as accurately as a doctor. And it takes only hours of training not years of education and experience. The project first preprocess the CT scans and divides them into crops of 64X64X64. Then the crops enter a pipeline consisting of two 3d CNN. The first one is a binary classification that classifies whether this crop has a nodule or not. Then the crops that has a nodule enter another 3d CNN to classify which stage of malignancy is it. It predicts a number between 0 and 4, where zero is not malignant at all and four is the highest in malignancy. A number of different models were used in both classifications. The nodule classification got the best accuracy by the Google net model. And the malignancy classification got the best accuracy by the Lent model.

2

Ahmed El sayed serag eldin Mohamed

Supervisor:
Dr. Nermin Kamal Negied
Dr. Ahmed Farouk

Title : BRAIN VENTRICLES STATE ANALYSIS FOR AUTOMATIC DETECTION OF ALZHEIMER DISEASE FROM MRI IMAGES

تحليل حالة المخ من اجل التشخيص التلقائي لمرض الزهايمر من خلال اشعة الرنين المغناطيسى

Abstract

Alzheimer's disease (AD), also referred to simply as Alzheimer's, is a chronic neurodegenerative disease that usually starts slowly and worsens over time. It most often begins in people over 65 years. In 2015, researches have figured out that dementia resulted in about 1.9 million deaths. Continuous efforts are made to cure the disease or to delay its progression. Brain imaging is one of the hottest areas in AD research. Techniques like CT, MRI, SPECT and PET assist in disease detection and help in excluding other probable causes of dementia. Imaging helps to perceive the intended cause of the disease as well as track the disease through its course. This work adopts different approaches to study the problem of automatic AD detection. Image thresholding approach is applied first to automatically detect Alzheimer from MRI images. Convolution Neural Networks (CNN) is also used for feature extraction and Alzheimer detection. A hybrid approach between image thresholding and CNN is used also for the same purpose. Comparative studies are explained in detail. Experimental results showed promising accuracy rate and better results compared to studies and approaches that can be found in literature.

3 Mahmoud sayed ahmed Mohamed

Supervisor:
Dr. Ahmed Farouk

Title : Supervised Machine Learning in Cancer Diagnosis

تعليم الالة الموجه لتشخيص مرض السرطان

Abstract

Mathematics is the study of natural patterns which offers ways and tools to describe these patterns. In other words, mathematics tries to find a set of rules which mimics the behavior of a repeated or regular way in which something happens or done.

In this dissertation we are going to research the patterns, in which breast cancer function, focus on Breast Cancer as it's the most lethal type of cancer in Egypt which takes the lives of 10,000 female each year according to the World Health Organization. i

Since Invasive Ductile Carcinoma (IDC) is the most common type of breast cancer, this dissertation chooses the IDC to be its use-case in studying patterns. We focus in recognizing the IDC mathematically without human-intervention, which can automate the process of diagnosing IDC breast cancer. We used the latest technologies of Deep Neural Networks (DNN) and Convolution Neural Networks (CNN) as well as classical machine learning methods as K-Nearest-Neighbor (KNN), Support-Vector-Machine (SVM), Random Forest and many others and we eventually obtained an accuracy of 85% using 90K data samples; this data were so complex and this is so close of the current state-of-the-art implementation on this data which is 87%.

While doing so, we will watch our own behavior while researching a certain pattern, and tries to conclude a pattern from it, which ultimately can produces a product or an application to help doctors who are researching cancer to use it and try to find patterns mathematically even without them having programming or mathematical background.

2. Security Project's

1

Ramy Ahmed Ali Yousry

Supervisor:
Dr. Ahmed Farouk

Title : ECC-based End-to-End Secure Infrastructure

تشفير المنحني الاهليجي باستعمال بنية تشفير نهاية الي نهاية

Abstract

Due to popular online communication, End to End Encryption (E2EE) is very effective for maintaining privacy online, as it reinsures users from attacks and it is so granitic to crack. For example, sending message through application with confidentiality, making transaction through you banking without modifying integrity, and so on. Nowadays, there's an outstanding trend use of internets high-risk data could be exposed by 3rd party so it requires high security. My developed platform aims not only increases security level but also ability generating keys with high performance through all devices.

3. Computer Application Project's

1

Mohanad ahmed abdelaziz

Supervisor:
Dr. Tarik Meklady

Title : Carpooling

مشاركة المركبات

Abstract

Sharing cars with other people has become a stress-free, easy, and cheap way to move around. This project shows the implementation, design and requirements of carpooling application. The added features, compared to available applications are different kinds of trips, social media integration, sharing the user's interests and experience and matching people together according to their interests. Users can check in meeting points and notify other users about it through the check-in system. Thanks to matching details integration, users can share their activities in the application. The application is designed to be highly available, extensible, scalable, and with a good performance. The powerful JavaScript server loop back helped in implementing the server. The server makes the application compatible with multiple platforms and exposes a REST API for the users to consume. For this project one client application is developed using Android. Web client and iOS may be added as future improvement to the project since the server is compatible with those technologies as mentioned before.

2

Rana ahmed sobhy

Supervisor:
Dr. Ahmed Farouk

Title : Interactive Board Writing On Board Using Pointer Finger

الكتابة التفاعلية على اللوحة باستخدام الاشاره بالاصابع

Abstract

Human-Computer Interaction (HCI) between a human and a computer can be used to develop a user-friendly interface. Gestures are one of the ways to interact non-verbally in HCI. Gesture recognition is used to convey information to a system or to control it; therefore it can replace some of the hardware devices used to control computer activities. Recognizing gestures in real-time became more feasible due to the advancements in the fields of pattern recognition and Image Processing.

This is a documentation of a project that implements an algorithm that can be used to track and recognize hand gestures for drawing on a board. This algorithm depends on three steps: hand tracking, hand detection, and fingertip detection. For hand tracking the Mean-Shift algorithm is used, which is used to track non-rigid objects based on their histogram. For the hand segmentation, a simple background subtraction and threshold is used and it is also used to detect the fingertip of the pointer finger.

3

Ahmed Essam abdelfattah

Supervisor:
Dr. Ahmed Farouk

Title :CASI (COMPUTER AIDED SCULPTING INTERFACE)

نحت الواجهات بمساعدة الكمبيوتر

Abstract

This software is a CAD (Computer-Aided-Design) solution that allows the user to modify vertices positions of high resolution arbitrary meshes defined by the user input through certain radius surrounding the mouse cursor; the software is using an algorithm derived from the concept of Free-Form-Deformation algorithm that deforms the mesh based on a set of control points surrounding the mesh. Also, there is an implementation of ray-tracing algorithm to detect the positions of the desired vertices to be selected by the user using the mouse.

The aim of this project is to provide the user a certain level of control over a group of vertices in real time to deform meshes on a large scale instead of the traditional modeling techniques of modifying vertices individually which is a tedious process to work with if the user is working on high resolution mesh that requires a certain level of details such as organic meshes. (e.g.. Character Modeling).

4. Image Processing Project's

1

Aya Ali Mohammad Mohammad

Supervisor:
Dr. Ahmed Farouk

Title :Human Identification System Based on Silhouette Gait

نظام تحديد الهوية البشرية باستعمال صورة الظل

Abstract

For gait detection in recorded videos for human identification frame works. This base line recognition method extracts key frames from a test sequence these frames are compared and recorded in a matching 2D silhouettes extracted from key frames across the gait sequence gait recognition points basically to address this issue by perceiving individuals in view of the way they walk. We evaluate the method on dataset with varying viewing to each person and convert it to a unique signal then, classify the unknown person by tracking his legs movements.

2

Salma Khaled Kassem

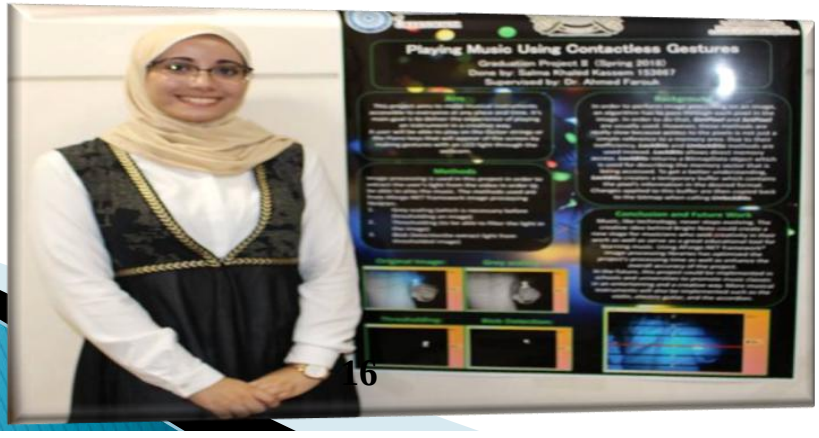
Supervisor:
Dr. Ahmed Farouk

Title :Playing Music using Contactless Gestures

تشغيل الموسيقى باستخدام الايماءات

Abstract

Throughout history and since the beginning of times, people have created various musical instruments suited for their own traditional music and culture. These various instruments gave birth to many beautiful musical notes that live up until today. Therefore, regardless of one's cultural background or language, we can safely assume that everyone enjoys a certain style of music. However, since musical instruments originated roughly around 37,000 years ago (where there was absolutely no technology), the only way to play music has always been by using one's hands. This way of playing an instrument has been passed down all the way until this day. Even though music has been developing since the day it originated up until today, people have created ways that make music sound different. Nowadays, a lot of, if not most, of the music we hear today is either computerized, or altered by a computer. However, people have only focused on altering the way the music sounds, but there was little, if no, attention given to the way music is played.



3

Maryam Ahmed Ahmed

Supervisor:
Dr. Ahmed Farouk

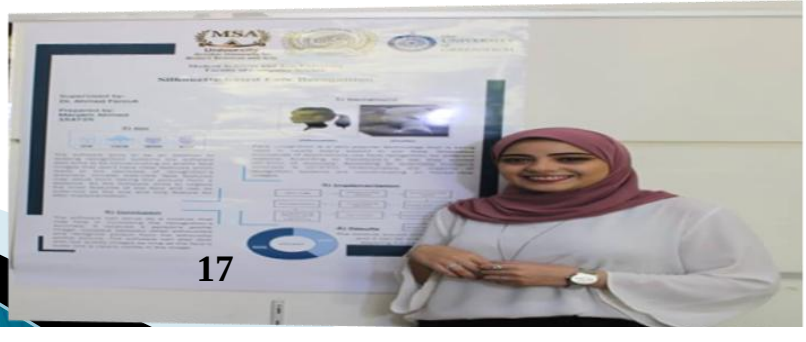
Title :Silhouette-based Face Recognition

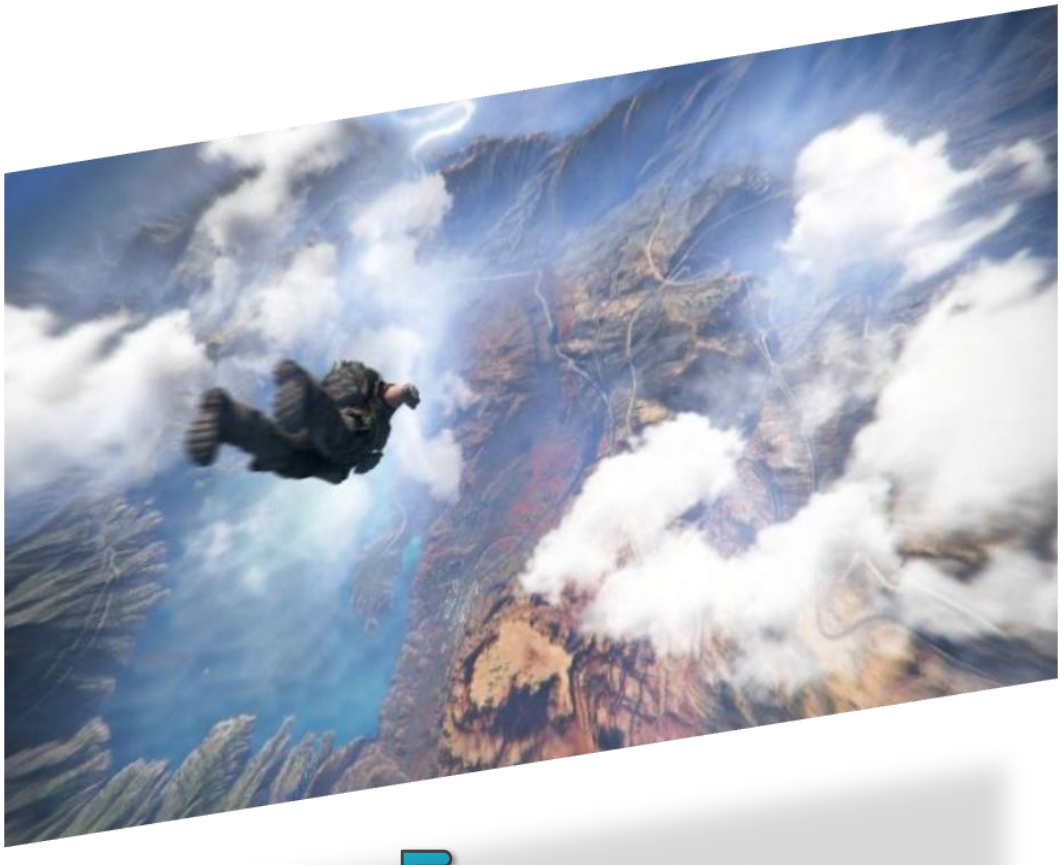
التعرف علي الوجه استنادا لخيال الشخص

Abstract

A silhouette face is representing the face as one solid shaped color, usually, the color is dark and removes every inline detail of the face but the silhouette's outline edges are matching the original face's outline. The silhouette of the face is usually the outline of the face profile, and face profile is considered a very important aspect of face identification it also provides an overall structure view of the face that is seen in the non-frontal view. Normally side view images are captured from a distance which unfortunately leads to capturing the image in a low-resolution quality. The main purpose of this project is to introduce a combination of silhouette detection and side-view face detection in order to detect, process, and compare a person from a side-view image.

In this thesis we will be moving step by step starting from the step of extracting the face's outer line from the side-view colored face picture. And start deploying methods and algorithms on these outer line points in order to approach the goal of matching the person with one of the known and saved persons we have. This thesis is introducing a module that can be added to face recognition systems in order to raise the recognition accuracy.





5. 3D Modeling(Video games)Project's

1 Ahmed Wael Mohammad

Supervisor:
Dr. Ahmed Farouk

Title :Sky battle 3d openGl PC game

لعبة معركة السماء

Abstract

Open Graphics Library (OpenGL) is an application programming interface (API) for rendering 2D and 3D Graphics. This API is usually used for rendering Graphics using Graphics processing unit (GPU) in order to achieve more efficient and optimized rendering. OpenGL is used in several zones including video games, computer-aid design (CAD), virtual reality (VR) scientific visualization, flight simulation. OpenGL uses OpenGL shading language (GLSL), which is responsible for calculating the final color and brightness of each pixel after applying light, shadows, reflections, etc. My aim is to create a high-quality 3D realistic game based on aircraft battle, with as less bugs and crashes as possible. The game is controlled using mouse and keyboard and processes fog, shadows, multiple light sources and some special light effects in order to make the game more realistic. Apart from visuals, the game functions are focused on collision detection, some physics and controls along with camera movement. The game uses lightweight java game library (LWJGL) that enables cross-platform access APIs useful in developing graphics like OpenGL when developing in java.

2

Youssef Hesham Samir

Supervisor:
Dr. Ahmed Farouk

Title : 3D Smooth Blending for subdivision Surfaces

المزج السلس ثلاثي الابعاد للأسطح التقسيمية

Abstract

With rapidly growing interest in the world of 3D models, many techniques are developed in order to attain better and more realistic results. This project is a program that builds and views 3D models, and convert them into subdivision surfaces, smoothing them after each iteration. Subdivision surfaces are initially a control mesh that has been refined through recursive subdivision, each iteration is always defined by the previous iteration's vertices Then the program works on blending two or more objects together while maintaining the smoothness of both objects. Blending is a method for combining freeform objects represented with subdivision surfaces. The technique investigates the deformation of the surfaces and at the same time maintain the smoothness of the blending area that will connect the two objects. The two objects to be blended have a blend region in between. The geometric properties of the surfaces in the neighboring areas of the blend area is subdivided adaptively and the border curves of the blend area between the two objects are smoothed to minimize possible deformation in the blending surface. Using a blend curve, we can connect the two objects.

6. Machine Learning Project's

1 Heba Youssef Mohammad

Supervisor:
Dr. Ahmed Farouk

Title : Reassemble Destroyed document by ant colony algorithm

إعادة تجميع المستند المدمر بواسطة خوارزمية مستعمرة النمل

Abstract

This project looks at the challenges of creating the automatic system for reconstruction shredded documents cut vertically (strip) and vertically, horizontally (cross-cut). The un-shredding problem is of interest in the fields of forensics, investigative sciences, archaeology and criminal investigation. All stages of the un-shredding pipeline are analysed, starting from uploaded images of shreds and ending with reconstructed documents. The current bottlenecks in this pipeline are identified and solutions are proposed.

At the beginning a formal definition of this problem and references to related work will be given. While there are some approaches published dealing with the reconstruction of destroyed paper in general, there is barely work done in the field of cross-cut shredding then giving an introduction to algorithm of ant-colony. The solutions proposed in this project start with narrowing problem then implement two reconstruction approaches to improve the results. First approach, Character database, Feature matching algorithm, Row Clustering, Estimate error evaluation function and Greedy classifier then get the results. To improve the results that belongs to first approach we implement second approach. Second approach is reconstructing by Ant colony algorithm by estimate different error evaluation function then apply the algorithm.

2 Omar Khalifa sebak khalifa

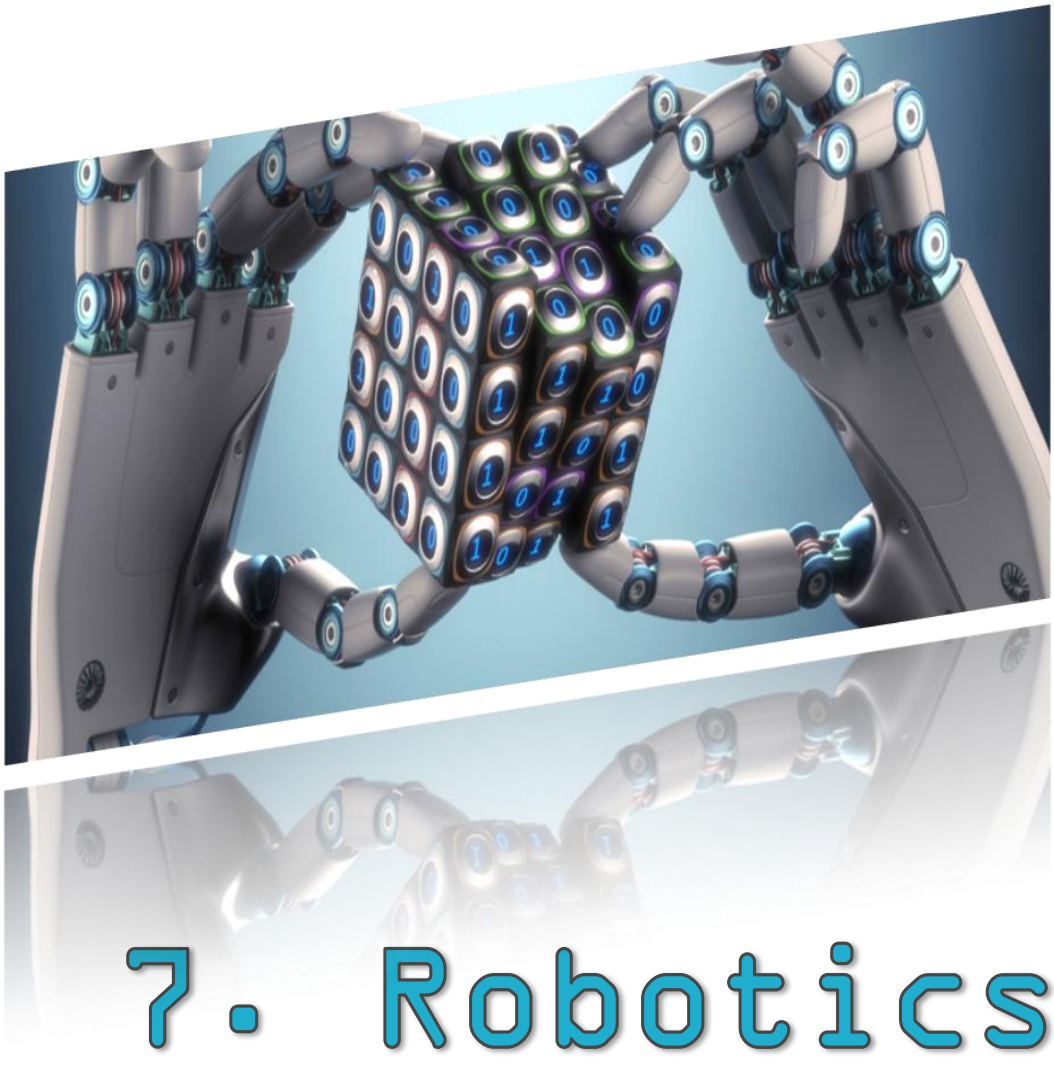
Supervisor:
Dr. Ahmed Farouk

Title : Multivariate analysis & Finding the Origin of olive

التحليل متعدد المتغيرات والعثور على أصل الزيتون

Abstract

Spectroscopy and the information obtained from the level of energy, allows researchers to extract analytical information about certain matter and the relation between them Multivariate Regression Analysis is a technique that uses more than one variable and estimates one single regression model along with these variables, there are more than one predictor variable which used to predict other variables in the regression model, it can be used if there are 3 more dependent variables to examined against independent variables or just one variable. We used in order to understand how the variables are influenced by other factors and to what extent they are related to each other, As an application for this great technology in this project detecting olive origin would be great example for how to use these technologies, classification by Principle component analysis (PCA), and partial least square regression (PLSR) are used along with this application.



7. Robotics

Project's

1 Youssef Khalid Ezzeldin

Supervisor:
Dr. Magda El-Daghestany

Title : Voice Controlled Robotic arm manipulation

التحكم في الذراع الاليه باستخدام الصوت

Abstract

A robot is an assemblage of a certain material that works or moves in a way that imitates the ways of living creatures and organisms. There are many applications of robots, which mostly use their available sensors to do a certain jobs, or use its actuators to affect the environment in some way or another. The main reason behind creating a robot is to facilitate the life of a human being. In other words to make things done faster and more accurately without any human intervention. This work aims to create a robotic arm manipulation controlled by voice command, which could be integrated into a higher scale model to help into construction or into hazardous environments. This robot consists of servo motors as its joints and metal for its links. The end effect or of the arm is a gripper that can hold objects, stack them or bring them down to the ground through voice commands. The movement of the robot is calculated using forward kinematics and inverse kinematic.

MSA University
October University for Modern Sciences and Arts
Established by Dr. Nawal El Degwi in 1996

Faculty of Dentistry

Graduation Projects

2017/2018

MSAUniversity.News MSAUni_Official +MsauniversityInfo

Faculty of Dentistry

I would like to welcome our students and congratulate them for choosing, Faculty of dentistry at MSA university since you are highly distinguished students, this will impose a heavy burden on the faculty members but I assure that you will receive the best higher education backed by outstanding laboratory facilities, updated simulators, highly equipped clinics with the recent advanced equipment and e-learning system. This will gave you the excellent opportunity to serve and treat your patients with the updated technology. You will also enjoy yourself with our social, cultural and sports activities.

Also the dental school offers the post graduate program for master degree in different fields of dentistry which considered one of the best programs in the dental field.

I will assure to you that you will spend the most fruitful and enjoyable years of your life. We look forward to welcoming you to our faculty.

Professor/ Faten M. Kamel.

Dean of the Faculty of Dentistry.

Top Projects

IMPLANTS RETAINED MANDIBULAR OVER-DENTURE USING LOCATOR ATTACHMENT

Menna Tallah Abou-Zeid
142919

Ahmed Younis
144501

Tasneem AbdelHafez
141985

Abstract

A 52 years old female patient came to MSA clinics complaining from an ill-fitting lower single denture, opposed by bilateral fixed bridges. Radiographic examination through CBCT revealed adequate bone height and narrow width anteriorly. Implants were planned to be inserted bilaterally at the lower first premolar areas for their adequate width. Bilateral surgical flaps were reflected at the planned areas, and implants were inserted using the pre-fabricated surgical guide after sequential drilling. Implants left for 3 months for osseointegration, then Pick-up impression technique was made for the locator attachment to provide denture retention provided that it is accurately positioned regarding occlusion.

Supervised by:
Ass.Prof.Samer Mostafa, Ass.Prof.Shereen Wagdy & AL.Mohamed AbouHeikal

MULTIDISCIPLINARY APPROACH TO RESTORE FUNCTION AND ESTHETICS FOR A PATIENT WITH MAL-ALIGNED ANTERIOR TEETH AND MULTIPLE MISSING AND CARIOUS DENTITION

Ahmed Hashem
142575

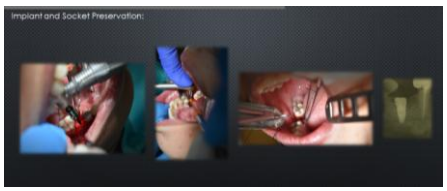
Hadir AbdelAal
144163

Fatma Hesham
145227

Abdelrahman Genina
145583

Abstract

In modern dentistry, there is an increased demand of perfect smile and pain-free, healthy oral environment. An 18 years old female patient with mal-aligned anterior teeth, multiple carious and missing teeth came to MSA clinic seeking a solution. After clinical and radiographic examination, full mouth rehabilitation was planned and achieved by Implant placement with bone graft, Operative treatment of the carious teeth, Endodontic treatment of non-vital teeth, and periodontal treatment followed by restoring normal alignment of anterior teeth using Digital Smile Design and virtual 3D dental designer. Finally, patient aesthetic satisfaction was obtained.



Supervised by:
Dr.Ahmed Ebeid , Dr.Omnia Sultan,
AL.Mohamed Abou Heikal,
AL.Ahmed Wagdy & AL.Lamyaa ElFadaly

REHABILITATION OF ESTHETIC AND FUNCTION FOR SEVERELY CARIOUS AND MISSING TEETH USING IMMEDIATE IMPLANTS AND BONE GRAFT

Alaa Yasser
141793

Islam Basha
141819

Abdullah Awad
145327

Abstract

Smile design and esthetic dentistry has become a major concern among patients. A 31 years old patient came to MSA clinics to remove all the black decay and destructed teeth. All carious lesions were treated, endodontic treatment and retreatment in multiple teeth was performed. Finally, extraction of 6 non-restorable teeth was performed followed by immediate implant placement. Blood was withdrawn from the patient and Platelet Rich Fibrin (PRF) was prepared and used for grafting with one implant. Implants were left for 6 months for osseointegration to be finally restored by full coverage restorations. Mutilated teeth were restored by crowns and endo-crowns.

Supervised by:
Ass.Prof.Shereen Wagdy, Ass.Prof.Heba Taher ,
AL.Mohamed AbouHeikal,AL.AbdAllah Mattar,
AL.Ahmed ElHawary & AL.Lamyaa ElFadaly

MULTIDISCIPLINARY APPRAOCH TO RESTORE FUNCTION AND ESTHETICS OF A CASE WITH AMELOGENESIS IMPERFECTA AND MALOCCLUSION USING COMPLETE DIGITAL WORKFLOW

Karim Soliman
140055

Fatema Maged
141033

Mohamed Abd Elzaher
141103

Hassan Omran
153887

Abstract

Restoring anterior teeth esthetics is one of the most challenging dental managements. A 24 years old male patient came to MSA Fixed prosthodontics clinics seeking a fixed bridge for anterior teeth. However, medical and dental history with clinical examination showed that he had Amelogensis Imperfecta in the anterior region with extracted all four 1st permanent molars and 0.3mm deep bite due to traumatic enamel loss in the four anterior teeth. Digital planning (3 shape software) was used to plan for surgical and prosthetic treatment. Surgical bone augmentation using autogenous chin graft, implants placement, periodontal crown lengthening and full coverage crowns were made to restore function and esthetics.

Supervised by;
Dr.Omnia Sultan , AL.Mohamed AbouHeikal, AL.Ahmed Wagdy, AL.Lamyaa ElFadaly & AL.Nada Zaazou

ESTHETICS REHABILITATION OF SEVERELY DECAYED UPPER ANTERIOR TEETH

Amira Said
140841

Reham Al Afify
141713

Ahmed Badawi
141775

Abstract

Nowadays, smile enhancement is considered a high demand to fulfill patient's smile fantasy. A 30 year old male patient presented to MSA clinics complaining from life time problem of anterior teeth. Clinical examination revealed multiple decayed teeth with old composite restorations, in addition to several missing teeth and remaining roots. Restoration of badly destructed upper anterior teeth was performed by root canal treatment, fiber post, composite core then all ceramic crowns. Upon radiographic examination using panorama and cone beam CT, implant were excluded as a treatment modality to restore posterior teeth so flexible denture was the treatment of choice.

Supervised by:
Prof. Ahmed Hamdy, Ass.Prof Heba Taher,
AL.Lamyaa ElFadaly,AL.Mohamed Abou Heikal
& TA.Ihab ElMaghraby

Passant Ibrahim
141175

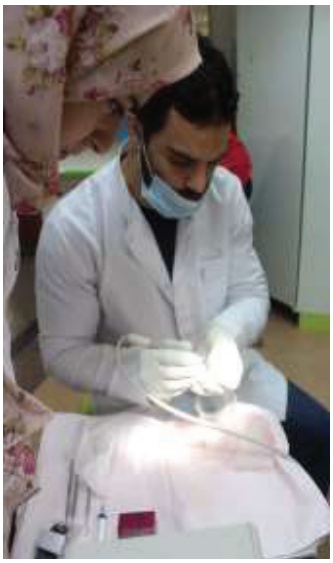
Nourhan Ahmed
142857

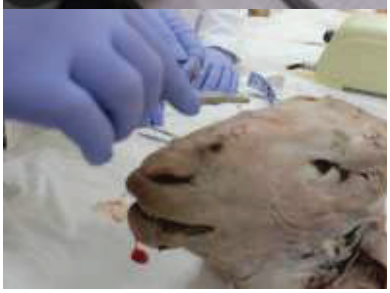
Reem Khaled
140777

THE USE OF ULTRASONIC TECHNOLOGY IN ENDO - SURGICAL PROCEDURES

Abstract

A 50 years old patient came to MSA clinics with a swelling related to upper right lateral incisor tooth. After clinical and radiographic examination, a radiolucent lesion surrounding an overfilled canal by 3 mm was detected. Treatment plan was to perform apicectomy, and prepare the root canal for an MTA filling. Two workshops were held, one was on sheep head for surgical flap and suturing under supervision of Dr. Mohamed Hamdy, Ass. Lecturer of Oral & Maxillofacial Surgery. The 2nd one was on extracted teeth for ultrasonic tooth preparation under supervision of Dr. Hussein Shokry, Ass. Lecturer of endodontics. The surgical procedure, and MTA retrograde filling were then performed for the case.





Supervised by:
Ass.Prof.Shereen Wagdy & Ass . Prof.Geraldine Ahmed

3D PLANNING OF IMPLANT PLACEMENT AND SURGICAL GUIDE FABRICATION

Abstract

The 3D technology has become an effective tool in the field of dentistry. The aim of this project was to assess the use of 3D virtual planning and 3D printing for the rehabilitation of edentulous mandible by dental implants. By the aid of Blue Sky Bio software, the pre-operative 3D virtual planning was performed. The surgical plan was to place 8 dental implants in the edentulous mandible to support a fixed prosthesis. A surgical guide was virtually constructed according to the pre-operative planning, printed, and sterilized to be used in the surgery.

Osama Abd El Fattah
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Mario Helmy
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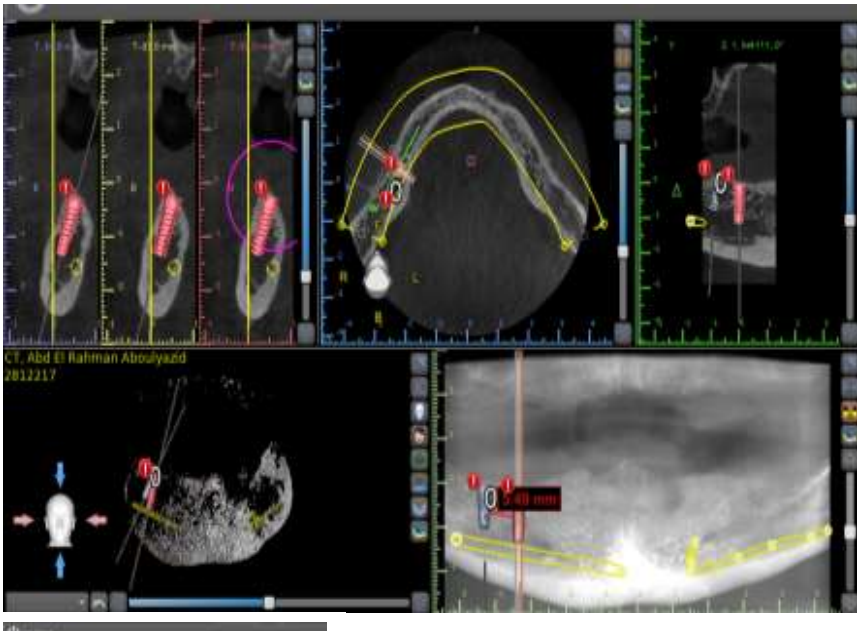


Supervised by:
Prof.Nader El Bokle & Ass.Prof.Shereen Wagdy

Youmna Abd El-Hadi
140925

Basma Mahmoud

141453

Basma Ezzat
144365

CORRECTION OF THE OCCLUSION AND VERTICAL DIMENSION OF OCCLUSION WITH ESTABLISHING ESTHETICS AND FUNCTION.

Abstract

A 62 years old female patient came to MSA clinics complaining of inability to eat and poor aesthetics. Clinical and radiographic examination revealed fractured anterior teeth, multiple missing teeth and multiple decayed posterior teeth. The aim of this project was the functional and esthetic rehabilitation of the patient's dentition. This target was achieved through meticulous face bow and centric relation records along with minimal raise in vertical dimension of occlusion (VDO).To restore the esthetic aspect, several modifications of mock-up were made and the most suitable one was constructed, taking into consideration the patient's facial dimensions. Finally, Fixed Porcelain Fused to Metal (PFM) prosthesis with a harmonious occlusion was constructed.

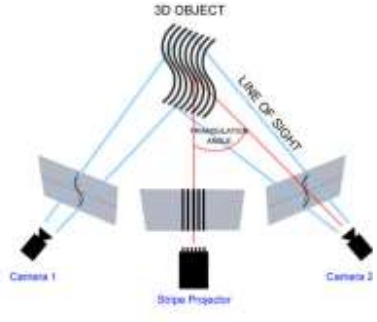
Supervised by:
Prof.Ahmed Hamdy, AL.Faisal Hamza, TA.Ihab El Maghraby

APPLICATIONS OF STERIOPHOTOGRAMETRY IN ORAL & MAXILLOFACIAL SURGERY

Abstract

The aim of this project was to discuss the applications of steriophotogrametry in dentistry. Obtaining of 3D images was previously done through taking 2 images of the same object by moving the camera to the other side without changing the level of imaging. Nowadays by the evolution in imaging, 3D image has become much easier. The 3D laser scanning and digital cameras along with software as 3DMD or Genex system are now used. This technology is used in maxilla-facial reconstructions, evaluating the abnormality of malformed craniofacial features, 3D model fabrication, Orthognathic surgery and Forensic identification.

Ibrahim Ahmed
141281



Essam-El-Din
Esmat
141531

Supervised by:
Prof.Nader ElBokle & Dr.Omnia Sultan

Ahmed Mansour
134961

Tarek Al-Agamawy
140741

Reem Abd El-Hameed
140777

Mohamed Zein Aldin
141111

Passant Ibrahim
141175

Nourhan Ahmed
142857

FULL MOUTH REHABILITATION AND ESTHETIC RESTORATION OF SEVERELY MUTILATED TEETH

Abstract

A 22 years old female patient presented to MSA clinics with bad oral hygiene, badly decayed teeth, and remaining roots. A treatment plan was set to restore both function and esthetics. The treatment plan started with periodontal therapy, followed by conservative therapy to restore all the badly decayed teeth. Then endodontic therapy was performed in all non-vital teeth. Furthermore, prosthetic therapy was performed. Surgical plan involved surgical extraction of non-restorable teeth, and implant placement. Virtual planning using Blue Sky Bio program was used to guide to the perfect alignment of implants, bone density measurements and finally surgical guide fabrication which was then 3D printed to be used in surgery.

Supervised by:
Prof. Ahmed Hamdy, Prof.Heba Taher & AL.Mohamed Khalil

3D VIRTUAL PLANNING IN ORTHOGNATHIC SURGERY

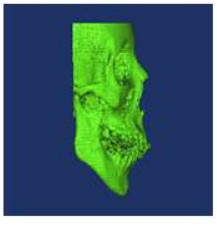
Mohammed Saleh
141153

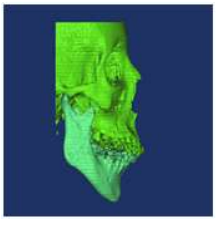
Momen Sherif
145329

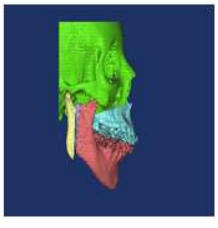
Ahmed Soliman
145345

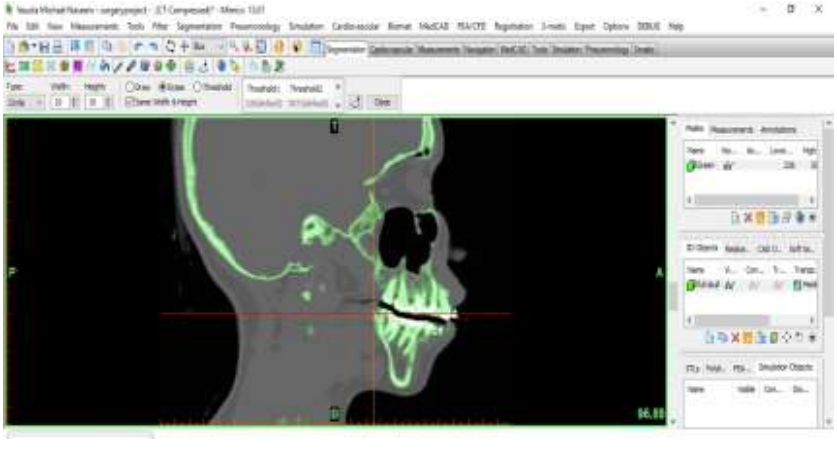
Abstract

3D virtual planning (VP) has become an effective diagnostic tool in orthognathic surgery. In the following case 3D VP was compared to traditional technique in pre-operative surgical planning of orthognathic surgery. Mimics software was used to perform the planning, segmentation, and 3D printing of surgical splints. The reported case was for 22 years old female patient who complains from gummy smile and skeletal problem. The pre-operative surgical planning was to perform maxillary impaction and mandibular advancement to correct the gummy smile and final occlusion.









Supervised By:
Prof.Nader ElBokl & Ass.Prof.Ingy Chehata

Post-Graduate Projects

The Efficacy of Contemporary p(NIPAM)- based Microgel particles on Sealing ability & Shear Bond Strength to Dentin Compared to Universal Bonding System: An In vitro study

Abstract

This study was conducted to determine the effectiveness of polymeric microgel dialyzed anionic p(NIPAM) on sealing of dentinal tubules, it also evaluated the influence of the use of the polymer p(NIPAM) on the bond strength to dentin. It was concluded that p(NIPAM) can be used with adhesive system without affecting the bond strength. Moreover, The etch and rinse adhesive could not resist degradation under thermal conditions. Furthermore, the addition of p(NIPAM) might be able to protect the adhesive interface against degradation when subjected to clinical thermal conditions.

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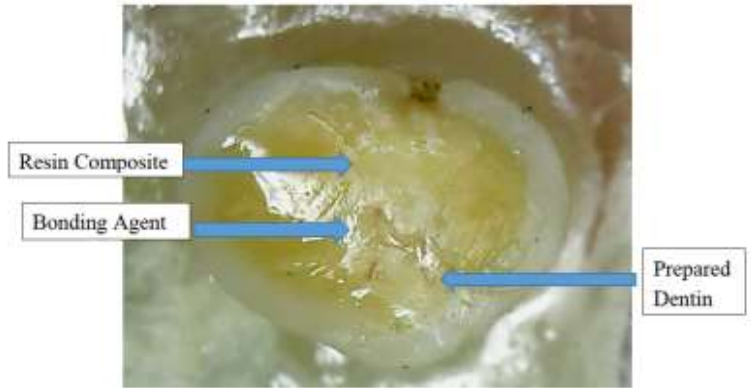
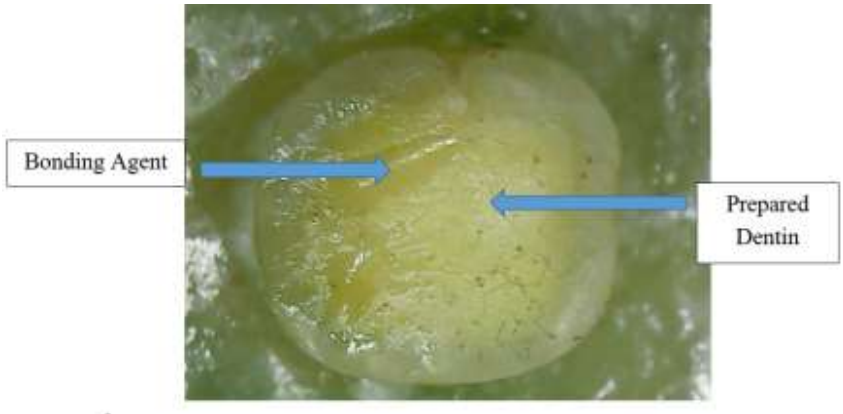
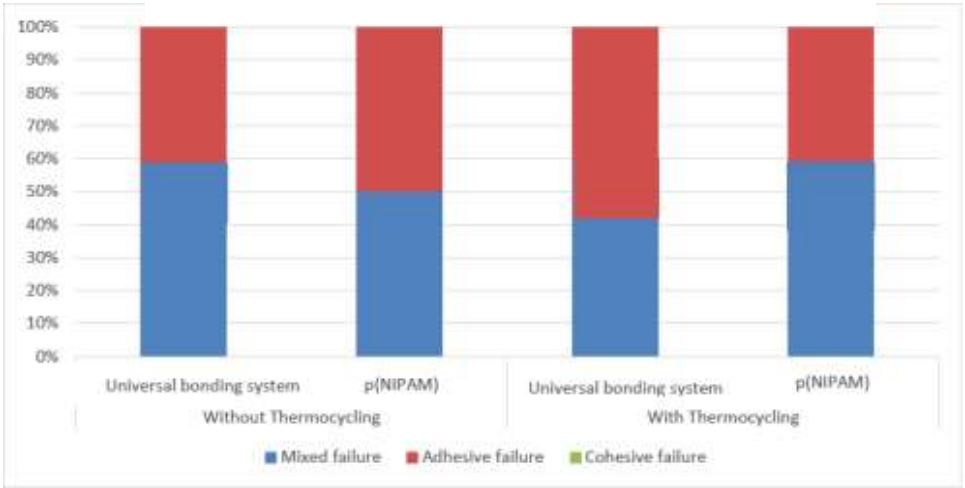


Digital photograph showing mixed fracture for universal bonding system without thermocycling (AT0) group



Digital photograph showing adhesive fracture for p(NIPAM) without thermocycling *(BT0) group*



Histogram showing the percentage of different modes of fracture before and after thermocycling for the two different groups.

Antimicrobial Efficacy of Silver Nanoparticles Using Poly(NIPAM) Based Microgel Particles as a Drug Delivery System against Enterococcus faecalis (An In-Vitro Study)

Abstract

This study aims at comparing the intracanal medication efficacy of poly(NIPAM) when used alone or in combination with silver nanoparticles against Enterococcus faecalis. The secondary aim is to observe the structural integrity of the biofilm on the dentin surface. Methods: The MIC and MBC of p(NIPAM) (X), p(NIPAM) with AgNP (Y), and AgNP (Z) were determined by two-fold serial dilution (0.312 mg/mL - 10 mg/mL). Thirty-nine extracted permanent maxillary teeth were gathered, prepared, and contaminated with E. faecalis. Teeth were split into 4 main groups for exposure; 12 in each X, Y, and Z groups, and 3 teeth as a positive control. Groups X, Y, and Z were split into subgroups based on material exposure time; 1 day and 7 days. Two samples from each subgroup was sectioned longitudinally and prepared for observance under scanning electron microscope. Microbial samples were taken for the rest of the samples. The CFU was counted and compared to the control. The Kruskal-Wallis test compared the study parameters among the groups at 1 day and 7 days ($p<0.05$). Results: The MBC of the AgNPs was 10 mg/mL. For the teeth, samples showed that the AgNP group had the most significant results after 7 days, with a p-value of 0.03. In the presence of p(NIPAM) constriction of the dentinal tubules was found. Significance: AgNPs have shown to be effective against E. faecalis and further studies is needed on the antibacterial potential of p(NIPAM) on E. faecalis.

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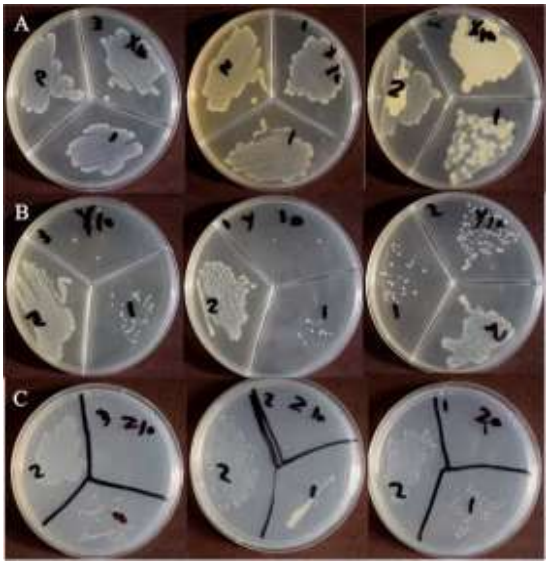
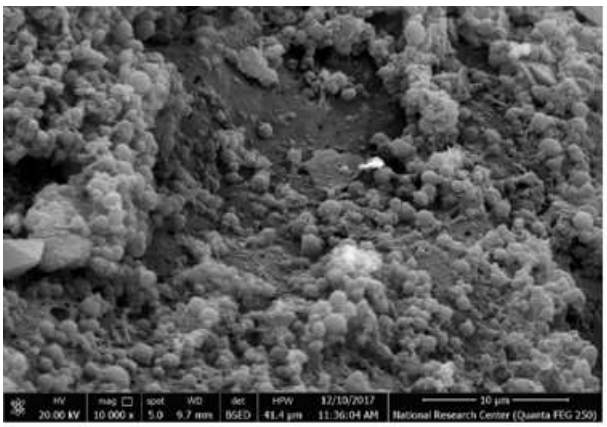


Photograph of Plate Streaking (MBC) 1= 5 mg/mL 2= 2.5 mg/mL
A- Streaking of three different concentrations of Group X (p(NIPAM)). X10= 10m g/mL
B- Streaking of three different concentrations of Group Y (p(NIPAM) + AgNP). Y10= 10 mg/mL
C- Streaking of three different concentrations of Group Z (AgNP). Z10= 10 mg/mL

Photograph of saline solution



SEM of middle root canal wall exposed to 10 mg/mL p(NIPAM) microgel after 1 day (x5000)

MARGINAL DISCREPANCY AND FRACTURE RESISTANCE OF THE TWO ENDOCROWN PREPARATION DESIGNS (BUTT-JOINT/FINISH LINE) USING TWO ADHESION PROTOCOLS. IN VITRO STUDY

Ahmed Arabi

Abstract

This study was designed to evaluate fracture resistance and marginal discrepancy between two endocrown preparation designs using two adhesive protocols. It was concluded that Preparation design for endocrown could significantly influence the fracture resistance after thermocycling. Both designs showed greater value than normal masticatory force. Moreover, In order to get significant higher fracture resistance with finish line preparation design for endocrown use etch and rinse cement rather than self-adhesive cement. Furthermore, using self-adhesive cement with butt joint design preparation of endocrown restoration showed significant higher fracture resistance than etch and rinse cement. Finally, In case of high stress areas on the endocrown restoration it is preferable to use endocrown restoration with finish line design cemented by etch and rinse cement.

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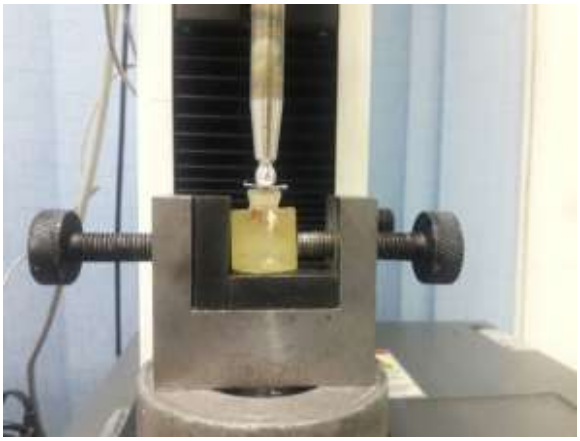
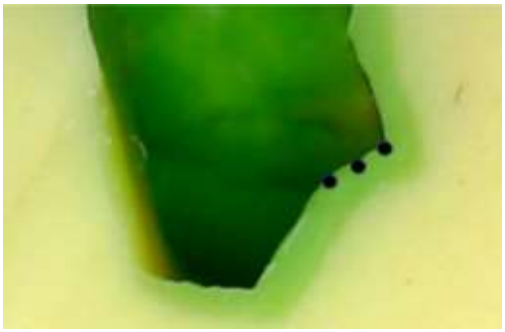


Testing fracture strength

Thermocycling



Measuring marginal gap

Measuring marginal gap

EVALUATING FRACTURE RESISTANCE and MARGINAL INTEGRITY of CRYSTAL ULTRA CERAMIC RESIN HYBRID MATERIAL COMPARED to E.MAX- IN VITRO STUDY

Abstract

Hybrid Ceramics have been recently introduced where ceramics have been combined with composite resins to solve the brittleness property of ceramics as well as providing modulus of elasticity close to that of dentine. A newly launched hybrid restorative material claimed to be the strongest restorative material in terms of compressive and flexural strength. The purpose of this study was designed to compare the marginal integrity and facture resistance of 3-unit e.max and Crystal Ultra FDP after thermocycling. Conclusion: Crystal Ultra Fixed Dental Prosthesis presented statistically higher mean marginal integrity values after aging than the IPS e.max CAD group. Fracture resistance of IPS e.max CAD group displayed statistically significant higher mean value than the Crystal Ultra group.

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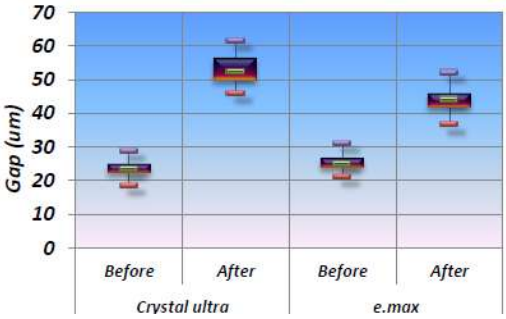
Crystal Ultra
Fixed Dental Prothesis

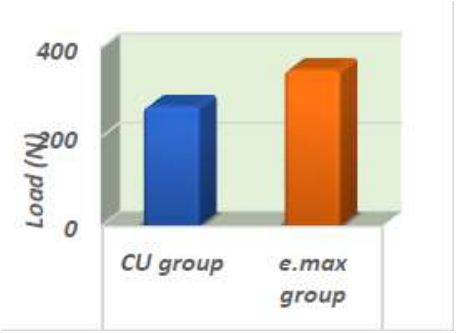
IPS e.max
Fixed Dental Prosthesis

Marginal Gap Evaluation

Fracture Resistance
Testing



Box plot of marginal gap
mean values for both
ceramic groups before
and after thermal aging



Histogram showing
fracture resistance
results mean values for
both groups after
thermal aging

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Graduation Projects

2017/2018

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University of Bedfordshire

UNIVERSITY of GREENWICH

GRADUATION BOOK

2017/2018

FACULTY OF ENGINEERING

CONTENTS

01 Department of architecture high achiever graduation project 2017/2018

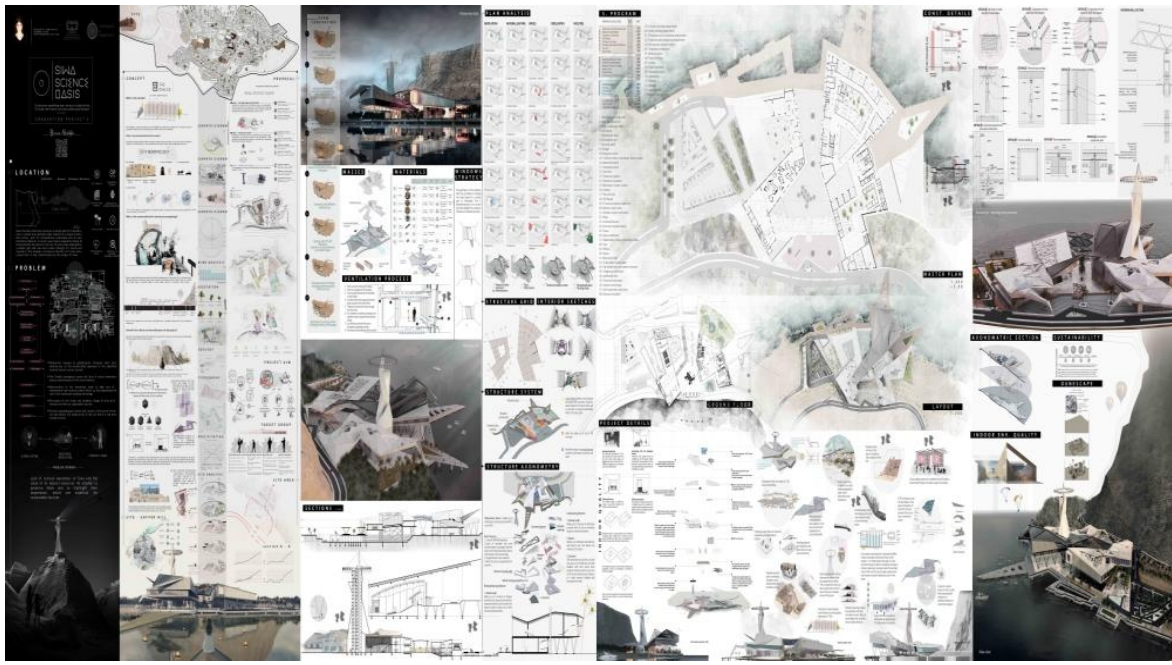
FACULTY OF ENGINEERING

Siwa Science Oasis

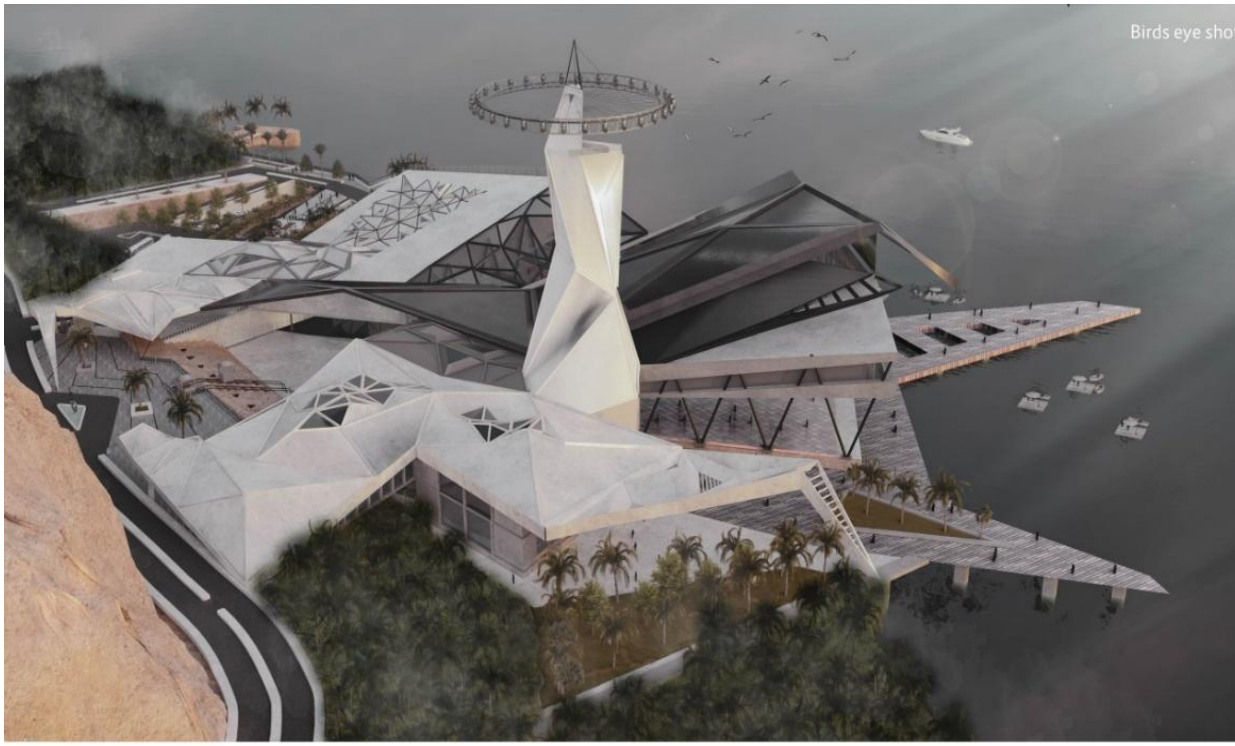
Yomna Ayman Khalifa
145229
Spring 2018

Abstract

Siwa, the oasis that once served as a resting spot for travellers, now is a place that combines what remains of a unique history and culture with its extraordinary landscapes and its own distinctive features.
Therefore, intensive research studies were conducted on Siwa's culture, urban development, architectural identity & the issues and threats that now the oasis is facing due to its lack of knowledge and governmental ignorance.
According to this, my graduation project, Siwa science oasis, is an ultimate project that would give a full depicted image of all the potentials of Siwa that need to be preserved and aware of through a research centre fused with an observatory and a simulation center as a sort of touristic catalyst. The project will focus mainly on scientific research while improving the economy and improving the quality of life of the Siwan population as a whole.
The project aims to become a landmark of the Siwan identity and invite both local and international visitors to explore the vibrant nature of the Oasis. All would definitely contribute to the sustainable tourism and economic growth of Siwa.




Main shot


Birds eye shot

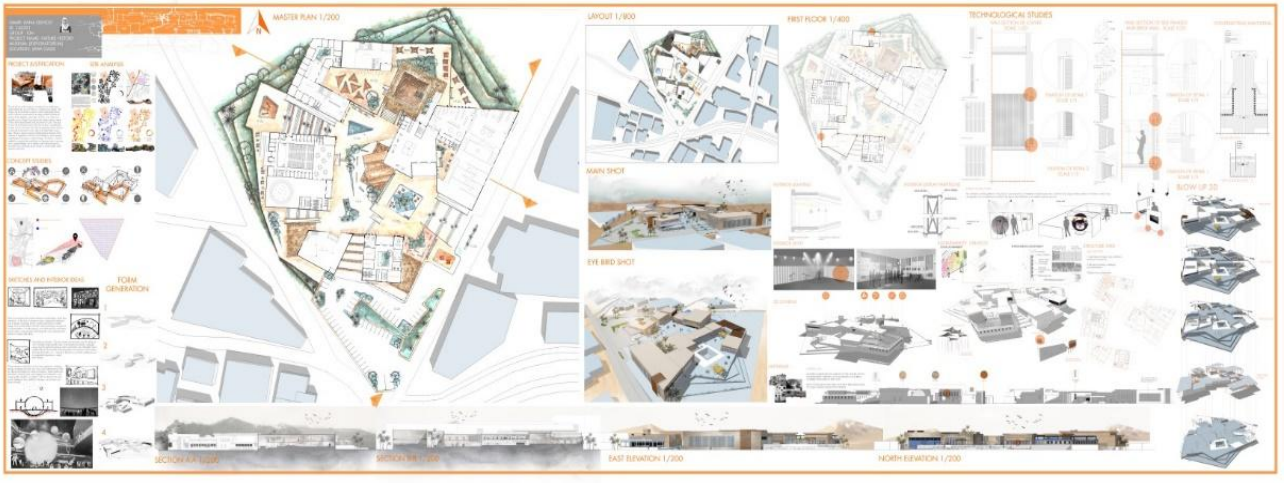
Exploratorium in Siwa Oasis

Rana Abdelraouf Elkhouly
142351
Spring 2018

Abstract

The main focus of this project is to explore how architecture might address the issue of history in contemporary design. This project will be structured around a critical regionalism theory which could be summarized by evoking Kenneth Ferampton's phrase "Think globally, act locally." In Siwa, one of the most beautiful oases in Egypt, located in the western desert, nearly 50 km of the Libyan border and 560 km from Cairo. The project site will be located close to the old city that is considered a nucleus of Siwa. However Siwa has an amazing mixture of history and culture because it was a hub of all desert trips, nowadays it faces a massive amount of deterioration because of the absence of legislation and lack of knowledge by Siwan people regarding the importance of their heritage. So there is a need to establish a museum that would play an important role in reviving such a great heritage. By my design I am looking forward to Serve the Siwa community, draw tourists to Siwa to better understand its rich history.

ينصب التركيز الرئيسي لهذا المشروع على استكشاف كيفية تعامل الهندسة المعمارية مع قضية التاريخ في التصميم المعاصر. سوف يتمحور هذا المشروع حول نظرية إقليمية حاسمة يمكن تلخيصها من خلال استحضار عبارة كينيث فيرامبتون "فكر عالمياً ، وتصرف محلياً". في سيوة ، واحدة من أجمل الواحات في مصر. تقع في الصحراء الغربية ، على بعد حوالي ٥٠ كم من الحدود الليبية وعلى بعد ٥٦٠ كم من القاهرة. سيكون موقع المشروع قريباً من المدينة القديمة التي تعتبر نواة سيوة. ومع ذلك ، فإن سيوة لديها مزيج مدهش من التاريخ والثقافة لأنها كانت محور جميع الرحلات الصحراوية ، وهي تواجه في الوقت الحاضر قدراً هائلاً من التدهور بسبب غياب التشريع وقلة معرفة شعب سيوان فيما يتعلق بأهمية تراثهم. لذلك هناك حاجة لإنشاء متحف يلعب دورا هاما في إحياء مثل هذا التراث العظيم. من خلال تصميمي أتطلع لخدمة مجتمع سيوة ، وجذب السياح إلى سيوة لفهم تاريخها الغني بشكل أفضل

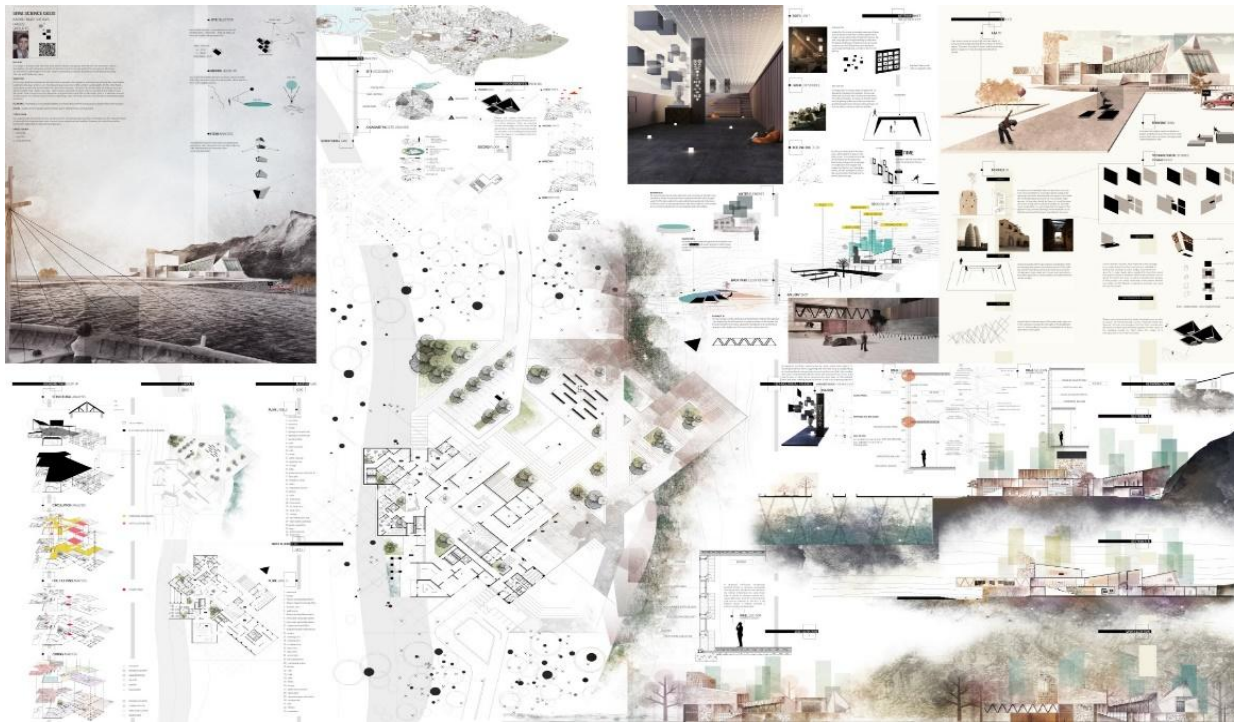


Siwa Science Oasis

Karim Omar Shehab
144329
Spring 2018

Abstract

Siwa, the land of resources that people passed by used to fed on its resources, previously Siwa was a completely empty town that was used by people heading to Egypt from many countries in the east & west. It was actually a huge comfortable place for people to rest in, with resources such as, water, shelter and food the 3 main needs of any human being on the earth. People that passed by Siwa added many things such as agriculture lands, homes and shops, and also took many of its resources and lands for their own needs. The unstable social state of Siwa, form of the rocks and mountain, and the steep slopes of the site Gafaar Hill, inspired me to create zones carrying a rocky forms linked by ramps for vertical circulation, so users can feel the experience of getting on the top of the mountain as a great facial experience. Moreover, to increase vision axis for the user, I stretched the vertices of the masses to create a shape in rhythm with the hill.



Rosetta International Heritage Centre

Basel Rafat
143343
Spring 2018

Abstract

Rosetta is a port city of the Nile Delta which located on the western branch of the Nile and the Mediterranean, Also it is consider as the connection between Alexandria and Behera city .So Rasheed has blessed by a unique location and important historical sites. Because of the number of Islamic monuments in Rosetta which maximize its role in terms of tourism. It is the second city after Cairo in number of the Islamic monuments .Also Rasheed passed through many historical era.

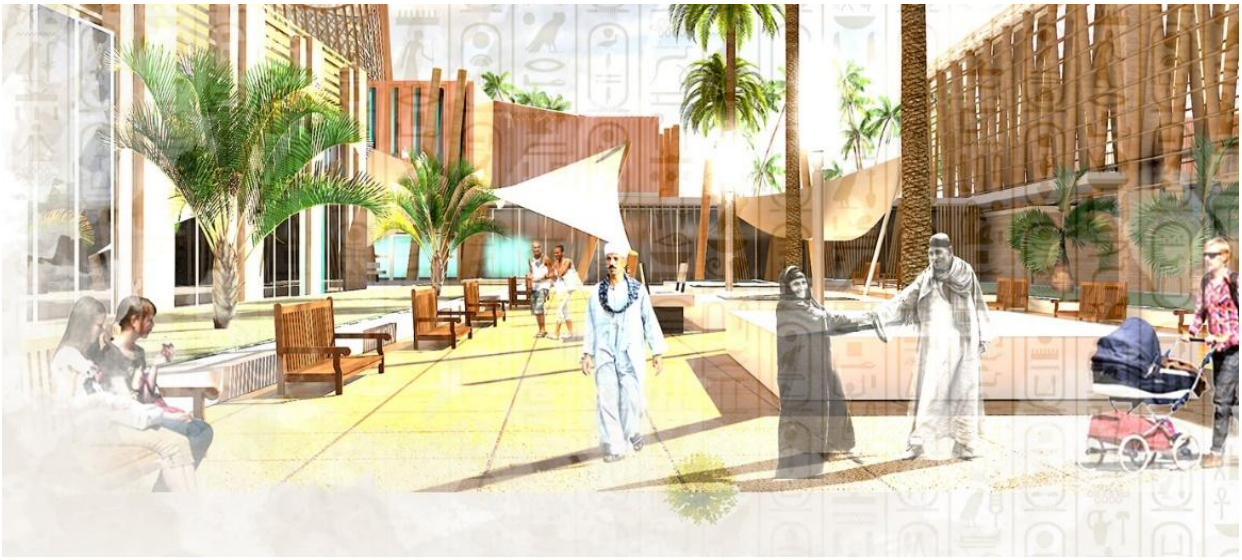
Mission Aims to create touristic destination for the city throw creating project that encourage the tourists to visit the city which create a new gate for international and investment to Egypt in general and Rashid in specific. Creating a place for the people needs to create and work. In order to development the old city and give the hope back.

revival of the historical value of the city Tourism destination for the old city by connected with the international world Create a job opportunity to the local craft worker and an expiation for their creativity Offering a place to tell a story of the historical city to the world.

رشيد (روزيتا) هي مدينة ميناء دلتا النيل التي تقع على الفرع الغربي للنيل و البحر الابيض المتوسط، كما تعتبر بمثابة اتصال بين الاسكندرية والبحيرا مدينة. وقد رست رشيد فريد من نوعه الموقع والمواقع التاريخية الهامة. بسبب عدد من الآثار الإسلامية في روزيتا التي تعظيم دورها في المصطلحات السياحة. إنها المدينة الثانية بعد القاهرة في عدد من الآثار الإسلامية مرت رشيد بالعديد من العصور التاريخية.

تهدف إلى إنشاء السياحية الوجهة لرمي المدينة خلق مشروع يشجع السياح على زيارة المدينة التي تخلق بوابة جديدة ل الدولية والاستثمارية لمصر بشكل عام ورشيد في محددة. خلق مكان لاحتياجات الناس لإنشاء والعمل. لكي تطوير المدينة القديمة وإعطاء امل الى الوراء.

إحياء القيمة التاريخية للمدينة وجهة سياحية للمدينة القديمة مرتبطة مع العالم الدولي إنشاء فرصة جو للحرف المحلية عامل وكفارة عنهم الإبداع يقدم مكانًا لرواية قصة المدينة التاريخية للعالم



The Docks Business Park

Gilan Ashraf
143649
Spring 2018

Abstract

The project is located in the old Ismailia. Ismailia is one of three cities located around the canal, but it does not contribute to any logistical work related to the channel, and unfortunately this is a great abuse of such important assets. In addition, the business district will serve both the Suez Canal Development Plan implemented by the Government and the recent development projects in New Ismailia. Therefore, we decided to take the initiative and raise awareness about the importance of the logistics business that is developing in Ismailia, and will open up new horizons and affect the socio-economic level.
Our mission is to create an area that symbolizes the modern / high-end situation that reflects achievement as well as individuality that gives a sense of pride to the local population as the province will be a milestone. Achieving such buildings will not only add value to Ismailia by acting as a national tool, but will also add to the global market exchange routes by making the logistics market more attractive to foreign trade and investment.
The Commercial Zone project will be an additional step towards achieving higher economic standards for local citizens in Ismailia as it will create jobs in multiple areas, leading to stability as well as the overall well-being of many who are considered structurally unemployed. Create jobs ranging from unskilled labor to skilled occupations, where the region includes sub-entities that serve side by side to reach the common goal. All this will lead to an economic / cultural boom of Ismailism.
This concept is derived from the engineering form of ship containers (SCs), ships operate as a transfer between pre-Ismaili life and a better new life. The integration / formation of multiple units (modular units) creates a solid and void. Solid material is the same shape and vacuum determines the landscape and landscape. Models are structurally independent in terms of components that interact with each other at a given height.

يقع المشروع في الإسماعيلية القديمة. الإسماعيلية هي واحدة من ثلاث مدن تقع حول القناة ، لكنها لا تسهم في أي أعمال لوجستية ذات صلة بالقناة ، وللأسف هذه إساءة كبيرة لمثل هذه الأصول المهمة. علاوة على ذلك ، فإن منطقة الأعمال ستخدم كلاً من خطة تطوير قناة السويس التي تنفذها الحكومة والمشاريع التطويرية الأخيرة في الإسماعيلية الجديدة. لذلك ، قررنا أخذ زمام المبادرة والتوعية حول مدى أهمية الأعمال اللوجستية التي تتطور في الإسماعيلية ، وسوف تفتح آفاقا جديدة وتؤثر على المستوى الاجتماعي الاقتصادي.
مهمتنا هي إنشاء منطقة ترمز إلى الحالة الحديثة / الراقية التي تعكس الإنجاز بالإضافة إلى الفردية التي تعطي شعورًا بالفخر لدى السكان المحليين نظرًا لأن المقاطعة ستعتبر علامة بارزة. إن تحقيق مثل هذه المباني لن يؤدي فقط إلى إضافة قيمة إلى محافظة الإسماعيلية من خلال العمل كأداة وطنية ، بل سيضيف أيضًا إلى طرق السوق العالمية للتبادل من خلال جعل سوق الخدمات اللوجستية أكثر جاذبية للتجارة الخارجية والاستثمار.
سيكون مشروع المنطقة التجارية خطوة إضافية نحو تحقيق معايير اقتصادية أعلى للمواطنين المحليين في الإسماعيلية حيث أنه سيخلق فرص عمل في مجالات متعددة مما يؤدي إلى الاستقرار إضافة إلى الرفاهية العامة للعديد ممن يعتبرون عاطلين هيكليا (يعيدون إلى تواصل اجتماعي). خلق فرص العمل التي تتراوح بين العمالة غير الماهرة والمهن المهرة ، حيث تضم المنطقة الكيانات الفرعية التي تخدم جنبًا إلى جنب للوصول إلى الهدف المشترك. كل ذلك سيصب في ازدهار اقتصادي / ثقافي للإسماعيلية.
ويستمد هذا المفهوم من الشكل الهندسي لحاويات السفن ((SCs، وتعمل السفن كنقل بين الحياة السابقة للإسماعيلية وحياة جديدة أفضل. تكامل / تشكيل وحدات متعددة (وحدات معيارية) يخلق صلبة وباطلة. المادة الصلبة هي الشكل نفسه والفراغ يحدد الساحة والمناظر الطبيعية. النماذج مستقلة هيكليًا من حيث المكونات التي تتفاعل مع بعضها البعض على ارتفاع معين.

International Heritage Centre, the Shadow of Rossetta

Marihan Khaled
141073
Spring 2018

Abstract

Rosetta is the second city after Cairo in number of the Islamic monuments. is distinguished by an authenticity and a tranquility that has become rare in other tourist cities . All these make it one of the most important cities of Egypt. Rosetta has 2 main problems , First one is economic , There are many local crafts that no one knows about them ,that's why Rosetta will solve the economic problem . The second problem is touristic and the problem is no one knows about the history of the city or the value of Rosetta's culture , which lead to deteriorate the historic monuments . So the main target of the project will be focused on tourist and youth.

The proposed project content is museum to solve the tourist problem and workshops with galleries which will increase work opportunities and let people to know about the city local crafts. And train youth to produce more local crafts.

The main mission is seeking to create main element of the project to be as a land mark that express the city of Rosetta, it's historical value and culture crafts , which will turn the city to an international touristic destination. That will not develop only the tourist of the city but also will effect on economic development.

Rosetta has passed through a different eras. The most important eras that made a change in Rosetta are Othman , Mamluks and Abbasid eras the common with this eras is level hierarchy .The main idea is to design project on levels to use the view of the sea and achieve the concept of the hierarchy of the Islamic concept .

Rosetta known by the city of million palm so the tree structure covered by wood will be used as a respect of the context.

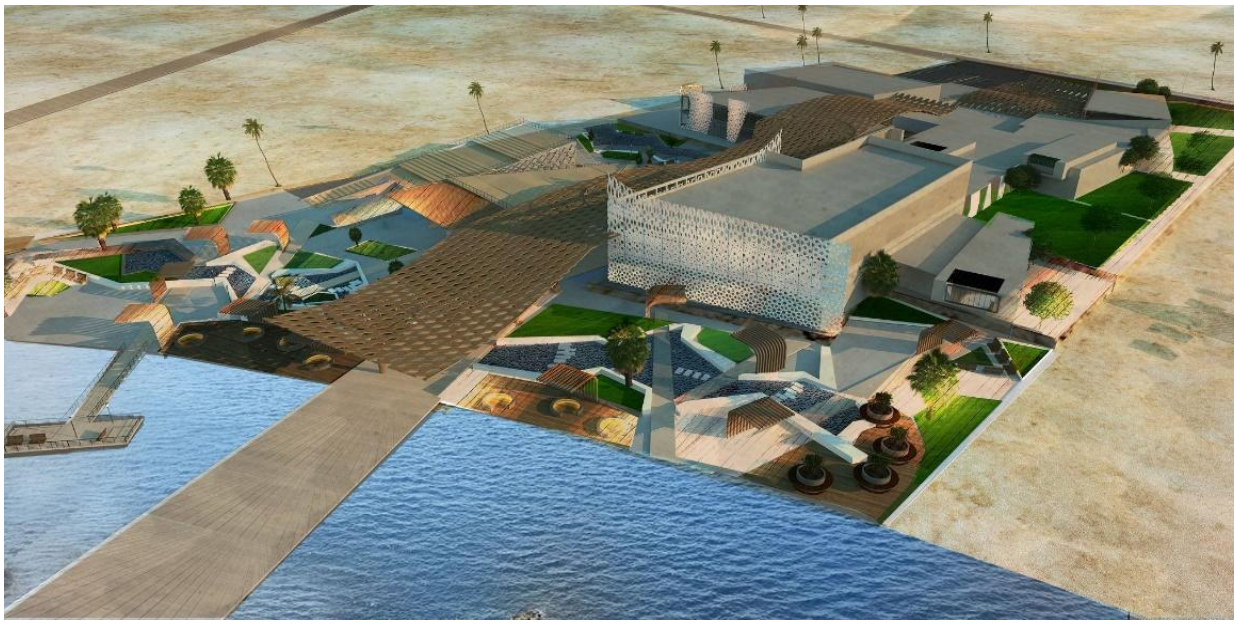
رشيد هي المدينة الثانية بعد القاهرة في الاثار الإسلامية. رشيد تتميز بالأصالة والهدوء الذي أصبح نادرًا في المدن السياحية الأخرى. كل هذا يجعلها واحدة من أهم مدن مصر. لدى رشيد مشكلتان رئيسيتان ، الأولى مشكله اقتصادية فيوجد هناك العديد من الحرف اليدوية المحلية التي لا يعرفها أحد في سوف تساعد في حل المشكلة الاقتصادية للمدينة . المشكلة الثانية هي مشكلة سياحية فلا احد يعلم عن تاريخ المدينة أو قيمة الثقافة و التاريخ الاسلامي في المدينة ، مما يؤدي إلى تدهور المعالم التاريخية. لذا سيركز الهدف الرئيسي للمشروع على السياحة والشباب.

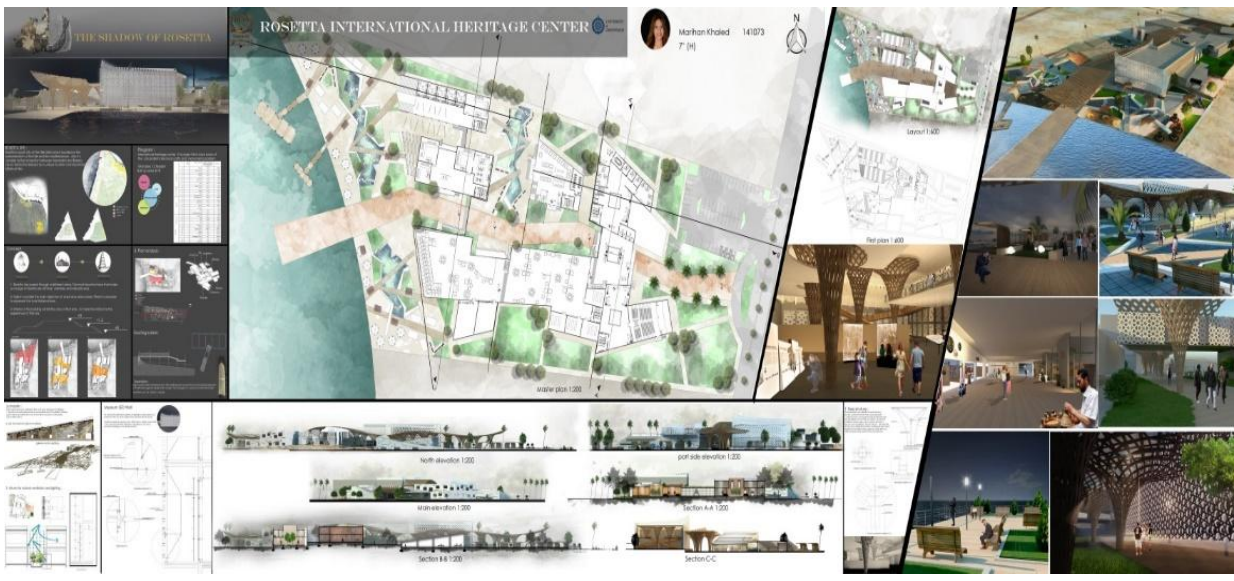
المشروع المقترح يحتوى علي متحف لحل المشكلة السياحية وورش العمل مع المعارض التي من شأنها زيادة فرص العمل والسماح للناس لمعرفة الحرف المحلية. وتدريب الشباب لإنتاج المزيد من الحرف.

المهمة الرئيسية هى السعي من خلال المشروع الى تصميم مبنى يكون علامة مميزه يعبرعن مدينة رشيد ، وعن قيمتها التاريخية ، والتي ستحول المدينة إلى وجهة سياحية دولية. هذا لن يطور فقط السياحه في المدينة ولكن أيضا سوف يؤثر على التنمية الاقتصادية.

مرت رشيد بفترات تاريخية مختلفة . أهم العصور التي أحدثت تغييراً في رشيد هي العثمانيين والمماليك والعباسيين ، العنصرالمشترك مع هذه العصور هو التسلسل الهرمي المختلف للارتفاعات . والفكرة الرئيسية هي تصميم مشروع على ارتفاعات مختلفة لاستخدام رؤية البحر وتحقيق مفهوم التسلسل الهرمي للمفهوم الاسلامي.

مدينة رشيد ملقبه ببلد المليون نخله لذلك استخدام هيكل النخل في النظام الانشائى بتغطية ب الخشب ليعطى احساس المدينة




THE SHADOW OF ROSETTA
ROSETTA INTERNATIONAL HERITAGE CENTER
Marihan Khaled 141073
7° (H)
Layout 1:400
Roof plan 1:400
master plan 1:200
North elevation 1:200
port side elevation 1:200
main elevation 1:200
Section A-A 1:200
Section B-B 1:200
Section C-C

02 Department of Industrial high achiever graduation project 2017/2018

FACULTY OF ENGINEERING

Company: Feeding industry manufacturing Company "FIMCO"

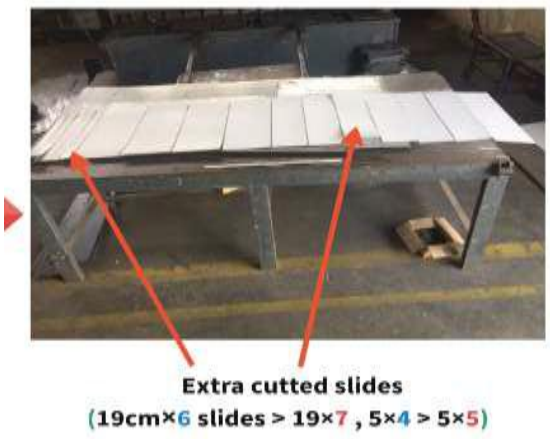
Waste Elimination in an automotive Feeding Industry

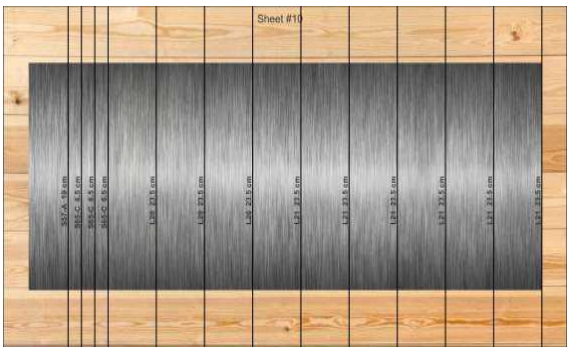
By

Amro Mohamed Mansour (143369)
Khaled Mohamed (142765)
Mohamed Khaled Khalil (141209)

Abstract

The project objective is to reduce the waste in different aspects in an automotive feeding factory. One of the wastes is generated from the sheet cutting process, in which the sheet is cut into specific pattern of one product type, which leads to a huge waste of material. One more waste is observed in the welding station. The proposed solution to reduce the waste is using the linear programing approach to reduce the material waste, where the model will be solved using the LINGO software (0.6% reduction per month). The Standard Operation Sheet and the Standard Operating Procedure methodologies are implemented to reduce the waste of poor quality caused in the welding station (saved around 16250 L.E per month). Finally, the Single Minute Exchange of Die methodology is implemented to reduce the changeover time on the press machines (38% reduced time which save around 28180 L.E per month).





Sample of a Cutting Pattern

Company: Delta El Nile For Plastic Bottles Industry

Maintenance Planning and Scheduling in Plastic Industry

By

Abdelrahman Hassan Soliman (121653)
Omar Gamal Mahmoud (136257)

Abstract

The objective of this project is to manage and provide a preventive maintenance plan for each machine, as a tactical level of maintenance planning. In such plan, all preventive activities of the specified machines will be scheduled according to the associated time intervals that may be daily, weekly, monthly or even yearly. Moreover, for each maintenance activity the standardized process will be developed that shows the best way of its making. Applying such maintenance planning and schedule program will reduce efficiently the downtime of machines and enhance the manufacturing capability. The current project will be conducted on a factory that is dedicated to produce plastic bottles using injection and wing plastic machines

Injection Machine

Blowing Machine (Sidel)

Company: Commercial Body Cars Company

Production Scheduling in Commercial Body Car Factory

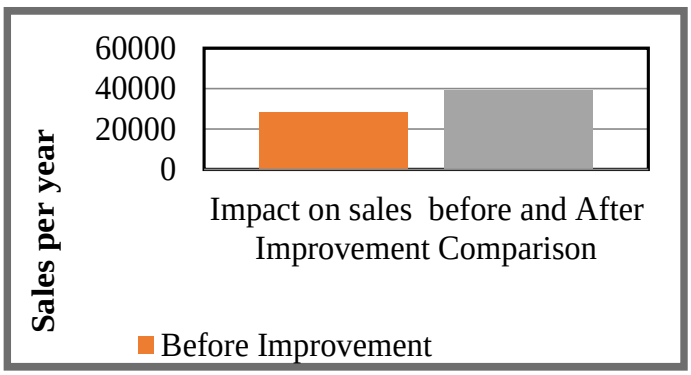
By

Abdelrahman Mohamed Mostafa (140971)
Ali khaled Mahmoud (140117)

Abstract

The aim of this project is to investigate the requirements for developing a production scheduling plan in a commercial body cars manufacturing and assembly firm. This project focuses on how the manufacturing industry will be able to increase the utilization of firm resources and efficiency in order to balance the quantity produced of components needed for assembly with controlling the required level of safety-stock through using of production scheduling functions.

There are a wide range of approaches used for solving production scheduling problems. These approaches have been classified into two categories, traditional and advanced ones. Tools such as Gantt chart, disjunctive graph, time study and others are used during the project in order to investigate the requirements for the scheduling plan and furthermore to choose the most suitable optimized approach for solving the production scheduling problem. The increase of the annual opportunity sales reached 10,692,000 L.E per year.



Annual Opportunity Sales Comparison

03 Department of Electrical System Engineering high achiever graduation project 2017/2018

FACULTY OF ENGINEERING

Multiband Compact Resonator using Dual Composite Right/ Left handed Transmission Line (D-CRLH TL)

By

Marian Nashaat Adly 140791

Abstract:

Currently, there is strong and increasing interest from industry for a single transceiver system to cover multiple frequency bands such as Wireless bands, and mobile cellular systems. As one of the most important front-end components, multi-band band-pass filters (BPFs) with compact size, planar configuration, and good performance have been investigated aggressively and substantial progress has been achieved. Design and implement compact resonator with via free to be used for multi band wireless application. The dual composite right left handed unit cell will improve the compactness and introduces multi-band configuration.

In this project two designs are introduced, the first design presents for the first time quad band BPF based on coupling between dual composite right/left handed transmission line and Composite right left hand transmission line. Where that the D-CRLH is responsible for the higher resonant frequencies and the CRLH is responsible for lower resonant frequencies. The four resonance frequencies are at 3.9 GHz, 4.6 GHz, 6.2 GHz and 7.1 GHz. The two designs are simulated, fabricated with compact size (16.5*14.6mm2).

The second design presents for the first time, a new compact multiband resonator based on tuning of interdigital capacitor with Composite Right/Left-Handed (CRLH) transmission line cell with controllable frequencies and high selectivity. The operating frequencies of the resonator are 2.7GHz, 4 GHz, and 10.5GHz with insertion loss 3 dB, 1.3 dB and 1.7 dB, respectively. Furthermore, the proposed design has good matching of return losses that are equal to 14 dB, 12 dB, and 23 dB respectively. This proposed resonator is designed on Rogers 4350B material with dielectric constant 3.48 and thickness 1.524 mm. This resonator is introduced to fulfill compactness of modern technology with perfect size reduction (16.5x8.9 mm2). The resonator consists of CRLH unit cell connected with patch capacitor and interdigital capacitor that tune the design and provides the third band.

Design and implementation of Radiosonde integrated system (Balloon Born Subsystem)

By

Mahmoud Magdy Gafar 140817
Amr Emad Eldin 142625

Abstract:
A radiosonde is a meteorological instrument which, launched under a balloon, measures parameters such as pressure, temperature, humidity and wind (direction, velocity) in the atmosphere and transmits data to the ground station for further processing related to weather forecasting. This device is one time use since it is carried by the balloon that explodes at high altitude (20 Km high). Egyptian Meteorological Authority (EMA) is one of the main users and consumers of radiosonde devices.
The proposed system as part of this research aims to overcome the current imported system drawbacks and weaknesses, improve performance and features, along with the economic and social benefits from the designing and implementing this device to serve and satisfy our national and regional needs. Thus, the main objective is designing and implementation of The Radiosonde Transmitter Device along with the ground station nationally in competitive cost compared to current imported systems.
The main functions and algorithms of the proposed system are achieved based on GPS principle that is a high quality measurement technique that is suitable for operational sounding applications specifically in Atmospheric pressure, Wind speed and Wind direction measurements.

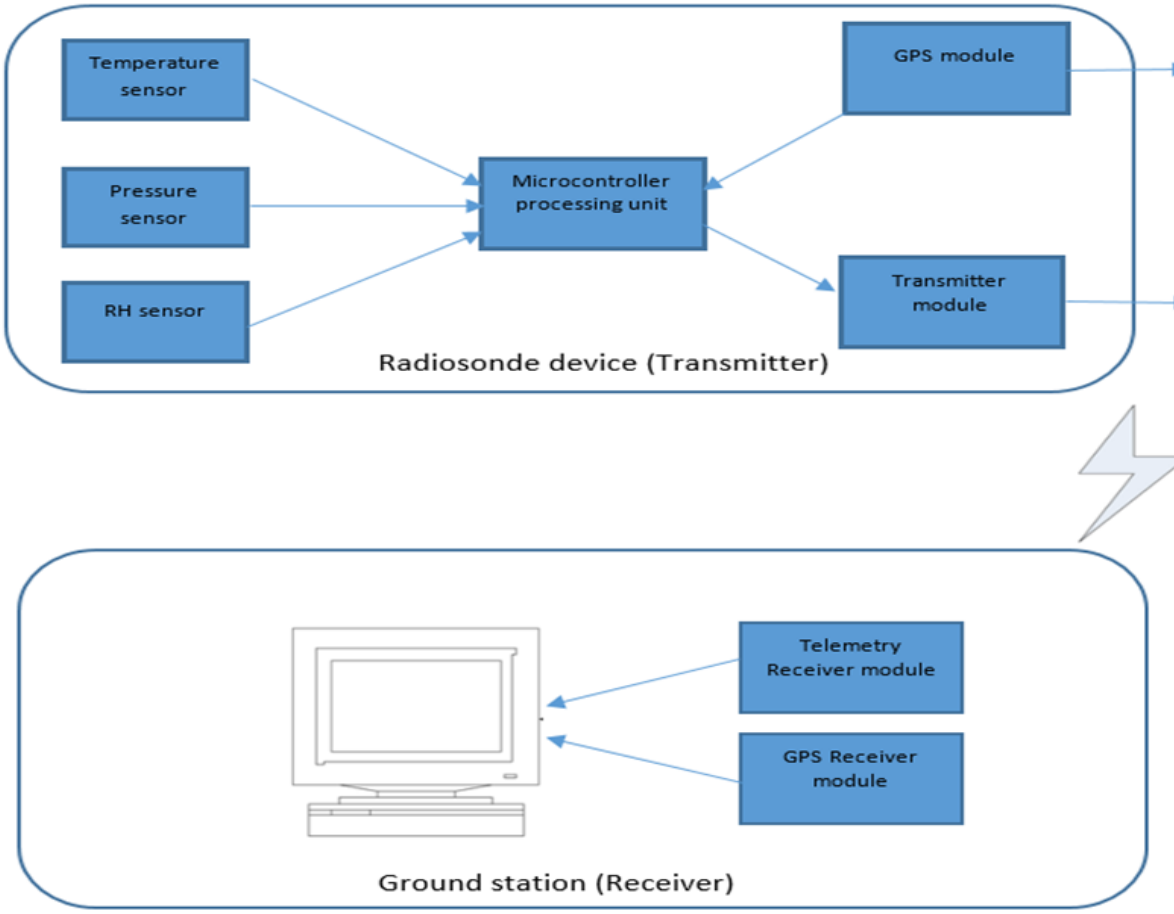
Design and Implementation of Radiosonde Integrated System (Ground Station)

By

Ahmed Mohamed Anwar 143317
Ahmed Yousri 142921

Abstract:

Radiosonde is a balloon-borne device that is used worldwide to measure several vertical meteorological parameters like temperature, humidity, air pressure, wind speed, and wind direction at various layers of the atmospheres. The Radiosonde is attached to a sounding balloon filled with hydrogen so it elevates easily up to 30 km. While Radiosonde is ascending from the surface into the stratosphere, it transmits its measurements to a ground receiving station where they are processed into temperature, pressure, dew point, humidity, wind speed and direction. Ground receiving station is responsible for receiving signal from Radiosonde by three antennas then the ground equipment filters and processes the measurements to be used by computer software to generate a report that is transmitted as a binary coded message over the global telecommunication systems (GTS) to various regional and national meteorological centers around the world. There are more than 1000
Radiosondes are launched every day to obtain data for weather forecasting. Stations around the world launch two Radiosondes on a daily basis. The EMA is one of the main users of the Radiosonde as Radiosonde provides essential data for aviation, military, and agriculture…etc. However, Egypt imports this device, which costs about 40 million Egyptian pounds annually, putting a lot of pressure on Egypt`s budget. The proposed system as part of this research aims to overcome the current imported system drawbacks and weaknesses, improve performance and features, along with the economic and social benefits from the designing and implementing this device to serve and satisfy our national and regional needs.


Temperature sensor
Pressure sensor
RH sensor
Microcontroller processing unit
GPS module
Transmitter module
Radiosonde device (Transmitter)
Telemetry Receiver module
GPS Receiver module
Ground station (Receiver)


LOVEIS
THESLOWEST
FORM OF
Suicide

Real Time Indoor Tracking system (Part I)
Hardware Team

By

Ahmed Essam Hassan 143175
Abdishakur Abdinasir 141413

Abstract:

In Real time indoor tracking system, determining the positioning of a user is one of the major issues. As this project is already implemented in one of the biggest mall in Egypt (Mall of Egypt), its drawback is that, it shows duplicate position of the user on the floor map and also this system is not provided in the Egyptian market. In this report, Real time indoor tracking system using Bluetooth low energy (BLE) is introduced. Applying the proposed technique for finding the position of user results in absorbing less power consumption of the user`s device and last long battery life of the Bluetooth beacons up to two years without charging, generally, comparing with the real time indoor tracking systems using Wi-Fi technology or Radio frequency identification technology(RFID).The main functions and algorithms of the proposed system are achieved based on readings of the device power strength-received signal strength indication (RSSI), while the system is implemented based on Bluetooth module and a pic microcontroller with client-server application. It is shown that by applying the proposed technique with Kalman filtering and unscented Kalman filter to help reduce the noise and a combination of fingerprinting and sector methods can determine accurate position of the device.

“Real Time Indoor Location Part II”
Real-time Indoor Bluetooth Tracking Application

By

Omar Ashraf Attia 144865

Omar Mohammed Galal Osman 143349

Abstract:

Due to the huge size of buildings and floor numbers nowadays, the problem of locating a person inside a building has increased drastically. Parents often lose their children within a large mall and have hard time trying to find them. Business owners cannot monitor their employees anymore. The solution of real-time indoor positioning system needs to be delivered to solve these problems.

With the cooperation of Systel Telecommunication (Motorola Egypt) an accurate, fast and cheap solution that is the first of its kind in Egypt will be created using Bluetooth beacons to track the indoor Bluetooth devices. Just by using the MAC address of the Bluetooth module that is in any Bluetooth enabled device, the system will be able to locate the device in real time on an interactive map that is easy to use and easy to operate by any user. The system is accurate as it uses Bluetooth and RSSI values to locate the devices. The solution has been developed by three teams, team A, B and C.

Team A (hardware): responsible for building Bluetooth beacon that will interface between the Bluetooth devices and the desktop application.

Team B (software): responsible for building a full desktop application that will interface between the Bluetooth beacons and the Bluetooth devices. The application includes an interactive map for the user that shows the position of the devices in real time in addition to new features such as: geo-fencing, movement history and notification system.

Team C (software): responsible for building a tool that generates the coverage area in the building layout with the minimum number of Bluetooth beacons and maximum coverage to reduce the cost and the time of deployment.

Real-time Indoor Location Solution Part III
(Indoor Bluetooth Coverage Application)

By

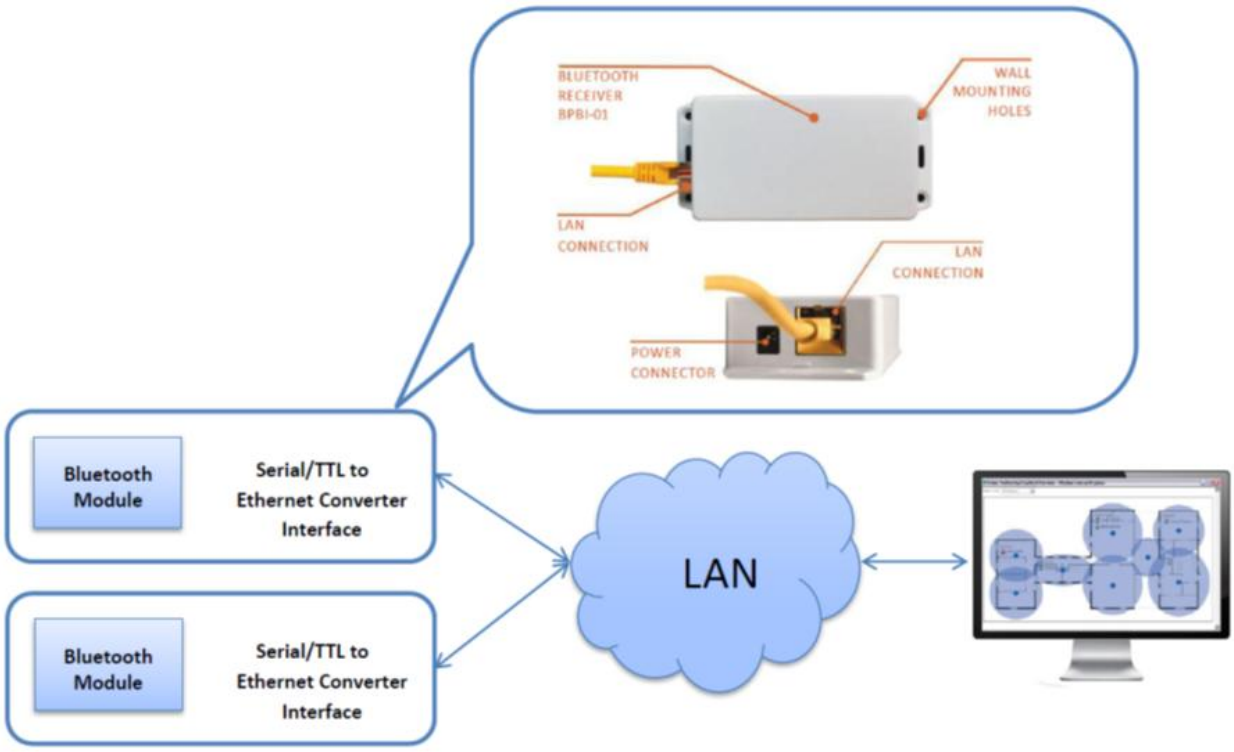
Omar Khalid Ibrahim 140195
Adham Mohamed Sayed 140787

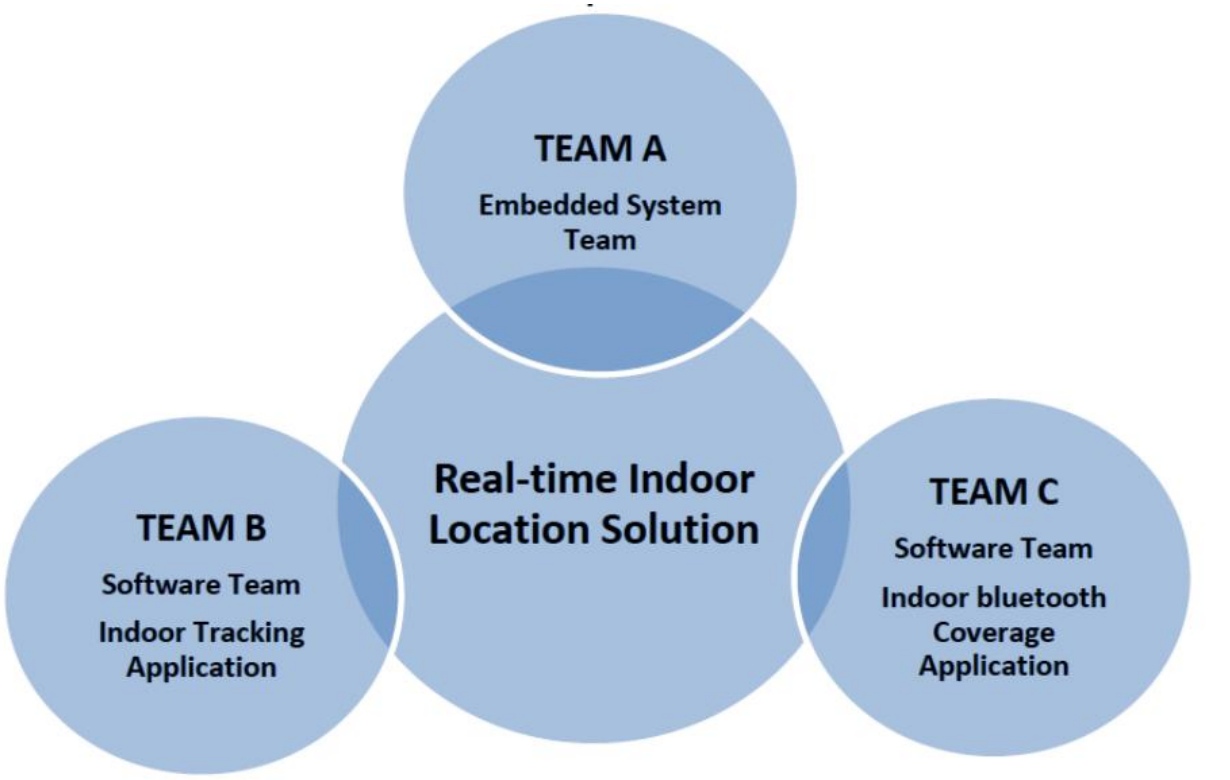
Abstract:

The REALTIME INDOOR LOCATION SYSTEM protects people by providing real-time information about their location when in need and the User`s benefits from a unique platform combining indoor Positioning with the solutions automated emergency alarm handling. The Real Time Location System integrates several technologies in one solution Like Bluetooth for indoor positioning, Support for Smartphones, and TETRA radios as well as GSM panic alarm devices. Locate employees using any always discoverable Bluetooth device, including DMR & TETRA radios, Android Smartphones and the Bluetooth badge. The system provides real-time location data using strategically placed Bluetooth Beacons/Receivers connected to the buildings LAN. Beacons/Receivers are continually monitored for disconnection and have a range of 5-50 meters (subject to the environment). The more Beacons/Receivers installed, the more precise the location data. The issue is how by few number of beacons, it can get high percentage of efficiency of coverage.

There are many solutions and methods that can be used for real time indoor positioning system, but due to the obstacles and interference that make the signal propagate less, there`s no single solution to solve this problem. There`s no single standard method that our competitors are all using. We are aiming to build a real time indoor positioning system that will be able to operate effectively in any indoor infrastructure and be user friendly for the client. In this paper we will go deeply in this system and its features.

SYSTEL Telecom





MSA
University
October University for
Modern Sciences and Arts
Established by Dr. Nawal El Degwi in 1996

Faculty of Languages

Graduation Projects

2017/2018

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October University for Modern Sciences and Arts
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Faculty of Languages

Distinguished Projects 2017/2018

Validated by Bedforshire University

University of Bedfordshire

Professor Soha Raafat

Dean of the Faculty of Languages

Dearest Graduates,

The Faculty of Languages, MSA University is set up with a view to meet the challenging demands dictated by the fast changing job market of the 21st Century. The Faculty, therefore, started a British partnership with the University of Bedfordshire, UK in 2014 in order to align its educational services with British standards.

The Faculty of Languages focuses on developing the creative abilities, critical thinking skills and lifelong autonomous learning of its students. We believe that 'Languages' students graduate from the faculty as round characters with developed skills and strong cultural awareness essential for their success in their future careers. The four majors of the faculty of languages are interdisciplinary areas in the field of English Language Studies: Translation, Teaching English as a Foreign Language (TEFL), Executive Business Skills and Comparative Studies. Our students' engagement in the learning processes and participation in various kinds of cultural and extracurricular activities equip them with tools that do not only shape their successful professional careers, but also enhance their interpersonal skills.

Graduates of the faculty of Languages are awarded a dual degree, a degree from MSA University recognized by the Supreme Council of Higher Education in Egypt and another degree from the University of Bedfordshire, UK. We are really proud that our senior class in 2018 is the first cohort of validated students who celebrate their dual BA degree from both renowned institutions.

Congratulations!

Wishing our graduates a very bright future!

Table of Contents

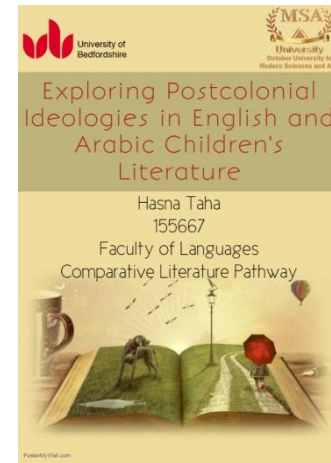
Faculty Pathways

Comparative Studies Pathway

Cultural and Political Ideologies in Selected Works from Arabic and English Children's Literature

Hasnaa Taha Hussien

ID:155667
hasnaa.taha@msa.edu.eg



Abstract

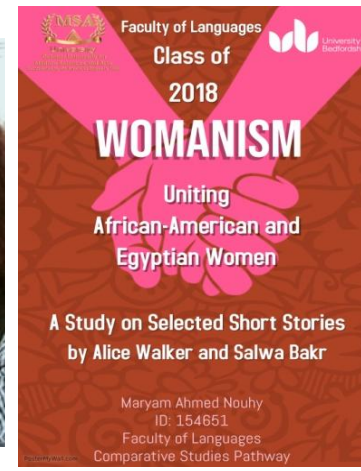
The problem with analysis done on children's literature is that critics often describe this field as not complex as adult literature, which abandons and ignores the ideologies this field represents and implants in the minds of children. This dissertation is conducted to present summaries, examinations and comparisons of Kamel Kilani's children's stories "Safirat Al Qamar" and "Al Singab Al Sagheer" to Roald Dahl's *Fantastic Mr. Fox* and *Charlie and the Chocolate Factory* to prove the argument of the study that these works from Arabic and English children's literature affect the Arabic and British child's cultural and intellectual development on many layers and levels through the cultural and postcolonial ideologies they explicate and present. The study uses postcolonial approaches of reading and analysis, and concludes that Kilani's works are rather educational and rigid, while Dahl's works leave more space for imagination and they fixate more on imperial doctrines.

تكمن مشكلة التحليل في أدب الطفل في أن النقاد غالباً ما يصفون هذا المجال بأنه ليس معقداً مثل أدب البالغين ، و هذا الوصف يتجاهل الأيديولوجيات التي يمثلها هذا المجال ويزرعها في أذهان الأطفال. تُجرى هذه الرسالة لتقديم ملخصات ومقارنات لقصص أطفال كامل كيلاني "سفيرة القمر" و "السنجاب الصغير" بأعمال رولد دال "السيد فوكس الرائع" و "تشارلي و مصنع الشوكولاته" لإثبات جدلية الدراسة بأن هذه الاعمال الادبية تؤثر على التطور الثقافي والفكري للطفل العربي والبريطاني على العديد من الطبقات والمستويات من خلال الإيديولوجيات الثقافية وما بعد الاستعمارية التي تفسرها وتعرضها تلك القصص. تستخدم هذه الدراسة مقاربات ما بعد الاستعمار للقراءة والتحليل ، وتستنتج أن أعمال كيلاني هي تعليمية وثابتة ، بينما تترك أعمال دال مساحة أكبر للخيال وتغرس العقائد الإمبراطورية اكثر.

Comparative Studies Pathway

"Womanism" Between African-American and Egyptian Women: A Comparative Study of Selected Short Stories by Alice Walker and Salwa Bakr

Maryam Ahmed M. Nouhy
ID: 154651
maryam.nouhy@hotmail.com



Abstract

This paper aims to highlight the similarities between the condition of the African-American woman and that of the Egyptian woman. As a result, this proves that in order to empower Egyptian women to solve their problems of oppression and inequality, they cannot do with Feminism (which is a movement that is dominated by white women and not inclusive of women of color who incidentally face much harsher socio-economic conditions) but rather Womanism, which is a term coined by Alice Walker to be a more inclusive type of Feminism. This is proven through examining four short stories by two female writers: African-American writer Alice Walker ("Roselily" and "How Did I Get Away With Killing One of the Biggest Lawyers in the State? It Was Easy.") and Egyptian writer Salwa Bakr ("Kol Hatha Al Sawt Al Gameel Allathi Ya'ti Min Dakhiliha" or "This Beautiful Voice Coming from Within Her" and "Thaat Al Gholaf Al Aswad" or "She Who is Wrapped in Black") through both a Feminist as well as a Womanist perspective. Some of the works in choice have been tackled in numerous studies, however, not in comparison to each other, to the best of the researcher's knowledge. After examining the stories and comparing them it was concluded that African-American and Egyptian women have quite similar struggles (namely: poverty, oppression, inequality, and patriarchy). As a result – and since Feminism has proven not to be as inclusive as it should be—Womanism is the answer to their problems.

يسعى هذا البحث لإيضاح وجه التشابه في الظروف الحياتية و المشاكل التي تواجه كل من المرأة المصرية و المرأة الأمريكية من أصل إفريقي، و هذا من خلال دراسة مقارنة لقصتين قصيرتين لكل من الكاتبة و الناشطة المصرية سلوى بكر ("كل هذا الصوت الجميل الذي يأتي من داخلها" و "ذات الغلاف الأسود")، و الكاتبة و الناشطة الأمريكية من أصل إفريقي أليس ووكر ("روزليلي" و "كيف استطعت أن أنفذ بقتل أحد أكبر المحاميين في الولاية؟ بسهولة") من وجهة نظر النسوية التقليدية و أيضا نظرية أليس ووكر ذاتها في النسوية. وبعد أن أوضحت الدراسة وجه التشابه بين المرأتين المصرية و الأمريكية من أصل أفريقي من حيث الصراع مع الكبت و الفقر و عدم المساواة في الحقوق و المجتمع الأبوي، أثبتت أنه لا يمكن للنسوية التقليدية (و هي حركة منبعها في الأصل الولايات المتحدة الأمريكية و أسستها النساء الأمريكيات من أصل أوروبي اللاتي ينتمين للطبقة فوق المتوسطة، و قد أثبت مع مرور الوقت أنها لا تتسع لأن تشمل النساء من كل العروق و الأجناس و الطبقات الاجتماعية) أن تساعد المرأة المصرية للنهوض بنفسها و المطالبة بحقوقها، و حينئذ تظهر نسوية أليس ووكر و هي نوع أكثر شمولا لكل النساء من جميع الأطوار و الأعراق و الطبقات الاجتماعية من النسوية التقليدية، لتكون أداة أنسب لمناهضة حقوق المرأة المصرية.

Comparative Studies Pathway

Deconstructing the Stereotypes: The Myth of Arab Anti-Semitism

Tasneem Al-Moataz Mohamed

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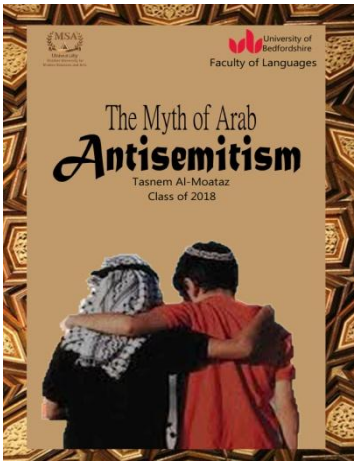
tasneem.almoataz@msa.edu.eg



Abstract

Jews all over the world have been marginalized, ghettoized and deprived of basic human rights. They have been discriminated against throughout Jewish recorded history, not only that, but they were depicted in western and non-western literary texts as lacking any human essence and traits. However, some Arab literary works humanize the Jewish character, which shows how Arabs are not prejudiced against Jews, and do not intertwine political discourse in literary representations. Thus, the aim of this study is an attempt to bridge the gap between Arabs/Jews living in Palestine by demonstrating how Arabs are not prejudiced against Jews; on the contrary, they emphasize their respect for Judaism as a divine religion, and humanize the Jewish character in their literary representations. The researcher attempts to bridge this gap by drawing distinction between Judaism and Zionism, and by representing the sympathetic Jewish demonstration in the Arab literary world to lay ground for integration and assimilation. Such examination will be applied using Cultural Studies literary theory. On this basis, the study will present selected Arab literary works, *The Infiltrators* by the Palestinian writer Hanna Ibrahim, and "Rita and The Rifle" by the Palestinian poet Mahmoud Darwish, in comparison to, Western literary works such as *Trillby* by the Franco British author George du Maurier and *Debit and Credit* by the German novelist Gustav Freytag.

لقد تم تهميش اليهود حول العالم وعزلهم وحرمانهم من حقوق الإنسان الأساسية. ولقد تم التمييز ضدهم علي مر التاريخ اليهودي المسجل، ليس هذا فقط، ولكن تم تصويرهم في النصوص الأدبية الغربية والغير غربية علي أنهم يفتقرون إلي أي جوهر أو صفة إنسانية. ومع ذلك، فإن بعض الأعمال الأدبية العربية تُظهرالطابع الإنساني للشخصية اليهودية مما يدل علي أن العرب لا يحملون أي ضغينة ضد اليهود ولا يدعوُن إلي تداخل الخطاب السياسي في التمثيل الأدبي. وهكذا، فإن الهدف من هذة الدراسة هو محاولة لسدالفجوة بين العرب/اليهود الذين يعيشون في فلسطين من خلال إظهار عدم إنحيازية العرب ضد اليهود، بل يؤكد العرب احترامهم لليهودية كديانة إلهيه ويظهرون الطابع الإنساني للشخصية اليهودية في أعمالهم الأدبية. يحاول الباحث سد هذة الفجوة عن طريق التمييز بين اليهودية والصهيونية، وعن طريق إظهار العاطفة الموجودة في الشخصية اليهودية المتمثلة في العالم الأدبي العربي لإرساء أرضية الإندماج والتوحيد. سيتم تطبيق هذة الدراسة باستخدام نظرية الدراسات الثقافية الأدبية من أجل فهم واستيعاب الجوانب الإجتماعية والسياسية والدينية لهذة المسألة. وعلي هذا الأساس، ستعرض الدراسة بعض الأعمال الأدبية العربية المختارة؛ مثل القصة القصيرة "المتسللون" للكاتب الفلسطيني حنّا إبراهيم وقصيدة "ريتا والبندقية" للشاعر الفلسطيني محمود درويش، في مقارنة بينهم وبين بعض الأعمال الأدبية الغربية المختارة؛ مثل تريللبي للكاتب الفرنسي جورج دو موريه وديبيت اند كريديت للروائي الألماني غوستاف فريتاج.

Comparative Studies Pathway

Suppression under the Mask of Protection in Parents-Daughter Relationships: A Comparative Study

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Abstract

The struggle between parents and daughters is a controversial problem that needs to be resolved. Especially, in case of immigrant parents the struggle even hardens. Among children, daughters get double censorship and control, which limit their freedom and independence. Parents think they provide protection to their daughters from the 'other' in the 'foreign land' by being strict. However, their protection and strictness tend to be exaggerated, which results in psychological repression of daughters. Moreover, as first-generation immigrants, parents insist to impose their cultural, social, and religious beliefs on them in an attempt to preserve their native heritage in the 'other' world, refusing their daughters would merge or assimilate in the foreign land. However, as second-generation immigrants, daughters do not even recognize any other culture, except that of the 'other' world, which absolutely is not 'other' for them. Consequently, daughters feel torn between two cultures, which they even do not know to which they belong, and suffer from double consciousness. Within a feminist framework, this dissertation provides an illustration to the struggle between parents and daughters, reflected in three literary examples from different hyphenated cultures. Mohja Kahf's *The Girl in the Tangerine Scarf* , Maxine Hong Kingston's "No Name Woman", published in her book *The Woman Warrior*, and Theodor Dreiser's "Old Rogaum and His Theresa" represent the oppression of daughters and the psychological suffer they experience as a result of their parents' over conservativeness. Parents follow 'punitive' and harsh method in raising their daughters, which forces them to rebel and challenge their parents by violating the 'rules' in their perception. Therefore, a suggested solution to the struggle would be that parents should be communicative and loving with their daughters, convincing them of the right by logic and reason, with preservation to their own space and independence of thinking.

تلخيص في حالة الهجرة تضطرب الصراع المعنوي بين الآباء و بناتهن من المشكلات التي تثير جدل كبير و تحتاج إلى حل جذري. خاصةً عن الأبناء، مما يقّيد حريتهن و استقلاليتهن. يعتقد الآباء بكونهمً العلاقة أكثر. رقابة مضاعفة و سيطرة كاملة تُخَصص للبنات دونا محافظين أنهم بذلك يحمون بناتهن من العالم الغريب الذين هاجروا إليه. نعم هو غريب، و لكن غريب بالنسبة إليهم. إنما بالنسبة لبناتهن فهو العالم الوحيد الذي يعرفونه. اختلاف وجهات النظر و الأساليب التي يستقبلون بها هذا العالم و يزنون بها الأمور هي أساس الصراع بين الآباء و بناتهن. يظن الآباء أنهم يحافظون عليهم بالشدة في معاملتهن. و لكنهم لا يعلمون أنهم يخسرونهن بهذه الطريقة. كما يتسببون تات بين ثقافتين، لا يعلمن حتى إلى أي واحدة ينتموا. و كبح البنات و التحكم في في عذاب نفسي للبنات لأنهن يجدن أنفسهن مشتّ تصرفاتهن في كل خطوة ينتج عنه ضعف شخصية و عند، و هو الأمر الذي لا يود أي أب و أم رؤيته في بناتهن. مشروع التخرج هذاً لا أعماً يناقش هذه القضية، و تعرض فكر البنات و رد فعلهن نحو التحكم المبالغ فيه الذي يلقونه من آبائهن. تتناول هذه الرسالة أيضا أدبية من ثقافات مختلفة، لتثبت أن الصراع المعنوي بين الآباء و بناتهن هو مشكلة نجدها في كل مكان في العالم، و في كل الأحوال تؤدي إلى نفس النتيجة من الدمار النفسي للبنات. يحلل هذا المشروع ثلاثة أعمال أدبية اشتركوا في كون مؤلفيها و أبطالها من مختلف الثقافات الأم ولكنهم هاجروا إلى أمريكا. إحدى هذه الأعمال هي رواية كتبتها الكاتبة العربية- الأمريكية مهجة كهف و هي "الفتاة في حجابها البرتقالي". والأعمال الأخرى هي قصة قصيرة كتبتها المؤلفة الصينية-الأمريكية ماكسين هونج كنجستون، و تُسمى "امرأة بلا اسم"، و قصة قصيرة بعنوان "العجوز روجم و ابنته ثيريزا". يتناول المشروع هذه الأعمال بنظرة مدافعة عن حقوق المرأة، و رسالته هي إعطاء حرية التصرف و التقرير للبنات، و خلق جو تفاهمي في الأسرة بدً لا من الجو التهديدي.

Translation Pathway

The Loss of Music and Meaning in the Translation of Poetry: A literary Approach to Mahmoud Darwish's Unde Siege (Halat Hesar)

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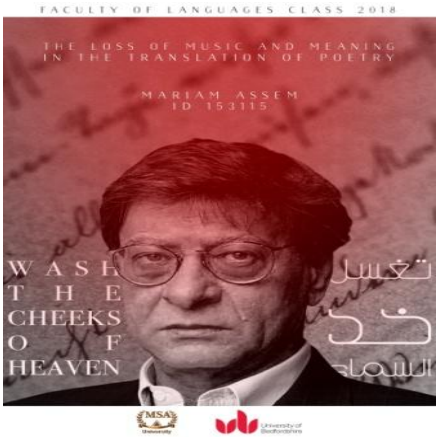

Abstract

The problem in the center of this research paper was to test translated poetry and whether it can be a match for the original work. The study aimed at examining the loss of music and meaning in the translation of poetry through a literary approach, applied to Mahmoud Darwish's poem, Under Siege (Halat Hesar) and its English translation done by Marjolijn De Jager. It applies Eugene Nida's Philological theories of translation as well as Susan Bassnett and Andre Le Fevere's cultural turn approach. The research uses a qualitative method of research that employs tools of content and comparison analysis. The data used is Mahmoud Darwish's Under Siege (Halat Hesar). The translation of poetry entails major differences to that of pros based on the fact that meaning is reflected, not only through the poet's choice of words, but also through the musical devices used. Through this study, it becomes apparent that poetry, in particular, can never be read the same after translation as the musical elements are lost, and with them so does the meaning. It also proves a lack of parallelism between English and Arabic in terms of musical devices employed because ultimately, the translator will always opt to focus on literal linguistic meaning.

المشكلة التي يدور حولها هذا البحث هي أختبار الشعر المترجم و إمكانيته أن يساوي الأصل. يهدف البحث إلي دراسة فقدان الموسيقي و المعني في ترجمة الشعر من خلال نهج أدبي يطبق علي قصيدة "حالة حصالر" لمحمود درويش و ترجمتها للإنجليزية التي قامت بها مارولين دي جاجر. و يطبق البحث نظريات يوجين نايدا الفيلولوجية المتعلقة باللغة و الترجمة إلي جانب نهج التحول الثقافي لسوزان باسنيت و آندريه لو فيفر. يستخدم البحث طريقة البحث النوعية التي تستخدم أدوات تحليل المحتوى و المقارنة. تترتب على ترجمة الشعر اختلافات كبيرة عن ترجمة النثر على أساس أن المعنى ينعكس ، ليس فقط من خلال اختيار الشاعر للكلمات ، ولكن أيضًا من خلال الأجهزة الموسيقية المستخدمة. من خلال هذه الدراسة ، يصبح من الواضح أن الشعر ، على وجه الخصوص ، لا يمكن أن يقرأ بنفس الطريقة بعد الترجمة حيث يتم فقدان العناصر الموسيقية ، ومعها كذلك المعنى. كما أنه يثبت عدم وجود توازٍ بين اللغة الإنجليزية والعربية فيما يتعلق بالأجهزة الموسيقية المستخدمة لأن المترجم سيختار دائمًا التركيز على المعنى اللغوي الحرفي.

Translation Pathway

Euro-Feminism in Margot Badran's Translation of Mudhakkirat Huda Shaarawi 'Harem Years': A Translation and Cultural Studies Approach

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Abstract

Badran used different strategies in Harem Years to translate Shaarawi's diaries. These strategies led to major problems such as imposing Western thoughts in the translated version. The problem was that Badran delivered different message to the target audiences. The aim of this paper was to study Euro-feminism in Margot Badran's translation of Huda Shaarawi's diaries. This paper used the manipulation theory (1985) by Theo Hermans. It discussed how the text was selected for translation, and how the translator played a role in that selection. Also, it was about the manipulation of translating the source text considers as rewriting. The Manipulation theory played a vital role between the translator and target culture. The theory discussed that translators and translation are impacted by the ideology of a certan culture. This study used a qualitative research methodology that employs content analysis and comparison as tools analysis. The data was about Huda Shaarawi's diaries and the translated book *Hareem Years* by Margot Badran. The research chose this data because of the major differences between the original book and the translated book. It attempted to answer a question on how did Margot Badran enforce Euro-feminism in *Harem Years.* She focused more on the history of Egypt than translating Shaarawi's diaries.

أستخدمت مارجوت بدران استراتيجيات عديدة في كتاب "سنوات الحريم" لترجمة مذكرات هدى شعراوي. أدت هذه الاستراتيجيات إلى مشكلات عديدة ومنها فرض الفكر الأوروبي في الكتاب االمترجم .كما تكمن المشكلة في توصيل معلومات خاطئة عن حياة هدى شعراوي .لذلك كان هدف البحث هو دراسة أفكار النسوية الأوروبية في كتاب "سنوات الحريم" و الذي ترجم عن كتاب مذكرات هدى شعراوي. كما أستخدم الباحث نظرية التلاعب في الترجمة و ترجع هذه النظرية إلى مكتشفها ثيوهيرمن. وتتناقش هذه النظرية طريقة أختيار النص من أجل ترجمته و دور المترجم في أختيار هذا النص. كما أنها تناقش طريقة التلاعب بالنص الأصلي وإعادة كتابته مره آخرى. تعتبر نظرية التلاعب من أهم نظريات الترجمة التي تبين العلاقة بين المترجم والثقافة الآخرى. كما أنها تناقش تأثر أوأنحياز المترجم بثقافة أو أفكار معينة. أستخدم الباحث منهجية البحث الكيفي التي تتناول تحليل المحتوى مع استخدام المقارنة كأداة للتحليل.كما تم استخدام "مذكرات هدى شعراوي" و الكتاب المترجم عنه "سنوات الحريم" من أجل المقارنة بينهم. وتم أختيارهم بسبب وجود أختلافات عديدة بين الكتاب الأصلي و المترجم. ويناقش هذا البحث واحد من أهم الأسئلة عن كيفية فرض مارجوت بدران الأفكار النسوية الأوروبية في كتاب "سنوات الحريم". كما أنها ركزت على التاريخ المصري أكثر من الأهتمام بترجمة مذكرات هدى شعراوي.

Translation Pathway

Translating Puns in Juvenile's Literature: A Case study of Lewis Carrol's Alice's Adventures in Wonderland

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Abstract:

Writing for children can be controversial, because of the variation of its origin and purpose. The role of translator is critical since not all the people around the world speak the same language especially if the translator has to translate puns and wordplays. This research uses the method of a content based analysis to compare and contrast between the puns in the original source text of Lewis Carrol's *Alice's Adventures in Wonderland* and its translation by Shakir Nasr El-Din. Translating puns and wordplays can cause problems and worries for the translators who make an attempt at its translation, because the rendition of wordplay is not just of words but of effect. The translator's challenge is to deliver the humor behind the pun to his readers. On the linguistic level, Nasr El-Din twists and plays with the text to deliver the message to his readers. However, it does not always work well as he loses the humor of the text and also in some case, the whole meaning of the sentence. The translator follows Venuti's strategy of visibility and stay visible to his readers.

قد تكون الكتابة للأطفال مثيرة للجدل ، بسبب اختلاف أصلها والغرض منها. ان دور المترجم أمر بالغ الأهمية، لأن ليس كل الناس في جميع أنحاء العالم يتحدثون نفس اللغة، خصوصا اذا كان عليه ترجمة التورية و كلمات متلاعب بها. يستخدم هذا البحث طريقة التحليل المبني على المحتوى لمقارنة بين التورية في النص الأصلي لمغامرات أليس في بلاد العجائب للويس كارول وترجمتها من قبل شاكر نصر الدين. من الممكن ان تتسبب ترجمة التورية و الكلمات المتلاعب بها في مشاكل و مخاوف للمترجمين الذين يحاولون ترجماتها، لأن ترجمة الكلمات ليس مجرد كلمات بل تأثير. التحدي الذي يواجهه المترجم هو إيصال حس الفكاهة خلف التورية إلى قرائه. على المستوى اللغوي، نصر الدين يتلاعب بالنص لإيصال الرسالة إلى قرائه. ومع ذلك ، فإن هذا لا يعمل دائما لصالحه بشكل جيد لأنه يفقد روح الدعابة في النص و في بعض الحالات ، المعنى الكامل للجملة. يتبع المترجم استراتيجية "visibility" لفينوتي و يظل واضحا و مرئي لقرائه.

TEFL Pathway

Investigating EFL Secondary Stage Learners' Problems in Comprehending Phrasal Verbs in Written Texts

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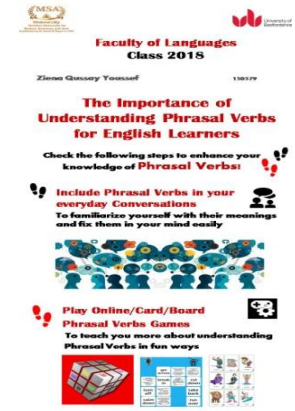

Abstract

The aim of this research was to find out the problems that face Egyptian EFL secondary stage learners while attempting to comprehend phrasal verbs in written texts. To achieve this aim, a test was designed and administered by the researcher on a random sample of fifteen Egyptian EFL secondary stage students at Modern Infinity Language School. It was hypothesized that **(a)** Egyptian EFL secondary stage students find it most difficult to comprehend phrasal verbs that consist of a verb + an adverb particle + a preposition as compared to the other two types of phrasal verbs and **(b)** Egyptian EFL secondary stage students find it most difficult when they are required to guess the meanings of phrasal verbs on their own without being offered any alternatives. Based on the analysis of the test results, it was revealed that both of the research hypotheses were confirmed. However, it should be highlighted that there were limitations to the current research findings. One of these limitations was related to the fact that it was a small scale study conducted on a small group of students in only one school and one governorate. Therefore, it was recommended to conduct this study on a larger scale and to follow more effective teaching methods to help EFL learners overcome their problems in comprehending phrasal verbs.

هدفت هذه الدراسة إلي التعرف علي المشكلات التي يواجهها الطلاب المصريون في المرحلة الثانوية عند محاولتهم لفهم الأفعال العبارية في النصوص المكتوبة باللغة الإنجليزية كلغة أجنبية . و لتحقيق هذا الهدف صممت الباحثة إختباراً و طبقته علي عنية عشوائية من طلاب المرحلة الثانوية بمحافظة الجيزة . و أظهرت نتائج الدراسة أن هؤلاء الطلاب يواجهون مشكلات عند محاولتهم لفهم النوع الثالث من الأفعال العبارية و الذي يتكون من فعل + أداة ظرف + حرف جر مقارنة بالنوعين الآخرين من الأفعال العبارية كما إنهم يواجهون صعوبة أكبر في تحديد معاني هذه الأفعال العبارية إذا لم يتم مساعدتهم ببدائل مختلفة للتنبؤ بمعاني هذه الأفعال العبارية في النصوص المكتوبة.

TEFL Pathway

Promoting Reading Comprehension Skills of EFL University Level Students Using Autonomous Learning Activities

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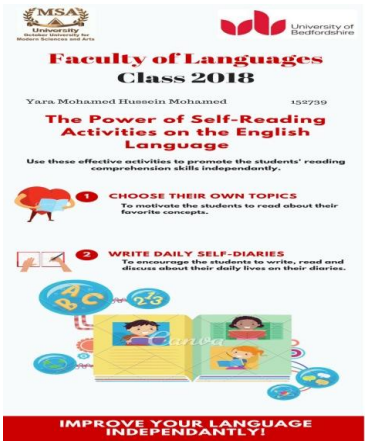

Abstract

The aim of this research was to identify the types of autonomous reading activities that Egyptian EFL university level students can use to be able to promote their reading comprehension skills. It also attempted to discover the challenges that these students face while reading EFL texts, and recommend some useful activities to promote the learners' ability to read independently. The questions of the research were "What are the main obstacles that face EFL university level students in reading comprehension activities?" and "What are the most effective autonomous learning activities that can promote reading comprehension skills among EFL university students?" It was hypothesized that **(a)** "Low motivation and low EFL proficiency level are the main obstacles that face EFL university level students in reading comprehension." and **(b)** "Writing self-reports and diaries are the most effective autonomous learning activities that can promote reading comprehension skills among EFL university students". As the research was targeting EFL university level students, a random sample of forty students was selected from both Ain Shams and MSA universities. The means of the research was a questionnaire that consisted of six multiple response questions. The respondents were asked to answer the questions according to their own perceptions and points of view. Analysis of the questionnaire results revealed that both hypotheses were refuted. Based on the study findings, it was recommended to encourage EFL learners to practice autonomous reading activities to foster their reading comprehension skills.

هدفت هذه الدراسة إلي التعرف علي أنواع أنشطة التعلم الذاتي التي قد تسهم في تدعيم مهارات الفهم القرائي لدي الطلاب اللغة الإنجليزية كلغة أجنبية المصريين في المرحلة الجامعية و تكونت عينة الدراسة من أربعين طالباً مقسمين بالتساوي بين جامعتي أكتوبر للعلوم الحديثة و الآداب و عين شمس و تمثلت أداة الدراسة في إستبانة صممتها و طبقتها الباحثة على عينة البحث وقد أوصت هذة الدراسة- بناء علي نتائجها- بتشجيع طلاب اللغة الإنجليزية في المرحلة الجامعية علي ممارسة أنشطة التعلم الذاتي لتدعيم مهارات الفهم القرائي لديهم.

TEFL Pathway

Investigating the Pronunciation Difficulties of Egyptian EFL Preparatory Stage Learners

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Abstract

The aim of the research was to detect the pronunciation errors and difficulties that encounter Egyptian EFL preparatory stage learners. It was hypothesized that **(a)** "When it comes to consonants, pronouncing /p/, /dʒ/, /ʒ/, /v/, /ʧ/ and /θ/ represents the most common pronunciation difficulty that Egyptian EFL preparatory stage learners face." and **(b)** "As for consonant clusters, final position consonant clusters that consist of three and four successive consonants constitute a major difficulty for Egyptian EFL preparatory stage learners." The research means was a pronunciation test that was designed by the researcher for Egyptian EFL preparatory stage learners. A random sample of ten EFL preparatory stage students enrolled at Modern Infinity School took the pronunciation test that consisted of five sections. After administering the test, the study results revealed that Egyptian EFL preparatory stage leaners face problems in pronouncing consonants as /p/, /dʒ/, /ʒ/, /v/, /ʧ/ and /θ/. It was also revealed that pronouncing three and four consonant clusters in final position is a major difficulty for Egyptian EFL preparatory stage learners. Hence, the first and second hypotheses were confirmed. However, it should be highlighted that more studies are needed to investigate the effectiveness of varied methods and approaches in fostering native- like pronunciation among Egyptian EFL preparatory stage students.

هدفت هذه الدراسة إلي تحديد صعوبات نطق اللغة الإنجليزية كلغة أجنبية بين الطلاب المصريين في المرحلة الإعدادية و لتشخيص تلك الصعوبات صممت الباحثة اختبار نطق و طبقته علي عينة عشوائية من طلاب المرحلة الإعدادية بمحافظة الجيزة بعد التأكد من صدق و ثبات هذا الاختبار. و أوضحت نتائج الدراسة أن هؤلاء الطلاب يواجهون صعوبات ملحوظة عند محاولتهم نطق عدداً من الأصوات الساكنة وهي تلك الأصوات التي لا تستخدم في لغتهم الأم (اللغة العربية) كما إنهم يواجهون صعوبة واضحة عند محاولتهم نطق الأصوات الساكنة المتتابعة في نهاية الكلمة و التي لايفصل بينها أصوات متحركة.

Executive Skills Pathway

Measuring the Effect of Talent Management Strategies on Employees' Retention

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Abstract

This research measures the effect of Talent management Strategies on Employees' Retention. Talent management (TM) is a collection of practices related to Human Resources Management (HRM) that manage and focus on the most distinctive employees of the organization. Retention is the efforts made by the organizations in order to attract and keep their competitive workforce and talents for a long period of time. An exploratory research was built, then, followed by a quantitative descriptive research, to study the two main concepts then apply on the selected context of the research. The context of the research is Air Liquide Company in Egypt, in which twenty four employees were chosen using a convinience sampling technique. The research resulted in three main finding, which are, TM practices do not enhance talents in Air Liquide, the TM policies of Air Liquide affect employees' retention, and talent identification criteria adopted by Air Liquide affect employees' retention.

يدور البحث حول تقييم تأثير نظام إدارة المواهب على الاحتفاظ بالموظفين. إدارة المواهب هي عبارة عن مجموعة من الممارسات المتعلقة بإدارة الموارد البشرية و التي تركز على الموظفين الأكثر تميزًا. الحفاظ على الموظفين هو المجهود الذي تبذله الشركة لتجذب و تحافظ على الموظفين المميزين لفترة طويلة. لقد تم عمل بحث استكشافي و بحث وصفي كمي لدراسة المفهومين الأساسيين و التطبيق على الشركة المختارة و هي إيرليكيد. تم اختيار أربعة و عشرون موظف باستخدام الطريقة الغير احتمالية الملائمة. يوجد ثلاثة نتائج مهمة لهذا البحث و هم كالآتي: ممارسات إدارة المواهب لا تحسن المواهب في إيرليكيد، و سياسات إدارة المواهب في إيرليكيد تؤثر على المحافظة على الموظفين، و سياسة إيرليكيد في التعرف على المواهب تؤثر على المحافظة على الموظفين.

Executive Skills Pathway

Measuring Employees' Perception of the Selection Process and Its Effects on the Perception of the Company

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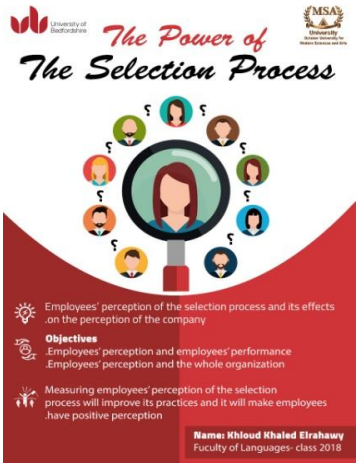

Abstract

This research measures the relationship between employees' perception and the selection process in the workplace. Perception is the individual's own vision in viewing what surrounding him/her. Selection process is made to choose certain individuals who acquire certain skills, knowledge and abilities that are needed for the workplace. Therefore, employees' perception can have a great impact on how selection process's practices should be implied by the HR department in any organization. This relationship is measured in the area of application of Air Liquide, which is a multinational company, but has several branches in Egypt.

هذا البحث يقيس العلاقة بين أدراك الموظفين عن عملية التوظيف التى خاضوها و تأثيره على أدراكهم عن شركتهم، و يوضح البحث ما مفهوم الأدراك حيث أنه رؤية الشخص الشخصية عن ما يحيط به، و أيضا مفهوم عملية التوظيف التى تعرف بأنها العملية التى يختير فيها الاشخاص الذين يملكون المهارات و المعرفة و القدرات المطلوبة للعمل، و يستطبع الموظفون التأثير على كيفية مراحل عملية التوظيف التى يقوم بعملها قسم الموارد البشرية فى الشركات، و أختيرت شركة "آير ليكيد" لتطبيق موضوع هذا البحث، و قد تم مقابلة مديرة قسم الموارد البشرية فى الشركة و تم الأجابة عن استبيانات من قبل موظفين الشركة، و قد وجد أن موظفين الشركة لديهم أدراك أيجابى عن شركتهم و عن عملية التوظيف التى خاضوها.

Executive Skills Pathway

Investigating Factors Affecting Employees' Performance in National Bank of Egypt (NBE)

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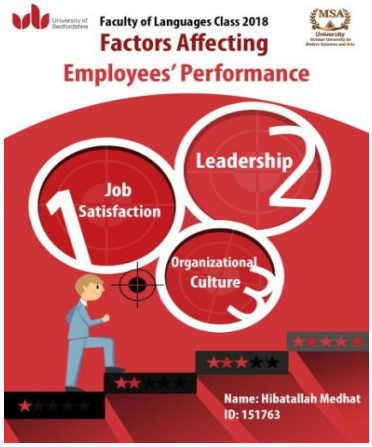

Abstract

The aim of this research paper is to evaluate the concept of Job Performance in work place. Moreover, it examine how the employees' performance is affected by other factors, the examined factor in this paper are: Job Satisfaction, Leadership, and organizational culture. Each factor of them affect the employees' performance in a different way. The purpose of the research is to investigate the relationship between: job performance and job satisfaction, job performance and leadership, and job performance and organizational culture. The exploratory research was used to identify if these factors has an effect or not, and the results showed that it each factor has an effect on the employees' performance. Besides, the methodology used in this research is Questionnaire, among sample of employees and the results assured what the findings of the exploratory results. The area of application that the papers applied its research upon it is the commercial bank: National Bank of Egypt (NBE). And The results showed that job satisfaction, leadership and organizational culture have a positive effect on employees' job performance.

هناك الكثير من الأهداف وراء هذا البحث، و أول هدف هو تقييم الأداء الوظيفي و دوره فى مكان العمل. هذا البحث أيضاً يقوم بإختبار الأداء الوظيفي و كيفية تأثره بعوامل أخري، مثل: الرضا الوظيفي، القيادة، و الثقافة التنظيمية (ثقافة المنظمة). فكل عامل من هذه العوامل لديه تأثيره الخاص به على الأداء الوظيفي، و يختلف تأثير كلاً منهم عليه.الهدف الثاني هو تحليل إذا كانت هناك علاقة بين: الأداء و الرضا الوظيفي، الأداء الوظيفي و القيادة، و الأداء الوظيفي و الثقافة التنظيمية. تم تطبيق نظام البحث الإستطلاعي لمعرفة إذا كانت هذه العوامل بالفعل تؤثر على الأداء الوظيفي أم لا، و قد أكدت النتائج حقيقة تأثير هذه العوامل على الأداء الوظيفي للموظف.و عندما تم توزيع الإستقصاء على الموظفين، زادت نتائجه تأكيداً على نتائج البحث الإستطلاعي. تم تطبيق هذه الإختبارات و الأبحاث على البنك الأهلي المصري.

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Graduation Projects

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University of Bedfordshire

Advertising and Public Relations - Social Development

- Reading
- Girl Power
- Child Negligance

Advertising and Public Relations - Communication

- Verbal Harrasement
- Social Interactivity

Advertising and Public Relations - Health

- Schizophrania
- Child weight watch
- Self Hygiene

Broadcasting - Culture

- "Arabeyet EL Hawadeet"
- El Amazeigh
- Catacombs

Broadcasting - Environmental

- Into the blue
- Beautiful Lakes of Egypt

Broadcasting - Society

- Grand Mothers
- The Crafters

Broadcasting - Experimental

- 1... 2... 3

Broadcasting - Initiatives

- "Eidy Btetkallem"
- Young Inventor
- 90 Days

Journalism - Culture & Lifestyle

- Iwan.
- "El Balad"
- Living Green

Journalism - Initiatives

- "Mashrou3i"

Advertising and Public Relations

Reading
إقرأ

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Abstract

Through a multimedia public service announcement campaigns, the project aims at encouraging the various categories of the society to approach reading. The campaign utilizes both rational and emotional appeals to spot the light on the privileges of reading.
The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعية تعني بتسليط الضوء علي اهمية القراءة للشباب و عائدها عليهم في زيادة مخزونهم الثقافي و تنميتهم فكريا و شخصيا. تتوجه الحمله لمختلف الفئات الإجتماعية في المجتمع خاصة في ظل توفير التكنولوجيا لمختلف مصادر القراءة للجميع. تعتمد الحملة علي الإستمالات العقلية والعاطفية لترسيخ مبدأ القراءه لدي الفرد و عائدة عليه وعلي مجتمعه من خلال اعلانات الشوارع، الراديو والتلفزيون.

Girl Power
القوة الناعمة

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Abstract

A public service announcement campaign that spots the light on the success potentials of girls in the current time. Through both; emotional and rational appeals the campaign urges the society to encourage girls, and believe in their abilities in the various domains of life.
The Campaign delivers its message through outdoors, radio, and TV advertisements.

حملة توعية مجتمعيه تعني بتسليط الضوء علي نماذج ناجحة من البنات في المجتمع في الوقت الحالي.
تهدف الحملة إلي توعية المجتمع بأهمية دور الفتيات وحث العناصر الحيطة بهن علي تشجيعهن و إعطائهن الفرص التي يستحقونها لإثبات انفهسم و إفادة المجتمع.
تعتمد الحملة علي الإستمالات العقلية والعاطفية لترسيخ مبدأ القراءه لدي الفرد و عائدة عليه وعلي مجتمعه من خلال اعلانات الشوارع، الراديو والتلفزيون.

Child Negligence

إهمال الأطفال

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Abstract

Through a multimedia public service announcement campaign, the project aims at encouraging better care for children. The campaign utilizes both rational and emotional appeals to spot the light on the various problems that result from the unhealthy habit of neglecting the parental role towards children.
The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعية تعني بتسليط الضوء علي اهمية الاهتمام بالطفل خاصه فيالسن المبكر. تتوجه الحمله لمختلف الفئات الإجتماعية في المجتمع خاصة في ظل توفر التكنولوجيا التي تصبح ملاذ غير امن للطفل في هذه الحالة.. تعتمد الحملة علي الإستمالات العقلية والعاطفية من خلال اعلانات الشوارع، الراديو والتلفزيون.

Verbal Harassment

العنف اللفظي

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Abstract

Through a multimedia public service announcement campaign, the project aims at introducing the concept of verbal abuse and harassment as a most common type that equates physical one. The campaign utilizes both rational and emotional appeals to spot the light on the various problems which result from words and how they can be of the same harm as other types of harassment.

The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعية تعني بتسليط الضوء علي مختلف اشكال العنف اللفظي والذي يساوي في العديد من الاحيان اضرار العنف الجسدي . تتوجه الحمله لمختلف الفئات الإجتماعية في المجتمع خاصة في ظل ازدياد نسب تلك المشكلة.. تعتمد الحملة علي الإستمالات العقلية والعاطفية من خلال اعلانات الشوارع، الراديو والتلفزيون.

Social Interactivity

التفاعل الإجتماعي

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Abstract

A public service announcement campaign that spurs from our current electronic interaction obsession. The campaign aims at emphasizing the importance of human social interaction away from the technological means through both; emotional and rational appeals.

The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعيه تأتي من واقع اكتساح الانترنت و سبل التواصل التكنولوجي التي نشهدها اليوم، و تقوم الحملة علي تشجيع التفاعل الشخصي بين افراد المجتمع و الاسره بعيدا عن التكنولوجيا والانترنت

تعتمد الحملة علي الإستمالات العقلية والعاطفية لترسيخ مبدأ القراءه لدي الفرد و عائدة عليه وعلي مجتمعه من خلال اعلانات الشوارع، الراديو والتلفزيون.

Schizophrenia
شيزوفرانيا

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Abstract

Through a multimedia public service announcement campaign, the project aims at increasing awareness of the much misperceived condition, and how it should be dealt with... The campaign utilizes both rational and emotional appeals to deliver its message through outdoors, radio, and TV advertisements.

حملة توعية مجتمعية تعني بتسليط الضوء علي حقيقة مرض الشيزوفرانيا و كيفية التعامل معه لتصحيح الافكار الخاطئة عنه . تعتمد الحملة علي الإستمالات العقلية والعاطفية من خلال اعلانات الشوارع، الراديو والتلفزيون.

Child Weight Watch
زيادة وزن الأطفال

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Teaching Assistant: Mariam Selim

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Abstract

A public service announcement campaign that spots the light on the various problems that result from unhealthy diet habits to children. Through both; emotional and rational appeals the campaign urges audiences to watch after their children current weight to prevent any future problems that would follow.
The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعيه تعني بتسليط الضوء علي المشاكل الناجمة عن سوء تغذية الطفل و الأفكار الخاطئة عن وزن الأطفال التي يمكن ان تسبب العديد من المشاكل الصحيه فيما بعد.
تعتمد الحملة علي الإستمالات العقلية والعاطفية لترسيخ مبدأ القراءه لدي الفرد وعائدة عليه وعلي مجتمعه من خلال اعلانات الشوارع، الراديو والتلفزيون.

Self-Hygiene
النظافة الشخصية

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Abstract

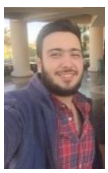
A public service announcement campaign that sheds the light on the importance of self-hygiene starting from very simple habits in our daily lives, and how the negligence of such habits may result in very severe harmful effects on one's own health. The Campaign delivers its message through outdoors, radio, and TV advertisements

حملة توعية مجتمعيه تعني بتسليط الضوء علي اهمية النظافة الشخصية التي تبدأ بالحفاظ علي عادات بسيطه جدا يجب الاهتمام بها.
تعتمد الحملة علي الإستمالات العقلية والعاطفية لترسيخ مبدأ الحفاظ علي النظافة الشخصية لتجنب العديد من الاضرار الصحيه وذلك من خلال اعلانات الشوارع، الراديو والتلفزيون.

Broadcasting

The Tales Van
عربية الحواديت

Supervisor: Dr. Affaf Tobbala
Teaching Assistant: Loay Fahmy



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Abstract

A journey of a group of volunteers to the near and far villages of Egypt to hold story telling sessions for the underprivileged**.** The documentary capitalizes on pure documentary material to deliver the ultimate message of the importance of reading and how it opens up new paths to those who take it up.

فيلم وثائقي يتتبع رحلة "عربية الحواديت" مباجرة يعمل عليها مجموعه من المتكوعين اللذين يزورون مختلف قر مصر ليقوموا بإقامة جلسات قراءة القصص. يقوم الفيلم علي تسليط الضوء علي كيفية تغيير القراءة لشخصيات الأطفال والمستمعين بالإضافة إلي اظهار نموذج بسيط لمبادره من مبادرات التنمية المجتمعية...

Al Amazigh
الأمازيغ

Supervisor: Dr. Khaled Gamal – Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A documentary that features a trip into the Amazeghian culture and lifestyle. The documentary explores their traditions, and social life. Along with the history of the Siwa Amazigh and how it so became a developing society of its own...

فيلم وثائقي عن احد جوانب المجتمع المصري وهم امازيغ مصر اللذين يعيشو في واحة سيوه. يتطرق الفيلم لتاريخ الامازيغ في مصر و بيئتهم الحاليه و شكل مجتمعهم، إلي جانب اهم عاداتهم و اشكال ثقافتهم. كما يسلط الضوء علي النمو الاجتماعي والثقافي الذي يشهده المجتمع الامازيغي حاليا.

The Catacombs
مقابر الكاتاكومب

Supervisor: Dr. Affaf Tobbala
Teaching Assistant: Loay Fahmy

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Abstract

A documentary that depicts the recently discovered catacomb tombs in the city of Alexandria. The documentary features the history of the place, along with its various exquisite monuments that date back to 3 civilizations all combined in the same place.

فيلم وثائقي عن مقابر الكاتاكومب بالاسكندرية التي تحوي اثار ترجع الي 3 حضارات منهم الفرعونية و الرومانية. تأتي اهمية الفيلم من ندرة المواد التسجيلية المتوفرة عن المكان منذ اكتشافة بالصدفه فمنذ فترة قصيرة، بما يمثله من رمز مهم في تاريخ مصر و معالمها السياحية والثقافية.

Into the blue
الخط الأزرق

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Teaching Assistant: Loay Fahmy

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Abstract

A dive under the threshold of Egypt's red sea coral reefs, and the threats they face. In a high order visual language the student depicts such a problem and spots the reasons, consequences and attempts to stop such an ordeal.

فيلم وثائقي قصير يسلط الضوء عالمشاكل التي تواجهها الشعب المرجانية التي تنعم بها مصر خاصه في البحر الأحمر... من خلال الفيلم الذي يعتمد علي العديد من المواد الوثائقية الحيه يظهر الفيلم الخلفية الاقتصاديه والسياحية لتلك الشعب المرجانية و اهمية الحفاظ عليها، كما يظهر بعد المبادرات التي يعمل عليها الغواصين المهتمين بالثروة السمكية والبيئة البحريه للوقوف ضد هذه المشكلة.

Beautiful Lakes of Egypt
بحيرات مصر الجميلة

Supervisor: Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A documentary that tours around the numerous lakes of Egypt that face critical negligence and deterioration. The documentary features 5 of the most important lakes in Egypt in measures of size, importance, and level of harm.
Through a multi aided visual film, the director uses narration, graphs along with a high order documentary material that depicts the problems each lake faces and where the officials stand on it.

فيلم وثائقي يسلط الذوي علي بحيرات مصر المختلفة التي تواجه الكثير من المشاكل بسبب الإهمال مما يؤدي إلي تراجعها و تهديدها بالإندثار. عن طريق استعمال مختلف الادوات السمعيه والبصرية منها التعليق الصوتي، الرسوم البيانية ، والماد الوثائقية يقدم الفيلم للمشاهد معلومات عن البحيرات و إحصائيات عن معدلات الضرر بها إلي جانب موقف المسؤولين من خطورة الموقف..

The crafters
صنايعية مصر

Supervisor: Dr. Khaled Gamal – Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

Inspired by author Omar Taher's "Sanay3eyet Masr" book, where the author spots the light on characters that has shaped Egypt. The documentary visualizes a profile of some of the real "craftsmen and women" of Egypt, icons who have influenced the history and future of Egypt on the industrial, economic, social, and cultural levels

فيلم مستوحي من كتاب "صنايعية مصر" للكاتب عمر طاهر حيث يقوم الفيلم بتوثيق رحلة الطالب في الوصول لثلاث شخصيات من اللذين كان لهم اثر بالغ في تاريخ مصر الاقتصادي و الثقافي والفني مثلهم كالعديد من الشخيات الاخري التي تناولها الكتاب... يعتمد الفيلم علي المواد الوثائقية والارشيفيه بجانب اللقاءات الحصرية مع افراد من عائلات الشبراويشي، ابله فضيلة و الشيخ النقشبندي ليكشف العديد من الجوانب التي لم تكن معلومه عن هؤلاء.

Grand Mothers
الجدات

Supervisor: Dr. Khaled Gamal – Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A documentary that features various profiles of grandmothers taking viewers on a trip back to the golden times, reaching to their today's lives. The documentary capitalizes on the humanitarian visualization of its super stars and how they lead different shapes of lifestyles each setting her own example of success.

فيلم وثائقي يسلط الضوء علي بعض نماذج من الجدات اللاتي يتطرقن لذكرياتهن و يستعرضوا مختلف اشكال حايتهن الحالية التي تمتليء بالمشاعر والأحلام لتكون كل منهم قصة نجاح فيحد ذاتها

1...2...3

Supervisor: Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

An experimental feature documentary depicting the mystery of obsessive compulsive disorder patient. The documentary focuses on the self-perspective angle, with an attempt to visualize what would be inside the patient's own mind how they see themselves, and everything else around them.

Through a high order set of visuals, light and image control the director successfully sets the desired atmosphere capturing both the informative and emotional sides of the topic.

فيلم وثائقي تجريبي يعني بمشكلة الوسواس القهري من ناحية المريض عن طريق عرض منظورة، ولا يكتفي المخرج باستعراض الحاله عن طريق الحوارات التلفزيونية فقكط بل يعمل هلي استعمال مختلف الادوات البصرية لترجمه ما في داخل منظور المريض إلي مرئيات.

Talking Hands

إيدي بتتكلم

Supervisor: Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A documentary that features the experimental attempt of a young director to co-produce 2 versions of the same movie, only that one of which uses entirely sign language. The movie and the documentary come in the midst of the rising awareness of the gifted people and how they have rights to equally live and receive their due amount of services and opportunity. Talking hands is an acting troupe of deaf and mutes, who have excelled and are yet to claim more and more success.

فيلم وثائقي يتتبع تجربة احد المخرجين الشباب في انتاج نسختين من نفس الفيلم معتمدا بشكل كلي علي لغة الاشارة في النخسه الثانية من الفيلم

تتم عملية الإنتاج بالتعاون مع فرقة تمثيل "إيدي بتتكلم" التي يجمع اعضائها كلهم كونهم من الصم والبكم و محبين للتمثيل، فيأتي هذا الفيلم كخطوه في مسار غثبات ان للكل الحق في الحياه وعمل ما يحبه حتي يستطيع التميز فيه.

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90 days
90 يوم

Supervisor: Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A short documentary that tackles the much acclaimed "Tour n Cure" initiative. Through the documentary the student uses a simultaneous exposure approach counting on one of the cases that have received such a service and have made it to 188% cure rate, along with featuring informative narration that provides the history and data of such an initiative supported by interviews with specialists.
The documentary capitalizes on the emotional humanitarian appeal to deliver the message and grad audience attention to such a model of success.

فيلم وثائقي قصير يسلط الضوء علي مبادرة "Tour n Cure" التي انطلقت من مصر بهدف إبادة فيروس سي مع استغلال جذب السياح إلي مصر لتعريفهم بمختلف الأماكن والبقاع السياحية في البلد.
يعتمد الطالب في المشروع علي الجانب العاطفي والإنساني عن طريق عرض قصة لواحدة من الحالات التي تم شفائها بالكامل إلي جانب استعمالة الاسلوب الروائي لتوفير المعلومات اللازمة للتعريف بالمبادرة والقائمين عليها.

The Young Inventor
المخترع الصغير

Supervisor: Dr. Noha Samir
Teaching Assistant: Loay Fahmy

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Abstract

A profile documentary featuring the case of one of the young inventors in Egypt. Inspired by a cartoon that was his getaway from his life in an orphanage he sets an example that anything is possible.

Through a mixture of documentary material, interviews, and reconstruction, the director combines the audio visual elements to represent such a real model of success and determination.

فيلم وثائقي عن قصه حقيقية لاحد المخترعين الصغار بمصر. عن طريق استعمال المادو الوثائقية، التمثيل، اللقاءات يعمل المخرج علي اظهار هذا المثل علي النجاح والإصرار بأحسن شكل حتي يتسني للمشاهد ان يتعمق داخل هذه القصه حيث ينبع النجاح من حياة لا يتوفرلها هذه القدره من التميز والتشجيع...

Journalism

Iwan

ايوان

Supervisor: Dr. Hala El Zahed
Teaching Assistant: Yasmine Osama

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Abstract

A magazine that tackles art from a developmental perspective. It endeavours to spread awareness of the fact that art can heal, educate, improve and develop both individuals and communities through shedding a light on the successful initiatives and NGOs that use art as a tool for a good cause

تقوم المجله علي تيمة الفنون من منظور يبعد عن طبيعه الفن و تاريخه و يعني اكثر بروح الفن و كيفية استعماله للتطوير. تسعي المجله لنشر مبدأ الفن من اجل العلاج، التعليم، تنمية الشخص والمجتمع.

وفي هذا تتطرق المجله لعدد من الأمثله الناجحه سواؤ علي المستوي الشخصي، المجتمعي او الهيئات التي تهتم بالفنون و تدعم العديد من القضايا المجتمعيه عن طريق الفن.

El Balad

البلد

Supervisor: Dr. Hala El Zahed
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Abstract

A magazine that covers the small village of Tahanoob that lies in Al Qaliubiya Governorate in Egypt. It’s currently occupying a total of 40,000 citizens. Through various journalistic materials the magazine covers the village's traditions, history, and facts, social and cultural life.

مجلة متخصصه تسلط الضوء علي قرية تهانووب التي تقع في محافظة القليوبيه. من خلال مختلف الاشكال الصحفية تقوم المجله بعرض تاريخ القرية، عاداتها و تقاليدها. إلي جانب عرض مختلف اشكال الحياه الاجتماعيه و الثقافية بها.

Living Green
"اورجانيك"

Supervisor: Dr. Hala El Zahed
Teaching Assistant: Raghda Mahmoud

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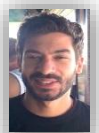
Abstract

A magazine that tackles the "green" life from makeup and diet to drug abuse and yoga practices. The project features various interviews, feature stories, investigative reports, as well as trends expose.

مجله ثقافية، مجتمعيه، بيئية تقوم علي فكرة الحياة الطبيعيه و الاتجاه السائد للـ"اورجانيك". من الموضه والمكياج للعلاج البديل تتنوع موضوعات المجله لتشمل كافة الصيحات والمستجدات لكل من يريد ان يعرف اكثر عن اتجاه الحياه الصحية للبيئة والفرد.

Small Success... "Mashrouɛi"
مشروعي

Supervisor: Dr. Hala El Zahed
Teaching Assistant: Raghda Mahmoud



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Abstract

A magazine which revolves around small businesses. The magazine examines and analyse the various aspects about owning a business, which is currently increasing and becoming more recognized as a factor that influences the economic status of the country. The magazine provides a wide profile covering stories of success, points of controversy, and much more.

مجلة تعني بظاهرة المشاريع الصغيره التي اصبحت منتشرة كملاذ امن خاصه للعديد من الشباب. تتعدد مواضيع المجلع لتتضمن قصص من نماذج ناجحة، تحقيقات في مختلف المواضيع المتعلقة بمستقبل المشاريع الصغيرة و تحدياتها غلي جانب الوضع الحالي لتأثير تلك المشاريع علي المستقبل الاقتصادي للبلد.

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Faculty of Management Sciences
Distinguished Projects
2017/2018

Validated by

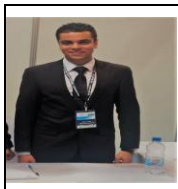
UNIVERSITY of GREENWICH

- ***Marketing Department***
  - Project 1: Measuring the effect of reference groups' influence on the consumers' purchase intentions: An application on the Automotive Market (Spring 2018)
  - Project 2: Factors affecting Consumer Purchasing Behavior from Cooperative Retail Society: An application on Family Markets (Fall 2017)
- ***Accounting Department***
  - Project 1: The Effect of Social and Voluntary Disclosures on the Financial Performance (Spring 2018)
  - Project 2: The Impact of Audit Committee Effectiveness and Audit Quality on Financial Reporting Quality (Fall 2017)
- ***MIS Department***
  - Project 1: A purchasing system applied on electronics (Spring 2018)
  - Project 2: Human Resource Management System (Fall 2017)

Marketing Department/Spring 2018

Measuring the effect of reference groups' influence on the consumers' purchase intentions: An application on the Automotive Market

Professor Dr Yasser Tawfik
Assistant Lecturer Ranya Ibrahim

	Name	*Omer Adel El-Ahmar*	ID	(152711)
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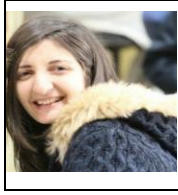	Name	*Martina Mamdouh*	ID	(170003)
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Abstract

Overtime, psychologists and sociologists emphasized that each individual in the society belongs to a specific group, and sociable reference groups that affect the individual's attitude and buying behavior. Types of reference groups' influence varies between informational, normative, and value expressive influences. This depends on the buyer's tendency to mimic the members of his own social reference group. Therefore, this conclusive research investigates whether there is a direct relationship between reference groups' types (Formal, and informal reference groups) and the consumer purchase intentions, or there are other factors than reference groups have more power toward influencing the consumer purchase intentions toward cars. In addition to examining, which is the most type of

reference group's influence can affect the consumer purchase intentions. The number one aim of this research is to provide a managerial contribution to automotive companies through introducing multiple managerial implications and recommendations. The methodology used for data collection encompassed in depth interviews with industry experts and consumers during the exploratory stage, and self-administered questionnaires to collect quantitative data. Further, after analyzing the data, the main findings showed that there is no direct relationship between reference groups and the purchase intentions of the consumers. However, reference groups can affect the consumers' product evaluations, and product substances can have a more direct influence toward the consumers purchase intentions. Moreover, informational reference group type of influence was found to be the most type with influential power over the consumers purchase intentions toward cars.

على مر الزمان، أكد علماء النفس و علماء الاجتماع أن كل فرد في المجتمع ينتمي إلى مجموعة محددة من الناس، و أيضاً مجموعات مرجعية الذين يؤثرون على سلوك الشراء لدى هذا الشخص. أنواع تأثير المجموعات المرجعية تختلف بين التأثير المعلوماتى، التأثير المعيارى، و تأثير القيمة التعبيرية. هذا يعتمد على قابلية المشتري محاكاة سلوك أفراد المجموعات الاجتماعية التي ينتمي إليها. من أجل ذلك الغرض، هذا البحث يدرس ما إذا هناك علاقة بين أنواع المجموعات المرجعية (المجموعات المرجعية الرسمية و الغير رسمية) و نية الشراء لدى المستهلك، أم يوجد عوامل أخرى قد تؤثر على نية الشراء لدى المستهلك بشكل أقوي. بالإضافة إلى معرفة ما هو نوع تأثير المجموعات المرجعية الأكثر قدره على تغيير نوايا الشراء لدى المستهلكين. الهدف الأساسي من هذا البحث هو تقديم مساهمة إدارية إلى شركات السيارات في السوق المصرى من خلال تقديم العديد من الاقتراحات العملية. منهجية البحث المستخدمة لجمع البيانات تشمل مقابلات شخصية مطولة مع خبراء السيارات و المستهلكين أثناء المرحلة التمهيدية للبحث، و أيضاً تم إجراء استبيانات مع المستهلكين والذين لديهم نية لشراء سيارة في المستقبل القريب من أجل جمع البيانات الكمية. بعد تحليل هذه البيانات، أظهرت النتائج أنه لا توجد علاقة بين المجموعات المرجعية و نية الشراء لدى المستهلك. لكن، قد ثبت أن المجموعات المرجعية يمكنهم التأثير على تقييم المستهلكين للسيارات. علاوةً علي ذلك، نوع التأثير المعلوماتي قد أثبت أنه أكثر نوع تأثيراً على نية شراء السيارات لدى المستهلك المصري.

Marketing Department/Fall 2017

Factors affecting Consumer Purchasing Behavior from Cooperative Retail Society: An application on Family Markets

Lecturer Dr Sameh Tawfik
Assistant Lecturer Ranya Ibrahim

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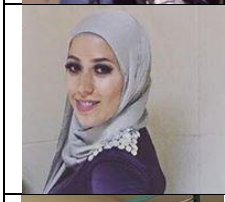	Name	*Ghada Hassan*	ID	(144715)
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Abstract

The consumer purchasing behavior is the processes of making a choices and performances of individuals required in purchasing besides utilizing goods. It includes buying besides other utilization associated actions of individuals participating in the trade process, behavior of purchaser is inspired. The behavior is coordinated just before the objective of acquiring items or other different assets. Therefore, this conclusive research investigates whether there is a direct relationship between consumer purchase behavior and those factors from the cooperative retail societies (perceived price, perceived quality, and perceived store image and store location) .The number one aim of this research is to identify the factors which affect consumer purchase behavior from cooperative retail societies. The methodology used for data collection encompassed in depth interviews with market expert and consumers and observation during the exploratory stage, and self-administered questionnaires to collect quantitative data. Further, after analyzing the data, the main findings showed that is a positive weak relationship between perceived price and intention to buy from family market and there is no relationship between perceived quality and purchase behavior. However there is a positive moderate relationship between perceived quality and intention to buy from family market However, there is a positive relationship between store image and purchase behavior and the results showed that majority of respondents agreed that the price is the main factors affecting their intention to buy from family market. Followed by product quality and that location is not the main factor.

السلوك الشرائي للمستهلك هو عمليات اتخاذ الخيارات والأداء للأفراد للشراء إلى جانب استخدام السلع. ويشمل شراء بالإضافة إلى غيرها من الإجراءات المرتبطة استخدام الأفراد المشاركين في عملية التجارة. يتم تنسيق السلوك قبل الهدف من الحصول على العناصر أو الأصول المختلفة الأخرى. ولذلك ، فإن هذا البحث النهائي يبحث في ما إذا كانت هناك علاقة مباشرة بين سلوك الشراء للمستهلك وبين تلك العوامل من الجمعيات الاستهلاكية (السعر المتصور والجودة المدركة وصورة المتجر وموقع المتجر). الهدف رقم واحد من هذا البحث هو تحديد العوامل التي تؤثر على سلوك شراء المستهلك من الجمعيات الاستهلاكية. تشمل المنهجية المستخدمة لجمع البيانات في المقابلات المتعمقة مع خبراء السوق والمستهلكين والملاحظة خلال المرحلة الاستكشافية ، والاستبيانات التي تتم إدارتها ذاتيًا لجمع البيانات الكمية. علاوة على ذلك ، بعد تحليل البيانات ، أظهرت النتائج الرئيسية أن العلاقة الضعيفة الإيجابية بين السعر المتصور والنية للشراء من فاميلي ماركت وليس هناك علاقة بين الجودة المتصورة وسلوك الشراء. ومع ذلك ، هناك علاقة معتدلة إيجابية بين الجودة المتصورة والنية للشراء من فاميلي ماركت. ومع ذلك ، هناك علاقة إيجابية بين صورة المتجر وسلوك الشراء ، وأظهرت النتائج أن غالبية المستطلعين وافقوا على أن السعر هو العوامل الرئيسية التي تؤثر على نيتهم تشتري من فاميلي ماركت. تليها جودة المنتج وهذا الموقع ليس هو العامل الرئيسي.

Accounting Department/Spring 2018

The Effect of Social and Voluntary Disclosures on the Financial Performance

Associate Professor Dr. Mohamed El-Deeb

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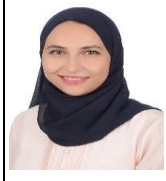	Name	*Nada Hossam*	ID	(151313)
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Abstract

This project aims to examine the effect of corporate social disclosure and voluntary disclosure on financial performance. The relationship between the variables is explored by using the statistical package for the social sciences. The date that is used to measure this relationship is collected from the annual reports of five companies listed in the Egyptian stock exchange for the time ranging between year 2010 up to 2016. Furthermore, these companies are divided into two sectors; telecommunications and real estate sector. The empirical studies show that there is a positive relationship between CSR and financial performance. In addition, there is a positive relationship between voluntary disclosure and financial performance. There are also some limitations that were discovered because we only viewed a sample of the data, which is why we cannot generalize the results. In addition, the data is collected for a period of six years only ranging from 2010 up to 2016 however due to various restriction found on some of the information; we were not able to accumulate data for the year 2011 and hence excluded it from the sample.

يهدف هذا المشروع إلى دراسة تأثير الإفصاح عن المسئولية الاجتماعية للشركات والافصاح الاختيارى عن الأداء المالي. يتم استكشاف العلاقة بين المتغيرات باستخدام الحزمة الإحصائية للعلوم الاجتماعية. تم تجميع المعلومات المستخدمة لقياس هذه العلاقة من التقارير السنوية لخمس شركات مدرجة في البورصة المصرية للفترة بين عام 2010 حتى عام 2016. و تنقسم هذه الشركات إلى قطاعين. قطاع الاتصالات والعقارات. اظهرت الدراسات التجريبية أن هناك علاقة إيجابية بين المسؤولية الاجتماعية للشركات والأداء المالي. بالإضافة إلى ذلك ، هناك علاقة إيجابية بين الإفصاح الاختيارى والأداء المالي. هناك أيضًا بعض المحددات التي تم اكتشافها نظرًا لأننا لم نطلع إلا على عينة من البيانات ، ولهذا السبب لا يمكننا تعميم النتائج. بالإضافة إلى ذلك ، كانت البيانات التي تم جمعها تقتصر على الشركات المصرية فقط ولم تشمل الشركات الدولية الأخرى . بالإضافة إلى ذلك فقد تم جمع البيانات لمدة ست سنوات فقط تتراوح بين عام 2010 حتى عام 2016 ولكن بسبب بعض العوامل الخارجية لم نتمكن من تجميع البيانات لعام 2011 ، وبالتالي فقد تم استبعادها من العينة من العينة.

Accounting Department/Fall 2017

The Impact of Audit Committee Effectiveness and Audit Quality on Financial Reporting Quality

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Abstract

The current study investigates how audit committee effectiveness and audit quality can affect financial reporting quality. A Sample of 6 companies listed in the Egyptian stock exchange during the period 2012-2016 is used. The current study conducts descriptive analysis, Pearson correlation and regression analysis. It is found that audit committee size has a negative and

insignificant effect on discretionary accruals. In addition, audit committee expertise has positive and insignificant association with discretionary accruals. Audit committee meetings have positive and insignificant association with discretionary accruals. Moreover, audit quality is negatively and insignificantly associated with discretionary accruals.

يهدف هذا البحث إلى دراسة تأثير فعالية لجنة المراجعة وجودة المراجعة على جودة التقارير المالية. تم تطبيق هذا البحث على 6 شركات مدرجة في البورصة المصرية خلال الفترة 2012-2016 ، وقد أجرى البحث الحالي تحليلًا وصفيًا ، وتحليل ارتباط بيرسون وتحليل الانحدار ، ووجد أن هناك علاقة سلبية غير مهمة بين حجم لجنة المراجعة والمستحقات التقديرية .و ان هناك علاقة إيجابية غير مهمة بين خبرة لجنة المراجعة والاستحقاقات التقديرية .هناك ارتباط طفيف إيجابي بين اجتماعات لجنة المراجعة والاستحقاقات التقديرية .هناك ارتباط سلبي غير هام بين جودة المراجعة والمستحقات التقديرية .هذه الورقة مهمة لأنها تقدم معلومات مفيدة ذات قيمة كبيرة لصانعي السياسات والأكاديميين وأصحاب المصلحة الآخرين.

MIS Department/Spring 2018

A purchasing system applied on electronics

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Assistant Lecturer Hend Osama

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Abstract

This project talks about the purchasing system in details. How it works, how the purchasing system affects the business and can enhance the performance and can decrease the productivity as well. At first, the introduction gives basic information about the purchasing system. Then the

table of definition explains the abbreviations and what they stand for, then identifying the expected outcomes of this system. Chapter two is composed of the literature review. The first part of it talks about what purchasing is, the purchasing cycle, Internal perspective of purchasing cycle ,Core competencies of purchasing ,The purchasing process, Traditional approach to purchasing and its limitation ,Functions of purchasing ,Types of contract ,Purchase requisition vs. purchase order ,What is a purchase requisition? What is a purchase order? Why are purchase requisitions and purchase orders important? A comprehensive list of objectives for purchasing, Purchasing risk analysis, Market Structure, Supply Strategy, Importance of purchasing, The Purchasing department, Supplier Selection Criteria, Supplier Appraisal/Evaluation, Purchasing Contract and last but not least the references. This project is about creating a purchasing system applied on electronics industry. The mechanism of the system starts when the employee identifies the needed items for the company or requirements, generating a requisition which includes a specification for the requirement. The employee sends an email to the manager to review the purchase requisition. First he checks the inventory and upon it he approves or rejects the purchase requisition. If the purchase requisition is approved, the manager reviews the request for quotation (RFQ) of the supplying system. Selecting the best offer based on specified criteria such as price, availability, and quality. The manager checks the supplier's rating to decide which supplier is suitable and before he makes the final decision of choosing the supplier he checks the supplier's bank reference sent by the supplier's bank. Since, the manager chose the supplier; the purchasing team review the approval from the manager to create the purchase order. After the purchasing team creates the purchase order, the purchasing team sends email to the supplying system.

هذا المشروع يتحدث عن نظام مشتريات مطبق علي صناعة الالكترونيات.هذا النظام يبدا حيث يحدد الموظف المنتجات المطلوبة للشركة او المتطلبات.ثم يقوم الموظف بانشاء طلب شراء الذي يحتوي علي موصفات الطلب. ثم يرسل الموظف بريد الكتروني الي المدير ليلقي نظرة علي طلب الشراء.في البداية يتفحص مخزون المنتجات و علي حسب حالة المخزون يقبل او يرفض طلب الشراء.اذا اتقبل طلب الشراء يقوم المدير بعد ذلك بتفحص الاسعارعن طريق نظام التوريد.ثم يقوم باختيار افضل عرض اعتمادا علي معاير محددة مثل السعر ,الوفرة و الجودة. يقوم المدير بتفحص تقييم المورد لكي يحدد المورد المناسب و قبل ان ياخذ القرار النهائي يقوم ايضا بتفحص مرجع البنك للمورد الذي يقوم بارساله البنك التابع المورد له.عندما يختار المدير المورد يقوم فريق المشتريات بتفحص الموافقة و يقوم بعمل امر شراء.عندما يجهز امر الشراء يقوم فريق المشتريات بارسال امر الشراء الي نظام التوريد عن طريق بريد الكتروني.

MIS Department/Fall 2017

Human Resource Management System

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Assistant Lecturer Eman Osama

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Abstract

This project is done as a final year graduation project for Bachelors of Management Information System (MIS) offered by Modern Sciences and Arts (MSA) University, Egypt in which this project is undertaken to plan, design and develop a Human Resource Management system. Behind production of every product or service there is a human mind, effort and man hours (working hours) in which no product or service can be produced without help of human being for which human being is the fundamental resource for making or construction of anything. Today many experts claim that machines and technology are replacing human resource and minimizing their role or effort. However, indeed, machines and technology are built by the humans; they need to be operated or at least monitored by humans. Maybe because of this reason, companies have continuously been searching for talented, skilled and qualified professionals to hire or improving their employees' skills and knowledge which is the role of human resource management for further development of machines and technology, which again have to be controlled or Monitored by humans to bring out products/services. The human resources department within any organization is considered to be highly critical for the entire organization. Its many functions serve as a supportive background for the company by providing everything from skilled and talented labor to management training services, employee enrichment opportunities and more. Since labor is the single largest expense for most organizations, human resources helps companies derive the greatest value from this important asset. In order to function optimally, however, human resources departments must have the right tools and resources in place. A human resources information system, or HRIS, is a type of software program that can be utilized within the department to help human resources employees and managers improve their productivity and the results of their efforts.

تم تنفيذ هذا المشروع كمشروع تخرج للعام الدراسي الأول لشهادة البكالوريوس في نظم المعلومات الإدارية التي تقدمها جامعة العلوم الحديثة في مصر ، حيث يتم تنفيذ هذا المشروع لتخطيط وتصميم وتطوير نظام إدارة الموارد البشرية. وراء إنتاج كل منتج أو خدمة هناك عقل الإنسان وجهدها وساعات عمل الرجل (ساعات العمل) التي لا يمكن فيها إنتاج أي منتج أو خدمة بدون مساعدة الإنسان الذي يكون فيه الإنسان هو المورد الأساسي لصنع أو بناء أي شيء. يدعي العديد من الخبراء اليوم أن الآلات والتكنولوجيا تحل محل الموارد البشرية وتقلل من دورها أو جهدها. ومع ذلك ، في الواقع ، يتم بناء الآلات

والتكنولوجيا من قبل البشر ؛ يجب أن يتم تشغيلها أو مراقبتها على الأقل من قبل البشر. ربما لهذا السبب ، ظلت الشركات تبحث باستمرار عن المهنيين الموهوبين والمهرة والمؤهلين لتوظيف أو تحسين مهارات ومعارف موظفيهم وهو دور إدارة الموارد البشرية في تطوير الآلات والتكنولوجيا ، والتي يجب التحكم بها مرة أخرى. أو مراقبة من قبل البشر لإخراج المنتجات / الخدمات. يعتبر قسم الموارد البشرية داخل أي منظمة شديد الأهمية بالنسبة للمنظمة بأكملها. وظائفها المتعددة بمثابة خلفية داعمة للشركة من خلال توفير كل شيء من العمالة الماهرة والموهوبة إلى خدمات التدريب الإداري ، وفرص تثقيف الموظفين وأكثر من ذلك. وحيث أن العمالة هي أكبر نفقة بالنسبة لمعظم المنظمات ، فإن الموارد البشرية تساعد الشركات على استخلاص أكبر قيمة من هذا الأصل الهام. ولكن لكي تعمل على نحو أمثل ، يجب أن يكون لدى إدارات الموارد البشرية الأدوات والموارد المناسبة. نظام معلومات الموارد البشرية ، أو نظام معلومات الموارد البشرية ، هو نوع من البرامج التي يمكن استخدامها داخل الإدارة لمساعدة موظفي الموارد البشرية والمديرين على تحسين إنتاجيتهم ونتائج جهودهم.

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Validated by UNIVERSITY of GREENWICH

Analytical Chemistry

- Sensitive Spectrophotometric Determination Of Amine Containing Drugs Using Surface Plasmon Resonance Band Of Silver Or Gold Nanoparticles.
- Development of photochemical methods for water treatment.

Biochemistry

- In vitro evaluation of Taxol, Carboplatin and Gallic acid on MCF-7 human breast cancer cell line.
- The role of mesnchymal stem cells in diabetes mellitus.

Clinical Pharmacy

- Pharmacokinetics and pharmacogenomics of cyclophosphamide in Rhabdomyosarcoma patients.
- Platelets Rich Plasma: An Approach to improve Wound Healing.

Microbiology & Immunology

- Advances of Mesenchymal stem cell- in regenerative medicine.
- Benefits of laser use as a new standard care for chronic periodontitis.

Pharmaceutical Chemistry

- Prediction Of The Structure Of Sphinogosin1 Phosphate Receptor 3 Homology Modeling And Validation.
- Preparation, Characterization, And In Vitro Cytotoxic Actions Of Newly Synthesized Gold Nanoparticles.

Phamaceutics

- Application Of Low Frequency Sonophoresis For Transdermal Delivery Of A Polar Drug.
- A Pilot Compression Equipment For Tablet Production: Design, Fabrication And Finished Product Quality Control Test.
- Formulation and Evaleuation of an Antibiotic Film as a Wound Care Delivery System.
- Anti- Cellulite Herbal Prouduct : Fabrication, Characterization and Pharmacological Evaleuation.

Pharmacognosy

- Anticellulite herbal product: fabrication, characterization and pharmacological evaluation.
- Natural herbs for healthy skin.

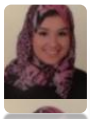
Pharmacology

- Experimental investigation of Physalis Peruviana extract on the regeneration of pancreatic beta cells in STZ induced type 1 diabetes mellitus in rats.
- Anticellulite herbal product: Fabrication, Characterization and Pharmacological Evaluation.

Sensitive Spectrophotometric Determination of Amine Containing Drugs Using Surface Plasmon Resonance Band of Silver Or Gold Nanoparticles

طرق طيفية دقيقة لتعين مركبات تحتوي علي مجموعة امين باستخدام نطاق رنين سطح البلازمون

Associate Professor Dr Dalia Mamdouh
Assistant Lecturer Souha Hosam



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Abstract

Aim of work: Metallic nanoparticles are extremely emerging nowadays as encouraging analytical colorimetric reporters for a diversity of analytes this is attributed to their inherently utilizable properties such as the high extinction coefficient and the distinctive difference in colors according to their dispersion and aggregation states. Silver and gold metallic NPs can be utilized as auspicious coloring probes for the selective and sensitive in-situ colorimetric sensing of a wide variety of molecules from various matrices. **Methodology:** In the current study, a simple, sensitive and selective colorimetric method was developed for the determination of the antipsychotic drug; olanzapine through the utilization of PVP capped silver nanoparticles as a colorimetric probe. The absorption spectrum of the PVP capped silver nanoparticles has dramatically changed when reacted with olanzapine resulting in the formation of a new surface plasmon resonance band at 446 nm. **Results:** The color formation reaction was rapid and was not enhanced or diminished by the presence of a buffered medium. The color was stable for about 1 hr. The developed method has displayed a linear relationship within olanzapine concentration range of 1-40 µg/mL with LOD of 0.32 µg/mL and LOQ of 0.97 µg/mL. The proposed method was efficiently applied for the determination of olanzapine in its pharmaceutical formulation (1). **Conclusion:** The developed spectrophotometric method was capable of determining olanzapine with

good accuracy, precision and selectivity as established from the validation results after following the ICH guidelines. Moreover the statistical analysis between the results obtained by the proposed method and a reported method has shown no significant difference between both results.

المقدمة: ان استخدام الجزيئات المعدنية النانونية في تطور مستمر مما ادى الى التطرق في استخدامها في التحليل اللوني و ذلك لتمتعهم بمعدل انطفاء عالي و اختلاف مميز في الالوان بناءا على حالة التجمع و التشتت للجزيئات. جزيئات الذهب و الفضة المعدنية النانونية يمكن استخدامها كمسبار ملون للتحليل الدقيق و الانتقائي لاستشعار مجموعة متنوعة من الجزيئات في انسجة بيخلوية مختلفة. **المنهجية**: في هذه الدراسة، طرق بسيطة و دقيقة و انتقائية تم تطويرها لتعين بعض مضادات الامراض النفسية كالاولانزابين عن طريق استخدام جزيئات الفضة النانونية كمسبار ملون. طيف هذه الجزيئات تغير بشكل ملحوظ حين تفاعله مع الاولانزابين مؤديا الى تكوين نطاق رنيني لسطح البلازمون جديد عند طول موجي 446 نانومتر. النتائج: اللون المكون عن طريق تفاعل كان سريعا و غير متأثر بالمحاليل المعادلة و كان مستقرا لمدة ساعة. الطريقة التي تم تطويرها ابدت علاقة خطية ضمن تركيزات 1 – 40 ميكروجرام/ميللتر للاولانزابين و حد ادنى للكشف عند تركيز 0.32 ميكروجرام/ميللتر و حد ادنى للتعين عند تركيز 0.97 ميكروجرام/ميللتر. الطريقة المطروحة تم تطبيقها بنجاح لتعيين الاولانزابين في مستحضره الصيدلي. **الاستنتاج**: الطريقة الطيفية التي تم تطويرها قادرة على تعيين الاولانزابين بدقة و احكام و انتقائية عالية و تم التحقق من النتائج مطبقا معايير القواعد العالمية للتنسيق. و تم مقارنة احصائية بين نتائج الطريقة المقترحة و النتائج المنشورة و لم تبد اختلاف يذكر.

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Analytical Chemistry - RSPAC2-9

Development of photochemical methods for water treatment

تطوير الطرق الكيميائية الضوئية لمعالجة المياه

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Abstract

Levofloxacin is a commonly used antibiotic from the class of fluoroquinolones. It was detected in traces in many aquatic systems. In this work, photocatalytic degradation of Levofloxacin was conducted using two types of photocatalysts nanoparticles; zinc oxide and graphene oxide and a combination of both catalysts. A RP-HPLC/UV method was developed for measuring the percentage of degradation for Levofloxacin(2). Different

factors influencing the degradation procedure were studied and optimized such as the pH, the exposure time to UV light, the drug concentration and the catalysts type/concentration using the fractional factorial design. The catalyst type was found to be the most effective parameter followed by the drug concentration. The procedure was successfully applied for treatment of waste water samples of pharmaceutical company during cleaning of the production machines (1). A percentage degradation of 99.85% was achieved using zinc oxide/grapheme oxide combination at pH 9±0.05, with UV light exposure time 1 hour. This protocol of waste water treatment could be used in the production department of the pharmaceutical companies.

الليفوفلوكساسين هو نوع شهير من المضادات الحيوية الفليوروكينولونات. فى هذا البحث سوف نقوم بتكسير ضوئى حفزى لليفوفلوكساسين باستخدام نوعين من المحفزات الضوئية أكسيد الزنك وأكسيد الجرافين ثم حساب نسبة التكسير للعقار. مجموعة من العوامل هى اللى تتحكم بنسبة التكسير و هى مقياس الحمضية و وقت التعرض للاشعة فوق البنفسجية و تركيز المضاد الحيوى و سيتم حساب العنصر الاكثر تأثيرا باستخدام تصميم العوامل. نجحنا فى الوصول الى نسبة تكسير 99.85 % باستخدام مزيج من العاملين الحفازين.

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Biochemistry RSPB2-1

In vitro evaluation of Taxol, Carboplatin and Gallic acid on MCF-7 human breast cancer cell line

خط سرطان الثدي البشري MCF-7 في المختبر تقييم تاكسول ، كاربوبلاتين وحمض الغال على

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Abstract

Breast cancer is an uncontrollable growth of breast cells which occurs due to mutation in some pathways as PI3K and RAS or mutation in some genes as BRCA and P53. Chemotherapy is one among the common treatment approaches; however, the efficacy varies so a combination is suggested e.g. Taxol and Carboplatin. Such combination plus a powerful antioxidant as Gallic acid can be promising due to its property of potentiating the anticancer effect by scavenging ROS. Thus, the study examines the effect of Taxol and Carboplatin when added to Gallic acid and the anticipated synergistic effect to happen. Methods used in the study include MTT assay, Flow cytometry and RT-PCR. MTT-based assay showed cytotoxic effect on MCF-7 cell line with Gallic acid (IC50=7334.6 ug/ml), with Taxol (IC50=3.32 ug/ml), and with Carboplatin (IC50=27.28 ug/ml). Regarding Flow cytometry, the combination of Gallic acid with Taxol showed viability of18.77133 %, the combination of Gallic acid with Carboplatin showed viability of 37.99772 %, the combination of Taxol with Carboplatin showed viability of 69.05575%, while the triplet combination showed viability of 36.40501%. Cell cycle analysis showed pre G1 apoptosis and cell cycle arrest at G2/M phase for Taxol, Carboplatin, Gallic acid and their combination(1). qRT-PCR results exhibited a more significant up-regulation in P53 gene expression, down-regulation in Bcl2 and up-regulation in caspases using the combination rather than using each drug separately while BRAC gene showed the same results in the four combinations. Accordingly, combination of the Taxol, Carboplatin and Gallic acid has showed to be more effective than the single use of any of them.

سرطان الثدي هو نمو خلايا الثدي بطريقة لا يمكن السيطرة عليها و التي تحدث بسبب الطفرات في بعض المسارات مثل PI3K و RAS أو طفرة في بعض الجينات مثل BRCA و P53 . العلاج الكيميائي هو واحد من أساليب العلاج الشائعة. ومع ذلك فأن فاعلية العلاج تختلف من دواء الى أخر لذلك تم اقتراح استخدام اكثر من دواء معا مثل التاكسول والكاربوبلاتين. دمج تلك العلاجات بالاضافة الى مضادات الأكسدة القوية مثل حمض الجاليك يمكن أن تكون واعدة بسبب قدرتة القوية ضد السرطان عن طريق ازالة ROS وهكذا فإن الدراسة تفحص تأثير تاكسول وكاربوبلاتين عند إضافته إلى حمض الجالك والمتوقع حدوث تأثير تآزري. الطرق المستخدمة في الدراسة فحص MTT ، Flowcytometry و .RT-PCR أظهر الفحص القائم على MTT تأثير سام للخلايا على خط خلية MCF-7 مع حمض الغاليك (IC50 = 7334.6ug / ml)، مع تاكسول (IC50 = 3.32ug / ml) ، ومع كاربوبلاتين (IC50 = 27.28ug / ml) فيما يتعلق التدفق الخلوي ، فإن الجمع بين حمض الغاليك مع التاكسول أظهرت معدل نمو 18.77133 ٪ ، الدمج بين حمض الجاليك مع الكاربوبلاتين أظهرت معدل نمو 37.99772٪ بينما الدمج بين التاكسول و الكاربوبلاتين أظهر معدل نمو 69.05575٪ بينما أظهر المزيج الثلاثي معدل نمو من 36.40501 ٪ . أظهر تحليل دورة الخلية موت الخلايا المبرمج في G1 Phase و توقف دورة حياة الخلية في G2 Phase للتاكسول و الكاربوبلاتين و حمض الجاليك و الدمج الثلاثي بينهم qRTPCR .أظهرت نتائج اكثر تنظيمًا وأهمية في التعبير عن الجين P53 و اقل في التعبير الجيني ل Bcl2 و اعلى في التعبير الجيني ل caspases باستخدام المزيج بدلا من استخدام كل دواء على حدة بينما أظهر جين BRAC نفس النتائج في الأربعة مجموعات. وفقا لذلك ، فإن الجمع بين تاكسول و كاربوبلاتين وحمض الجاليك اكثر فعالية من استخدام كل واحد حده.

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Biochemistry RSPB2-3

The Role of Mesnchymal Stem Cells in Diabetes Mellitus

دور الخلايا الجذعية الوسيطة في داء السكري

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Abstract

Diabetes mellitus is a group of metabolic disorders of carbohydrate metabolism in which glucose over produced, causing hyperglycemia. Type 1 diabetes, occur when beta cell cannot produce insulin so no activation of GLUT4 and no enter of glucose into cells. Stem cells un differentiated cells divided by mitotic cell division into symmetric division known as self-renewing and asymmetric division that differentiate inside the body into for example , Somatic cells. Stem cell is possible to identify two large potential application fields of stem cells in diabetes mellitus: The reconstruction of β cell mass, and helps in the treatment of complications. Our target, find the mechanisms responsible for the effectiveness of bone marrow-derived mesnchymal stem cells in the suppression of DM Type 1. Experimental design: Eighteen male Albino Wistar rats divided into three groups , each Group having Six Rat Group I normal not diabetic and not suffering from any biochemical disorder, Group II Rats which are STZ-induced diabetes group, Group III will be the Mesnchymal stem cells treated group MSCs (1×105 cells/rat) injected via tail veins in rats with STZ-induced diabetes. Blood glucose was measured spectrophotometry, Interleukin 6 and GLUT4 were measured by Elisa, insulin genes 1 and insulin genes 2 were measured by Real-time PCR. Insulin genes 1, insulin genes 2 and GLUT4 levels were significantly elevated in treated group compared to diabetic group (1). Interleukin 6 and blood glucose levels were significantly decreased in treated group compared to diabetic group. Mesnchymal stem cells may play an important role in treatment of T1DM.

المرض السكري هو مجموعة من الاضطرابات الأيضية في عملية التمثيل الغذائي للكربوهيدرات التي ينتج منها الجلوكوز ، مما يسبب ارتفاع السكر في الدم. في المرضى الذين يعانون من مرض السكري من النوع 1 الذى يحدث عندما لا تستطيع خلية بيتا إنتاج الأنسولين حتى لا يتم تفعيل GLUT4 وعدم دخول الجلوكوز إلى الخلايا. الخلايا الجذعية تنقسم عن طريق الانقسام الخلوي إلى قسم متماثل يعرف باسم التجديد الذاتي والتقسيم غير المتماثل الذي يميز داخل الجسم إلى

الخلايا الجسدية على سبيل المثال. الخلايا الجذعية لها مقدرة على إعادة بناء كتلة الخلية β، ويساعد في علاج المضاعفات لمرضى السكر. هدفنا العثور على الآليات المسؤولة عن فعالية الخلايا الجذعية المستمدة من النخاع العظمي في اخماد مرض السكر النوع 1 تصميم تجريبي: ثمانية عشر فئران ذكور ألبينو ويستار مقسمة إلى ثلاث مجموعات ، كل مجموعة لها ستة فئران: الأول طبيعية ولا تعاني من أي اضطراب بيوكيميائي ، المجموعة الثانية: فئران المجموعة السكرية التي يسببها STZ ، المجموعة الثالثة هي مجموعة الخلايا الجذعية التي تعالجها الخلايا الجذعية (1 × 105 خلية / الفئران) المحقونة عبر الأوردة الذيلية في الفئران المصابين بداء السكري الناتج عن .STZ تم قياس جلوكوز الدم بقياس الطيف الضوئي ، وتم قياس انترلوكين 6 و GLUT4 بواسطة إليسا ، وجينات الأنسولين 1 وتم قياس جينات الأنسولين 2 بواسطة PCR في الوقت الحقيقي. وكانت جينات الأنسولين 1 وجينات الأنسولين 2 ومستويات GLUT4 مرتفعة بشكل ملحوظ في المجموعة المعالجة مقارنة بالمجموعة المصابة بالسكري و انخفض الإنترلوكين 6 ومستويات الجلوكوز في الدم بشكل كبير في المجموعة المعالجة مقارنة بالمجموعة المصابة بالسكري. تلعب الخلايا الجذعية دورا هاما في علاج النوع 1 من المض السكرى.

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Clinical Pharmacy -RSPL2-1

Pharmacokinetics and pharmacogenomics of cyclophosphamide in Rhabdomyosarcoma patients

العَضَلِيَّةُ المُخَطَّطَة السَّاركومةُ مرضى في ل سيكلوفوسفاميد الجينومية الصيدلة وعلم الدَّوائِيَّةُ الحَرائِكُ

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Abstract

This study is done on Caucasians Rhabdomyosarcoma patients, under 18 years old, and treated with cyclophosphamide 50mg/ml in 57357 Children Hospital. We choose a set of SNPs (rs4793665), (rs733392) and (rs4148412), in order to determine their inter-individual genetic variation effect on the ABCC3 transporters action, the SNPs were chosen based on their minor allele frequency in the Caucasian population and their expected phenotypes in different drugs which was shown in previous studies. Allele's frequencies in Caucasians were obtained from The 1000 Genome project and The HapMap project (1). The extraction of DNA from the patients' blood samples was done using GeneJET Whole Blood Genomic DNA Purification Mini Kit and the concentration of the extracted DNA was

detected by the NanoQuant Spectrophotometer. The genotyping was done using TaqMan™ SNP Genotyping Assay for a total of 40 DNA samples for each SNP, and we used for the Real Time PCR the QuantStudio 6 Flex Real-Time PCR Device, all the PCR conditions including the setting of the thermal cycling settings were step up based on the protocol that was suggested in TaqMan® SNP Genotyping Assays User Guide. The 40 genotyped samples showed the following, At SNP rs733392, Allele a frequency is 0.8276 and nearly 68% of the samples are Homozygous A/A. SNP rs4148412, Allele T frequency is 0.446 and the majority of the samples are Heterozygous C/ T by 39%. At the third SNP rs4793665, which is located in the promoter region, the majority of the samples were Homozygous C/C by nearly 52%, and frequency of Allele C is 0.65217. The aim of this research is to find the association between the cyclophosphamide pharmacokinetics and the genetic variation in the enzymes and try to determine if it has an effect on the drug's efficacy.

تم إجراء هذه الدراسة على المرضى المصابين بالسَّاركومةُ العَضَلِيَّةُ المُخَطَّطَة ، تحت سن 18 سنة ، و تم علاجهم بال سيكلوفوسفاميد 50 مج/مل فى مستشفى الأطفال 57357 وتم اختيار مجموعة من التغيرات الفردية للنيوكليوتيد وهم (rs4793665)، (rs733392)و (rs4148412) من أجل تحديد تأثير الاختلاف الجيني على وظيفة الناقل ABCC3 هذه التغيرات الفردية للنيوكليوتيد مختارة على أساس تأثيرها المتوقع في الأدوية المختلفة التي أظهرتها الدراسات السابقة و على أساس تردد الأليل الأصغر الذي تم الحصول عليه عن طريق البيانات المتاحة على مشروع HapMapو مشروع الألف جينوم1000 Genome . تم استخراج الحمض النووي من عينات دم المرضى باستخدام (GeneJET Whole Blood), و تم الكشف عن تركيز الحمض النووي المستخرج من كل عينة بواسطة جهاز NanoQuant . التنميط الجيني لكل عينة تم باستخدام TaqMan ™ SNP Genotyping تم استخدام عملية "تفاعل البوليميراز المتسلسل اللحظي Real Time PCR "على العينات التي تم استخلاص الحمض النووي منها و كان ذلك عن طريق استخدام جهاز QuantStudio , كل الاعدادات الموضوعة لعملية تفاعل البوليميراز PCRكانت وفق ا للاعدادات المقترحة في دليل المستخدم المرفق TaqMan® SNP Genotyping Assays User Guide . تم فحص اربعون عينة لكل من التغيرات الفردية للنيوكليوتيدات الثلاثة التى تم اختيارها , و النتيجة التى تم بالنسبة ل, A/A أما بالنسبة ل rs4148412 فكان تردد أليل T هو 0.446 و كانت حوالي 39 % من العينات rs733392 كان تردد أليل A يساوي 0.8276 و حوالي 68 % من العينات متماثلة لواقح مختلفة اللواقح من العينات متماثلة اللواقح C/C , C/T و كان تردد الأليل C في rs4793665 يساوي 0.65217 وهو ما يقارب من 52% التوصل إليها. الهدف من هذا البحث هو إيجاد العلاقة بين الحرائك الدوائية للسيكلوفوسفاميد والتغير الجيني في الناقلات ABCC3 ومحاولة تحديد ما إذا كان لها تأثير على فعالية الدواء

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Clinical Pharmacy -RSPL2-7

Assess the role of nutrition and vitamin supplementation in management of breast cancer patients

تقييم دور التغذية ومكملات الفيتامينات في إدارة مرضى سرطان الثدي

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Abstract

Background There are many deliberations regarding food and breast cancer that persist in the lack of reinforcing scientific evidence. The current breast cancer patients dietary guidelines did not succeed in addressing suitable dietary intakes of both macronutrients and micronutrients that may ameliorate the nutritional status of the patients (2). **Aim** Assess the possible effect of individualized, and nutrient-specific diet on the nutritional status of the patients during anti-neoplastic therapy. **Patients and Methodology** about 50 women aged from 20 to 55 years were pinpointed from "Baheya Foundation for Treatment of Breast Cancer" by their clinical care providers, either recently diagnosed or programmed for chemotherapy or within 2 weeks from beginning chemotherapy. Personal interviews were made for following up subjects and documentation linkage with vital statistics registry (1). Patients' detailed information as demographic data, treatment regimens, and designated dietary and lifestyle factors were gathered in a designed standard data sheet form. **Results** In a mean follow up of about 50 women primarily diagnosed with invasive breast cancer from stage 1 to 2A at baseline and after 6 months, results had shown that nearly 85% had a body mass index (BMI) > 25 kg/m2 (the normal were 5%, overweight 15%, and obese 80%). Over 6 months, an average of 2 kilograms were gained by women with healthy BMI, while the overweight lost 1.5 kilograms, and the obese lost about 1.9 kilograms. **Conclusion** Results pointed that after diagnosis with breast cancer (at early stage), patients should immediately receive nutritional assessment and personalized intercession program including low calorie diet and physical activity, which can have a positive effect on long term prognosis in overweight patients.

تقييم االثر المحتمل لنظام غذائي شخصي ، مغذيات محددة على الحالة التغذوية لمريض سرطان الثدي خالل العالج المضاد لألورام. كشف أي آثار جانبية محتملة والتفاعالت المخدرات الناجمة عن إساءة استخدام مكمالت الفيتامينات, تحديد كيفية اتباع المستشفيات لتوجيهات غذائية حديثة لمرضى سرطان الثدي. يؤمل هذا العمل أن يضمن أهمية الدور الصيدلي االكلينيكي لتحسين نوعية الحياة لهؤالء المرضى لتقليل معدل المراضة والوفيات. المرضى والمنهجية: تم تحديد ما يقرب من 50 امرأة 20(إلى)55 سنة من مؤسسة الباهية لعالج سرطان الثدي ، إما تم تشخيصها مؤخراً وتمت معالجتها للعالج الكيميائي أو في غضون أسبوعين من بداية العالج الكيميائي. وأجريت مقابالت شخصية لمتابعة المواضيع وتسجيل الروابط مع سجل االحصاءات الحيوية. تم جمع المعلومات التفصيلية عن المرضى مثل البيانات الديموغرافية ، نظم العالج ، والعوامل الغذائية ونمط الحياة المعينة في شكل ورقة بيانات مصممة. النتائج: في حالة متابعة ما يقرب من 50 امرأة تم تشخيصهن بشكل رئيسي بسرطان الثدي الغازية من المرحلة 1 إلى 2 Aفي االساس وبعد 6 أشهر ، أظهرت النتائج أن

ما يقرب من 85٪ كان مؤشر كتلة الجسم 25)BMI(< كجم / م 2)المعدل الطبيعي 5 ٪ ، والوزن الزائد 15 ٪ ، والسمنة 80 ٪(. أكثر من 6 أشهر ، اكتسبت النساء في المتوسط 2 كيلوغرام من وزن الجسم مع مؤشر كتلة الجسم الصحي ، في حين أن الوزن الزائد خسر 1.5 كيلوغراما ، والبدناء فقدوا حوالي 1.9 كيلوغرام. االستنتاج: وأشارت النتائج إلى أنه بعد التشخيص بسرطان الثدي ، يجب على المرضى تلقي التقييم الغذائي وبرنامج الشفاعة الشخصية على الفور بما في ذلك اتباع نظام غذائي منخفض السعرات الحرارية والنشاط البدني ، ألمر الذي يمكن أن يكون له تأثير إيجابي على التكهن على المدى الطويل لدى المرضى الذين يعانون من زيادة الوزن.

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Microbiology -RSPM2-6

Advances of Mesenchymal Stem Cell- In Regenerative Medicine.

تطور استخدام الخلايا الجذعية الوسيطة في الطب التجديدي

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Abstract

Aim: The aim of this study was the isolation and expansion of mesenchymal stem cells) MSCs (from dental pulp .and testing the effect of different surface modifications of polycabrolactone (PCL) membrane on the immunogenicity of MSCs. **Methods:** This In vitro study aimed at first for the isolation of MSCs from dental pulp tissue by enzyme digestion method and expand them in culture. Second, studying of the immune phenotype of stem cells by flow cytometric analysis when exposed to surface modified scaffolds used for tissue regeneration. Data was reported as mean ± standard error. Statistical analysis was performed using Microsoft (MS) Office Excel Software. One-way ANOVA was used to asses for differences between groups, and p values were calculated by Student's t-test. Differences were considered statistically significant if the p-value was less than 0.05 Data was reported as mean ± standard error (1).

Results and conclusion: Successful isolation of pulp stem cells (DPSCs) was achieved. Different membrane coating material affected the immunogenicity of the attached stem cells. The expression of surface antigen marker CD40 was significantly higher in cells cultured on carbon nanofibers coated PCL membrane than in cells cultured on non-coated PCL membranes and control cultures, as well as in cells cultured on nanohydroxyapatite coated PCL membranes but without significance. However, there was no significant difference between the expression of CD40 in cells cultured on nanohydroxyapatite coated PCL membrane and cells in other groups. Moreover, cells in the carbon nanofiber group expressed marker CD80 significantly higher than cells in all other three groups. Similarly, CD86 marker was highly expressed in cells in the carbon nanofiber group and nanohydroxyapatite groups more than in cells in the control and non-coated PCL groups with a significant difference. On the other hand, there was no significant difference between the expression of all three markers in cells cultured on the non-coated PCL and cells in the control group.

الهدف من هذه الدراسة هو عزل وتنمية الخلايا الجذعية الوسيطة (MSCs) من لب الاسنان وتنميتها لتجديد أنسجة العظام، ثم اختبار تأثير التعديلات السطحية المختلفة لغشاء Polycabrolactone (PCL التي تعزز الخطوات الأولية لترسب العظم على الاسطح الصناعية) على النمط الظاهري المناعي للخلايا الجذعية.MSCs وخطوات اجراء هذه الدراسة Ex-vivo اعتمدت أولا علي عزل الخلايا الجذعية الوسيطة (MSCs) من أنسجة لب الأسنان باستخدام تاثير الإنزيمات علي الخلايا وتنميتها في البيئة المناسبة. وثانيا القيام بدراسة النمط الظاهري المناعي للخلايا الجذعية عن طريق تحليل التدفق الخلوي عند تعديل الاضافات علي غشاء Polycabrolactone (PCL المستخدمة لتثبيت الأنسجة. تم إجراء التحليل الإحصائي باستخدام Microsoft Office (MS) Office Excel Software. تم استخدام ANOVA لتقييم الاختلافات بين المجموعات ، وتم حساب قيم p بواسطة اختبار t . واعتبرت الاختلافات ذات دلالة إحصائية إذا كانت قيمة p أقل من 0.05.. وأظهرت النتائج نمو الخلايا الجذعية التي تم تنميتها علي غشاء PCL وتميزها لتكوين النمط الظاهري العظمي ، وكان لتتغير في خواص غشاء PCL القدرة علي تميز وانتظام نمو (MSCs) ، ايضا تم عند دراسة التعبير المناعي للخلايا مع تغيير تركيب غشاء PCL وجد ان التعبير عن مستضد سطحي CD40 أعلى بشكل ملحوظ في الخلايا المستزرعة على ألياف الكربون النانوية المغلفة بغشاء PCL من الخلايا المستزرعة على أغشية PCLغير المغلفة ، وكذلك في الخلايا المستنبتة على أغشية PCL المغلفة nanohydroxyapatite ولكن دون دلالة. ومع ذلك ، لم يكن هناك اختلاف كبير بين تعبير CD40 في الخلايا المستزرعة على غشاء PCL المغلفة nanohydroxyapatiteوالخلايا في مجموعات أخرى. وعلاوة على ذلك ، فإن الخلايا في مجموعة ألياف الكربون النانوية أعربت عن علامة CD80 أعلى بكثير من الخلايا في جميع المجموعات الثلاث الأخرى. وبالمثل ، تم التعبير عن علامة CD86 بدرجة عالية في الخلايا في مجموعة ألياف الكربون النانوية ومجموعات النانوهيدروكسيباتيت أكثر من الخلايا في السيطرة ومجموعات PCL غير المغلفة مع فرق كبير. من ناحية أخرى ، لم يكن هناك اختلاف كبير بين تعبير جميع العلامات الثلاثة في الخلايا المستزرعة على PCL غير المغلفة والخلايا في مجموعة التحكم.

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Microbiology -RSPM2-7

Benefits of laser use as a new standard care for chronic periodontitis

فوائد استخدام الليزر كمعيار قياسي جديد لعلاج التهاب اللثة المزمن

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Abstract

Periodontal disease is considered one of the main pathologic diseases occurring in humans.it happen with inflammatory reaction producing loss of the teeth because of bone resorption. The aim form this study is Addition of laser light to the practice of periodontology which will give the experienced periodontist a new and efficacious alternative to treat chronic periodontitis. And then we will test antimicrobial activity of a newly extracted oil and compare it's effiency against laser effect. Serial dilution method which is each sample of patient's samples diluted with saline. First 1ml gets from the diseased sample into saline tube and mixes it by pipette. Then take 1 ml from the saline tube into another one and mix it and so on till reach the wanted dilution. Viable cell count method as we use 5 samples for each patient, in sample 1 we implant 2, 3 and 4 dilutions in the blood agar. In sample 2, 3 and 4 we implant the 3and 4 dilutions in the blood agar. In sample 5 we implant the 1 and 2 dilutions in the blood agar. Spread plate method which then we spread 0.3 ml of the diluted sample in the blood agar by the spreader which we sterile it in alcohol. Mentha oil technique which is we use a sterile small glass tube to make a hole to put 4 drops of mentha oil. After that we use metal loops and sterile it in the flam then wait to cool then we remove this blood agar part to put the oil. By using Pasteur pipette we put 4 drops of mentha oil in this hole. LASER treatment with different combinations of power and duration showed statistically significant reduction of gingival bacterial growth compared to baseline level at zero time in 100% of cases (with the exception of LPLT that showed no significant reduction of bacterial growth). LPHT was the most effective one than other categories (LPLT, HPLT and HPHT).The immune status of some patients may have contributed to worsen their gingival inflammation. Two patients with lymphadenopathy and one diabetic patient showed severe inflammation (gingival index = 3).Mentha oil treatment showed reduction of gingival bacterial growth compared to baseline level at zero time in 50% of cases, so that LASER treatment is superior to Mentha oil in reducing bacterial growth. After all these

procedures and results using laser in treatment of periodontitis is the most effect , comfortable method for the patient as it easier to handle more effective with less side effects more than mentha oil and antibiotics.

الخلفية: يعتبر مرض اللثة أحد الأمراض الباثولوجية الرئيسية التي تحدث في البشر. استخدام ليزر ديود في علاج التهاب اللثة هو فرص مبتكرة. الهدف من الدراسة: هو دراسة المؤشرات الجديدة الصعبة لهذه التكنولوجيا الحديثة للممارسة اليومية لعلم أمراض اللثة كبديل جديد وفعال لعلاج التهاب اللثة المزمن. ومقارنة فعاليتها مع التأثير المضاد للميكروبات لزيتين مستخرجين حديثا هما زيت النعناع الفلفلي و زيت نعناع السنبلي. الطريقة: تم تحليل عينات الترسبات الجيرية في جيوب اللثة من 15 حالة مع التهاب اللثة المزمن الشديد. من كل حالة تم جمع خمس عينات. السيطرة (بدون أي معالجة) ، وأخضعت العينات الأربعة الأخرى لظروف بديلة لطرف الحرق الشعاعي بـ 1.5 واط ، أو 2 وات مع 11٪ من الهواء ، 20٪ ماء ، ومدة النبضة 60 ثانية. أو 90 ثانية. . تم قياس الأعماق الجيبية لجميع مواقع اللثة. تم المسح الميكروبيولوجي على آغار الدم لمقارنة انخفاض العد البكتيري مع كل حالة. بالإضافة إلى ذلك ، تم تسجيل تأثير مضاد للميكروبات لكل زيت. النتائج: أظهرت أن 95.68 ٪ من العينات تتعرض لقوة ليزر من 1.5 واط نبض مدة 90 ثانية و الثاني بنسبة 94% من العينات تعرض ب 2 واط مدة 60 ثانية و الثالث بنسبة 90% تعرض ل 2 واط مدة 90 ثانية بينما أظهر الرابع 0% بالتعرض 1.5 واط مدة 60 ثانية .النشاط المضاد للميكروبات لزيت النعناع الفلفلي فعالاً ضد مسببات الأمراض اللثوية في 71.4 ٪ من الحالات ، في حين أن النعناع السنبلي لم يكن له نشاط مضاد للميكروبات. في الختام: استخدام ليزر دايود يدعم العلاج الفعال للالتهاب اللثة وأظهر انخفاض كبير في البكتريا أكثر من الطرق الأخرى التي يمكن أن تحافظ على صحة اللثة الجيدة.

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Pharmacutical Chemistry -RSPHC2-2

Prediction of the Structure of Sphinogosin1 Phosphate Receptor 3 Homology Modeling and Validation

التنبؤ بهيكل مستقبلات الفوسفات السفينجوزيني 3 نمذجة المثلية والتحقق من صحتها

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Abstract

Cancer treatment includes non-selective and selective anti-cancer agents. An important target that belongs to the Sphingosine-1-phosphate receptors is S1PR3. [1] A group of adenocarcinoma cells express S1PR3

up-regulation, and tempering with this subtype causes proliferation inhibition, in addition to decreased growth of lung adenocarcinoma cells. [1] It is also the most expressed subtype in human breast cancer cell lines, and highly correlated in estrogen receptor positive with tamoxifen resistance. A drawback that hinders progress in designing potent S1P3 inhibitors is that its 3D structure has not been elucidated. [2, 3] **Aim of work:** Design a 3D protein model for S1P3 that can be reliable for use in structure-based drug design as a step towards the design of novel modulators of S1PR3 that can be promising anti-cancer leads (1). **Methodology:** Modeller software, and Swissmodel server were used for the generation of the model, and the validation of the generated models was carried by checking the dihedral angles using Ramachandran plots. This was followed by comparing docking results of the generated models to those of a previously published model, in order to select the final model. This model is to be used for screening a natural compounds library in order to determine potential hits (2). **Results:** Two models were generated using modeller, where one was eliminated due to not conforming with the transmembrane protein properties. Another model was generated using Swissmodel server. The two remaining models passed validation step using Ramachandran plot, and their docking results were compared to the previous model. The Swissmodel-generated protein showed great conformity with a previously-published model and was chosen to be the final model. It was further used for virtual screening a natural compounds library, where it was able to determine potential promising modulators. Future biological evaluation could be done using these hits, in order to determine their experimental activity, where they could take off as leads for S1P3. Conclusions: A 3D model for S1P3 was predicted, validated and compared to previous models. It was further used to virtually screen a library of natural compounds.

المركبات المستخدمة في علاج السرطان تنقسم إلى أدوية انتقائية وأخرى غير انتقائية. مستقبل السفينجوسين-١-فوسفيت من المستقبلات الجديدة المهيئة للاستخدام في العلاج الانتقائي وهو مستقبل هام ينقسم إلى خمسة أنواع . النوع المهم في هذا البحث هو سفينجوسين -١-فوسفيت ٣ حيث إن هذا النوع الفرعي يسبب الانتشار السرطاني ، بالإضافة إلى انخفاض نمو خلايا الغدة الرئوية. وهو أيضا النوع الفرعي الأكثر وضوحا في خطوط خلايا سرطان الثدي البشري ، ويرتبط بشكل كبير في مستقبلات هرمون الاستروجين المقاومة للتاموكسيفين. العائق الذي يعوق التقدم في تصميم نموذج القوية هو أن هيكلها ثلاثي الأبعاد لم يتم توضيحه. هدفنا هو تصميم نموذج بروتين ثلاثي الأبعاد لسفنجوسين -١-فوسفيت٣ يمكن الاعتماد عليه لاستخدامه في تصميم الأدوية القائم على الهيكل كخطوة نحو تصميم نموذج محكاة لسفينجوسين-١-فوسفيت٣ والتي يمكن أن تكون خيوطًا واعدة لمكافحة السرطان. تم استخدام برنامج مودلر وموقع الكتروني سويسري لتوليد النموذج ، وتم التحقق من جودة النماذج التي تم توليدها عن طريق فحص زوايا المجرى باستخدام مخطوطة راماخاندران تبع ذلك مقارنة نتائج الإرساء النظري للنماذج التي تم توليدها مع تلك الخاصة بنموذج تم نشره سابقًا ، وذلك من أجل تحديد النموذج النهائي. يستخدم هذا النموذج لفحص مكتبة المركبات الطبيعية من أجل تحديد النتائج المحتملة. تم إنشاء نموذجين باستخدام مودلر ، حيث تم استبعاد أحدهما بسبب عدم توافقه مع خصائص بروتين. تم إنشاء نموذج آخر باستخدام خادم الموقع السويسري. اجتاز النموذجان المتبقيان خطوة التحقق باستخدام مخطط رماخاندران ، وتمت مقارنة نتائج الالتحام الخاصة بها بالطراز السابق. أظهر النموذج السويسري للبروتين توافقًا كبيرًا مع نموذج تم نشره مسبقا وتم اختياره ليكون النموذج النهائي. وقد استخدم كذلك للفحص الظاهري لمكتبة المركبات الطبيعية . يمكن القيام بالتقييم البيولوجي المستقبلي باستخدام هذه النتائج ، من أجل تحديد نشاطهم التجريبي .

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Pharmacutical Chemistry -RSPHC2-8

Preparation, characterization, and in vitro cytotoxic actions of newly synthesized gold nanoparticles

تحضير ، توصيف ، وتصرفات سامة خلوية من جسيمات الذهب النانوية المركبة حديثًا

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Abstract

Cancer is a term for the diseases that characterized by the abnormal division of normal cells without control and have the ability to invade nearby tissues. Cancer cells can spread through lymph systems and blood stream to other parts of the body. There are various types of cancer depending on the predisposing factors, genetic factors, affected site in the body and many other factors. The traditional ways of cancer treatment and management have many side effects varying between mild to severe due to the lacking in the ability to target the tumor cells. In contrast, using nanotechnology, in treating cancer, add a lot to our arsenal against cancer more than the traditional ways as the nanoparticles, used in the nanomedicine, have the ability to decrease these side effects based on some strategies such as "Enhanced Permeability and Retention" phenomenon that increases the targeting of the tumor areas depending on the fact that the tumor tissues have pores, whose sizes are different from those of the normal tissues. So the nanoparticles can go through these pores specifically. Here, we succeeded to fabricate gold nanoparticles by using gallic acid then load Doxorubicin on this combination with 20nm size that was confirmed using TEM, DLS and zeta potential measurement (1). The reason behind using these three components is that they all have

cytotoxic effect so we can make the best benefit from the synergistic effect of them. Another reason is that this method is considered as a green method that has many advantages as production of less toxic or hazardous product, safe, cost effective and other advantages. Then the cytotoxicity studies on liver and breast cancer cell lines had confirmed the magnificent synergistic effect of the synthesized nanoparticles.

السرطان هو مصطلح يصيب الأمراض التي تتميز بتقسيم غير طبيعي للخلايا الطبيعية دون سيطرة ولديها القدرة على غزو الأنسجة القريبة. يمكن أن تنتشر الخلايا السرطانية عبر الأنظمة الليمفاوية ومجرى الدم إلى أجزاء أخرى من الجسم. هناك أنواع مختلفة من السرطان تعتمد على العوامل المؤهبة ، والعوامل الوراثية ، والموقع المتأثر في الجسم والعديد من العوامل الأخرى. الطرق التقليدية لعلاج السرطان وإدارته لها العديد من الآثار الجانبية تتراوح بين طفيفة إلى شديدة بسبب عدم القدرة على استهداف خلايا الورم. على النقيض من ذلك ، فإن استخدام تقنية النانو ، في علاج السرطان ، يضيف الكثير إلى ترسانتنا ضد السرطان أكثر من الطرق التقليدية حيث أن الجسيمات النانوية ، المستخدمة في الطب النانوي ، لديها القدرة على تقليل هذه الآثار الجانبية بناءً على بعض الاستراتيجيات مثل "النفاذية المحسنة و ظاهرة الاحتفاظ" التي تزيد من استهداف مناطق الورم اعتمادًا على حقيقة أن أنسجة الورم لها مسام ، تختلف أحجامها عن تلك الموجودة في الأنسجة الطبيعية. لذلك يمكن للجسيمات النانوية المرور من خلال هذه المسام على وجه التحديد. هنا ، نحن نجحنا في تصنيع جسيمات الذهب النانوية باستخدام حمض جاليك ثم نحمّل دوكسوروبيسين على هذا المزيج بحجم ٢٠ نانوميتر. والسبب وراء استخدام هذه المكونات الثلاثة هو أنها جميعها لها تأثير سام علي الخلايا حتى نتمكن من الاستفادة على أفضل وجه من التأثير التآزري لها. سبب آخر هو أن هذه الطريقة تعتبر طريقة صديقة للبيئة التي لها العديد من المزايا مثل إنتاج منتجات أقل سمية أو خطرة ، آمنة ، فعالة من حيث التكلفة وغيرها من المزايا. وقد اظهرت نتائج التحاليل علي الخلايا السرطانيه مدي الكفاءه الحيويه لهذه المواد المحضره.

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Pharmaceutics RSPT2-1:

Application of Low Frequency Sonophoresis for Transdermal Delivery polar drug

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Abstract

The skin provides a suitable area for the administration of many medications. However, the stratum corneum of the skin which consists of lipid matrix of protein rich corneocytes, shows a significant barrier to the penetration of polar drugs across the skin in the transdermal drug delivery systems. This study aims to improve the transdermal delivery of risedronate sodium, a polar drug used for treatment of osteoporosis, by the application of low frequency sonophoresis as a physical enhancer either alone or in combination with oleic acid as a chemical enhancer to potentiate its effect in order to enhance the bioavailability of the drug and avoid the side effects of the conventional route of administration. Ex vivo permeation studies were carried out on excised hairless rat skin over a period of 24 h and drug levels obtained were quantified. The results proved that oleic acid as a chemical enhancer showed slight increase in the transdermal permeation of risedronate sodium with 7.34% drug permeated after 30 min up to 30.5% drug permeated after 24 h, while low frequency sonophoresis as a physical enhancer showed a dramatic increase in skin penetration with 25.96% drug permeated after 30 min up to 80.28% drug permeated after 24 h. Combination of both chemical and physical enhancers showed synergistic effect on skin permeation of risedronate sodium with permeation values ranging from 39.45% after 30 min to 83.49% after 24 h. Furthermore, risedronate sodium loaded non-phospholipid oligolamellar Novasomes containing oleic acid, cholesterol and span 60 were prepared by thin film hydration technique. Characterization of the prepared formulation by transmission electron microscopy revealed that the formed vesicles are spherical in shape with a mean diameter ranging between 207 and 302 nm. Ex vivo permeation study of risedronate sodium loaded novasomes showed 6.24% drug permeated after 30 min to 27.34% after 24 h. Application of low frequency sonophoresis significantly increased permeation to 12.75% after 30 min up to 52.38% after 24 h. Confocal microscopy images depicted enhanced dye penetration through sonophoresis treated skin. Low frequency sonophoresis can be effectively used as a promising technique to actively enhance transdermal delivery of polar drugs. Combination of different enhancement techniques can lead to synergistic effects on drug permeation, providing a safe and effective alternative to oral administration.

يوفر الجلد مجالاً مناسباً لتناول العديد من العقاقير. ومع ذلك ، فإن الطبقة القرنية للجلد والتي تتكون من مصفوفة دهنية من الخلايا القرنية الغنية بالبروتين ، تمثل عائقًا كبيرًا لنفاذية العقاقيرالقطبية في نظم التوصيل الدوائي خلال الجلد. وتهدف هذه الدراسة إلى تحسين توصيل ريزيدرونات الصوديوم عبر الجلد، وهو عقار قطبي يستخدم لعلاج ترقق العظام ، من خلال تطبيق طريقة الموجات فوق الصوتية منخفضة التردد كمعزز فيزيائي إما بمفرده أو بالاشتراك مع حمض الأوليك كمعزز كيميائي لزيادة تأثيره من أجل زيادة الإتاحة الحيوية للعقار وتجنب الآثار الجانبية لطرق التناول التقليدية. تم إجراء دراسات النفاذية من خلال الجلد خارج الجسم على جلد فئران مستأصل بدون شعر لمدة 24 ساعة وتم تحديد كمية مستويات العقار التي تم الحصول عليها. وقد أثبتت النتائج أن حمض الأوليك كمعزز كيميائي أظهر زيادة طفيفة في نفاذية ريزيدرونات الصوديوم عبر الجلد بنسبة 7.34٪ من تغلغل العقار بعد 30 دقيقة و تصل إلى 30.5٪ من تغلغل العقار بعد 24 ساعة ، بينما أظهر تطبيق الموجات فوق الصوتية منخفضة التردد كمعزز فيزيائي زيادة كبيرة في اختراق الجلد بنسبة 25.96 ٪ من نفاذية العقار بعد 30 دقيقة تصل إلى 80.28 ٪ بعد 24 ساعة. وأظهر الجمع بين كل من المحسنات الكيميائية والفيزيائية تأثيرًا تآزريًا على نفاذية ريزيدرونات الصوديوم عبر الجلد مع قيم تغلغل تتراوح بين 39.45٪ بعد 30 دقيقة إلى 83.49٪ بعد 24 ساعة. وعلاوة على ذلك ، تم صياغة نوفازومات وهي جسيمات متناهية الصغر قليلة

الطبقات غير دهنية فسفورية محملة بعقار ريزيدرونات الصوديوم والتي تحتوي على حمض الأوليك والكولسترول وسبان 60 بتقنية ترطيب الغشاء الرقيق. أوضح توصيف الصياغات المحضرة بواسطة الفحص المجهري الالكتروني أن الحويصلات المحضرة كروية الشكل ويتراوح قطرها بين 207 و 302 نانومتر. وأظهرت دراسة النفاذية من خلال الجلد خارج الجسم للنوفازومات المحملة بعقار ريزيدرونات الصوديوم 6.24 ٪ نفاذية بعد 30 دقيقة إلى 27.34 ٪ بعد 24 ساعة. وقد أدى تطبيق تنظير الموجات فوق الصوتية منخفضة التردد إلى زيادة كبيرة في النفاذ إلى 12.75٪ بعد 30 دقيقة ليصل إلى 52.38٪ بعد 24 ساعة. كما أوضحت صور المسح المجهري بالليزر متعدد البؤر تحسن نفاذية الصبغة خلال الجلد المعالج بالموجات فوق الصوتية منخفضة التردد. لذا يمكن استخدام تلك التقنية كأسلوب واعد لتحسين التوصيل الدوائي للعقاقير القطبية من خلال الجلد على نحو فعال. ويمكن أن يؤدي الجمع بين تقنيات تحسين مختلفة إلى تأثيرات تآزرية على نفاذية العقاقير ، مما يوفر بديلاً آمنًا وفعالًا للتناول عن طريق الفم.

Pharmaceutics -RSPT2-2

A Pilot Compression Equipment for Tablet Production: Design, Fabrication and Finished Product Quality Control Tests.

معدات ضغط رائدة لإنتاج اللوحية: التصميم والتصنيع واختبارات مراقبة جودة المنتج النهائي

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Abstract

The skin provides a suitable area for the administration of many medications. However, the stratum corneum of the skin which consists of lipid matrix of protein rich corneocytes, shows a significant barrier to the penetration of polar drugs across the skin in the transdermal drug delivery systems. This study aims to improve the transdermal delivery of risedronate sodium, a polar drug used for treatment of osteoporosis, by the application of low frequency sonophoresis as a physical enhancer either alone or in combination with oleic acid as a chemical enhancer to potentiate its effect in order to enhance the bioavailability of the drug and avoid the side effects of the conventional route of administration. Ex vivo permeation studies were carried out on excised hairless rat skin over a period of 24 h and drug levels obtained were quantified. The results proved

that oleic acid as a chemical enhancer showed slight increase in the transdermal permeation of risedronate sodium with 7.34% drug permeated after 30 min up to 30.5% drug permeated after 24 h, while low frequency sonophoresis as a physical enhancer showed a dramatic increase in skin penetration with 25.96% drug permeated after 30 min up to 80.28% drug permeated after 24 h (1). Combination of both chemical and physical enhancers showed synergistic effect on skin permeation of risedronate sodium with permeation values ranging from 39.45% after 30 min to 83.49% after 24 h. Furthermore, risedronate sodium loaded non-phospholipid oligolamellar Novasomes containing oleic acid, cholesterol and span 60 were prepared by thin film hydration technique. Characterization of the prepared formulation by transmission electron microscopy revealed that the formed vesicles are spherical in shape with a mean diameter ranging between 207 and 302 nm. Low frequency sonophoresis can be effectively used as a promising technique to actively enhance transdermal delivery of polar drugs. Combination of different enhancement techniques can lead to synergistic effects on drug permeation, providing a safe and effective alternative to oral administration.

يمتلك المهبل مساحة سطحية عالية مما يجعله من افضل الوسائل لتوصيل الدواء مما يجعله يتفادى الايض الكبدي الاولي مما يعزز نسبة الدواء في الدم الغرض الرئيسي من هذه الدراسة هو الغرض الرئيسي من هذه الدراسة هو توصيف وتطوير أقراص البروجيستيرون التي تلتصق بجدار المهبل . البروجيستيرون احد الهرمونات الجنسية الموجودة بداخل الجسم ويلعب دور مهم في الدورة الشهرية وتكوين الجنين البشري والغير بشري ويلعب دورا حيويا في وظائف المخ والجهاز العصبي بالاضافة الى دوره كهرمون طبيعي فانه يتم استخدامه كدواء على سبيل المثال لعلاج انقطاع الطمث ونظرا الى انخفاض التوافر البيولوجي للبروجستيرون عن طريق الفم وانخفاض الذوبان وزيادة تعرضه للايض الكبدي الاولي نظرا لانه ينتمي الى الفئة الثانية من نظام التصنيف الدوائي الحيويللتغلب على مشكلة الذوبان تم تحضير6 تركيبات من البروجستيرون /المتشتت الصلب باستخدام درجات مختلفة من استرات السكر لمزاياه الشائعة عن تغيير وتحسن التوافق البيولوجي. تم التأكد من محتوى الدواء والذوبان المائي فتم اختيار التركيبة السادسة (استرات السكروز)كحامل مناسب لزيادة الذوبان المائي للدواء. التركيبة الامثل للبروجيستيرون/متشتت الصلب 6 خلطت مع درجات مختلفة من الشيتوزان مع او بدون البكتين (الناتج عن قشر البرتقال) كأصل طبيعي ,تم انتاج خمس تركيبات من الاقراص المهبلية المقعرة (10مليمتر)بالضغط المباشر باستخدام جهاز لوحي احادي الاصبع وفي جميع التركيبات تم الحفاظ على نسبة البروجستيرون /متشتت الصلب 10% من وزن التركيبة وتم استخدام تعليق 0.5 مل من استرات المغنيسيوم كمادة تشحيم .تم اختبار الصلابة , التفتيت والتفكك ووقت الترطيب للقرص المهبلي المحضر وللمزيد من التحسينات تم تعديل معدل الذوبات باستخدام طريقة المجداف (100 دورة في الدقيقة عند درجة حرارة 37 سليزيس) في درجة درجة حموضة السوائل المهبلية 4.5 .كل التركيبات اظهرت قيم مقبولة من الصلابة والتفتيت باستثناء التي تحتوي على البكتين فقط وفي الختام من الممكن تصنيع تركيبة للاقراص المهبلية التي تلتصق بجدار المهبل مع ملف تعريف الافراج عن طريق مزيج من الشيتوزان والبكتين.

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Abstract

Many topical anti-cellulite are available in the market, but their efficacy has not been scientifically proven. The aim of this study was to develop a novel-self-dissolving, swellable and biodegradable polymeric micron-size needles array (microneedle array MN) containing Tamarindus indica and Vitex agnus-castus as a safer and painless alternative to hypodermic needle injection. V. agnus-castus (F.Lamiaceae) and T. indica (F.leguminosae) hydromethanolic extracts were tested for their mineral content using atomic absorption spectrometer whereas both plants showed a high level of copper, zinc, and selenium. Free radical scavenging activity was tested using 2,2 diphenyl 1-picryl hydrazyl (DPPH) assay where both species showed powerful antioxidant activity correlated to the high phenolic and flavonoid contents demonstrated by colorimetric assays. Plant extracts also showed anti-collagenase activity in a dose-dependent manner. The MN was fabricated by micromodeling using different polymers that were chosen based on microscale pores in the animal skin detected by scanning electron microscope after the application of five plain MN formulations. Sodium alginate was selected to be loaded with both extracts. Five medicated conical MNs containing extracts with different concentration were formulated and evaluated using different parameters (1). The axial fracture force (Force/Needle) was measured using micromechanical test machine. Percent extract content ranged from (95.20 to 98.25) while in-vitro permeation profile of encapsulated MN arrays using France-diffusion cell showed that both extracts were released into phosphate buffered PBS (pH 7.4) within 6 hours, with an initial release burst followed by a slow release phase. Pharmacological evaluation was performed in a guinea pig model rendered obese on high fructose corn syrup diet. MN of T. indica, V. agnus-castus and a combination of both were evaluated for the skin properties, hormonal changes (estrogen and adiponectin), histopathological examination (dryness, elasticity, and

thickness), and inflammatory markers: IL6 and tumor necrosis factor-alpha. This new formulation offered promising managing strategy for cellulite.

يوجد العديد من المستحضرات الموضعيه المضادة للسيوليت في السوق التجاري ولكن فاعلية هذه المستحضرات لم تثبت علميا. ويتركز الهدف فى دراسة تطوير قرص به مجموعة من الابر الصغيرة بحجم الميكرو المصنوعة من عديدات الجزيئات ذاتية الذوبان والانتفاخ والقابلة للتحلل والمحتوية علي مستخلص أوراق نبات التمر هندي و كف مريم وهذه التقنية أكثر أمانا وغير مؤلمه ويمكن استخدامها بدلا من الحقن بالأبر تحت الجلد. و قد تمت دراسة كمية و كيفية للمعادن الموجودة فى كل من المستخلص الكحولى لكل من نبات كف مريم (العائلة الشفوية) والتمر هندى (العائلة البقولية) باستخدام طريقة الامتصاص الذرى حيث أظهر النباتين وجود النحاس و الزنك و السيلينيوم بكميات كبيرة. كذلك تمت دراسة قدرة النباتين على مسح الجذور الحرة باستخدام تحليل DPPH و قد ظهرت فاعليتهما كمضادات للأكسدة و المترابطة بالمحتوى العالى لكل من الفينولات و الفلافونيدات و الذى تم اثباته من خلال التحليل اللونى. و قد أظهر النباتين كذلك تأثير مضاد للكولاجين و كان التأثير طرديا اعتمادا على الجرعات. تم تصنيع الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو عن طريق قوالب مخصوصة وذلك باستخدام عديدات جزيئات مختلفة والتي تم اختيارها اعتمادا علي الثقوب التي في حجم الميكرو والتي تم احداثها في جلد الحيوان بعد أن تم وضع خمس صيغ مختلفة من هذه الأقراص خالية من المستخلص النباتي وتم الكشف عنها باستخدام مجهر يعمل بالمسح الالكتروني. تم اختيار ألجينات الصوديوم لصنع أقراص بها مجموعة من الابر الصغيرة بحجم الميكرو محملة بمستخلص النباتين. تم صياغة وتقييم خمس صيغ من الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو تحتوي تركيزات مختلفة من مستخلص النباتين باستخدام تجارب مختلفة. تم قياس قوة الكسر المحوريلهذه الابر باستخدام جهاز ميكروميكانيكي .
و تتراوح نسبة المستخلص التي تحتويه الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو بين ٢,٩٥- ٢٥, ٩٨. بينما أظهرت دراسة النفاذية المعمليه لهذه الأقراص فى محلول منظم (ذا أس هيدروجينى ٤,٧) خلال ٦ ساعات باستخدام خلايا فرانز للنفاذية انطلاق سريع في البداية يليه معدل انطلاق بطيء. تم تقييم فاعلية المستحضرات المحتوية على التمر هندى، كف مريم، و مزيج من النباتين باستخدام خنزير غينيا و التى تمت زيادة وزنها باستخدام نظام غذائى عالى فى الفركتوز ، من خلال دراسة خواص الجلد، التغيرات الهرمونية (الاستروجين، الادينوبكتين)، فحص الهستوباثولوجى (الجفاف، المرونة، السماكة)، و علامات الالتهاب (انترلوكين 6 و عامل نخر الورم الفا)، لقد قدمت هذه الصيغة الجديدة استراتيجية إدارة واعدة للسيلوليت.

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Pharmacognosy -RSPG2-9

Natural herbs for healthy skin: Anti-collagenase, Anti-elastase and Antioxidant Activities of Some Egyptian Herbs

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Abstract

Aging is an inevitable process for all living organisms. During this process reactive oxygen species generation is increased which leads to the hyperpigmentation and the activation of collagenase and elastase enzymes that can further contribute to skin aging.1 Six Egyptian medicinal plants; Rosemary (Rosmarinus officinalis L.), Lavender (Lavandula officinalis L.), Chamomile (Matricaria chamomile L.), Green tea (Camellia sinensis (L.) Kuntze) and Pelargonium graveolens L. were investigated for possible anti-aging capacity. The total phenolic contents of the aqueous and 95% ethanol extracts of the aerial parts of the five plants were determined spectrophotometrically using Folin Ciocalteu reagent(1). 2 The ethanolic and aqueous extracts of green tea showed the highest content (467.30 ± 0.75 and 455.76 ± 0.49 µg gallic acid equivalent/mg extract, respectively) followed by the ethanolic and aqueous extracts of pelarogonium (384.05 ± 0.01 and 250.07 ± 0.24 µg gallic acid equivalent/mg extract,respectively). The inhibition capabilities of the extracts on tyrosinase, elastase and collagenase enzyme activities were determined using spectrophotometric methods. Our extracts showed significant inhibition of the tested enzymes. The ethanolic extract of green tea showed the highest elastase inhibition activity, followed by its aqueous extract and the aqueous extract of pelargonium (200, 300 and 350 µg/mL, respectively). The total antioxidant capacity (TAC) by oxygen radical absorbance capacity (ORAC) and 2, 2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging capacity, 3 were also determined where all the extracts showed significant results. The chemical composition of the active extracts was studied using UPLC-MS/MS analysis. Our herbs can restore skin elasticity and thereby slow the wrinkling process.

الشيخوخة هي عملية حتمية لجميع الكائنات الحية. خلال هذه العملية ، يتم زيادة توليد الأكسجين بطريقة تفاعلية مما يؤدي إلى فرط تصبغ وتفعيل إنزيمات كولاجيناز والإيلاستاز التي يمكن أن تسهم في زيادة شيخوخة الجلد. تم فحص روزماري ، كاموميل ، البيلارغونيوم ، اللافندر و الشاى الأخضر لتققيم قدرتهم المضادة للشيخوخة. تم تحديد محتوى الفينول الكلي لمستخلصات الايثانول والماء من الأجزاء الهوائية من النباتات الخمسة باستخدام Folin Ciocalteu. أظهرت المستخلصات الإيثانولية والمائية للشاي الأخضر أعلى محتوى (467.30 ± 0.75 و 455.76 ± 0.49 ميكروغرام / ملغم مستخلص على التوالي) متبوعة بالمستخلصات المائية والإيثانولية و لنبات البيلارغونيوم) 250.07 ± 0.24 و 384,05 ميكروغرام / ملغم مستخلص ، على التوالي). تم تحديد قدرات تثبيط المستخلصات على الانزيمات التيروزينيز والإيلاستاز وأنزيم كولاجيناز باستخدام طرق الطيف الضوئي. أظهرت خلاصاتنا تثبيط كبير للإنزيمات المختبرة. أظهر المستخلص الايثانولي للشاي الأخضر أعلى نشاط تثبيط للإلاستاز ، يليه مستخلص مائي ومستخلص مائي من البيلارغونيوم (200 ، 300 و 350 ميكروغرام / مل ، على التوالي). كما تم تحديد القدرة الكلية المضادة للأكسدة (TAC)من خلال قدرة الامتصاص الجذري للأكسجين (ORAC) و قدرة الكسح الجذري-1-diphenyl picrylhydrazyl (DPPH)، حيث أظهرت جميع المستخلصات نتائج مهمة. تمت دراسة التركيب الكيميائي للمستخلصات النشطة باستخدام تحليل UPLC-MS / MS. يمكن أن أعشابنا استعادة مرونة الجلد وبالتالي إبطاء عملية التجاعيد.

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Pharmacology-RSPHO2-1

Experimental investigation of Physalis Peruviana extract on the regeneration of pancreatic beta cells in STZ induced type 1 diabetes mellitus in rats.

دراسة تجريبية لمستخلص Physalis Peruviana في تجديد خلايا بيتا البنكرياسية على STZ
الناجم عن داء السكري من النوع الأول في الجرذان.

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Abstract

Diabetes Mellitus is a common disease affecting many patients worldwide; currently accounting for nearly 420 million patients. The aim of research focuses on investigating effects of alternative potential treatment as physalis peruviana fruit and bone marrow derived mesenchymal stem cells on pancreatic beta cells regeneration. Diabetes mellitus type 1 model was generated chemically by Streptozotocin (STZ) by a dose of 50mg/kg. Thirty Male albino rats were distributed equally into 5 groups. The experiment was conducted for a month. The control group administered the vehicle, citrate buffer. A second group administered STZ. The Third group administered Mesenchymal stem cells only. The fourth group administered Physalis peruviana juice. Last group administered both BM-MSC and physalis peruviana extract. The results showed indications of pancreatic beta cells regeneration. Moreover, diabetes parameters improvement, including a significant decrease in blood glucose in the treated rats and improvement in beta islets of Langerhans architecture. Oxidative stress markers including SOD and MDA were lowered in the treated groups and reached normal levels in group treated by the combination. In addition, caspase-3 and IL-6 levels were lowered in treated groups and the latter is nearly normalized in the combination group. It should be noted that the improvement was at highest among the combination group which received BM-MSC and Physalis peruviana extract. Both BM-MSC and Physalis peruviana extract as a combination shows a synergistic effect and a potential to play an effective role to regenerate pancreatic beta cells, enhance their actions and ultimately treat diabetes mellitus. Therefore, the combinational therapy is a potential therapy in

diabetes mellitus type 1 treatment, as physalis peruviana serves as a national asset due to its affordability and widespread in Egypt. Furthermore, more research is needed to investigate furtherly their underlying mechanism, safety and their application to be used for humans.

مرض السكري هو مرض شائع يصيب العديد من المرضى حول العالم. تمثل حاليا ما يقرب من 420 مليون مريض. ويركز الهدف من البحوث على التحقيق في آثار العلاج المحتملة البديلة والفواكه فيزيقية ، وخلايا نخاع العظام النخاعي المستمدة نخاع العظام على تجديد خلايا بيتا البنكرياس. تم توليد نموذج السكري من النمط 1 كيميائيا بواسطة ستربتوزوتوسين (STZ) بجرعة مقدارها 50 مغ / كغ. تم توزيع ثلاثين من ذكور الجرذان البيضاء بالتساوي على 5 مجموعات. أجريت التجربة لمدة شهر. قامت مجموعة المراقبة بإدارة السيارة ، وسيترات العازلة. قامت مجموعة ثانية بإدارة STZ. المجموعة الثالثة تدار الخلايا الجذعية الوسيطة فقط. المجموعة الرابعة تدار عصير Physalis peruviana.قامت المجموعة الأخيرة بإدارة كل من BM-MSC و مستخلص فيزاليس بيروفيانا. وأظهرت النتائج دلائل على تجديد خلايا بيتا البنكرياس. وعلاوة على ذلك ، تحسن بارامترات السكري ، بما في ذلك انخفاض كبير في نسبة الجلوكوز في الدم في الفئران المعالجة وتحسين في جزر بيتا من Langerhans العمارة. تم تخفيض علامات الإجهاد التأكسدي بما في ذلك SOD و MDA في المجموعات المعالجة وبلغت المستويات الطبيعية في المجموعة التي عولجت من خلال الجمع. بالإضافة إلى ذلك ، تم خفض مستويات الكاسبيز 3 و IL-6 في المجموعات المعالجة وتمت تسوية هذه الأخيرة في المجموعة المدمجة. وتجدر الإشارة إلى أن التحسن كان في أعلى مستوى بين المجموعة التي تلقت مستخلصات BM-MSC و Physalis peruviana. يُظهر كل من خلاصة BM-MSC و Physalis peruvianaكمزيجًا تأثيرًا تآزريًا وإمكانية لعب دور فعّال في تجديد خلايا بيتا البنكرياسية وتعزيز إجراءاتها ومعالجة داء السكري في نهاية المطاف. ولذلك ، فإن العلاج التجميعي هو علاج محتمل في علاج النوع الأول من داء السكري ، حيث أن physalis peruviana يعمل كأداة وطنية بسبب قدرته على تحمل التكاليف وانتشاره على نطاق واسع في مصر. وعلاوة على ذلك ، هناك حاجة إلى مزيد من الأبحاث للتحقيق أكثر فأكثر في الآلية الأساسية والسلامة وتطبيقها لاستخدامها مع البشر.

Pharmacology- RSPHO2-5

Anticellulite herbal product: Fabrication, Characterization and Pharmacological Evaluation.

منتج نباتى كمضاد للسيلولايت: تصنيع، توصيف و تقييم فارملكولوجى

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Abstract

Many topical anti-cellulite are available in the market, but their efficacy has not been scientifically proven. The aim of this study was to develop a novel-self-dissolving, swellable and biodegradable polymeric micron-size needles array (microneedle array MN) containing Tamarindus indica and Vitex agnus-castus as a safer and painless alternative to hypodermic needle injection. V. agnus-castus (F.Lamiaceae) and T. indica (F.leguminosae) hydromethanolic extracts were tested for their mineral content using atomic absorption spectrometer whereas both plants showed a high level of copper, zinc, and selenium. Free radical scavenging activity was tested using 2,2 diphenyl 1-picryl hydrazyl (DPPH) assay where both species showed powerful antioxidant activity correlated to the high phenolic and flavonoid contents demonstrated by colorimetric assays. Plant extracts also showed anti-collagenase activity in a dose-dependent manner. The MN was fabricated by micromodeling using different polymers that were chosen based on microscale pores in the animal skin detected by scanning electron microscope after the application of five plain MN formulations. Sodium alginate was selected to be loaded with both extracts. Five medicated conical MNs containing extracts with different concentration were formulated and evaluated using different parameters. The axial fracture force (Force/Needle) was measured using micromechanical test machine. Percent extract content ranged from (95.20 to 98.25) while in-vitro permeation profile of encapsulated MN arrays using France-diffusion cell showed that both extracts were released into phosphate buffered PBS (pH 7.4) within 6 hours, with an initial release burst followed by a slow release phase (1). Pharmacological evaluation was performed in a guinea pig model rendered obese on high fructose corn syrup diet. MN of T. indica, V. agnus-castus and a combination of both were evaluated for the skin properties, hormonal changes (estrogen and adiponectin), histopathological examination (dryness, elasticity, and thickness), and inflammatory markers: IL6 and tumor necrosis factor-alpha. This new formulation offered promising managing strategy for cellulite.

يوجد العديد من المستحضرات الموضعيه المضادة للسيوليت في السوق التجاري ولكن فاعلية هذه المستحضرات لم تثبت علميا. ويتركز الهدف فى دراسة تطوير قرص به مجموعة من الابر الصغيرة بحجم الميكرو المصنوعة من عديدات الجزيئات ذاتية الذوبان والانتفاخ والقابلة للتحلل والمحتوية علي مستخلص أوراق نبات التمر هندي و كف مريم وهذه التقنية أكثر أمانا وغير مؤلمه ويمكن استخدامها بدلا من الحقن بالأبر تحت الجلد. و قد تمت دراسة كمية و كيفية للمعادن الموجودة فى كل من المستخلص الكحولى لكل من نبات كف مريم (العائلة الشفوية) والتمر هندى (العائلة البقولية) باستخدام طريقة الامتصاص الذرى حيث أظهر النباتين وجود النحاس و الزنك و السيلينيوم بكميات كبيرة. كذلك تمت دراسة قدرة النباتين على مسح الجذور الحرة باستخدام تحليل DPPH و قد ظهرت فاعليتهما كمضادات للأكسدة و المترابطة بالمحتوى العالى لكل من الفينولات و الفلافونيدات و الذى تم اثباته من خلال التحليل اللونى. و قد أظهر النباتين كذلك تأثير مضاد للكولاجين و كان التأثير طرديا اعتمادا على الجرعات. تم تصنيع الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو عن طريق قوالب مخصوصة وذلك باستخدام عديدات جزيئات مختلفة والتي تم اختيارها اعتمادا علي الثقوب التي في حجم الميكرو والتي تم احداثها في جلد الحيوان بعد أن تم وضع خمس صيغ مختلفة من هذه الأقراص خالية من المستخلص النباتي وتم الكشف عنها باستخدام مجهر يعمل بالمسح الالكتروني. تم اختيار ألجينات الصوديوم لصنع أقراص بها مجموعة من الابر الصغيرة بحجم الميكرو محملة بمستخلص النباتين. تم صياغة وتقييم خمس صيغ من الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو تحتوي تركيزات مختلفة من مستخلص النباتين باستخدام تجارب مختلفة. تم قياس قوة الكسر المحوريلهذه الابر باستخدام جهاز ميكروميكانيكي .و تتراوح نسبة المستخلص التي تحتويه الأقراص التي بها مجموعة من الابر الصغيرة بحجم الميكرو بين ٢,٩٥- ٢٥, ٩٨. بينما أظهرت دراسة النفاذية المعمليه لهذه الأقراص فى محلول منظم (ذا أس هيدروجينى ٤,٧) خلال ٦ ساعات باستخدام خلايا فرانز للنفاذية انطلاق سريع في

البداية يليه معدل انطلاق بطيء. تم تقييم فاعلية المستحضرات المحتوية على التمر هندى، كف مريم، و مزيج من النباتين باستخدام خنزير غينيا و التى تمت زيادة وزنها باستخدام نظام غذائى عالى فى الفركتوز ، من خلال دراسة خواص الجلد، التغيرات الهرمونية (الاستروجين، الادينوبكتين)، فحص الهستوباثولوجى (الجفاف، المرونة، السماكة)، و علامات الالتهاب (انترلوكين 6 و عامل نخر الورم الفا)، لقد قدمت هذه الصيغة الجديدة استراتيجية إدارة واعدة للسيلوليت.

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