

# FACULTY ACHIEVEMENTS BOOK

2016 / 2017



## Imprint

Publisher: MSA University (TM)  
Design and Realisation: Arch. Hala Higazi  
and Arch. Mostafa Salem  
Supervised by: Dr. Maysa Omar  
MSA University, Summer 2017

FACULTY  
ACHIEVEMENTS  
BOOK

2016 / 2017

FACULTY OF ENGINEERING

# Contents

00

Dean's Welcome

01

Department of Architecture

Research and Publications	4
Awards and Prizes	21
Academic Events	33
Staff Promotions	49
PG Certificate	53
Alumni	59

02

Department of Electrical Engineering

Research and Publications	
Awards and Prizes	

Academic Events

Staff Promotions

National Projects and Grants

PG Certificate

Alumni

03

Department of Industrial Engineering

Research and Publications

Awards and Prizes

Academic Events

Staff Promotions

National Projects and Grants

PG Certificate

Alumni



# DEAN'S WELCOME



Welcome to the Faculty of Engineering at October University for Modern Sciences and Arts.

Throughout its rich 20-years history, the Faculty of Engineering has established an outstanding regional and national reputation for excellence in Graduation Projects. This is due to its talented faculty and staff, its research initiatives, as well as its excellent curricula, its modern facilities and most important, the quality of its graduates. The Faculty of Engineering at October University for Modern Sciences and Arts is in an admirable position having been able to foster tremendously strong relationships with industry partners, alumni and government. The benefit of these strong relationships can be easily seen in the high quality of our graduation projects.

We believe in our students and we value their success. We are proud of our outstanding faculty and staff, whose cutting edge research is relevant to the needs of society. Our goal is to give students the opportunity to experience research and hands-on learning starting from the first day they step through our door. Through our program, undergraduate students gain practical experience working with industry, a win-win relationship for both partners and students.

Looking forward, the Faculty of Engineering will make every effort to continue to be known for its high-quality programs, innovation and relevance to industry and society.

Prof. Dr. Nahed  
Sobhi

Dean Faculty of  
Engineering

[nsobhi@msa.eun.eg](mailto:nsobhi@msa.eun.eg)

the 1990s, the number of people with diabetes has increased in all industrialized countries. In the Netherlands, the prevalence of diabetes has increased from 1.5% in 1975 to 5.5% in 1995. The prevalence of diabetes is expected to increase further in the next decades, because of the increase in the number of people aged 65 years and over (1).

Diabetes is a chronic disease, and the long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are mainly cardiovascular disease, retinopathy, nephropathy and neuropathy. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control. The long-term consequences of diabetes are determined by the degree of glycaemic control.

01 ARCHITECTURE

Research+  
Publications

# Staff Publications



Dr. Maysa Omar

Associate Professor

"Sustainable developed Teaching and Learning Strategy at Faculties of Architecture and Architecture departments" Journal of Al Azhar University Engineering Sector ISSN: 1110-640 - JAUES /30-5-2017



Dr. Sameh El-Feki

Ph.D.

El-Feki, S. and Kenawy, I. (2017) "Integrating Sustainability within Architectural Education in Cairo". Building Innovatively Interactive Cities (Horizons & Prospects) – 7th ARCHCAIRO International Conference ARUP 2008 / CAIRO UNIVERSITY & UN HABITAT – Cairo, Egypt.



Dr. Nihal Amer

Ph.D.

Amer, N., Anees, M., 2015 "Integrating Environmental Control Systems in Architecture Design Studios," In Proceedings of the SBE 2016 Conference, 29 Nov - 01 December, Cairo, Egypt.



**Dr. Tarek Galal**

Ph.D.

Selections from Subh al-A'asha by al-Qalqashandi, Clerk of the Mamluk Court, with Heba El-toudy, Routledge, UK, 2017.

"Methods for Digital Photographic Presentation, 3D Photogrammetry and VR Techniques for Digital Heritage and Artifacts Recording", Sustaining Heritage in the Digital Age, Virtual Heritage Cairo 1st International Conference, 20-21 February 2017, National Museum of Egyptian Civilization, Cairo, Egypt.

Sustaining Heritage in the Digital Age, Virtual Heritage Cairo 1st International Conference, 20-21 February 2017, National Museum of Egyptian Civilization, Cairo, Egypt.



**Dr. Rania El-Messiedy**

Ph.D.

"Portable Streets: Smart Urban Solution" 21st International Conference on Urban Planning and Regional Development in the Information Society GeoMultimedia 2016, Smart Me Up, REAL CORP 2016 Conference, 22-24 June 2016, Hamburg, Germany. Proceedings/Tagungsband ISBN 978-3-9504173-0-2 (CD), 978-3-9504173-1-9, <http://www.corp.at> Freie und Hansestadt Hamburg Landesbetrieb Geoinformation und Vermessung, Hamburg, Germany

"Impact Of 3D Simulation Modeling On Architectural Design Education". "Rethinking Architectural Education: Towards A Better Practice" RAE 2016, Conference organized by Faculty of Architectural Engineering, Beirut Arab University. Proceedings of the 1st International Conference on Architectural Education: special edition of Architecture & Planning Journal, APJ; ISSN: 2079-4096, Beirut Arab University Press, Debbieh, Lebanon, March 2016



**Dr. Mohamed Mahgoub**

Ph.D.

Elnabawi M, Hamza N, Dudek S. (2017). Assessment of different shading design scenarios on air temperature and wind speed in outdoor urban street, Will be presented at 33rd International PLEA International Conference on Passive Low Energy Architecture, 3rd - 5th July 2017, Edinburgh, UK

Elnabawi M, Hamza N, Dudek S. (2016) Thermal perception of outdoor urban spaces in the hot arid region of Cairo, Egypt. Sustainable Cities and Society, Volume 22, April 2016, Pages 136–145 doi:10.1016/j.scs.2016.02.005



**Dr. Hatem Fayed**

Ph.D.

"Analytical levels of complex geometry in informal settlements", Article in journal of Al-Azhar University Engineering Sector (JAUES), p- ISSN: 1110-6409, April, 2016, vol. 11 , no. 39

Matrix Of Emerging And Dynamic Structure Patterns Of Informal Settlements Article in journal of Al-Azhar University Engineering Sector (JAUES), p-ISSN: 1110-6409, October ,2016, vol. 11 , no. 41



**Dr. Eman Saleh**

Ph.D.

E. A. Saleh, "Upgrading Informal Settlements: A study of the Anthropological impact of a certain community and its relationship to the process of urban development for deteriorated areas in Cairo.," Al-Azhar University, 2017.

E.A.Saleh, H. Gomaa, "Communities in the Time of Transformations: A Study of Urban Transformations and Changes in Older Communities in Cairo," Al-Azhar University, 2017.

E.A.Saleh , N.A.Amer, "CULTURAL AND BEHAVIORAL FACTORS IN UPGRADING DETERIORATED URBAN SPACE ,CASE STUDY: DARB EL LABBANA, OLD CAIRO," Journal of Engineering and Applied Science (JEAS), 2017.

Re-framing back imperative confrontations. Egyptian pavilion at the 15th architecture International Biennale catalogue. (Published by the Ministry of Culture), May 2016



**Arch. Mohamed Anees**

Instructor

Amer. N., Anees. M., 2015 "Integrating Environmental Control Systems in Architecture Design Studios," In Proceedings of the SBE 2016 Conference, 29 Nov - 01 December, Cairo, Egypt.



Arch. Kareem Ayyad

Lecturer Assistant

Ayyad, K. and Fekry, A. (2016), Green Retrofitability Index (GRI) as an Indicator for Decision-Makers in Green Retrofitting Projects, *Procedia Environmental Sciences*, ELSEVIER, Vol. 34, 2016, pp233–244. doi:10.1016/j.proenv.2016.04.022



Arch. Salwa El-Gindi

Lecturer Assistant

Salwa El Gindi, Ahmed Reda Abdin, Ayman Hassan, " Building integrated Photovoltaic Retrofitting in office buildings", *The international conference on Alternative and Renewable Energy Quest in Architecture & Urbanism*, held in Universitat Politecnica de Catalunya, Spain , 1-3 February 2017.



Arch. Aya El-Khouly

Lecturer Assistant

"Compatibility between Architectural Education and Real Practice in Egypt", *RAE2016 - First International Conference On Architectural Education*, Lebanon accepted January 2016



Arch. Sherif Anees

Lecturer Assistant

"The Effect Of Using Photovoltaic Shading Devices On Decreasing Cooling Loads And Increasing Green Power In Domestic Buildings In Egypt". *IJBST journal* 11.6 (2017): 50-53

"The Adaptation Of Islamic Architecture Principles And Techniques To Enhance Thermal Comfort In Social Housing In Egypt". *IJBST journal* 10.5 (2017): 41-50.



Arch.Nadin Hosni

Lecturer Assistant

Nour EDin. N. (2015). "Biomimetic Potentials for Building Envelope Adaptation in Egypt".Improving Sustainability Concept in Developing Countries.Procedia Environmental Sciences 34 ( 2016 ) 375 – 386.Cairo,Egypt.

Nour EDin. N. (2016). "ICT in generating a biomimetic adaptive building envelope".Asian Academic Research Journal of Multidisciplinary (AARJMD ).Volume 4 ,Issue 2.ISSN : 2319 - 2801.



Arch.Marine Medhat

Lecturer Assistant

"Affordable living and Adaptability in old Cairo Slum areas" Sustainable Built Environment (SBE16) International Conference 29/11-1/12 2016.



Arch.Mostafa Salem

Teaching Assistant

"Re-framing back imperative confrontations", Egyptian pavilion at the 15th architecture International Biennale catalogue. (Published by the Ministry of Culture, May 2016

# Research Units & Projects



Dr. Tarek Abdelsalam  
Associate Professor

## Architecture Research Committee Project:

“A Proposed Building Method for Addressing the Housing Problem and Informal Encroachment on Agricultural Lands in Delta Villages.”

As one of SSRC objectives is to integrate the efforts of researchers and practicing engineers to give solutions for environmental and national development problems and to transfer and mobilize knowledge gained through research for the benefit of society, the committee presents;

“A Proposed Building Method for Addressing the Housing Problem and Informal Encroachment on Agricultural Lands in Delta Villages.”.

Agricultural lands in Egypt have witnessed a total loss of 1.5 million acres of prime agricultural land since 1952 due to the informal urban sprawl. If the same rate continues, it is expected that after 180 years Egypt will lose all its agricultural land under the informal urbanization.

To encounter the housing problem in Delta villages and protect agricultural land from informal urbanization while meeting the community demands of residential units, this project provides a

comprehensive approach to tackle the problem. The project concept relies on building the residential units above the 4 meter-width earthy pathways connecting the villages and agricultural lands and utilizes them as shaded arcade walkways. The ground level of the building (the arcade) includes the building columns that define the earthy walkway. The utilized construction technique integrates natural building materials (wood), local building materials (compressed earth block) and conventional building materials (concrete) to provide a low-cost, sustainable and environmentally friendly building that respects the values and traditions of the Egyptian rural community.

The project was presented and discussed with consultants and experts of the Ministry of Agriculture and the work is under development to be implemented through a pilot project in one of the Delta villages.



*Illustrations elaborating the project proposal.*

## MSA Centre of Earth



**Dr. Nermine AbdelGelil**

**Associate Professor**

To promote principles of "Green Architecture" and "Affordable Homes" and develop designs with appropriate technologies that are environmentally-friendly, economic and aesthetically appealing, the Faculty of Engineering at MSA University took the initiative of importing a motorized hydraulic press machine with high specifications and compression force to produce interlocking compressed earth blocks "Eco Bricks" (size 25cm x 12.5cm and various heights) using the available sandy soil at MSA 6th of October Campus.

High mechanical properties and compression strengths of "Eco Bricks" are obtained without the need of the polluting firing process used in conventional red bricks. In addition, because of the interlocking "Lego-like" feature of the bricks and their high quality and accuracy, neither mortar nor plastering are needed, reducing thus the cost and minimizing the use of cement of which its industry is on the top of the list of pollutants.

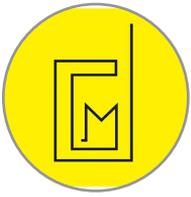
In numbers, CO<sub>2</sub> emissions of Eco Bricks are 12 times less than red bricks, they need 10 times less embodied energy than red bricks for their production, building with them is 4 times faster and 1m<sup>2</sup> finished wall is 60% cheaper than

a finished conventional wall. The machine's productivity is 1600 bricks per 8 hours and creates many work opportunities.

It is worthy to say that the press machine is the beginning of launching the establishment of "MSA Center of Earth" training and research center at MSA University 6th of October Campus. The center is intending to build an experimental residential unit at MSA campus that will help in the expansion of the technology in Egypt.

This dream come true would have never been possible without the full support and vision of Dr. Nawal El Degwi, Head of Board of Trustees and Dr. Nahed Sobhi, the Dean of the Faculty of Engineering, and the determination of, efforts made and intensive training took by Dr. Nermine Abdel Gelil (Architecture) and her team: Arch. Omar El Melegy (Architecture), Arch. Abdel Rahman Gamil (Architecture), Eng. Shorouk M. Soliman (Civil), Eng. Ahmed Mahdi (Civil), Eng. Yasser M. Safan (Mechatronics), students: Ahmed Abdel Fattah, Mirna Mohamed, Mohamed Ahmed, Mostafa Abdel Aziz, Mostafa Soliman, Nourhan Abdel Hamid, Omnia Ali and Workers; Ashraf and Mahmoud.

## Desert City Mappers Initiative



Arch. Hala Higazi

Lecturer Assistant



Arch. Mohamed Rafik

Lecturer Assistant

The "Desert City Mappers" initiative (DCM) is an MSA University based initiative founded in December 2015 by architects Hala Higazi and Mohamed Rafik with the assistance of Arch. Maryam Kamal, and Arch. Mohamed Abdelaziz. The initiative aims to provide accessible data for formal and informal services in desert cities in the Greater Cairo Region (GCR). Through creating a platform for multidisciplinary urban research, DCM engages students in field research, data gathering, visualization, and critical thinking while also broadening their understanding of rising issues new desert cities are faced with and providing urban and architecture design solutions to create a better more suitable environment for sustainable development. This is through holding seminars, workshops, or as part of a curriculum.

Each year, a different topic is selected for research. For the first year, the research was focused on "Urban Mobility and Transportation", where a workshop was held initially to teach students on how to create maps and visualise data graphically. This was followed by a seminar held at MSA University titled "An Attempt to Understand Cairo's Public Transit through Mapping Initiatives", bringing together experts, start-ups and students from different disciplines who have common interests to start a discussion around transportation in the GCR. New, fruitful collaborations were made through this seminar for DCM. First, with "Arkab Eih?" a platform developing a transportation app for Cairo which provided the DCM team and a group of enthusiastic students with raw data to produce a graphical transportation map for formal and informal transport in the district of "Al-Maadi" to be hung and distributed at the metro station. The second collaboration was with the "Transport for Cairo" initiative

(TFC), where DCM and TFC co-organized a three day workshop titled "Mapping Cairo's First Ever Transit Map". This workshop brought together students from different universities around the country to produce 3 experimental map alternatives, visualising 21 formal bus routes together for the first time ever. Maps developed were later displayed at the "Dubai Design Week" in 2016. Finally, a research comparing the environmental impact of formal and informal transport was carried out over the summer and the findings were presented and discussed in an academic paper titled "Formal vs. Informal transit in Cairo: Comparative Analysis of Environmental Impact."

For the new academic year, a new research theme was selected focusing this time on the city of 6th of October as a "Student City". This was explored further through a research-based design studio for 4th year architecture students. The course was carried out on three levels; public spaces and physical intervention mapping, urban strategy development, and Architectural design implementation. Through a combination of fieldwork, lectures and pin-ups throughout the semester, students produced digital and physical services maps for the "Al-Hossary" area, developed design strategies for its development, and proposed architectural solutions to tackle different issues in the area for students. At the end of the semester, an exhibition displaying the students' work was held at the university's workshop and a panel or jurors were invited for discussion.

The team continues to progress with research and reflect from the past phases in-order to launch new projects, workshops, and data while providing open source data for the public.

Awards +  
Prizes

# EZBET Project: Abou El-Soud Makeover Competition



In February 2016, EZBET Project launched a new student competition for undergraduate students from Architecture, Landscape Architecture and Urban Design & Planning Departments from Egyptian Universities to take part in the "student" landscape design competition "Abu El-Soud School Makeover", in the informal settlement of Ezbet Abo Qam, Cairo, Egypt.

The competition aimed to make upgrading and renovation integrated interventions of the school of Abu El-Soud, where the final landscape designs should foster the local, low-cost, environmental and high-quality indoor and outdoor spaces concepts.

Two teams of MSA undergraduates were tied second place winners for the competition. This first team was comprised of 5 fifth year students; Mohamed Abedlaziz, Islam Ali, Omar Mostafa, Mahmoud Gamal, and Abdelrahman El-Haitmy. The second team was made up

of 4 fourth year students; Mostafa Soliman, Sameh Zayed, Karim Khaled, and Yousef Bazan.

Students from the winning teams and other volunteering students from MSA later participated in hands-on workshops to implement the design which was completed earlier this year. The department is very proud of this achievement and inspired by the enthusiasm of these students who worked hard on site to realise parts of their designs.

*Project Partners:*



**Universität  
Stuttgart**

WA73



A 3D shot showing the 2nd place design proposal of Sameh Zayed, Kareem Khaled, Mostafa Soliman, and Youssef Bazan's team submission.

## ABU EL-SOUD SCHOOL MAKEOVER

COMPETITION WINNERS

# 2<sup>nd</sup> Place

Modern Sciences and Arts University  
(MSA), Faculty of Architecture

Sameh Fathy Abdallah  
Karim Khaled Shaker  
Youssef Ahmed Bazan  
Mostafa Mohamed Soliman



DAAD  
Deutscher Akademischer Austauschdienst



Group photo of the winning team posted on the competition website.

BI49

concept

Unlike the traditional and typical system of the governmental schools, The design give an opportunity for students to discover them selves and their interests by the daily participating in different activities.



A 3D shot showing the 2nd place design proposal of Islam Ali, Abdelrahman El-Haitmy, Mahmoud Gamal, Omar Mostafa, and Mohamed Abdelaziz's team submission.

# ABU EL-SOUD SCHOOL MAKEOVER

COMPETITION WINNERS

## 2<sup>nd</sup> Place

Modern Sciences and Arts University  
(MSA), Faculty of Architecture

Islam El-Nahrawy  
Abd El-Rahman El-Hiatmy  
Mohamed Abdelaziz  
Omar Ibrahim  
Mahmoud Tafesh



DAAD  
Deutscher Akademischer Austauschdienst



Group photo of the winning team posted on the competition website.

# 4<sup>th</sup> Earth Competition: School for Ghana 2016



"Architecture for Humanity represents the finest of the new breed of architectural leadership, employing architectural skills and directing them for the larger good."

We were glad to announce that a very special team of our students in architecture department "design IV" course in the Spring 2016 semester have succeeded after a great effort to achieve that goal during their participation in "4th earth international architecture competition" under the supervision of "Prof. Adel Fahmy", "Dr. Nihal Amer Amer", and me "T.A. Alshimaa Galal".

It's an honor that they were invited as a team to Ghana to lead a workshop to build our design entry" a class room unit for a community secondary school in Ghana". This design entry will emphasize sustainable architecture and cost efficient construction by fully integrating local materials and passive solar design.

Congratulations to my great team and special thanks to our supervisors "Prof. Adel Fahmy" and "Dr.Nihal Amer" for their great effort and guiding.



*Group photo of course group and staff during a field trip at Tunis Village in Fayoum.*

# UIA-PHG International Student & Young Architect Competition 2017



A group of fourth year architecture students, Ahmad Helal, Kareem Khaled and sameh Zayed, participate in the UIA international competition and were selected from the TOP 50 from 340 project from all over the world.

tion; SMART, GREEN & BEYOND:HEALTHCARE FACILITY OF THE FUTURE. The competition was organized by International Union of Architects-Public Health Group (UIA-PHG) / Global University Program in Healthcare Architecture (GUPHA) / China Hospital Construction Conference (CHCC).

UIA-PHG International Student & Young Architect Competi-



*A digital illustration from the student's competition entry.*



*Team Members (Left to Right): Ahmad Helal, Kareem Khaled, and Sameh Zayed.*

# International Design Competition-Community Hub 2017



Organizers



Organizers



Ahmed Aboull-Hakim  
MSA University



Omar Aboutaleb  
MSA University

Egypt is a megalopolis country with nearly 70% of its population residing in informal vulnerable districts. Abu Ghaddan village is one of the most neglected rural areas with high population, more than 1000 individuals.

Therefore, "Hand Over "and "Man ahyaha" collaborated to build sustainable community hub including services and a community school in Abu Ghaddan village. This is through an open call competition

for design ideas for a community service center and a community school to be built in a rural town in Abu Ghaddan village.

Two 3rd year students- Omar Aboutaleb and Ahmed Aboul-Hakim- were part of the first place winning team which was made of three more members from other universities. Implementation of the winning submissions will be carried on later through the year.



A 3D shot showing the design proposal submitted.

\*Other Team Members: Sara Hesham(De Montford University, Leicester), Nedaa Hany(MTI University),Aliaa Elderdiry (ASU University).

# Al-Ahram Trade Fair Superiority Award for Graduation Projects 2016

Al-Ahram organization has held its real estate exhibition at the Conferences Center which was organized by the Faculty of Engineering, Cairo University, and also an exhibition for graduation projects by top-rank students was held.

MSA University was among the nominated universities for its students' projects being of the required

scientific and practical level.

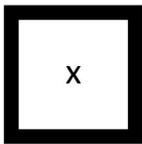
Honorary shields were presented by the president of the organization to the top graduates and also offered gratitude rewards to professors who supervised the projects.

Student Mustafa Ahmed Ali earned the superiority shield and Dr. Sameh Al-fiqy from the faculty of Engineering – Architecture received the supervision shield for the winning project.



*Student Mustafa Ahmed Ali who earned the "Superiority Shield" for 2016.*

# Egyptian Pavilion 2016 Venice Biennale



RB//IC

Re-framing Back/  
Imperative Confrontations

The Venice Biennale of Architecture is an integral part of architectural culture. However, for several previous editions, it was distant from civil society. This year's cycle "Reporting from the Front" is different. It highlights the capacity and potential of architecture's role inside communities; "architecture makes the difference", as Aravena puts it.

RBIC of the Egyptian pavilion commissioned by Ahmad Hilal with a curatorial team of Eslam Salem, Gabriele Secchi, Luca Borlenghi and Mostafa Salem, seeks to reveal various successful stories of architecture narrating the difficulties and challenges inside the Egyptian built environment. Hoping through the pavilion to go beyond the question of "What is the story about?" to "How was the story written?"

The stories inside the pavilion reveal how architecture is actively creating change in communities. Nowhere are these confrontations more evident than in the urban context, and nowhere more so than in Egyptian cities. Since the 2011 uprising, the public spaces of Cairo were spaces where opposing visions met and clashed. Informal neighborhoods, long neglected and

frustrated from their lack of agency and access to public services, were the stages where the oppressed tried to reclaim their voice in the city. In this context, urban space became not just a backdrop but an instrumental foreground and an actor in the continuous and dynamic processes of change.

The pavilion's goal is to re-frame and position in a global forum what we think are examples of a successful architectural and urban conflict resolution where architects, through their work, were the mediators of change. This mediation took the form of built projects, or even research proposals & mappings that attempted to highlight existing problems. This exhibition is therefore about these real transformations that were the fruit of a collective labor to perceive, translate and be a positive force in society.

The contribution of the Egyptian pavilion's exhibition can be read in tandem with the catalogue publication and an online platform which was designed. Together, the exhibition, catalogue and the online platform are extensions & complements of the Biennale itself, and are crucial elements working together to share the stories and experiences of those who are

reporting from the front to a wider audience.

Through an open Call, many works have been selected and initiated fruitful collaborations for the Egyptian pavilion this year, among others, the MAS Urban Design of ETH Zürich, School of Design of University of Pennsylvania, Mittelmeerland of AA School of Architecture, Lund University, and MSA architecture

department. In addition to selected works from Baladilab, Cairoobserver, CLUSTER, Community Design Collaborative, GUC Architecture Department, (IN)formal Pattern Language, MADA Architecture Studio, Studio Meem, Takween, Traslochi Emotivi, and CECumene Studio.

The official opening of the exhibition will take place on the 27th of May at 11.45am in Giardini della Biennale.



*Photo of curatorial team (Members from left to right: Mostafa Salem, Ahmad Hilal, Gabriele Secchi, Eslam Salem, and Luca Borlenghi).*



REFRAMING BACK  
IMPERATIVE CONFRONTATIONS

مُواجَهَاتٌ حَثِيئِيَّةٌ

IN A WORLD WHERE NEWS COVERAGE IS SHEARED, DOZENS OF CONFLICTS AND STRUGGLES GO UNNOTICED. BEYOND THE SENSATIONAL FOCUS ON CERTAIN LARGER EVENTS, DAILY CONFLICTS OF A SMALLER SCALE, BUT NO LESS IMPORTANT, PERIST AT THE HEART OF ALL THESE BATTLES. WHETHER LARGE OR SMALL, IS A TENSION BETWEEN AMBITIOUS, UNREALIZED EXPECTATIONS AND UNFULFILLING RESULTS. TENACITY, ENDURANCE AND CREATIVE RESILIENCE, HOWEVER, HAVE COME TO EMBODY THE SPIRIT OF THESE FIGHTS FOR CHANGE.

REFRAMING BACK/ IMPERATIVE CONFRONTATIONS IS NOT ONLY A SPACE TO BRING THESE EFFORTS TO THE FORE, IT IS A MOMENT TO CELEBRATE THEM TOGETHER, HOPEFULLY INFUSING THEM WITH THE OPTIMISM AND ENERGY NECESSARY TO CONTINUE THEIR FIGHT.

THIS PAVILION IS, IN NO WAY, A COMPREHENSIVE SURVEY OF ALL INITIATIVES AND WORKS THAT HAVE BEEN PRODUCED DURING THE LAST PERIOD IN EGYPT. IT IS, HOWEVER, AN ATTEMPT TO INTRODUCE TO A LARGE AUDIENCE THE WORK OF THOSE INDIVIDUALS AND COLLECTIVES, STUDENTS AND PROFESSIONALS, WHO OVER THE COURSE OF THE PAST DECADE, HAVE BEEN SEARCHING FOR NEW HEARING MODELS IN EGYPT AND ENGAGING IN ARCHITECTURE AS A FIELD OF CRITICAL INTELLECTUAL INQUIRY. THE WORK PRESENTED HERE DEMONSTRATES THE INTEREST OF A WIDE RANGE OF ACTORS - GOVERNMENT, UNIVERSITIES, RESEARCH CENTERS AND INDEPENDENT PRACTITIONERS - IN THE EGYPTIAN URBAN CONDITION.

EGYPTIAN PAVILION EXHIBITION AT THIS YEAR'S VENICE BIENNALE, MARKS THE OCCASION TO BRING FORTH ALL THESE ACTIVITIES AND APPROACHES IN ONE SPACE AND TO REFLECT ON THE NATURE OF THE KNOWLEDGE PRODUCED IN THE DECADE. IT IS AT THE SAME TIME AN OPPORTUNITY TO EVALUATE THE POTENTIAL FOR ACTION, CHANGE AND TRANSFORMATION.



Photos from the exhibition in Veinece, Italy, 2016.

Academic Events

# The Lake2017: Workshop in Greece

## *Scientific Director:*

Jordanis Styliadis, Associate Professor, Department of Architecture, University of Thessaly

Arch. Esraa Elareef, head of Egyptian Team, teaching assistant, MSA University

## *Participating Students:*

Salma Shalhoub

Amr Zanaty

Ahmed Helal

Ahmed Tarek

Ahmed Abdelfattah

Mostafa Soliman

Injy Taha

Yhia Qandil

As a part of regional, multinational and international documentation and design workshops, The LAKE2017 workshop in Greece came to employ research design approaches concerning the rural landscape contextualizing Gefyroudi Village. The workshop revise the conceptual sensations towards a sustainable artificial lake environment along the Lakeside area of Kerkini Lake.

During the 7 day workshop a condition of multinational commonality was challenged by all participants. Educational activities, lectures, fieldwork, design development and presentations are combined with

collective dinners, lakeside walks, stochasmos and discussions. Thus, every participant is becoming the vital unit of a collective process aiming to reach a desirable result, combining the MSAian's students ability with the communal meditative need, interpreting and correlating with locus, landscape, cultural syntax and stereotypes of the environment. Where MSAians with their Greek colleagues formed a perfect environment for exchangeable data and experience through mixed groups.



*International Workshop team comprised of students from MSA University, Cairo University, and University of Thessaly.*

# ISSB Production & Masonry Workshop 2017

**ISSB**  
Production  
+ Masonry



To continue in MSA University's "Go Green" and "Community Service" policies and to promote principles of "Green Architecture" that are environmentally-friendly, economic and aesthetically appealing, the Faculty of Engineering took the initiative of importing a hydraulic press machine to produce interlocking compressed stabilized soil bricks (ISSB) using the sandy soil available all over Egypt. It was obtained from excavations at MSA's 6th of October campus.

High mechanical properties and compressive strengths of ISSB are

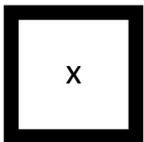
obtained without the need of the polluting firing process used in conventional red bricks. In addition, because of the interlocking "Lego-like" feature of the bricks and their high quality and accuracy, neither plastering nor conventional mortar are needed; this significantly reduces time and cost.

In this context, the Department of Architectural Engineering launched an Intensive Hands-on Training Workshops on the Production and Masonry of ISSB



*A selection of photos from the first round of the workshop showing the students working and learning on campus.*

# Extract, Model, Build: RB//IC Workshop 2016



As part of our the RB//IC cooperative agenda, the curator addressed architecture universities, academies and institutions to contribute to the Egyptian pavilion curatorial content, providing a good opportunity for students to be part of one week workshop dedicated to build physical models, which wher exhibited in the Egyptian pavilion at the 15th Biennale di Architettura di Venezia.

The workshop was held at the MSA University Dokki campus and was co-organized by the curation team Arch. Omar El-Melegy and Arch.

Mohamed Yasser. Students from different year groups participated in this workshop and where they gained new skills and insights about making physical models, while contributed to one of the most prestigious architecture events.



*A selection of photos from the workshop held at the Dokki Campus (Student: Abdelrahman El-Haitmy).*

# DCM Transit Map Design Workshop 2016



In attempt to create a comprehensive transit map for public transport in Cairo, "Transport for Cairo (TFC) teamed up with "Desert City Mappers" (DCM) and organized a three day workshop, hosted by MSA University, calling students from built environment and graphic design disciplines from universities all over Cairo. The selection was made through an application assignment; to redesign the Cairo metro map. This diversified the team bringing different skills and ideas to the table. The nature of the workshop was experimental; having real-life data prepared, and given Cairo's high density, there was no initial imagination of the fi-

nal map to be produced. A series of short lectures based on theories and international examples of transit maps guided the design process. The main objective of the workshop was to visualize real-life data of 20 buses in Cairo; this was enforced by a daily "Call for Action" to build on the designs. With the dedication and enthusiasm of the participants, the workshop's objective was met regardless of its congested time frame and Ramadan hours. The final maps produced carried out different interesting debates and approaches, making it a fruitful experience for both the participants and organizing team



*One of the participating groups presenting their final design. It is important to note that the maps produced ONLY represents 21 lines of Cairo's formal public transport!*

Team Members:

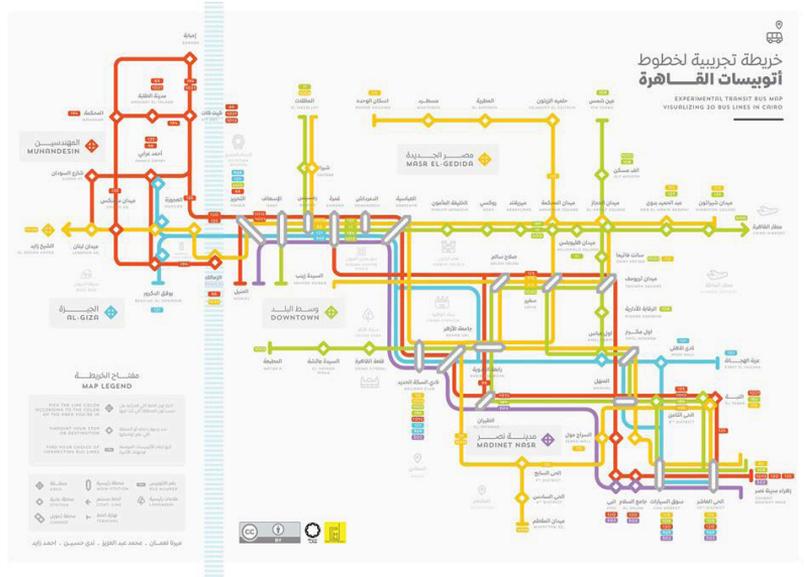
Mirna Nouman

Nadaa Hussein

Ahmed Zayed

Mohamed Abdelaziz

\*This map was exhibited in the exhibition "Cairo Now!" at the Dubai Design Week, 2016.



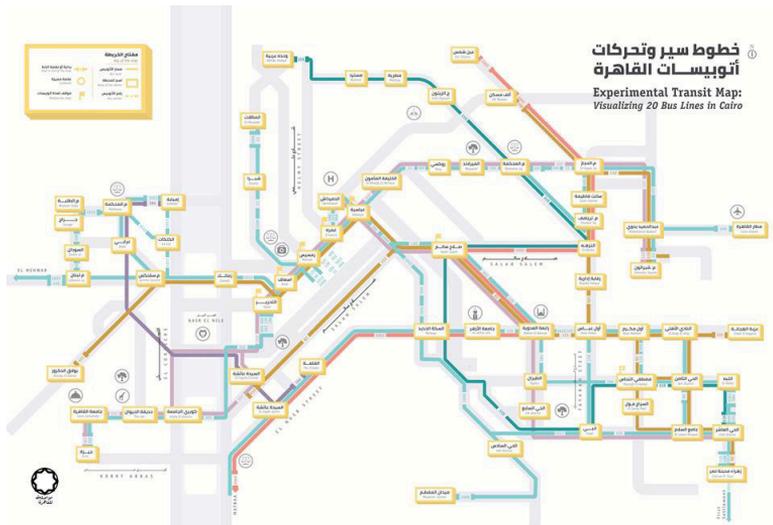
Team Members:

Nada Mohamed

Mohamed Khalaf

Ismail Mounir

Sara Eldiepsy



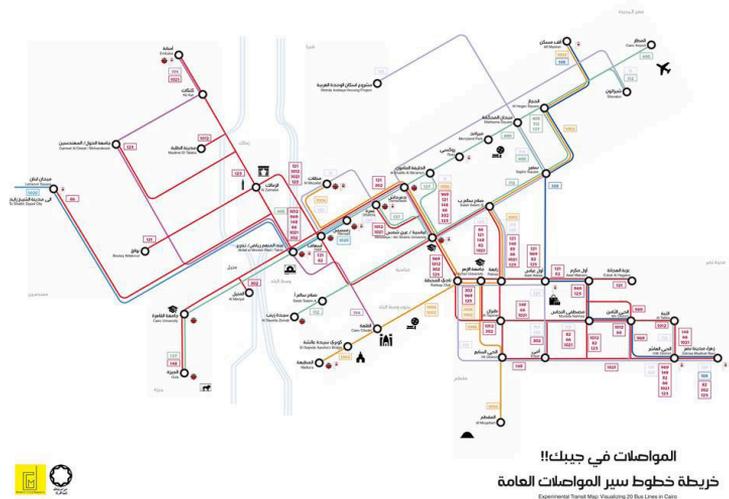
Team Members:

Maryam Kamal

Nariman Nashaat

Abdelrahman El-Haitmy

Mennatallah Hamdy



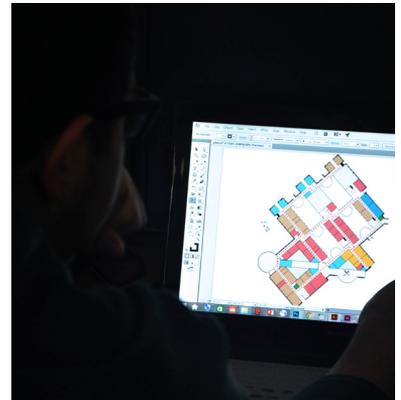
المواصلات في جيبك!!  
خريطة خطوط سير المواصلات العامة  
Experimental Transit Map: Visualizing 20 Bus Lines in Cairo

# DCM Graphics Design Workshop 2016



In February 2016, DCM launched its first workshop as a mean of introduce students to mapping techniques and help them with the process of documenting informal services specially in newly developed desert cities. The workshop sessions included graphics training using Adobe software (Photoshop - Illustrator - Indesign) for 3 days.

The workshop was organized and instructed by Arch. Aya Magdi, Arch. Mohamed Rafik, and Arch. Hala Higazi. The workshop participants included students from thrid, fourth and fifth year students, and the outcome of the projects were maps for different parts of the university's 6th of October campus.



*One of the participating groups presenting their final design. It is important to note that the maps produced ONLY represents 21 lines of Cairo's formal public transport!*

# Auroville Earth Institute Workshop in India 2016

## *Participating and Organizing Staff:*

Dr. Nermine Abdel Gellil,  
Associate Professor

Arch. Mohamed Rafik,  
Lecturer Assistant

## *Participating Students:*

Abdelrahman Moharram

Abdullah Ghassan

Mohamed Ahmed

Mohamed Bahr

Mohamed Gamee

Mohammed Kamal

Mostafa Abdelaziz

Mostafa Soliman

Nariman Nashaat

Nourhan Abdelhamid

Omnia Ali

Yomna Khalifa

A team from the Department of Architectural Engineering at MSA University: Dr. Nermine Abdel Gellil and Arch. Mohamed Rafik along with 12 selected students, attended two intensive training workshops: CSEB (compressed stabilized earth blocks) and AVD (arches, vaults and domes) in Auroville Earth Institute, UNESCO Chair Earthen Architecture, from 8 Feb. 2016 to 20 Feb. 2016.

Auroville Earth Institute (AVEI) is one of the world's top centers for excellence in Earthen Architecture, working in 35 countries to promote and transfer knowledge in earth constructions. The work of AVEI has attempted to revive traditional skills

and to link ancestral and vernacular traditions of raw earth construction with the modern technology of stabilized earth.

The Institute is located in Auroville "City of Dawn", which is an experimental township in South India that initiated in 1968. Auroville is meant to be a universal town where men and women of all countries are able to live in peace and progressive harmony, above all creeds, all politics and all nationalities. MSA team spent two tremendous weeks with Aurovilians, who come from around 49 nations, from all age groups, from all social classes, backgrounds and cultures, representing humanity as a whole.



*A photo of the students group and staff during the workshop.*

# Protocol Signing Event with Sabbour Consulting 2017



It was our pleasure to sign a protocol contract with Sabbour Consulting, a contract that will help our engineering student excel in their academic life and therefore their career life. This protocol will help the students also get the training needed to help them

be prepared for the real life.

Sabbour Consulting offered MSA students lectures and training in addition to letting architecture students participate in the New Ismaileya city project.



*Photos showing the event held at the SSB building.*

# “ECO Bricks” Motorized Hydraulic Press Machine Testing 2017



The University of October for Modern Science and Arts (MSA) imported a hydraulic machine to make compact bricks from the soil with modern technology. The university joined an expert to train the new machine-based team of professors and students of the Faculty of Engineering to use the machine to produce environmentally friendly and economical bricks, From the sandy soil available throughout Egypt without the need for “mortar”.

In a press statement on Wednesday, it was said that it is keen to play its role towards the service of the community in which it operates, and it has made great progress in construction through this unique experience in the production of this brick environment, This brick is less

than 10 times the cost of producing red bricks, as it does not pollute the environment since it does not need a burning process.

The University's statement pointed out that because of its interrelated design, this new brick does not need to be built into a mortar or concrete, thus saving time and reducing the cost by about 60%, which is much stronger than red bricks and water resistant. Only 5% of the cement for the soils before compressing.

The university noted the advantages of this new type of brick, stressing that this technology is serious in solving the problem of rising prices in the construction sector in general and housing in particular.



*MSA Centre of Earth team with Dr. Nahed Sobhy, Dr. Khairy Abdelhamid, and the machine expert.*

# “The Student City” Studio Exhibition 2016



Through the initiative of DCM, a group of fourth year architecture students in MSA University participated in a research based design studio exploring the student life in the 6th of October city and its' influence on the urban environment. After three months of hard work and dedication in the studio, we were pleased to present the students' work to a panel of jurors from academic and practical backgrounds. The students celebrated their efforts to provide the first layer of research exposing the 6th of October's untapped potential to become a more hospitable and successful student city. We would like to thank the jurors for their contribution in the course assessment, and the

students and team of assistants for their efforts throughout.

Dr. Omar Fawzy, Head of the Architecture Department in MSA University

Dr. Sameh El-Fekki, Associate Professor in MSA University

Dr. Shady Seif Al-Nasr, Assistant Professor in MSA University

Dr. Omar Nagati, Co-Founder of CLUSTER

DCM

"Mapping the Student City"

Design 7 Studio

Fall 2016



*Group photo of course team and participants after the exhibition.*

# Annual Architecture Exhibition 2016



The annual architecture exhibition's 7th round for the academic year of 2015-2016 took place in the summer of 2016 at the 6<sup>th</sup> of October campus. We were honoured with the attendance of Dr. Nawal El-Degwi and Dr. Khairy

Abdelhamid as well as the board from the university of Greenwich. Having this exhibition annually and successfully would not have been possible without the hard work and spirit of the organizing staff and the departments helpful students.



*Staff, exhibition team and visitors at the SSB after honour students' certificate distribution.*

# “Towards a New Egypt” Maspero Triangle Development Seminar 2016



In May 2016, the Faculty of Engineering Architecture Department MSA university organized a seminar sponsored by the Department of Housing and Urban Development entitled "Development of Maspero Triangle".

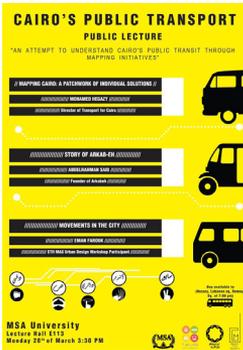
The seminar was opened by Dr. *Nawal El-Degwi* who gave a speech explaining the role of the university and student projects in the development of society and the service of civil society and philanthropy students of the Department of Architecture has contributed to the work on the "Development of Maspero Triangle" this year under the supervision of college doctors and teachers. The seminar was attended by Dr. Ahmed Adel Darwish Vice Minister of Housing and Urban Development who explained the importance of the possibility of implementing projects without any harm to the residents of the Triangle. As well as the importance of integrating the

solutions proposed into executing projects and find solutions and alternatives for removable random housing. Attended also the Jordanian architect Rasim Badran who spoke about the role of architecture in the projects at hand. And also the international architect Hugh Stewart who's a partner at the international Advisory Office of the Office Foster England and he spoke about the study of the project in terms of it's over Nile location and the importance of finding the appropriate architectural solutions for society services projects. He also attended the symposium of Engineering Consulting Office "Dar El-Handasa". The seminar concluded with a word from the actress Yousra the ambassador of Goodwill who in turn talked about improving the situation of the society and finding effective solutions for the development of the country and also the role of art in the detection of real societal problems.



*Students and Dr. Nawal El-Degwi, Dr. Khairy Abdelhamid, Dr. Omar Fawzy, and Dr. Nerime Abdel-Gellil with Architect Rasem Badran.*

# “Cairo’s Public Transport” Public Seminar 2016



86% of Cairo's population is dependent on public transportation, yet a full understanding of how the system works is still an unmapped mystery.

As a part of the Desert City Mappers initiative, expanding our network searching for partnerships and collaboration opportunities, three speakers are invited to share their experience with Cairo's formal and informal public transportation;

Mohamed Hegazy is the co-founder of TFC, an ambitious project

that maps all formal and informal transportation in Cairo. Abdelrahman Said founded "Arkab-Eh?", the first online public transportation database in Egypt. Eman Farouk, participated in the "ETH MAS Urban Design" Workshop here in Cairo with her Swiss counter-parts, conducting a research on informal transportation in Cairo.

The Lecture was held in MSA University's 6<sup>th</sup> of October campus, on Monday 28th of March, 2016.



Photos of the seminar showing the student and staffs engagement with the presenters.



# Assorted Academic Field Trips

*Ismailiya Field Trip for Design VI students, Spring 2017.*



*Tunis Village Trip for hands-on training with Earth Materials as part of the Appropriate Building Technologies Elective with Dr. Adel Fahmy, Spring 2017.*



*Alexandria Field Trip for Design VIII students, Spring 2016.*



Staff Promotions

# Associate Professors



Nermine Abdel Gelil Abdel Meniem

*MSA University, 2014*



Tarek AbdelSalam Mohamed AbdelFatah

*MSA University 2016*

# Ph.D. Holders



ElMahdy Aly Mohamed ElMahdy

*Cairo University, 2014*



Emad Mohamed Helal Al Sayed

*Al-Azhar University, 2014*



Nesreen Samy Ahmed Abdeen

*Cairo University, 2014*



Rasha Sayed Mahmoud Ibrahim

*Cairo University, 2016*



Eman Ahmed Salah Abdel Halim

*Cairo University, 2017*

# Master's Holders

**Aya Magdi Younis**

*University of Greenwich, 2014*

**Mohamed Rafik Sadek**

*University of Greenwich, 2014*

**Enas Sayed Ahmed Abbas**

*Cairo University, 2014*

**Dalia Moaty Abdel Hakim**

*Cairo University, 2014*

**Lamiaa Mohamed Shehata**

*Cairo University, 2014*

**Dina Abdel Halim Khalaf**

*Cairo University, 2015*

**Dina Salah Sultan**

*Cairo University, 2015*

**Hala Ismail Higazi**

*University of Greenwich, 2015*

**Rana Adel Ibrahim Zaki**

*Cairo University, 2015*

**Shereen Farouk Abu Dagher**

*Cairo University, 2016*

**Farres Yasser Allam**

*University of Greenwich, 2016*

**Mohamed Yasser Al-Sarif**

*University of Greenwich, 2016*

**Omar Emad El-Melegy**

*University of Greenwich, 2016*

**Sherif Ahmed Anees**

*University of Greenwich, 2016*

**Nadeen Ahmed Nour Eldin**

*Helwan University 2016*

**Lobna Ahmed Galal**

*Cairo University, 2017*

PG Certificates

# UoG PG Certificate in HE-First Round



Dr. Omar Nasah Selem Fawzy

*Ph.D., Head of Architecture Department*

# UoG PG Certificate in HE-Second Round



Dr. Nesrin Samy Abden

*Ph.D.*



Dr. Shady Shawky Seif El Nasr

*Ph.D.*

Alumni

# Master's Holders & Current Students



**Abdelrahman Mohamed Elsayed**

*Polytechnic University of Milan, Italy*



**Ahmad Hilal Ahmed**

*Polytechnic University of Milan, Italy*



**Ahmed Emad El-Melegy**

*Tsinghua University, Beijing, China*



**Ali El-Khashab**

*Cairo University, Egypt*



**Aya Omar El-Ghobashi**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Bassam Hassan**

*California State University East Bay, Hayward, USA*



**Bassant Mohamed Al-Ge lany**

*Monfia University, Egypt*



**Danny Adib Khilla**

*IUSD Program at Stuttgart University, Germany*



**Deema El-Attar**

*Qatar University College of Engineering, Qatar*



**Dina Mahmoud**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Eglal Saied Helmy**

*Bauhaus University, Weimar, Germany*



**Engy El-Wakil**

*Arizona State University, U.S.A.*



**Eslam Salem**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Esraa El-Areef**

*Cairo University, Egypt*



**Farid Sherif Konsowa**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Farres Yasser Allam**

*University of Greenwich, London, U.K.*



**Hadeer Sayed Mohamed**

*Cairo University, Egypt*



**Hala Ismail Higazi**

*University of Greenwich, London, U.K.*



**Ismail Anis**

*Dessau Institute of Architecture (DIA), HS Anhalt, Germany*



**Maha El-Serafi**

*University of Greenwich, London, U.K.*



**Mahitab Osama**

*Florence Design Academy, Italy*



**Mai Hashad**

*Polytechnic University of Milan, Italy*



**Manar Mostapha**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Mariam El-Sheikh**

*Technical University of Berlin, Germany*



**Mohamed Anees**

*Arizona State University, U.S.A.*



**Mohamed Haridy**

*Northeastern University, U.S.A.*



**Mohamed KameL**

*Cairo University, Egypt*



**Mohamed Yehia Shedid**

*University of Greenwich, London, U.K.*



**Mohamed Yasser Amir**

*University of Greenwich, London, U.K.*



**Mostafa Salem**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Mustaffa Fawzy**

*Cairo University, Egypt*



**Naira Osama**

*Cairo University, Egypt*



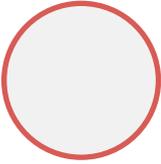
**Noha Abd El-Aal**

*Fayoum University, Egypt*



**Noran Sabry**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Noha Darwish**

*Cairo University, Egypt*



**Nouran Osama Hassanein**

*Bauhaus University, Weimar, Germany*



**Nourhan Nayel**

*Florence Design Academy, Italy*



**Omar Emad El-Melegy**

*University of Greenwich, London, U.K.*



**Osama Salah Ahmed**

*California State University East Bay, Hayward, USA*



**Radwa Yasser Farouk**

*Cairo University, Egypt*



**Raymond Michel**

*Cairo University, Egypt*



**Salma Ahmed Tamam**

*Arab Academy for Science, Technology & Maritime Transport (AAST), Egypt*



**Sherif Anees**

*University of Greenwich, London, U.K.*



**Taher Abdelghani**

*Tongji University, China and Bauhaus University, Weimar, Germany*



**Traveena Wanis**

*University of Greenwich, London, U.K.*



**Wessam Saleeb**

*Arizona State University, U.S.A.*



**Yasmina Taha**

*University College London (UCL), London, U.K.*



**Zeinab Mostafa**

*Cairo University, Egypt*

# Ph.D. Candidates



**Aya Magdi Younis**

*University of Greenwich, London, U.K.*



**Ismail Anis**

*Cairo University, Egypt*



**Maha El-Serafi**

*Oxford Brooks University, U.K.*



**Omar Magdy**

*Arizona State University, U.S.A.*



**Mohamed Rafik Sadik**

*University of Greenwich, London, U.K.*



**Shereen Farouk Aboudagher**

*Cairo University, Egypt*



**Sulieman Deni**

*University College London (UCL), London, U.K.*



**Yusuf Algem**

*University College London (UCL), London, U.K.*



02 ELECTRICAL

Research+  
Publications



*Sherif Kamel*

*Associate Professor*

1- Sherif Kamel Hussein , “ Performance Evaluation of Mobile Internet Protocol Version 6 “,International Journal of Management, Information Technology and Engineering (BEST: IJMITE) ISSN (P): 2348-0513, ISSN (E): 2454-471X,Vol. 4, Issue 3, Mar 2016, PP 35-52.

2- Sherif Kamel Hussein, Mahmoud Hanafy Saleh, “An Optimal Fuzzy Logic System For A Non Linear Dynamic System Using A Fuzzy Basis Function”, International Journal of Computer Networks & Communications (IJCNC), DOI: 10.5121/ijcnc.2016.8215 , Vol.8, No.2, March 2016 , PP179- 187.

3- Sherif Kamel Hussein, Mahmoud Hanafy Saleh, “A Novel Methodology of Fuzzy Logic Controller for A Dynamically Interconnected Electric Power System” IOSR Journal of Computer Engineering (IOSR-JCE,)e-ISSN: 2278-0661,p-ISSN: 2278-8727, Volume 17, Issue 1, Ver. I (Jan – Feb. 2015).

4- Sherif Kamel Hussein, “A Proposed Cost Effective Prototype Model for PLC Based GSM Remote Control in Home and Industrial Automation” IOSR Journal of Electronics and Communication Engineering (IOSR-JECE ),e-ISSN: 2278-2834,p- ISSN: 2278-8735.Volume 10, Issue 1, Ver. 1 (Jan - Feb. 2015).

5- Sherif Kamel Hussein , “A Novel Prototype Model for Monitoring the Factories Remnants on Nile River “,Int. Journal of Engineering Research and Applications ISSN : 2248-9622, Vol. 5, Issue 3( Part 1), March 2015.



*Samer Ibrahim*

*Associate Professor*

1- Mohamed, S. I. (2016), "Goal oriented DevOps transformation framework–Metric phased approach", International Journal of Current Research (IJCR), Vol. 8, Issue 3, pp. 28307-28313.

2- Mohamed, S. I. (2016), "DevOps Maturity Calculator DOMC", International Journal of Engineering Research & Science (IJOER), Vol 2, Issue 2, pp 25- 35.

3-- Mohamed, S. I. (2016), "New Style of software life cycle strategies – use case perspective", International Journal of Management, Information Technology and Engineering (IJMITE), Vol. 4, Issue 3, 99-114.

4- Mohamed, S. I. (2016), "Innovative software delivery framework towards software applications modernization", International Journal of Research in Engineering & Technology (IJRET), Vol 4, Issue 5, PP 77-98

5-- Mohamed, S. I. (2016), "Software Release management evolution – Comparative analysis across agile and DevOps continuous delivery", International journal of Advanced Engineering Research and Science (IAERS), Vol 3, issue 6, pp 52-59

6- Mohamed, S. I. (2016), "Towards true adaptive and smart Agent Based Traffic Signal Control", International Journal of Exploring emerging trends in Engineering (IJETTE), Vol 3, issue 3, pp 199-208.



*Samer Ibrahim*

*Associate Professor*

7- Mohamed, S. I. (2015), "Comprehensive Measurement Analysis for Software Productivity", International Journal of software engineering (IJSE), Vol 8, Issue 2, pp. 3-22.

8- Mohamed, S. I. (2015), "Software development productivity impact from an industrial perspective", International Journal of Scientific and Engineering Research (IJSER), Vol 6, Issue 2, pp. 1333-1342.

9- Mohamed, S. I. (2015), "DevOps shifting software engineering strategy Value based perspective", International journal of computer engineering (IOSR-JCE), Vol 17, Issue 2, pp 51-57.



*Ashraf Ali*

*Assistant Professor*

1- Ashraf Mohamed Ali Hassan, Mohammed Mohammed Abo-Zahhad, "Efficient Compressive Sensing for ECG signals Using Ridgelet Transform", Wulfenia, Volume 24–No.3, Mar. 2017, PP.343-356.

2- Ashraf Mohamed Ali Hassan, "Indoor Location Tracking System Using Neural Network Based on Bluetooth", International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT) – 2016, IEEE Conference, PP.73-78



*Ashraf Ali*

*Assistant Professor*

3- Mohamed Hassan Mohamed, Ashraf Mohamed Ali Hassan, N.M.Hussein Hassan, "Automatic Speech Annotation Based on Enhanced Wavelet Packets Best Tree Encoding (EWPBTE) Feature", International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT) – 2016, IEEE Conference, PP.2611-2616.

4- Hend Fathy, Ashraf Mohamed, Eman Mohamed, Wagdy Anis, "Enhancement of ECG Signal", International Journal of Computer Applications, Volume 145– No.7, Nov. 2016, PP.12-16.

5- Ashraf Mohamed Ali Hassan, "Enhancement of Designing The Smart Glove", International Journal of Applied Engineering Research, Volume 10, Number 6 (2015), PP. 15915-15937

6- Ashraf Mohamed Ali Hassan, "Enhancement of a GSM Based Control System", International Journal of Applied Engineering Research, Volume 10, Number 9 (2015), PP.. 21991-22000

7-Ashraf Mohamed Ali Hassan, "Color Mixing Machine Using PLC and SCADA", WSEAS TRANSACTIONS on SYSTEMS and CONTROL, Volume 10, November 2015, PP. 650-665.

8- Ashraf Mohamed Ali Hassan, "Power Line Interference (PLI) Reduction in Electrocardiogram (ECG) Using Multiple Sub-Adaptive Filters Approach", International Journal of Scientific Engineering and Technology, Volume No.3 Issue No.5, May 2014, PP. 694-697.



*Hatem Zakaria*

*Assistant Professor*

1- Akram M. Rady, and Hatem M. Zakaria, "Computer Network Performance management using a Simple Network Management Protocol", International Journal of Computing Academic Research (IJCAR), ISSN 2305-9184, Vol. 6, Number 2, pp.50-58, April 2017.

2- Hatem M Zakaria and Rehab I Nawar, "Design of a Self-Timed Data Synchronizer for Crossing Two Different Clock Domains", International Journal of Computer Applications (IJCA), 159(8):17-22, February 2017.

3-Ahmed S. Mohamed, and Hatem M. Zakaria, "High Data Rate Pipelined Adaptive Viterbi Decoder Implementation", IOSR Journal of Electronics and Communication Engineering (IOSR-JECE), Vol. 11, Issue 3, Ver. II, pp. 109-115, June 2016.

4- Sahar F. Abdelmomen , Hatem M. Zakaria , A. I. Taman , Mahmud F. M., "FPGA Implementation of a Soft Decision Viterbi Decoder", IJERT International Journal of Engineering Research and Technology , Vol. 4, Issue 10, pp. 296-300 , October 2015.

5- Mohamed S. Abd Raboh, Hatem M. Zakaria, Abdel Aziz M. Al Bassiouni, and Mahmoud M. El Bahy, "Performance Analysis of OFDM Systems Subjected to Carrier Frequency Offset in Fading Communication Channels", IJERT International Journal of Engineering Research and Technology , Vol. 4, Issue 07, pp. 510-520 , July 2015.

6- Hatem Zakaria, and Abdel-Moaty Sarhan, "Performance Analysis of Multicarrier Code Division Multiple Access Transmission Techniques using BPSK Modulation", IJERT International Journal of Engineering Research and Technology , Vol. 4, Issue 04, pp. 1266-1273, April 2015.



*Hatem Zakaria*

*Assistant Professor*

7- Sylvain Durand, Hatem Zakaria, Laurent Fesquet, Nicolas Marchand, "A Robust and Energy-Efficient DVFS Control Algorithm for GALIS-ANoC MPSoC in Advanced Technology under Process Variability Constraints", ACSIJ Advances in Computer Science: an International Journal, Vol. 3, Issue 1, No.7, pp. 97-105, January, 2014.

8- Enas Mohamed, Hatem M. Zakaria, and Mohamed B. Abdelhalim, "Equal Sub-Area-Based DV-Hop", IEEE 59th International Midwest Symposium on Circuits and Systems (MWSCAS), October 16-19, Abu Dhabi, United Arab Emirates, pp.173-176, 2016.

9- Enas Mohamed, Hatem M. Zakaria, and Mohamed B. Abdelhalim, "An Improved DV-Hop Localization Algorithm", The 2nd International Conference on Advanced Intelligent Systems and Informatics (AISI2016), October 24-26, Cairo, Egypt, pp. 332-341, 2016.

10 - Eslam Yahya, Hatem Zakaria, and Yehea I. Ismail, "Deadlock Detection in Conditional Asynchronous Circuits Under Mismatched Branch Selection", IEEE International Conference on Electronics, Circuits, and Systems (ICECS), December 6-9, Cairo, Egypt, pp. 596 - 600, 2015.

11- Mohamed S. Abd Raboh, Hatem M. Zakaria, Abdel Aziz M. Al Bassiouni and Mahmoud M. El Bahy, "Carrier Frequency Offset (CFO) Estimation Methods, A Comparative Study", 16th International Conference on Aerospace Sciences & Aviation Technology (ASAT-16), May 26-28, Cairo, Egypt, 10 pages, 2015



*Maher Mansour  
Assistant Professor*

1- Wael Mohamed, Maher M. Abdel-Aziz: "Cache Architecture Limitations in Multicore Processors", Journal of Emerging Trends in Engineering and Applied Sciences (JETEAS), vol.8, No.1, Feb.2017.

2- Wael Mohamed, Maher M. Abdel-Aziz: " Evaluation of Multithreading in Multicore Processors", Journal of Emerging Trends in Engineering and Applied Sciences (JETEAS), vol.8, No.2, April 2017.

3- Mina Magdy, Manwel Maged, Maher M. Abdel-Aziz: " Smart communication system for deaf-dumb people", The 2017 International Conference on Embedded Systems, Cyberphysical Systems, and Applications (ESCS'17: July 17-20), 2017, Las Vegas – USA.

4- Mark Ehab, Michael Ibrahim , Maher M. Abdel-Aziz: " Electronic water billing system", The 2017 International Conference on Embedded Systems, Cyberphysical Systems, and Applications (ESCS'17: July 17-20), 2017, Las Vegas - USA.

5- Maher M. Abd El-Aziz, Wael M. Khalifa, "Smart Blind Guidance System", International Journal of Emerging Trends in Electrical and Electronics (IJETEE), Vol. 11, No. 7, Nov-2015.



*Waleed El-Nahal*

*Assistant Professor*

1- Waleed El-Nahal, "Mobile Multimodal Biometric System for Security", International Journal of Computer Applications (IJCA), (0975 – 8887) Volume 89 – No 10, March 2014.

2- Waleed M. El-Nahal, Adel E. El-Hannawy, Amira A. Mohamed, "Adaptive Variable Step-Size Algorithm for Acoustic Noise Cancellation by using Multiple Sub-Filters Approach", International Journal of Computer Applications (IJCA), (0975 – 8887), Volume 107 – No 8, December 2014.



*Somaia Mohamed*

*Assistant Professor*

1- Akah, H., El-fiky, D., Mohamed, S., El-Emam, E., "Components Selection Criteria for Low Cost Satellite Telemetry Subsystem", Aerospace Conference, March, 2017, USA.

2- Mohamed, S., Hesham, M., and Fekri, M., 2015, "Motion Detection using Wavelet-SIFT Features", IJERT Journal, vol. 4, no. 11.

3- Mohamed, S., Noureldin, A., El-Sayed, M. H., Ragaey, M. F., 2015 "Localization based on vision using stereo System and SIFT features", Artificial Intelligence Research Journal, vol. 5, no. 1, pp 95.



*Said Mabrouk*

*Assistant Professor*

Aya Mohamed, Ahmed Toson, Said Mabrouk, "Smart Grain Storage Monitor and Control", American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS), 2017.



*Ahmed Fawzy Daw*

*Assistant Professor*

1- Ahmed M. Hussien, Yasser S. Farag, Ahmed F. Daw, Mahmoud A. Abdalla, " A NOVEL ULTRA COMPACT FOUR-WAY POWER DIVIDER WITH INTEGRATED FILTERING FUNCTION FOR WLAN APPLICATIONS", " 2017 IEEE International Symposium on Antennas and Propagation, pp. 1-3.

2- Ahmed F. Daw, Omar T. Hussein, Hania S. Abdelhamid, Mahmoud A. Abdalla, " Ultra Compact Quad Band Resonator Based on Novel D-CRLH Configuration" 2017 IEEE International Symposium on Antennas and Propagation, pp. 1-3.

3- Mohamed.K.Rashad, Mostafa Ashraf, Ahmed F. Daw, Ahmed M. Abdelmaem, " 'Compact High Selective DGS Band-Pass Filters for WLAN Applications" IEEE International Conference on Sensors, Networks, Smart and Emerging Technologies. Lebanon Sept 2017 .

4-Ahmed F. Daw, Mahmoud A. Abdalla, and Hadia M. Elhennawy:" Compact Dual Wide Band D-CRLH Three Way Power Divider",2016 3rd Middle East Conferences on Antennas and Propagation (MECAP 2016), September 2016, Bairut, Lebanon.

5-Ahmed F. Daw, Mahmoud A. Abdalla, and Hadia M. Elhennawy:" New Configuration for Multiband Ultra Compact Gap Resonator Based D-CRLH",2016 3rd Middle East Conferences on Antennas and Propagation (MECAP 2016), September 2016, Beirut, Lebanon.

6- Ahmed F. Daw, Mahmoud A. Abdalla, and Hadia M. Elhennawy "Dual-Band Divider Has Rejection Band at 5 GHz", Microwave& RF Magazine, Nov. 2016.



*Ahmed Fawzy Daw*  
*Assistant Professor*

7-Ahmed Fawzy Daw, Mahmoud Abd EL Rahman Abdalla, Hadia Mohamed EL Hennawy, "Multiband Sharp-Skirt Compact Gap Resonator Based D-CRLH", 2015 32th National Radio Science Conference (NRSC), Egypt, pp. 43-50.

8-Ahmed F. Daw, Mahmoud A. Abdalla, and Hadya M. Elhennawy:"New inductor loaded composite right left hand impedance transformer for UWB wireless applications",2015 9th International Congress on Advanced Materials in Microwaves and Optical (METAMATERIALS), September 2015,Oxford, UK, pp. 355-357.

9 -Ahmed F. Daw, Mahmoud A.Abdallah, and Hadiaa M. El Hennawy "Dual Band High Selective Compact Transmission Line Gap Resonator" 2014 Loughborough Antennas & Propagation Conference, Loughborough,UK. 9-11-Nov.2014.



*Maher Mohamed*  
*El-Tayeb*

*Assistant Professor*

1- Alaa Essam, Mariam Mohamed, and Maher El-Tayeb," Modernizing & Developing a Secure Electing System Using Fingerprint, NFC ID card Combination, Voice Aids and Instant Counting System", International Journal of Advanced Research in Computer Science and Software Engineering (IJARCSSE), Volume 6, Issue 3, March 2016.

2- K. S. Sultan, H.A.Mohamed, and M.M.EL Tayeb, " Low SAR, Novel compact Textile Wearable Antenna for Body Communications", 3rd International Conference on NEW PARADIGMS IN ELECTRONICS& INFORMATION TECHNOLOGY (PEIT'015), 15-19 November 2015, Luxor, Egypt



*Mohamed Sayed  
El-Atrash*

*Assistant Lecturer*

1- M. El Atrash, K. Bassem, and M. A. Abdalla, "A compact dual-band flexible CPW-fed antenna for wearable applications," 2017 IEEE International Symposium on Antennas and Propagation, pp. 1-3.

2- S. R. Zahran, M. A. Abdalla, M. El Atrash, and D. Budimir, "Manufacturing challenges of thin liquid crystalline polymer substrate for wide-band flexible antennas," 2017 IEEE MTT-S International Microwave Workshop Series on Advanced Materials and Processes, submitted.

3- M. El Atrash, Y. Wang, "A circularly polarised antenna for a wireless blood-flow sensor," 2014 IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications (IMWS-Bio2014), pp. 1-3, 2014.



*Ahmed Hatem*

*Assistant Lecturer*

1- Ahmed. H. Soliman, Maged. H. Ibrahim and Adel. E. El-Hennawy, "Improving security and efficiency of enterprise digital rights management," 2015 6th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Denton, TX, 2015, pp. 1-7.

2- Ahmed. H. Soliman, Maged. H. Ibrahim and Salwa. H. El-Ramly, "Enhancing efficiency of enterprise digital rights management," 2015 International Conference on Advanced Computer Science and Information Systems (ICACISIS), Depok, 2015, pp. 91-96.



*Shaymaa Tayseer*

*Assistant Lecturer*

El-Rayes, S. et al. (2015) Enhancing the Selectivity of Frequency Selective Surfaces of Terahertz Sensing Applications. 8th UK, Europe, China conference on Millimetre Waves and Terahertz Technologies.



*Hazem Eissa*

*Assistant Lecturer*

1- Seals, Richard and Eissa, Hazem (2016) Optimising data extraction from one dimensional distance sensors. In: The First Medway Engineering Conference on Systems: Efficiency, Sustainability and Modelling, 6th June 2016, University of Greenwich.

2- Eissa HM, El-Seheley E. Implementation of Smart Ovulation Detection Device. In: International Conference on Biology and Biomedical Engineering. Vol. 14. International Conference on Biology and Biomedical Engineering. Venice, Italy: Europment Conference; 2014. p. 82-86.



*Amira Ali*

*Assistant Lecturer*

Amira. E. T. Ali and Y. Wang, "Integrated filtering planar dipole antenna using edge coupled feed," in Loughborough Antennas and Propagation Conference, LAPC 2016, 2017, pp. 3–6



*Ahmed Mahmoud  
AbdelSalam*

*Assistant Lecturer*

1- A. Taha, R. Wu, A. Emeakaroha, J. Krabicka, and A. Lee, "Inducing Pro-Environmental Behaviour in National Health Service (NHS) to Reduce Energy Costs Using Persuasive Technology Techniques," Accepted for Publication in 16th International Conference on Sustainable Energy Technologies, 2017.

2- A. Taha, A. Emeakaroha, R. Wu, and J. Krabicka, "Reduction of Electricity Usage in Medway NHS Foundation Trust Using Persuasive Technology: A Review," Accepted for Publication in International Research Conference on Sustainable Energy, Engineering, Materials and Environment (IRCSEEME), 2017.

# Students Publications

- 1- Ahmed M. Hussien, Yasser S. Farag, Ahmed F. Daw, Mahmoud A. Abdalla, " A NOVEL ULTRA COMPACT FOUR-WAY POWER DIVIDER WITH INTEGRATED FILTERING FUNCTION FOR WLAN APPLICATIONS", 2017 IEEE International Symposium on Antennas and Propagation, pp. 1-3.
- 2- Kirolos Basem, Mohamed S. Zaky, Mahmoud A. Abdalla, " A Compact Dual-Band Flexible CPW-fed Antenna for Wearable Applications", 2017 IEEE International Symposium on Antennas and Propagation.
- 3-Ahmed F. Daw, Omar T. Hussein, Hania S. Abdelhamid, Mahmoud A. Abdalla, " Ultra Compact Quad Band Resonator Based on Novel D-CRLH Configuration" 2017 IEEE International Symposium on Antennas and Propagation, pp. 1-3.
- 4-Donya Zkaria, Raneem Samy, Mahmoud A. Abdalla, "Mutual Coupling Reduction in Two Elements UWB Notch Antenna System" 2017 IEEE International Symposium on Antennas and Propagation.
- 5- Yasmin Tarek, Zainab Kamal, Mahmoud A. Abdalla, "AN ULTRA WIDE-BAND FILTER WITH HIGH SELECTIVE DUAL NOTCHING" 2017 IEEE International Symposium on Antennas and Propagation.
- 6- Mina Magdy, Manwel Maged, Maher M. Abdel-Aziz: " Smart communication system for deaf-dumb people", The 2017 International Conference on Embedded Systems, Cyberphysical Systems, and Applications (ESCS'17: July 17-20), 2017, Las Vegas – USA.
- 7- Mark Ehab, Michael Ibrahim , Maher M. Abdel-Aziz: " Electronic water billing system", The 2017 International Conference on Embedded Systems, Cyberphysical Systems, and Applications (ESCS'17: July 17-20), 2017, Las Vegas - USA.



8- Mohamed.K.Rashad, Mostafa Ashraf, Ahmed Abdelmaem, Ahmed F. Daw, "Compact High Selective DGS Band-Pass Filters for WLAN Applications", 2017 IEEE International Symposium on Antennas and Propagation.

9-Aya Mohamed, Ahmed Toson, Said Mabrouk, "Smart Grain Storage Monitor and Control", American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS), 2017.

10- Alaa Essam, Mariam Mohamed, and Maher El-Tayeb," Modernizing & Developing a Secure Electing System Using Fingerprint, NFC ID card Combination, Voice Aids and Instant Counting System", International Journal of Advanced Research in Computer Science and Software Engineering (IJARCSSE), Volume 6, Issue 3, March 2016.

11- Motaz Naser, Nour El-Sobky, Mahmoud A. Abdalla, "METAMATERIALS INSPIRED DUAL-WIDE BAND CPW-FED ANTENNA USING SPLIT RING RESONATOR." 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), 2016.

12- Ghadeer Arafa, Mahmoud Reda, Mahmoud A. Abdalla, "COMPACT UWB LPF BASED ON UNI-PLANAR METAMATERIAL COMPLEMENTARY SPLIT RING RESONATOR" 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), 2016.

13- Karim Sameh, Mahmoud A. Abdalla, "A COMPACT SIW METAMATERIAL COUPLED GAP ZEROth ORDER BANDPASS FILTER WITH TWO TRANSMISSION ZEROS" 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), 2016.



14- Abdullah Al-Mohamadi, Abdullah Moustafa, Mahmoud A. Abdalla, "DUAL NOTCHING OF UWB ANTENNA USING DOUBLE INVERSE U-SHAPE COMPACT EBG STRUCTURE.", 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), 2016.

15- Fady Sadek , Mahmoud A. Abdalla, "Hybrid Termination of Metamaterial CRLH Antennas" "2015 IEEE APS International Antenna and Propagation Symposium Digest, 19–25 July 2015 • Vancouver, British Columbia, Canada.

16- Fady Sadek , Mahmoud A. Abdalla, "A Compact Triple-Band Left-Handed Antenna For WiMAX And LTE Applications" The Ninth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2015- OXFORD University, LONDON.

17- Ashraf Hassan, Arwa Gala EIDin, Mahmoud A. Abdalla "A Compact High Selective Coupled Gap CRLH TL Based Bandpass Filter" The Ninth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2015- OXFORD University, LONDON

18- Abdul-Rahman Algharbi, Farida Hamid , Noha Younis "FPGA-Based Hand Gesture Recognition & Marker Tracking for Augmented Reality" IEEE 22nd International Conference on Electronics, Circuits, and Systems, 2015.

19- Aliaa Asad and Khaled Mohamed, Ahmed F. Daw, Mahmoud A. Abdalla "Wide Band High Selective Compact Metamaterial Antenna for 2 GHz Wireless Applications" 10th International Loughborough Antennas & Propagation Conference (LAPC), 2014.

Awards+P  
rizes

# IEEE International Conference on Advanced Computer Science and Information Systems

**Paper Title:** Enhancing Efficiency of Enterprise Digital Rights Management

**Award:** Best Paper



*Ahmed Hatem*

*Assistant Lecturer*

## Abstract

Most of private enterprises and governmental institutions are in an increasing need for enterprise-oriented digital rights management (E-DRM) schemes. E-DRM schemes provide protection to digital contents that contain corporates' sensitive information and prevent unauthorized access to these data. Previous work proposed a storage reliable and efficient E-DRM systems based on the information dispersal algorithm. In this paper, we propose a computationally enhanced information dispersal and reconstruction algorithms. We achieve significant reduction in the computational complexity without affecting the E-DRM system security and with comparable storage requirements.



*Best Paper Certificate*

# 8th UK, Europe, China conference on Millimetre Waves and Terahertz Technologies

**Paper Title:** Enhancing the Selectivity of Frequency Selective Surfaces of Terahertz Sensing Applications.

**Award:** Travel bursary from the UK Department for Business Innovation & Skills, and the Foreign & Commonwealth Office, with the kind support of the British Embassy in Beijing.

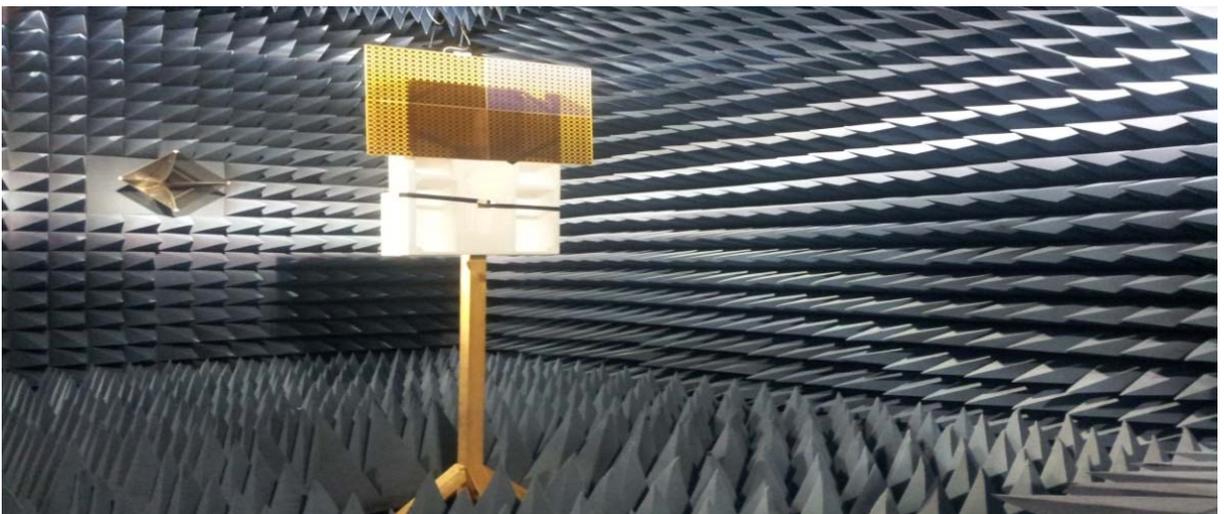


*Shaymaa Tayseer*

*Assistant Lecturer*

## Abstract

This paper introduces a new technique for enhancing the selectivity (or the quality factor, Q-factor) of frequency selective surfaces (FSS) for sensing applications. The proposed FSS functions as a free-space bandpass resonator, designed to sense the changing dielectric properties of minute amount of materials loaded on the FSS. The Q-enhancement technique is mainly based on two concepts; enhancing the field concentration in a given area and introducing transmission zeros in the FSS response. Two designs based on a modified complementary split-ring resonator (CSRR) at 300 GHz have been proposed.



*Measuring triple split-ring resonator inside the Anechoic Chamber*

# IEEE 22nd International Conference on Electronics, Circuits, and Systems (ICECS 2015)

Paper Title: FPGA-Based Hand Gesture Recognition & Marker Tracking for Augmented Reality.

Award: FIRST PLACE AWARD.

Supervisor: Dr. Noha Younis



*Farida Hamed*



*Abdelrahman Algahrbi*

## Abstract

Most human-computer interaction systems, specifically, Augmented Reality, are designed based on general purpose processors. Consequently, their power consumption is considerably high, as systems work at Gigahertz rates. In this paper, power efficient interactive augmented reality learning applications for children are designed and implemented. Interaction is performed by hand gestures and markers. The power consumption of the proposed system is reduced by developing and implementing the recognition and tracking processes on a Field Programmable Gate Array platform to exploit its parallelism feature. This enables the system to work, portably, at lower operating frequencies, without violating the required real-time performance.

# Egyptian Engineering Day 2014

**Paper Title:** Implementation of smart Ovulation Detection Device.

**Award:** certificate of paper recognition from MSA University.



*Hazem Eissa*

*Assistant Lecturer*

Solutions Among Us

23



## Biomedical Engineering



October University for Modern Sciences and Arts (MSA)  
**Implementation of Smart Ovulation Detection Device**

### **Project Abstract:**

Infertility is a major problem facing females causes by many kind of disease, many females facing this problem in Egypt and around the world; thus, the aim of this device is to detect the day which have the highest ovulation and the percentage of it during the menstrual cycle, without using any chemical analysis or chemical reactions inside the device, with making the device small, portable, easy to use, private, low cost and smart to serve non-specialized people and to simplify the physics and electronics technology for the people; a lot of money and wasting working time will be saved; This device will work using high accurate temperature sensor and by gathering three parameters: temperature factor, time factor, and decision making, the last parameter is the aim to make the device smart. The final product will produce a new additional idea as a solution of this kind of problem which we called smart ovulation detection device.

### **Project Members:**

Hazem Mohamed Eissa

hazemone@hotmail.com

### **Project Supervisor:**

Ehab Abobakr El Sehely

elsehely@yahoo.com

# University of Greenwich Mater's Scholarship Awards



Our Outstanding graduates received scholarships to study Masters Degree in University of Greenwich, where they achieved a grade of Distinction upon completion and the following awards:



Shaymaa Tayseer: Best student in the Department of Engineering Science, 2016.



Amira El-Toukhy: Best Project on "MSc Wireless Mobile Communications" Program, 2015.



Mohamed Sayed Zaki: Best Overall Performance on "MSc Wireless Mobile Communications" Program, 2014.



Ahmed Abdelsalam: Best Performance on "MSc Embedded Systems" Program, 2014.

Academic Events



# 32nd National Radio Science Conference (NRSC)-2015

Publication

Chair:

Prof. Hadia El-Hennawy

Edited by

Prof. Said El-Khamy

Prof. Hesham El-Badawy

Dr. Waleed El-Nahal

Eng. Ahmed Abdelsalam

Eng. Mostafa Gamal

The conference technical program includes invited presentations by three distinguished figures from academia and industry, as well as 50 accepted papers in URSI commissions: B, C, D and K as follow:

- Commission B 12 Papers
- Commission C 25 Papers
- Commission D 10 Papers
- Commission K 3 Papers

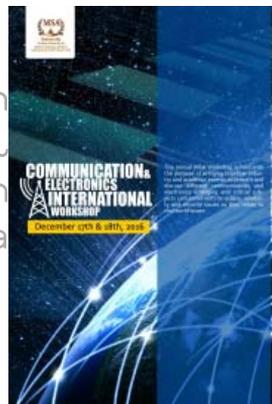
On this occasion, it is our pleasure to acknowledge the invaluable help and unyielding support accorded to NRSC2015 by members of the National Radio Science Committee, the NRSC2015 Organizing Committee, as well as by the highly professional Board of Referees. In addition, the cooperation and devotion by numerous individuals in the Electrical Systems Engineering Department Faculty of Engineering MSA University cannot be undermined.

# FIRST ANNUAL MSA UNIVERSITY WORKSHOP ON ADVANCES IN COMMUNICATION AND ELECTRONIC SYSTEMS -December 2016

Workshop Objectives  
 The workshop introduces to the participants of practicing engineers, managers and planners recent and advanced developments in some areas of the field Telecommunication and Electronics. It allows them to interact with world class speakers. In addition, it is an opportunity for them to meet in one event and exchange views. In addition, it is an opportunity for MSA senior students of the special to get an insight of the practical arena and what is new in it.

	Time	Location	Session	Location	Session
Day 1 -17 December	09:30 – 09:00	SSB Entrance	Registration & Refreshments		
	09:00 – 10:00	SSB Hall 1	Opening Ceremony & Signing Protocol of Cooperation (MSA & NARSS)		
	10:00 – 10:30	SSB Hall 1	Sponsor's Talk: "Title to be included"		
	10:30 – 11:30	SSB Hall 1	Session M1-1: Global Security in the Internet of Things Dr. Hosam Hassanain Prof. Queens U. Canada	SSB Hall 2	Session M1-2: Space-Based Communication Systems Dr. Haytham Alah ESP, NARSS, Egypt
	11:30 – 12:30	SSB Hall 1	Session M1-2: Future Generations of Wireless Systems: Challenges and Enabling Technologies Dr. Wajida Hamedoua Prof. Concordia U. Canada	SSB Hall 2	Session M2-1: Qualification of Electronic Systems for Space Operation - Hands-on Experience Dr. Dalia El Fiky & Dr. Ayman Mahmoud ESP, NARSS, Egypt
	12:30 – 13:00	SSB Entrance	Coffee Break		
	13:00 – 14:00	SSB Hall 1	Session A1-1: Resilient Wireless Sensor Networks for Industrial Monitoring Dr. Hosam Hassanain Prof. Queens U. Canada	SSB Hall 2	Session A1-1: Rural Agricultural Development Communication Network - (RADCCN) Dr. Saad Mabrouk MSA University, Egypt
	14:00 – 15:00	SSB Hall 1	Session A1-2: Digital Multimedia Enhancement of the Archaeological Sites in Egypt Dr. Samir Hassan Ex-CTO, Qubatec Technology for Contracting, Egypt	SSB Hall 2	Session A2-2: Precision Agriculture Equipment - Made in Egypt - Moving from the User to the Developer Role Dr. Saad Mabrouk MSA University, Egypt
	15:00 – 16:00	SSB Entrance	Closing Session		
	16:00 – 17:00	SSB Entrance	Lunch		
Day 2 -18 December	09:00 – 11:00	SSB Hall 2	Egyptian Engineers Syndicate Discussion & Recommendation With MSA Senior Students Participation		
	11:00 – 12:00	SSB Hall 2	Refreshments		

Event Program



Event Brochure

# Telecom Egypt Protocol-March 2017



MSA University has signed a new protocol with Telecom Egypt. This protocol introduces more than 200 summer training opportunities in summer 2017 under the supervision of MSA-STC & quote; Summer Training Committee & quote;. Moreover, The event included the celebration for the MSAian trainers at Telecom Egypt in 2016.



*Signing the protocol with Telecom Egypt*

# System-Motorola Protocol -April 2017



MSA University has signed a new protocol with Systel Egypt. This protocol introduces more than 200 summer training opportunities in summer 2017 under the supervision of MSA-STC & quote; Summer Training Committee & quote;. Moreover, The event included the celebration for the MSAian trainers at Telecom Egypt in 2016.



*Systel-Motorola with Dean and STC team*

# DWF Workshop for Networking-March 2017



introduced by:

- Dr. Waleed El Nahal – Workshop Chair – (DWF-MSA) Chair - MSA University.
- Eng. Kareem EL Agamy - Cisco Academy Manager - Academic Key.
- Mr. Mohamed Abo-Sedera - Cisco Academies Manager - Egypt.

CCNA-Cisco trainers at Academic Key (35 MSA students) will be divided into 3 groups to build a real network like the one at MSA University. The main objective of this workshop is to share the experience of the trainees of the CCNA course with other MSA-students and give them an overview of the networking career path.



*Workshop for network*

# DWF Workshop for Networking2-April 2017



introduced by:

- Dr. Waleed El Nahal – Workshop Chair – (DWF-MSA) Chair - MSA University.
- Eng. Tarek Sherief- Network Security Engineer - Mideast Communication Systems (MCS) - Agent for Paloalto and Juniper companies.

## Objective

Network & security engineer career development strategies :

1. Network and security definition
2. Who are the top vendors in every department/field?
3. Where shall i start?
4. What is the difference between vendors and partners ?
5. Types of certification path and business needs will make me a unique engineer
6. Career path in a company
7. Real network designs
8. How to control and trouble shoot



*Workshop for network 2*

Students Activities

# CanSat Training Program (CTP)

Goal is to initiate an MSA CanSat training program for students and promote them towards national and international competitions, under the supervision of ESE club within Engineering and CS faculty and under the supervision of Dr. Samer Ibrahim Mohamed, assistant professor in the communication department. Our goal is to start the program Fall 2016. The trainings were targeted at enriching both technical and soft skills like detailed in the objective section. Target is to start sessions Sunday Oct. 25 th 2015 every Sunday and Wednesday, in sync with MSAMUN, in order to share logistic resources (rooms, buses). Academic plan/calendar will be shared in separate document for the whole program.

## Candidate's selection criteria

- 1- Engineering/CS students
- 2- Basic electronics and programming skills



*CTP team*

# Dr.Waleed El Nahal Family (DWF)



## About:

DWF family objective is to enhance their learning level by providing different student activities such as training and attending different sessions and workshops for different multinational companies in the field of communications and electronics in to engage students to the learning outcomes of the engineering courses and also to foster students to link between their courses and the requirements of the current market

# DWF

## 1. Meeting with the Dean Prof. Nahed Sobhy

All family members had the privilege to meet with the Dean Dr Nahed Sobhi in person; asking her some personal and general questions to get to know her more deeply. At first we were all warmly welcomed and she was pleased with our family concept plus the magazine idea.



*Prof. Nahed and DWF team*

# DWF

## 2. Engineering between theory and practice



The Faculty of engineering held a very supportive session to the students who are up to graduate and will be engaged the work field , The session was introduced by Dr. Waleed El Nahal and the guest Eng. Sameh Samer with 13 years past experience working for Huawei Technologies Company as Project Manager and now he's running his private business , along with dr samy el hennawi and the faculty staff. Before the session starts , Dr. Waleed and Eng. Sameh took a group photo with Dr. Nawal El Degwi and a number of communication students who are also participants at the engineering club, Eng. Sameh spoke to the students about the challenges they will bear in the working field , and how to get the skills required to the market and the big institution , The session also covered the topics of "Why engineering", " What are the most 10 classifications of work field out there ", " Expectations and reality" ,"Challenges for engineers and career path struggling" and finally "Morals and work ethics and codes" .



*Dr. Sameh Samer and Dr. Waleed in session, DWF team*

# DWF

## 3. How to be a network engineer



The seminar will be presented by ISCC (information systems and computer center) staff, Ministry of defense and military production.

Points to be discussed:

1. How to design a network
2. How to implement a network
3. How to install a network
4. How to make a troubleshooting for a network
5. How to protect and provide the security to a network
6. How to install network equipment and connections.
7. How to test a network and what are the testing tools.



*Session "How to be a network engineer"*

# DWF

## 4. 5G is coming ....



The session will be presented by  
Eng. Mohamed Awad, Lead Technical Project Manager,  
Alcatel-Lucent Corporation Company.

Points to be discussed:

1. 30 years of telecommunications evolution
2. What is driving 5G?
3. LTE-Advanced
4. 5G Enablers
5. 5G Radio



# DWF

## 5. Automatic Control Systems (Schneider Company)



The session will be presented by Eng. Mohamed Hafez,  
Technical Project Manager, Schneider Company

Main Points: 1. Schneider automated systems 2. Schneider  
tools and equipment  
3. Schneider training for students



*Eng. Mohamed Hafez, Dr. Khairy, and DWF team*



*Students training at Schneider Electric*

# DWF

## 6. Wireless Communication Systems



The session will be presented by Training Manager "Motorola Company"

Main Points:

1. Motorola wireless communication systems
2. Motorola tools and equipments.
3. Motorola Training for students



*Session of "Wireless Communication Systems"*

# DWF

## 7. Point of Sale Servers in Hotels and Restaurants ACT Company

**Next event**  
Saturday, 29/4

gonna talk about POS "point of sale"  
definition  
pos : Hardware + Software  
Servers in hotels and restaurants  
ACT company and my position  
The job title : POS engineer



**DWF**  
DR. WALEED FAMILY

**C203, 11am to 12:30**



*Session of "Servers in Hotels and  
Restaurants"*



# DWF

## 8. Wifi and Router Hacking ACT Company Wifi and Router Hacking !!



*Session of "Wifi and Router Hacking"*



# DWF

## 9. Field Trip " Wireless Communication Systems"



*Field Trip Motorola & Systel Company*

# Summer Training Committee (STC)



## About

Connecting academic study together with practical life is the main goal that the summer training committee unit has been established for since 2010.



*STC Team with Dr. Nawal and Dr. Sami*

# 1.1st Career Advice Event- Round1:20 April 2017- Round2:16 May 2017

A career advice is a venue in which students and employers can exchange ideas and information about employment opportunities. Some employers actively recruit summer internships at career advice event, while others participate in order to learn what skills and perspectives geography students can offer their organizations, to stay connected with and to the departments and institutions from which they graduated, and to demonstrate their interest in hiring geography graduates. Participating students can explore a range of career paths, network with prospective employers, and practice essential professional skills.



## 2. Field Trips

ITI Field trip :

Topics to be covered:

- 1- ITI History
- 2- The Facilities of ITI for undergrad students and post grad.
- 3- The roles for telecommunication in Egypt.



## Egypt Air Field trip :

Topics to be covered:

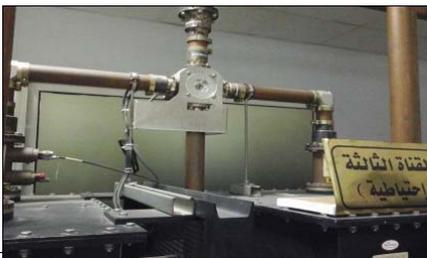
- 1-What`s the main jobs for ECE and ESE Engineers
- 2-Network Design and Operations for Airplane
- 3-Motor and Electricity Hardware introductions for Airplane
- 4-Antennas and pressure sensors
- 5-Visiting and workshop discussion.
- 6-Discussing the Regular Summer Training. for Students



## TV & Radio Field trip :

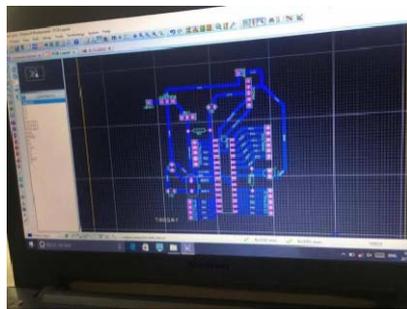
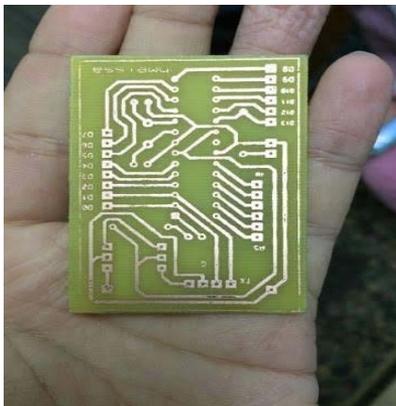
Topics to be covered:

- 1-What is the AM and FM Modulation
- 2-The instruments for Radio and TV Modulations
- 3-Waveguide and Broadcasting Antennas
- 4-Directional Coupler function
- 5-Backup Systems for emergency
- 6-Discussing the Regular Summer Training for Students in Mid-year Vacation



# 3. PCB training session

PCB workshop: Printed Circuit board workshop was made by Eng. Hazem Eissa and under supervision of STC. Aim is to enhance and develop a new skill to electronics students as follow: " Schematic Design, PCB Deign and Fabrication, soldering electronic components, and programming micro controller". All these skills were used to achieve the target of placing the PCB design to a copper plate. The workshop was held in 4 days, and the student were able to design and fabricate Printed circuit board



*PCB Training*



# Future Engineering Club (FEC)

- Future Communications Engineering
- Future Electronics Engineering
- Future Computer Engineering



# Recently established clubs



## IEEE MSA Branch

### Mission

IEEE mission is that the Student Branch gives students the opportunity to meet and learn from fellow students, as well as faculty members and professionals in the field. An active IEEE designated fields of Engineering, Computer Science and Information Technology.



## Astronomy Club MSA University (AC)

The Astronomy Club encourages its members to participate in outreach programs and learn a lot of things about astronomy not by the book but by hand on experience. We aim to develop, and create a fun and challenging atmosphere for those who are passionate about Astronomy.

Which is a branch in science that entails knowledge about the physical universe, space, and celestial objects.

Our mission is to assist those in love with science, especially astronomy, to pursue their dreams and to change people's perspective about science and astronomy.

# Staff Promotions

# Associate Professors



Sherif Kamel Hussein  
MSA University 2016



Samer Ibrahim Mohamed  
MSA University 2017

# Ph.D. Holders



Dr. Maher Mohamed El-tayeb  
Al-Menia University 2014



Somaya Mohamed  
Cairo University 2016



Ahmed Fawzy Daw  
Ain Shams University 2017

# Master's Holders



Ahmed Mahmoud Abdelsalam

Greenwich University 2014

Mohamed Sayed Zaki

Greenwich University 2014

Ahmed Abdelrashied

Greenwich University 2015

Amira Ali

Greenwich University 2015

Ahmed Hatem

Ain Shams University 2016

Shaymaa Mohamed Tayseer

Greenwich University 2016

Zahraa Salaheldin Ismail

Greenwich University 2016

Hazem Mohamed Eissa

Greenwich University 2016

Sarah Mahmoud Gaafar

Greenwich University 2016

PG Certificate

# UoG PG Certificate in HE



Samer Ibrahim Mohamed  
Associate Professor



Waleed El-Nahal  
Assistant Professor

Alumni

# Automatic Agriculture Weather Station



*Said Mabrouk*  
*Assistant Professor*



*Ahmed Abdelsalam*  
*Assistant Lecturer*

Dr. Said Mabrouk of Electrical Engineering Systems, through a project agreed upon between MSA University and Ministry of Agriculture Research and Development Fund, designed an Automatic Agriculture Weather Station, within the National Project to reclaim one million Feddans (Acre), not only to save foreign currency to import these stations but also to alter the economic status of Egypt from a consuming importer country to a designer, productive and exporter also.

Young and fresh graduates of Electrical Engineering and Systems participated in establishing a company to manufacture electronic tools and appliances. They formed acting and working team, headed by Dr. Said Mabrouk where the graduates together with some experts of the Central Lab for Agriculture Climate succeeded to design, execute and build a replica of an Automatic Agriculture Weather Station that surpassed the similar imported one besides its economic and reasonable cost.



*Model of Automatic  
Agriculture Weather Station*



**Name:** Hussien Ahmed Ahmed Ouf  
**Position:** Co-Founder and Technician  
Support Manager

**Company :** DigitalCast



**Company Description:**

DigitalCast is a telecommunications company which was founded in the beginning of 2014 and have a Dispatching department which built to provide VSAT technical support around the Globe.

Our Dispatching department includes professional Field Engineers around the world which are ready to make site surveys, Maintenance and installations for any VSAT Systems (C-Band, Ku Band and Ka Band), as we can serve in many countries which have a critical and dangerous situations such as Libya, Syria, Iraq, Afghanistan and Palestine.

Also we built a CISCO database for a professional Field Network Engineers around the Globe to let us have a CPE Support.

**Previous and current projects:**

VSAT Relocation and repointing project for the south African Embassies in Qatar, Kuwait, UAE ( Dubai and Abu Dhabi) and Oman – Second quarter of 2014

VSAT Maintenance for the South African Embassies in 23 countries ( Africa, ME and Asia ) – first quarter of 2015

Signed a contract with Verizon wireline communication ( Verizon US ) to be as a VSAT Vendor for all Verizon Sites in Africa, ME, Asia and Eastern Europe – in the middle of 2015

VSAT relocation and repointing Project for the Danish embassies in more than 30 countries in Africa – from first quarter of 2016 till present.

Cisco routers and switches installation and maintainace for Honeywell ME – first quarter of 2017

Beside this tasks we handled to make a separate tasks for VSAT Big Players for the KSA embassies in Egypt ( Cairo and Suez )

**1- Name:** Yasmeen Maher

**Position:** Software Quality emEngineer

**Company:** Dsqwares

**Projects :**

1. Vodafone Red Points (Vodafone egypt)
2. Tikram points (Orange jordon)
3. Bank Metro (for Metro market )
4. Vodafone Flex deals (Vodafone egypt )
5. Careem captains loyalty program
6. Check out payment for souq ([souq.com](http://souq.com) )
7. Check out payment for Hedya store
8. Al-ahly points for al-ahly bank
9. Vodafone sherkety program (Vodafone egypt )
10. Temmys Competition
11. Red Him&Her (Vodafone Egypt)

**2- Name:** Omar Hatem Hegazy

**Position:** Junior POS Engineer

**Company:** ACT

**Projects:**

1. Full security systems in different places , group73historians android applications and install security cameras in sites.
2. Installing Micros system in different places like:
  - Steigenberger alcazar resort
  - Sharm el sheikh
  - Golden Ocean Marina hotel
  - Police clubs
  - New Conference Hall for Egyptian armed forces.



**3- Name:** Yasser Faris Al-Salman

**Position:** Administrator in operating and maintenance of Heavy Fuel Oil power plants

**Company:** Hyundai Middle East After Sale Services

**Projects:**

1. Setting up power plants in several Iraqi cities.
2. Unesco project to reform and improve the education in Iraq.



**4- Name:** Ahmed Samir Mohamed Hassan.

**Position:** Access Transmission Planning Engineer (Cairo area owner).

**Company:** Orange Egypt.

**Projects:**

LTE Launching, LOS problems, DXX offloading, New sites, flex abis upgrade, IUB upgrades, occasional upgrades (Ex: fitr and adha upgrades), LDN upgrade and new sites.

**5- Name:** Ibrahim Ahmed Hosny

**Position:** Project Engineer at SensorTec-Canada

**Projects:**

Cairo traffic project, there are more than 250 intersections connected through a wireless system (WiMAX), and each intersection has its control unit that collects the number of cars by the cameras mounted on the road, and send these numbers to the neighbouring intersections in order to adjust there timing according to the traffic capacity.



**6- Name:** Ingy Aboulkheir

**Company :** Orange Business Services

**Current Position:** IT Analyst and Lotus Notes Admin

**Projects:**

- Analyzing trouble tickets to monitor service trends and determine chronic issues, with a specific focus on service and processes improvements.
- Providing guidance and training for the IT Helpdesk level 1 agents.
- Being part of pilots projects, major projects and changes as a main contributor providing testing, analysis and feedback to the project owners.
- Being involved in processes documentation and improvement through performance analysis.
- Installing Domino Servers.
- Migrating Domino Servers either to a newer server version or Lotus Notes version.
- Decommissioning Domino Servers.

**7- Name:** Khaled Hesham Showel

**Position:** Information Technology Services Engineer ( ITS Engineer)

**Company:** Saudi Business Machines

**Projects:**

1. New installation in Al juffali Company
2. King Faisal Specialist Hospital
3. Aramco,Lubrefe
4. Saudi British Bank,Al Ahli Bank (Configuring IBM Storages and Servers RAID,Clustering and configuring ZOAING between IBM SAN switches ,Storages and Servers)

**8- Name:** Karim El Heneidy

**Position:** General manager

**Company:** invronics

**Projects:**

The project uses a memory gauges to record the temperature values inside oil wells. The project were enhanced on CNC machine in which the project participated in a CNC Exhibition. The project is currently on the final implementation stage.

**INVRONICS**

**9- Name:** Hosam el-din Hamdy

**Position:** Maintenance Engineer (Transmission) at technical operations team (Staff)

**Company:** TE-Data

- **Working Now as Maintenance Engineer (Transmission) at TE-Data technical operations team (Staff) From November 2016 till Now.**

**Responsibilities:**

1- Working on TE-Data Cisco routers like VXR 7200 series, ASR, GSR, 10K and 12K and others related to ESP customers like 1600 and 2600 routers.

2- Working on TE-Data Juniper routers (core routers) like M7 and M10

3- Handling and Trouble-Shooting all failures occurs at TE-Data DSLAMs (Huawei , Alcatel , ZTE , Nokia Siemens) which related to hardware failures or controller cards transmission.

4- Working on Transmissions rings and MUXs devices which provide TE-Data network with transmission bandwidth.

5- Working on all kinds of transmission speeds like E1, E3, STM-1, STM-64 (10GIG) till WDM (100GIG) and all Transmissions cables such as UTP, Co-axial and Optical fiber cables with all kinds of fiber cables.

6- Handling TE-Data International links and T-Shooting their failures with TE

- **Worked with Subcontractor companies from May 2014 till November 2016 in telecommunication field**

**in projects:**

1- Alcatel-Lucent SDH/WDM project TX cabinets 1660, 1662, PSS-1830 instillation and commissioning and testing in Contracts PO2, PO6, PO9, PO14 (TE contracts with Alcatel)

2- Huawei MSAN/DSLAM project, cabinets 5600T, S300, T500 and D2000, instillation and commissioning and testing.

3- Huawei SDH/WDM project, TX cabinets OSN 7500, 8800, 3500.

4- Huawei Core project SGSN and GGSN project.

5- NEC ipaso Microwave links project IPASO 200, 400 and 1000.

**10- Name:** مازن حسين كوشك

**Position:** Communication Engineer

**Company:** الشركة السعودية للكهرباء

**Projects:**

The main function of the communication department in the Saudi Company for the Electricity is to link all the stations together so it can be remotely controlled by the main station in Jeddah city “whether it is 110V or 380V”. In case of blocking any of the linked stations, a maintenance team is to be sent to the blocked station to investigate and unblocked this station. The project target is to create an alternative tracks for these station “In addition to the main tracks” to avoid any temporary shutdown in any of the blocking stations, and all the station will not be affected with any of the track damages. The project took 24 months of continue work. And the team were awarded by the president of the maintenance department.

**11- Name:** Mohamed Sayed Farrag

**Position:** Supervisor, charging Architecture Engineer

**Company:** Orange

**Projects:**

1. Hardware modernization project phase 1
2. Hardware modernization project phase 2
3. ECE modernization and release upgrade



12- **Name:** Ahmed Rashad Harb Riad Ismail [short name: Ahmed Rashad Riad]

**Position:** Account Manager [Managing member states and private sector relationships for sales covering the MEA and North America regions. And managing the ITU Telecom World Awards program]

**Company:** International Telecommunications Union HQ in Geneva, Switzerland [The United Nations agency for ICT. <http://www.itu.int> ]

Latest education: MSc in Telecommunications with Business from University College London (Graduated top of my class, and got the department Award for best research project) [attached], I also did publications at the ITP Journal in the UK.

With the ITU, I worked on organizing the ITU Telecom World events in the last three years in Doha, Budapest, Bangkok, in 2014, 2015, and 2016 respectively, and now working on our 2017 event taking place in South Korea in September <https://www.itu.int/> such event have at least 70 Regulators among private sector



**13- Name:** Ahmed Abdelhamid Mohamed Galal  
El Ebiary

**Position:** Incident & Change Management  
Manage

**Company:** Ericsson

**Projects:**

- Ultra wide band antenna (graduation project).
- Obstacle avoiding robot.
- Traffic light system.



**14- Name:**

**Position:** low current engineer

**Company:** Dar Al-Handasah Engineering

**Projects:**

an international project design, management and supervision consultancy and founding member of the Dar Group – مطار الملك عبدالعزيز الدولي الجديد – King Abdulaziz International Airport – KAIA



the 1990s, the number of publications on the topic has increased steadily, and the number of authors has increased from 1 to 10.

There are a number of reasons for the increase in research on the topic. First, the number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. Second, the number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. Third, the number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s.

The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s.

The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s.

The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s.

The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s. The number of people who are interested in the topic has increased. This is due to the fact that the topic has become more relevant in the 1990s.

03 INDUSTRIAL

Research+ Publications



*Ayman Abdel-Bary*  
*Asst Prof.*

1. Ayman Elsayed, Omnia Mohsen "The Effect of Cutting Parameters and the Frequency of Interrupt on Ceramic Tool Wear in Hard Turning", the 8<sup>th</sup> International Scientific Conference of the Military technical College 19-21 April 2016.

Patents:

1. "Pneumatic system to secure the vehicles against accidents due to tubeless-tire explosion", Arab Republic of Egypt, Ministry of Scientific Research, Academy of scientific Research & Technology, PATENT OFFICE, 27-1-2015.
2. "Electro mechanical system to secure trucks/mini buss/buss against accidents due to tub-tire explosion", Arab Republic of Egypt, Ministry of Scientific Research, Academy of scientific Research & Technology, PATENT OFFICE, 27-1-2015



*Sameh Salah  
Asst Prof.*

1. N. Sobhi and S. A. Salah "Investigation the Critical Success Factors of TQM Criteria in the Industrial Organizations ", 17<sup>th</sup> International Conference on Applied mechanics & mechanical engineering, April 19 - 21, 2016, M T C, Cairo, Egypt.
2. Sameh Ahmed, "Improving the organizational performance by Lean Six Sigma Culture", faculty of engineering-Mataria, engineering research journal, no: 146, June, 2015, Helwan university, Cairo, Egypt.
3. Sameh Ahmed, " Improving organizational lean Culture by using Critical lean Culture Criteria Model ", 16<sup>th</sup> International Conference on Aerospace Sciences & Aviation Technology, May 26 - 28, 2015, M T C, Cairo, Egypt.



*Mohamed Sobih  
Asst Prof.*

E. M. Fayed, A. S. Elmesalamy, M. Sobih and Y.I. El-Shaer, Influence of Laser Process Parameters on Properties of Alumina Parts Produced By SLS, 17<sup>th</sup> International Conference on AEROSPACE SCIENCES & AVIATION TECHNOLOGY, ASAT – 17, April 11 - 13, 2017, Military Technical College, Kobry Elkobbah, Cairo, Egypt.

Scientific Editor and Reviewer:

1. Editor for the International Journal of Materials Science and Applications.
2. Reviewer of Asian Journal of Physical Sciences.
3. Reviewer of the Engineering Journal of The Military Technical College.
4. Reviewer of the British Journal of Applied science and Technology.

# Staff Promotions

# University of Greenwich Mater's Scholarship Awards



Our Outstanding graduates received scholarships to study Masters Degree in University of Greenwich, where they achieved a grade of Distinction upon completion and the following awards:



Ahmed Mohamed Akram: Best student in the Department of Industrial Engineering, 2014.

"Combining TOC with Different Techniques for Quality Improvement"



Ghofran Mohamed Jan: Best student in the Department of Industrial Engineering, 2015.

"Application of Six Sigma Methodology to Inventory Management with a Case Study in Higher Education"

# Master's Holders



Ahmed Mohamed Akram  
Greenwich University 2014



Ghofran Mohamed Jan  
Greenwich University 2015



Fady Safwat Labib  
Ain Shams University, 2016

PG Certificate

# UoG PG Certificate in HE



Ayman Mahmoud Abdel-Bary El-Sayed,  
Assistant Professor

*Ayman Abdel-Bary  
Assistant Professor*

# Students Activities



# 1- Graduation Projects:

Graduation projects are focused on two main areas:

- 1- Industrial Engineering area: in which the projects deals with production enhancements in famous industrial factories and companies using different industrial techniques. After implementation of the proposed solution, the efforts are appreciated from the factories stake holders. Samples of the projects which have been implemented are listed in the following pages.
- 2- Mechanical projects area: in which the students able to design and manufacture prototypes of machines they designed in different mechanical branches, environmental areas and renewable energy fields.

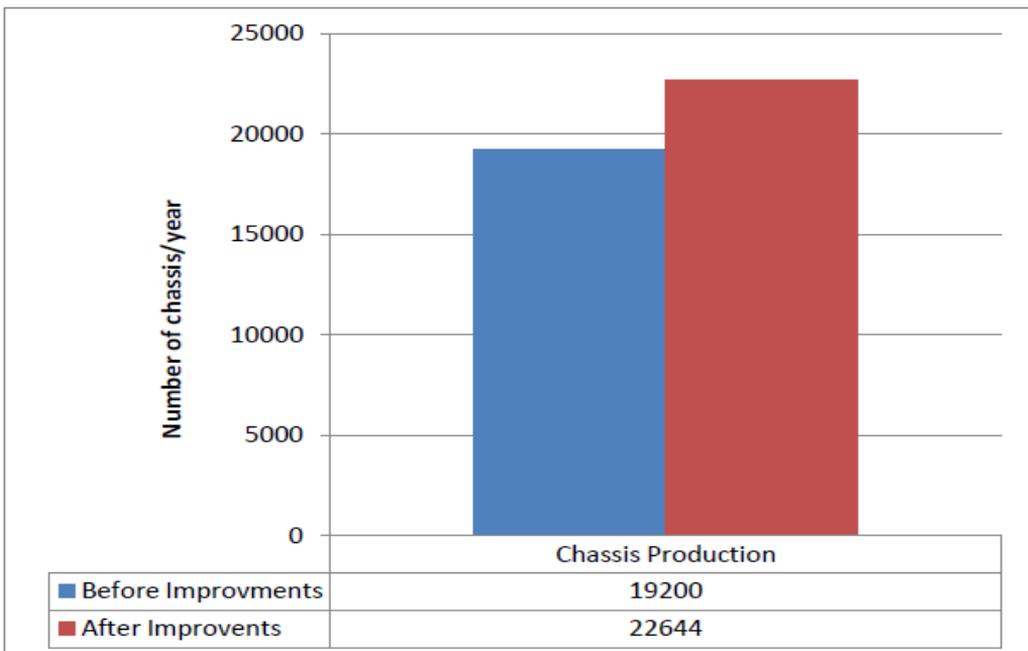
The students are supervised by the industrial engineering department staff and they present all their projects and evaluated by Egyptian professors from the Governmental Universities and then present the projects again to the British staff from the University of Greenwich and the British External Examiner which evaluate the students work.

The British external examiners have highly appreciated the quality of the industrial engineering students graduation projects in the last two years.

## Company: Industrial Control Company (ICEI) 6th October (2017):

### Production enhancement using Total Production Maintenance (TPM) in automotive industry

This project aims to improve the productivity of the assembly line by increasing the efficiency and reduce the maintenance downtime. Applying the line balance increases the efficiency from 74% to 84% and decreased the downtime maintenance by 92%. This can be translated to 3444 additional product annually which increases the profit by about 9 million L.E.



*Annual change in chassis production*

## Company: Bahgat Group (Goldi), 6th October (2017):

### Productivity Improving in Refrigerators manufacturing Company

The objective of this project is to increase the productivity of the doors workstation through improving the workplace and minimize the time loss. The proposed solution is to implement the 5S methodology to keep the workstation in control, and design moving cart to minimize work in process at doors workstation. The proposed solution increases the production rate from 20 to 30 fridges/hour; this improvement will increase the profit by 40%.



*Workstation  
before  
improvement*

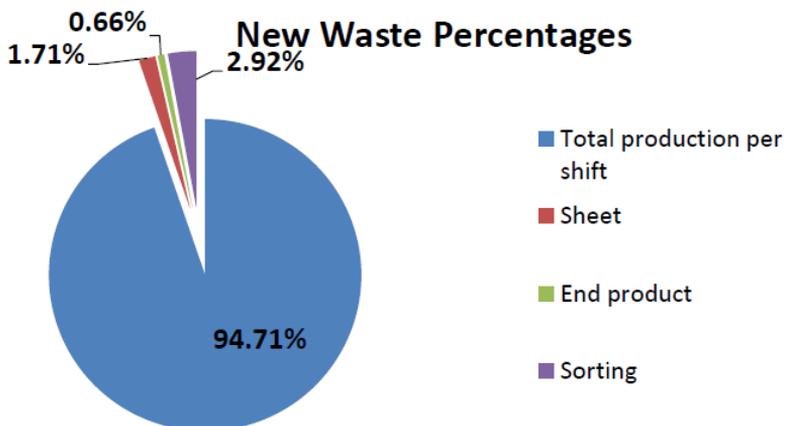
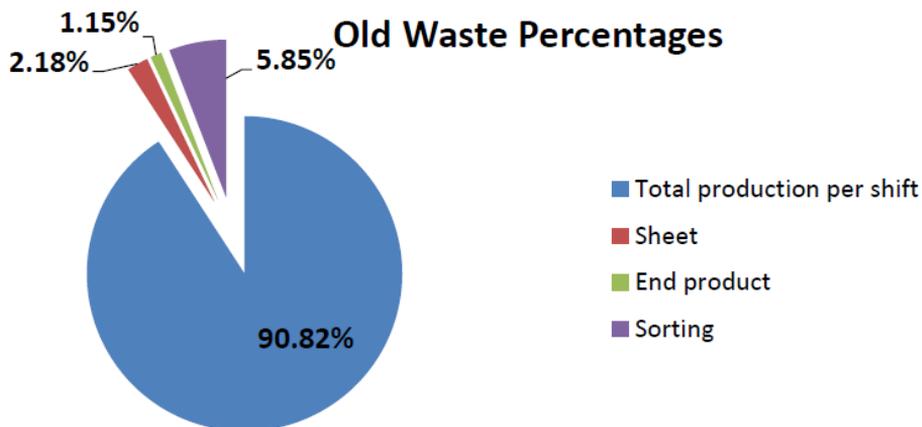


*Workstation  
after  
improvement*

## Company: EDITA, Factory for Food Industry, 6th October, (2017):

### Effects of the Lean Wastes on the Energy Consumption (SEC)

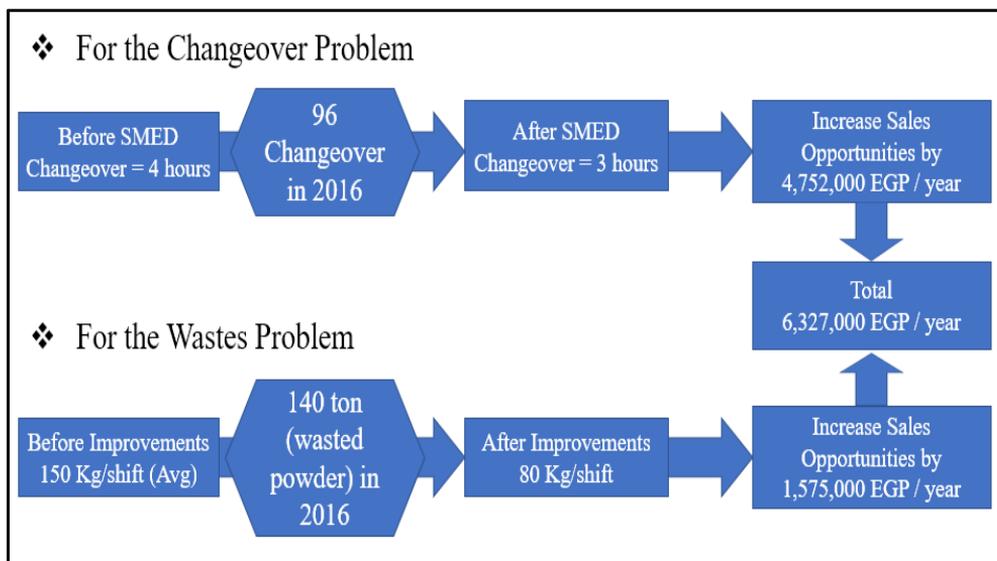
This project aims to reduce the energy costs in a production line of Edita food industries, by implementing the specific energy consumption (SEC) methodology on the most consuming production line in the E07 plant which is the wafer production line. Implementing the suggested solutions saves about 6 million L.E per year.



## Factory: EDITA, Factory for Food Industry, 6th October, (2017)

### Productivity Improvement by Using Single Minute Exchange (SMED) Methodology and Waste Elimination in a Food Factory.

This project aims to reduce the changeover and waste to increase the profitability. Applying SMED methodology reduced the setup time by 25% which saves more than 4 million L.E. While applying Six Sigma reduces the waste by 50% which saves about 1.5 million L.E.



*Cost Saving Summary*



Company: Akzonoble, Factory for Paints  
Powders, 6th October, (2017):

Efficiency Improvement of a Production Line in  
a Powder Coating Factory

This project aims to reduce the waste and improve the quality of the packaging stage. The proposed solution reduces the powder losses by 50%, this is equivalent to decreasing the cost of losses from 185,000 to 101,250 L.E./month.



*On site Double Flap Gate Valve*

Company: Al Safwa Factory for Metal Industries, 6<sup>th</sup> October, 2017:

1- Production Process Improvement in Rack Metal Factory

The objective of this study is to improve the production line to overcome the problem of the factory not achieving the planned productivity, decrease the production time, eliminate back tracking and improve the material handling system being used. A new material handling system was designed and manufactured to enhance the material handling system and to decrease the handling time.



*Old Material handling system.*

*New Material Handling System*





Company: Al Safwa Factory for Metal Industries, 6<sup>th</sup> October, 2017:

## 2- Improvement of Electrostatic Powder Coating Process

This project offers a proposed solution of two designed systems which are: automated overhead conveyor system for transporting the parts to be coated throughout the coating process, and recovery system to collect and recycle the excessive powder throughout the coating process. Both of the systems components were selected according to standards.

After the installation of the systems the productivity of the coating process is expected to be increased from **280** parts/month to **660** parts/month which solves the bottleneck problem. Moreover, the powder waste is expected to be reduced by **40%**; as the efficiency of the recovery system is expected to be within a range of **85-95%**.

## Company: Al Safwa Factory for Metal Industries, 6<sup>th</sup> October, 2017:

### 3- Design and Manufacture of an Automated Guided Vehicle (AGV)

The main focus of this project is the conception, planning, and implementation of the system of an AGV. The timeline that is adopted throughout this research starts by the thinking process of how to create an AGV system and ends with the AGV being capable of doing its job perfectly inside the chosen plant. In order to successfully achieve this goal, the suitable type of AGV that would be capable of transferring the material used in production is chosen. Then the navigation method that would maximize the efficiency of the system while remaining in budget is selected. Also the communication method between the navigation method and the motors on board is selected. Finally, the functionality issues such as battery type, charging method, and forward sensing control is also chosen



*The produced AGV carrying 500 kg load*

## Factory: El-Sweedy Group, 6th October, (2017):

### Development of a Traceability System in Electrometer Factory

The objective of this project is to manage and simplify all components after representing them on a system that trace them and stop the detected component from spreading through the remaining products.

The system is applied by drafting a flow chart for the components starting from the suppliers, moving along the processes, till it finalize to a product for the customer. The type of code used is QR code. And the required equipment for the traceability system are QR code printers, scanners, and components database.



*injection machine*

## Company: Pipsi-Cola – Nasr City (2015)

### Applying Total Productive Maintenance at PepsiCo: Case Study

The Central idea behind this project is to measure how many “losses” in a process, then analyze where the biggest losses are, also figure out how to eliminate them systematically to reach a world class overall effectiveness (OEE). Other than that the organization will pass by the TPM culture to the labors, and these goals will be achieved through:

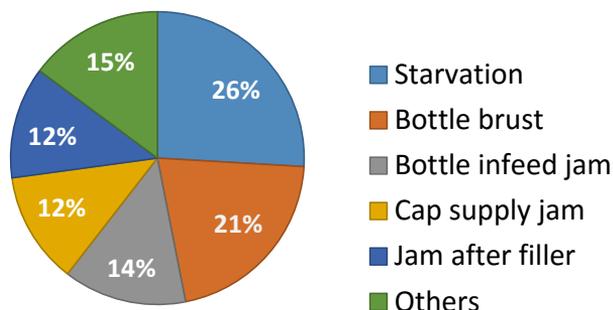
Returning the machines to its basic condition (by applying TPM)

Define the sources of minor stops/ wastes and eliminate them (through Kaizen events), Enhance operators’ technical skills.

Maintenance team to work planned rather than working reactive.

Recover the existing shortage in production through implementing the mentioned solutions.

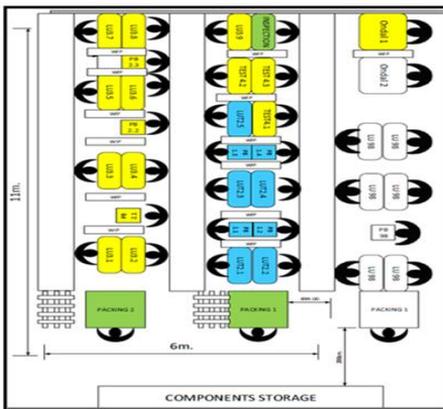
#### *Minor stops in RB1*



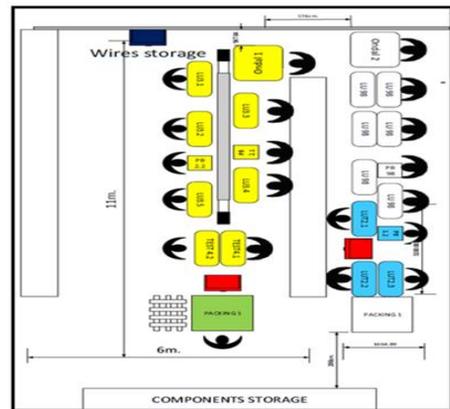
# Company: LEONI for Auto Harnesses, Free Zone Nasr City (2015):

## Lean Enhancement in LEONI Wiring Systems

Throughout this project a deep study, data collection and analysis was performed. The new layout will decrease number of work-in-process inside the area; by working on line balancing towards reaching one-piece flow. 5S implementation was carried out starting with sort and the rest of the 5S was performed as a proposal based on the new layout. A new educational system for operators was constructed based on the requirements to get over the cultural issue of lack of operators involvement and training; which will decrease the turnover rate and increase operators' interest in working on continuous improvement.



Old Layout



New Layout

	Old Layout	New Layout	Improvement (%)
Total walking distance (m)	6281	515	92
Walking time/shift (min.)	70	5.7	92
Layout Space (m <sup>2</sup> )	70	53	24
Efficiency (%)	94	126.5	32.5



**Company: NOMIX For Plastic Equipment, 6th  
October (2015):**

**Improvement of a Manual Assembly Line: a Case  
Study at NOMIX**

The project target is to increase the productivity of a manual assembly line at Nomix factory for house ware products.

The main goal of our project is to increase the productivity of the assembly phase using operations analysis on the processes that are done during the phase, this will be done by several visits to the firm. These visits have different purposes such as data collection directly from the line by the team members, data collection from the machines or workers and attending meetings with the production staff.



## Company: Juhayna Factory (2015):

### **Operational Cost Reduction over Juhayna Factory**

This project is aiming to apply continuous improvements over one of the filling lines at Juhayna's factory. Operation cost reduction (OCR) program was applied to achieve is target focusing on three main points: maintenance; worker's performance; and layout. After studying the maintenance plan of the production line, recommendation were given and implementing this recommendation the production rate of this line increased form 4,956,000 to 6,680,000.

Worker's performance was evaluated and this evaluation was used to reward workers with high performance and punish the workers with low performance.

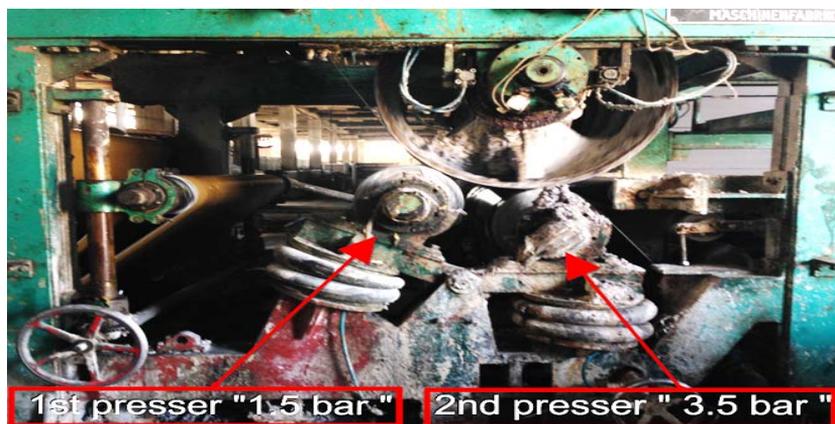
Finally recognizing the places of nearly all facilities related to the line provides ease in workers movement to reduce the risk of worker injury.

## Company: GAMMA Factory for Board Manufacturing (2015):

### Upgrading of a Paper Recycling Factory: Case Study

The objective of this project is studying the development of the production line of GAMMA cardboard plant. The study is focused to solve the problem that face the plant which is the increase the proportion of water in the paper in the production stage for global proportions, (which affect the increase in the time required to complete the following stages of production line, thereby reducing the productivity of the plant) and the development aims to increase the productivity of the plant.

Project Achievement: a new control system has installed that pressed air and allowed pressure increase on shafts and avoided bearing and shafts failure during sheet cutting process. The production rate increased from 10% to 12% monthly because of this upgrading for the same energy consumption.



*Pressing stage for decreasing proportions of water in the paper*



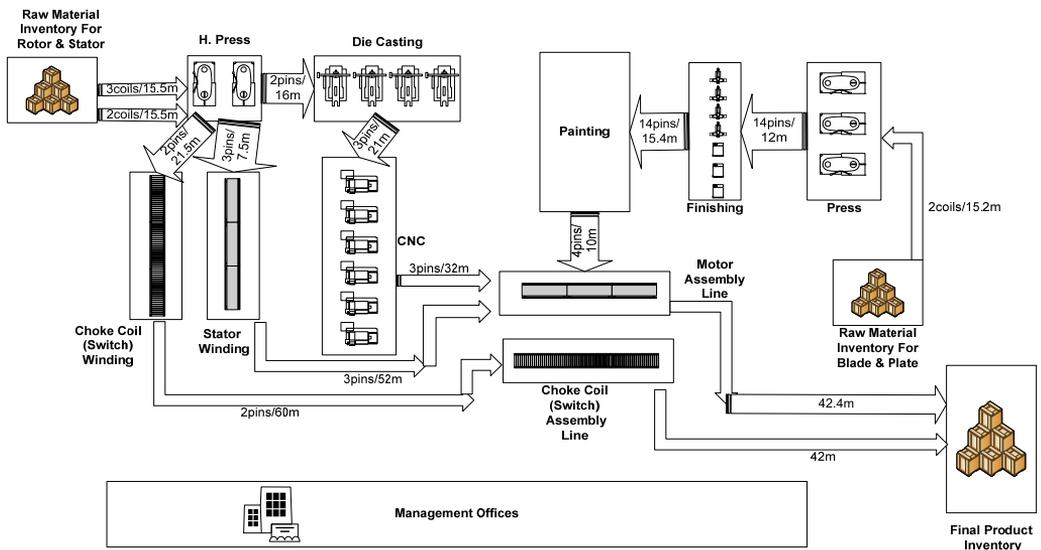
## Company: TOSHIBA Al-Araby Group (2016):

### 1-Forecasting of Man Power Capacity Required Under Learning Curve

This project is concerned with determination of the best organizational learning curve to a specified real case study. This case study was conducted at one factory of TOSHIBA AL-Araby group. The aim of this project is to find a mathematical form that can be used to forecast the term “man-day”. In brief, this term represents the number of workers required to produce a number of 1000 product (part) during only one working day. This term can be used to represent the workforce capacity required to produce the specific number of products during a certain period. A total of ten learning models have been considered. The data base consider 110 manufacturing operations and 10 final products. The regression analysis has been used to determine the significance of models to fit the data. In order to introduce the most significant and stable model to present the organizational learning phenomenon, the AHP process has been used to prioritize the associated performance of each model.

## 2-A Proposed Layout for a Ceiling Fan Factory

This project aims to develop optimal layout of the ceiling fans factory of TOSHIBA Al-Araby group and check its production stability by arena model simulation. Collecting data from the site reveals that in the current layout the distance between each process is very long this leads to low production rate, high work in process and time loss. A From-To charts are made for all ceiling fan parts and process charts are constructed for all Form-To charts to utilize the available space. After the proposed layout have been achieved, arena simulation model was constructed to check the stability of the proposed layout, this shows that the proposed layout can achieve a maximum production of 10,000 fan per day.



*The proposed layout*



### 3-Aggregate Production Planning Considering Learning Effect-A Case Study

Aggregate production planning is the determination of production quantities, inventory levels, required workforce, and the back-orders required to meet aggregate market demands at the level of product type. This plan normally covers a period of 6 to 18 months. Most factories generate this plan for a period of 12 months. In order to develop a production planning, the decision maker should predict many parameters in advance that include: machine capacity, workforce productivity, inventory capacity, all production costs associated with material, machines, inventory, manpower, etc. An optimal aggregate production plan can save costs and provide best utilizes of the firm resources.

After modeling the problem and solved it using IBM ILOG CPLEX Optimizer's, and after comparing the results of this study against the adopted approach of the firm, finally it is concluded to reduce the manufacturing cost of one-year production plan by 3.3%. In monetary units these percentages can be translated to about 7 million of Egyptian pounds. This saving of production costs resulted mainly from – the best utilization of production resources, - reduction of overtime hours used – the consideration of performance progress thanks to organizational learning - reduction of inventorying levels while respecting safety stock of each product and the required demand.



**Company: Egyptian Company for Metal and  
Wood Industry (BORAIE GROUP),  
6<sup>th</sup> October, 2016:**

**1-Setup and Changeover Time Reduction: Case  
Study**

The objective of the present study is to solve the problem of long changeover time in The Egyptian Company for Wood and Metal Manufacturing. The method used is through implementing basic concepts of the Single Minute Exchange of Dies (SMED). Two solutions were proposed which are: 1- improvement of the setup time by reducing internal activities; 2- design of a new die that eliminates several setup time steps. In both cases, application of 5S is essential to eliminate all sources of workspace disturbances. The study showed reduction in setup time ranging from 60% to 90%



## 2-Improvement of a manual assembly line in an Egyptian manufacturing company

Developing the production lies is very important and effective in increasing the productivity in the manufacturing organization, with the aim of decreasing the human errors, and the processes time and increasing the profit. The objective of the present work is to develop and redesign of assembly line in Egyptian manufacturing company which produces an aluminum corner, in order to increase the production rate and meet the customer requirements. After analysis the collected data, the optimum solution is to convert the manual assembly line to mechanized one by using conveyer system. This development increases the production rate and met the organization goals with optimum time.



### **3-Waste Elimination in the Egyptian Company for Metal and Wood Manufacturing**

The purpose of this project is to implement the proposed solution for the seven wastes of lean in the “ Egyptian Company for Wood & Metal”. This project discusses the improvement stage starting with forecasting model to reduce inventory levels and overproduction rate then redesigning facility layout in the carpentry section, and find solution for worker motion issue. The study showed that the company can predict sales with accuracy and that the production will be based on a scientific model. The new layout of the carpentry decreases the transportation between manufacturing stations, eliminates backtracking, makes the product flow line moves smoothly and decreases the workers motions between stations.



## Company: Egypt-Kuwait Logistics Company (2016):

### Improvement of Warehousing and Storage in a Logistics Company

The objective of this project is to improve the function of warehousing and storage in a cold Logistics Company. The study focuses on two main problems: The first one concerns the docks utilization, and the second one focuses on maximizing the usage of the storage areas.

Data was collected about the arrival and service rates at the various docks, and analyzed using Arena Simulation. Data was also collected about the current usage state of the storage areas. The analysis of data showed an evidence of misuse in both cases.

New different layouts were implemented inside the cold room and compared with the current layout.

After implementation of the new layouts, the occupations decreased to 20% instead of 51%, and the gross hourly rate for one labor decreased by 37%.

## Company: Universal factory for Home Appliances, 6<sup>th</sup> October

### Production Improvement in a cooker manufacturing company using six sigma principles

The objective of this project is to reduce the defect rate in the cooker manufacturing production line in the Egyptian Universal Factories.

In this project, data for some defective processes are collected in the Oven Burner Process.

The problem is identified and appropriate data analysis using six sigma tools are made and proposed approaches are extracted to decrease the defects rate and improve the productivity. Applied improvement have decreased the bottle neck cycle time from 27 to 22 seconds and consequently the production rate increased and the process have improved.



*Pressing machine*

## 2. Field Trips

Graduation Projects students are regularly visit the factories related to their projects (almost weekly) to collect data in the production lines and investigate the problems affecting the production rates and then specify the bottle necks. Under supervision of the Industrial Engineering Staff, the analysis of the data are performed and suitable solutions are proposed and then implemented in these factories. The following, is the list of the factories and companies been visited and the problems of manufacturing are solved:

- Juhayna Factory (2015)
- Pipsi-Cola – Nasr City (2015)
- LEONI for Auto Harnesses, Free Zone Nasr City (2015)
- NOMIX For Plastic Equipment, 6<sup>th</sup> October (2015)
- TOSHIBA Al-Araby Group (2016)
- Egyptian Company for Metal and Wood Industry (BORAIE GROUP), 6<sup>th</sup> October, 2016
- Egypt-Kuwait Logistics Company (2016)
- Universal factory for Home Appliances, 6<sup>th</sup> October Industrial Control Company (ICE) 6<sup>th</sup> October(2017)
- Bahgat Group (Goldi), 6<sup>th</sup> October (2017):
- El-Sweedy Group, 6<sup>th</sup> October, (2017):
- Akzonoble, Factory for Paints Powders, 6<sup>th</sup> October, EDITA, Factory for Food Industry, 6<sup>th</sup> October, (2017):
- Alexandria Petrochemical Company, 2017:
- Al Safwa Factory for Metal Industries, 6<sup>th</sup> October, 2017

## Egypt Air Field trip :

### Topics covered:

- A lecture on the departments of Egypt air
- Tour in the deferent departments, including discussion for the communication devices internal the Airplane and main motor workshop.
- Finally, 85 students from four faculties (Engineering, Management, Mass Communication and Languages) are accepted to join summer training in summer 2016 in Egypt air based upon agreement Between MSA University-Summer Training Committee (MSA-STC) and Egypt Air Company



## Mercedes Field Trip

Groups of students of industrial systems engineering visited Egyptian German Automotive company EGA (Mercedes). The trip includes the production line of metallic components and body, assembly line and quality control systems in all company departments. Also the trip covered all tests and acceptance of the vehicles as the final stage of the assembly line.



## Sun Shine Factory Field Trip

Topics covered:

Follow the entire production line and converting the raw material into a product.

Understanding the steps of product development in the factory.

Discuss how to increase the profit of the product by some student ideas.

Develop a proposal to develop the plant through what has been studied in the course.



# Central Metallurgical Research and Development Institute Field Trip

## Topics covered:

- Material Testing
- Microstructure evaluation
- Material characterization
- Material Processing



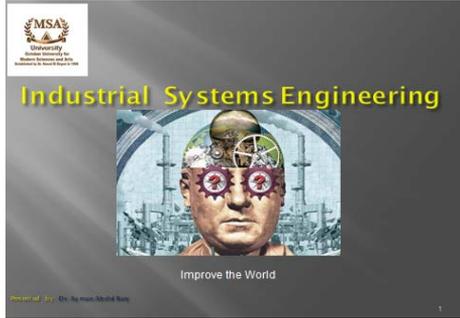
*Universal Testing Machine*

*Data Acquisitions*



## Industrial Club Activities

This group for all Industrial system Engineering Dep. Students to help them for more activity and field trips to improve their knowledge about factories in different industrial fields.



### قام الطلبة بتنفيذ الأنشطة التالية:

- 1- مراجعة المواصفات الخاصة بنماذج ( Smart Bike)المنتجة بالشركات العالمية.
- 2- عمل مسح كامل لكل متطلبات ( Smart Bike) من خلال العملاء والمستخدمين من طلبة الجامعة طلاب و طالبات.
- 3- تم عمل تصميم مبدئي يتضمن كافة المتطلبات بالإضافة لعوامل الأمان التي رآها طلبة Club
- 4- تم تقسيم العمل لخمس مجموعات للتنفيذ {مجموعة هيكل - مجموعة إدارة ميكانيكا - مجموعة إدارة كهرباء - مجموعة الأمان والتحكم - مجموعة كماليات (كراسي متعددة طلبة/طالبات - سقف متحرك - شنطة- طى العجلة...)}.
- 5- تم تنفيذ عينات من مشتملات كل مجموعة (طبقا للوقت المتاح للطلبة) مثل:
  - مجموعة الهيكل : تم تصميم نموذجين للهيكل : طلاب - طالبات (دون التنفيذ للتكلفة العالية)
  - مجموعة إدارة ميكانيكا: تم تصميم وتنفيذ مجموعة الإدارة للعجلة بأسلوب متطور وآمن - تم حساب وتصميم الفرامل.
  - مجموعة إدارة لكهرباء: تم تصميم الدورة بعد مراجعة مواصفات المواثير المتاحة والبطاريات بالأسواق والمستخدممة بالأنظمة المماثلة
  - مجموعة الأمان والتحكم: تم تصميم وتنفيذ عينة لإطار العجلة لتكون ذات مواصفات آمنة وغير قابلة للثقب - تم حصر وسائل التحكم دون التنفيذ للتكلفة العالية.
  - مجموعة الكماليات : تم تصميم نماذج كثيرة ومتعددة منها ما هو مناسب للطلبة وما هو مناسب للطلاب وطالبات وطبقا لمتطلبات المستخدمين - وتم تصميم ميكانيزم طى العجلة لوضعها بشنطة سيارة لسهولة نقلها عند عدم استخدامها بالتنسيق مع مجموعة الهيكل .

F A C U L T Y   O F   E N G I N E E R I N G



MSA University

26 July Mehwar Road intersection with Wahat Road,  
6<sup>th</sup> October City. Egypt.

