FACULTY OF ENGINEERING

ACHIEVEMENT BOOK 2017/2018

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

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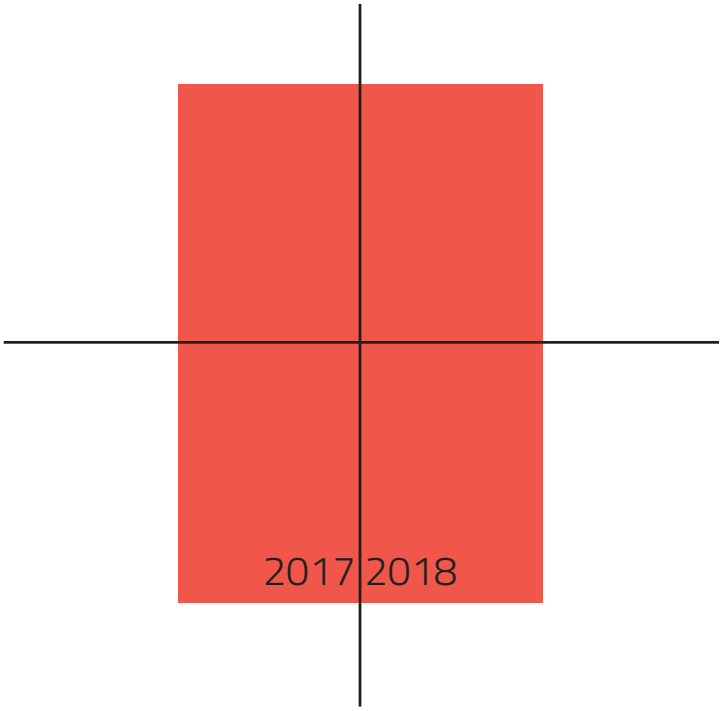

FACULTY ACHIEVEMENTS BOOK

2017/2018

FACULTY OF ENGINEERING

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FACULTY OF ENGINEERING

Contents

The Faculty of Engineering at MSA University aims to promote each student's capacity, ability, creativity and imagination when approaching future engineering problems. They also aim to increase the students understanding, awareness and appreciation of the social impact of technology. This will help orient future engineers to lead successful and professional careers worldwide. The Engineering programs seek to provide all students with the skills and tools that would facilitate faster advancement into management positions

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01 Architecture Department

Achievements

The following subject areas are assigned for teaching and carrying out relevant research work:

Architectural Design, Architecture History & Theories, Architecture Graphics, Architecture Computer Graphics, Building Construction, Working Drawings, Urban Planning & Design, Landscape Design, Interior Design, Environmental Control Systems, Technical Service Systems, Construction Management, Professional Practices & Building Regulations, Housing Planning & Design, Engineering Surveying, Properties & Strength of Materials, Structural Analysis, Reinforced Concrete Structures, Steel Structures.

Research + Publications

Dr. Maysa Omar

- Sustainable developed Teaching and Learning Strategy at Faculties of Architecture and Architecture departments(part 1) (Journal of Al Azhar University Engineering SectorISSN:1110-640 - JAUES /30-5-2017)

- Sustainable developed Teaching and Learning Strategy at Faculties of Architecture and Architecture departments (part 2) (Journal of Al Azhar University Engineering Sector ISSN:1110-640 - 30-5-2017)

- Policies of sustainable development of historical value areas, The First Arab Conference of Restoration and Reconstruction 9,10,11 October - Engineers Syndicate Cairo Egypt-

- The Re-planning and Development the Nile Shore in Cairo from an urban development perspective (Case Study Maspiro Triangle district - Zone between 15 May Bridge and 6Th October Bridge) (Journal of Al Azhar University Engineering Sector ISSN:1110-640 - 5/2/2018)

- A Sustainable Application towards an Environmental Friendly Urbanism
(A Prototype of a Sustainable Building to be applied in Urban Societies in different Climatic Zones).Journal of the Egyptian Society of Engineers. (Processing)

- Interactive Pathways as A New Trend In Urban Design. Journal of the Egyptian Society of Engineers.(Processing)

▪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 & UNHABITAT – Cairo, Egypt.

Dr. Sameh El-Feki

▪"Community Participation in Self-Developed Areas and Development Projects" The 1st. International Conference on TOWARDS A BETTER QUALITY OF LIFE, El Gouna, Red Sea Region, Egypt, Nov. 2017.

Dr. Nihal Amer

▪"Towards Accomplishment of Urban Sustainability: Multifunctional Sustainable Landscapes", proceedings of 89th ISERD International Conference, Oxford, United Kingdom, 19th -20th October 2017

Dr. Rania El-Messaidy

Dr. Rasha Sayed

- "Promoting Local Community Integration in World Heritage Site Planning: George Town, Penang, Malasiya" Malaysia Sustainable Cities Program, Working Paper Series 1 © Rasha Sayed & Massachusetts Institute of Technology 2017

Dr. Eman Saleh

- "Communities in transformations time: A study of urban transformations and changes in the older communities in Cairo, case study in Al Falaky square" Published in El Azhar University journal (published in Jan.2017).

- "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" Published in El Azhar University journal (published in Jan 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.

▪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 UniversitatPolitecnica de Catalunya, Spain , 1-3 February 2017.

Dr. Salwa El-Gendi

▪Gabr, H., AlSadaty, A., &Shehata, L. Bridges in Historic Areas: Juxtaposition of Value and Incongruity. Paper presented at BRIDGE: The Heritage of Connecting Places and Cultures. Ironbridge Gorge World Heritage Site, England, July 2017.

Arch. Lamiaa Shehata

▪NourElDin. N. (February , 2017). "ICT in generating a biomimetic adaptive building envelope". Asian Academic Research Journal of Multidisciplinary (AARJMD).Volume 4 ,Issue 2.ISSN : 2319 - 2801.

Arch. Nadine Hosni

Arch. Reem Khaled

- Living and Sustainability: An Environmental Critique of Design and Building Practices,Locally and globally organized by AMPS, the scholarly journal Architecture MPS, and
London South Bank University. HTTP://ARCHITECTUREMPS.COM/LONDON-2017/

Arch. Sherif Anees

- "The Effect Of Using Phovoltaic 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.

Competitions + Awards and prizes

MSA Center of Earth

MSA Center of Earth won the first prize for the proposal submitted in the Green Urbanism and Innovative Architecture track at the 4th Cairo International Exhibition of Innovation (Cairo Innovates), organized by the Academy of Scientific Research and Technology on 22 and 23 November 2017 at Cairo International Convention and Exhibition Center .

MSA CoE's booths received the attention and admiration of many visitors, especially the Deputy Minister of Higher Education and Scientific Research, the Governor of Giza, the professors and students of the Military Technical College and professors of the National Research Center because of the interactive live models constructed with interlocked compressed earth bricks and the proposed low-cost environmentally-friendly housing unit "ECOFORDABLE HOUSE".

Academic Events

A- Conferences

1- The First Arab Conference of Restoration and Reconstruction

The faculty of Engineering-Department of architecture at MSA university participated in the first Conference of Restoration and Reconstruction at the Egyptian Engineers Syndicate.

2- the National Conference for Scientific Research: Revealing Egyptian potential

MSA Center of Earth participated in the National Conference for Scientific Research, Honored by President Sisi.

B- Exhibitions

2ND INNOVATIONS & GRADUATION PROJECTS FORUM

Graduation projects from students of the Faculty of Engineering which were presented at the second meeting of graduation projects and innovations at the Egyptian Engineers Syndicate under sponsored by the Ministry of Higher Education and Scientific Research.

MSA annual exhibition

The Faculty of Engineering Department of Architecture at MSA university organized its eighth annual exhibition under sponsored by Professor/Dr. Nawal El Degwi, Head of Board of Trustees. Businessmen, Consulting offices and parents were invited and excellent students were honored.



Cairo Innovates

MSA Center of Earth at the 4th Cairo International Exhibition of Innovation (Cairo Innovates), organized by the Academy of Scientific Research and Technology on 22 and 23 November 2017 at Cairo International Convention and Exhibition Center.

MSA University Employment Fair 2017

Employment fair is a big part of the CPC (Career Placement Center) which is operated by students. It was established in 2008 by Mr. Amr El Degwi, upon the direction that Professor Dr. Nawal El Degwi is leading in.

Employment fair helps students gather all the skills, knowledge, and experiences they need for the corporate world. Also, it facilitates job opportunities for the graduates to work in the best companies.

MSA SCIENCE FAIR

The MSA University Science & Engineering Fair was held last March. The event entailed three main categories: Sciences, Engineering, & Environment. The event was held at the October campus, which hosted over 350 students responsible for over 60 projects from 15 different governorates. The event was held for two stages both a Junior & Senior Category. The selected winners have qualified and represent Egypt in the international Science Fairs 'iSWEEEP' & 'Genius Olympiad'. Professor Ayman Diab was the Chairman of the Judging Committee for the Senior Category. The event's focal point Dr. Gehan Safwat organized this event along with Ms. Gehan Hammad in collaboration with the 'Dar El Tarbiah Schools'. And the End Dr. Nawal El Degwi, Prof. Khayri Abdelhamid, and Prof. Ayman Diab announced the winners and distributed the certificates for the students. We were honored to have Prof. Mahmoud Sakr, President of the Academy of Scientific Research & Technology (ASRT), and The current advisor to the Ministry of Education attend this event as well.

C- trainings & workshops

1- MSA Center of Earth - Eco Brava Press Machine Training

One-week training on operating and maintaining Eco Brava Press Machine for producing Compressed Earth Bricks. The training was held by a Brazilian expert. Feb, 2017.

2- MSA Center of Earth -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.

D- UK student study abroad programme

Uk student study abroad programme excells in broadening students academic experience and enhances their employability skills. Students who participated in this programme have now gained international acclaim in competitions and research as well as excellence in their professional career.

Staff activities

Dr. Maysa Omar

A- External examiner in the discussion of master thesis. Al Azhar University, Egypt. " Study interior design and optical illusion as governor in it ".

B- External examiner in the discussion of PhD thesis. Minya University, Egypt. "Landscape valuable urban areas in order to be realized visually as an urban Open-air museum".

C- Jury Member for the Graduation projects at Ain shams university.

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

Dr. Tarek Abdelslam

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

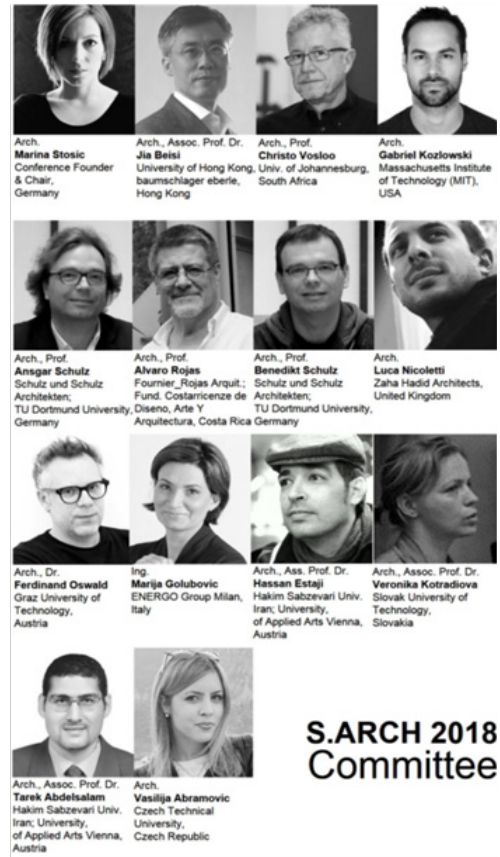
Agricultural lands in Egypt have witnessed a total loss of 1.5 million acres of prime agricultural land since 1952 due to the informal urban sprawl. If the same rate continues, it is expected that after 180 years Egypt will lose all its agricultural land under the informal urbanization.

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.

B- Committee member at NTERNATIONAL CONFERENCE on Architecture & Built Environment with AWARDs - S.ARCH

The S.ARCH (Sustainable ARCHitecture) is an international annual platform where practitioners, researchers and industry leaders meet and exchange knowledge, insights and experiences on cross-disciplinary field of architecture and built environment. The S.ARCH AWARD is awarding the best Completed Project and the best Conceptual Design



Quality visit

The National Authority for Quality Assurance and Accreditation of Education (NAQAAE) team visited the Faculty of Engineering, on a visit from 19th to 21st of March, 2018.

Staff Promotions + Accomplishments

Professors

Dr. Maysa Omar

PhD Holders/ Lecturers

Dr.Eman Ahmed Saleh

Dr. Hatem Adel Rahman

Dr. Karim Mohamed Badr

Dr. Ismail Mohamed

Dr. Salwa El-Gendi

Dr.Ghada Ghazala

MSc / Assistant Lecturers

Arch. Lobna Ahmed Galal

Arch. Alaa El-Sherif

Arch. Mohamed Yehia

PG Certificate

First Round

Dr. Omar Fawzy

Second Round

Nesrin Samy Abden

Samer Ibrahim Mohamed

Mohamed Khalil Ibrahim

Walied Mohammed

Ayman Abd El-Bary

Shady Shawky Seif El Nasr

Third Round

Sameh Farid Saad Eid

Ghada Abdel Mouez

Mohamed Hussein

Sameh Ahmed

Mohamed Mahmoud

02

Electrical Department

Achievements

The following subject areas are assigned for teaching and carrying out relevant research work:

Electric Circuit Analysis, Physics of Electrical Materials, Solid State Devices, Digital Logic Design, Electronic Circuit Analysis, Electromagnetic, Linear Systems, Electrical Measurement Instruments, Data Communication, Automatic Control Systems, Communication Systems, Microwave Engineering, Information Theory & Coding, Energy Conversion, Digital Systems Interfacing, Antenna Theory & Design, VLSI Design, Fiber Optics and Laser Technology, and Microwave.

Extracurricular acivities

وزير البيئة يلتقي طلاب "هندسة MSA" لاستعراض ابتكاراتهم لخدمة المجتمع

الأحد 06/مايو/2018 - 08:34 م

الدكتور خالد فهمي، وزير البيئة

حنان توفيق

التقى الدكتور خالد فهمي، وزير البيئة بمجموعة من طلاب كلية الهندسة جامعة أكتوبر للعلوم الحديثة والآداب MSA، للاطلاع على ابتكاراتهم في مجال خدمة المجتمع والبيئة، حيث عرض الطلاب مشروعًا تجريبيًا قاموا بتصميمه وتنفيذه بتكنولوجيا مصرية بدلًا من الاعتماد على التكنولوجيات الأجنبية، وأبدوا إمكانية تصميم مشروعات بتكنولوجيا مصرية تخدم مجالات البيئة وخاصة شبكات الرصد.

واستعرض "فهمي" خلال لقائه بالشباب المجالات البيئية التي يمكن التعاون فيها مع الجامعات واستخدام تلك التكنولوجيات المصرية مثل عمليات الرصد بالمحميات الطبيعية والتنوع البيولوجي ورصد مشكلات التلوث في الماء والهواء وإدارة المخلفات، بالإضافة إلى التوعية بالمشكلات البيئية وخلق حوار مع الشباب حول القضايا البيئية ومناقشة الحلول الممكنة لها.

كما تم خلال اللقاء -بحسب بيان اليوم الأحد- الاتفاق على تشكيل فريق عمل من المسئولين بجهاز شئون البيئة

والطلاب لبحث ودراسة إمكانية الإستفادة من تلك الابتكارات لتحسين أداء شبكة الرصد اللحظي لتلوث الهواء والانبعاثات الغازية للمصانع.

Research + Publications

Dr.Saeed Mabrouk

Said Mabrouk, Aya Abdelmosef, Ahmed Toman, "Smart Grain Storage Monitor and Control", American Scientific Research Journal for Engineering, Technology, and Science (ASRJETS), ISSN(Print) 2313-4410, ISSN(Online) 2313-4402

Abstract: Although we are living in an era of fast development in the technology of monitoring and controlling in the field of storage houses, Egypt still suffers from a huge scandals in this field in the field of wheat that is considered to be the main source of nourishment in Egypt that the poor people who represents the majority depends on. From this point the proposed system suggested a new technique that never implemented before in Egypt to face the problems of huge costs that reaches up to billions of pounds. Also the illegal addition of false quantities of wheat and the uncontrollable of the environment inside storage houses. The new technique depends on measuring the level of grains inside silos through an efficient level sensors and monitoring the environment through environmental sensors. All these parameters will be sent periodically to the main station via GSM module and will be displayed automatically on the LCD. Through this device we tried to decrease the human interface and decrease any manipulation and fraud that is available in the current alternative systems.

Keywords: Smart monitor and control; Grain houses; Silos; Monitoring and controlling silos; Wheat corruption; Solution to monitor and control silos in Egypt.

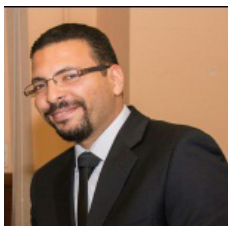
Sherif Kamel Hussein, Ahmed Samir habeb,"
A Novel Prototype Model for PLC Based Intelligent Garage ", IOSR Journal of Computer Engineering (IOSR-JCE)
e-ISSN: 2278-0661,p-ISSN: 2278-8727, Volume 19, Issue 5, Ver. II (Sep.- Oct. 2017), PP 01-07.

Dr. Sherif Kamel

Abstract: Nowadays, a huge number of people are using cars every day. In big cities, parking spaces have become a very big problem and people need to save time by avoiding looking for parking areas. Parking cars in the streets are not safe and this is one of the main problems facing the people. One particular solution is the automobile turntable, which has been used successfully in a variety of applications, including commercial and residential. The intelligent garage is useful for people to park their cars and leave cars safe and secured. There are many systems introducing smart parking but they have many problems. The proposed system will solve most of those problems. Programmable Logic Controller (PLC) issued to control operation in the intelligent garage system. The DC motor will take the car up or down and park it in the empty slots. SCADA [Supervisory Control and Data Acquisition] system will be used to monitor the status , faults, and alarms in the garage to avoid any problems .

Sherif Kamel Hussein, " A Microcontroller Based Smart Helmet Using GSM &GPS Technology in Construction Sites", IJCERT ,International Journal of Computer Engineering in Research Trends , E-ISSN: 2349-7084,Volume-5, Issue-2 , March 2018 ,Regular Edition. PP 65-71

Abstract: Nowadays due to the regular increase in population number that leads to building a new city to accommodate the extra number of people so, there will be more sites that contain a lot of workers, and to save workers life we have to make a tool with smart actions to keep workers life safe. Many techniques were offered before based on different technologies like Zigbee, Radio Frequency identifications (RFIDs). The smart helmet is the proposed solution that will keep track the worker health conditions, environmental conditions, and locate his place in the site by using ARM microcontroller, GPS, GSM modules and a group of sensors.



Dr.Ahmed Fawzy

Said Mabrouk, Aya Abdelmosef, Ahmed Toman, "Smart Grain Storage Monitor and Control", American Scientific Research Journal for Engineering, Technology, and Science (ASRJETS), ISSN(Print) 2313-4410, ISSN(Online) 2313-4402

Abstract: In this paper, compact size band pass filters are proposed and designed for WLAN applications. The coupled DGS resonators are considered the main block of proposed band pass filters. The three proposed filters are designed by using the same defected ground structure shape, but with different feed line configurations. The feed line configuration affects the presence of transmission zeros in the rejection band to enhance the filter selectivity. So, we proposed three designs based on the different feed line configuration. The first design is band pass without transmission zero, the second is with one transmission zero, and the last one is band pass with two transmission zeros. In general, the three band pass filters are designed to operate from 5 GHZ to 6 GHZ with a central frequency of 5.5 GHZ, return loss higher than 25 dB and a wide stop band rejection up to 10 GHz with level lower than 30 dB, and an insertion loss lower than 0.5 dB is achieved within pass band. The simulated results are presented to show the performance of these filters.

"Ultra compact quad band resonator based on novel D-CRLH configuration", Ahmed F Daw, Omar T Hussein, Hania S Abdelhamid, Mahmoud A AbdallaPublication date, 2017/7/9, Conference, Antennas and Propagation & USNC/URSI National Radio Science Meeting, 2017 IEEE International Symposium on, Pages, 1265-1266, PublisherIEEE

Abstract: This paper represents an ultra-compact quad band resonator based on novel configuration of dual-composite right/left handed transmission line. This design broaches quad band for 7.3 GHz, 8.3 GHz, 11.9 GHz, and 13.8 GHz along with insertion losses of 2.2 dB, 0.27 dB, 2 dB, and 1.5 dB, respectively. Furthermore, the return losses are 12.2 dB, 36 dB, 20.5 dB, and 19.5 dB, respectively. The quality factor proclaims selectivity equals 42.33, 15.58, 15.87, and 31.1, at the four frequencies respectively. The paper amplifies the equivalent circuit design, mathematical study, and 3D full-wave simulation. Additionally, the design actualizes a compactness size of 13.2× 16.5 mm 2 (0.548× 0.6855 g 2).

"A Novel Ultra Compact Four-way Power Divider with Integrated Filtering Function for WLAN Applications",Ahmed M Hussien, Yasser S Farag, Ahmed F Daw, Mahmoud A AbdallaPublication date, 2017/7/9, Conference, Antennas and Propagation & USNC/URSI National Radio Science Meeting, 2017 IEEE International Symposium on, Pages, 465-466, Publisher, IEEE

Abstract: A four-way ultra-compact power divider is proposed in this paper for antenna array applications. The power divider is constructed based on composite right/left handed microstrip structure. The analytical analysis are presented. The divider operates at 5.2 GHz for WLAN services. This paper introduces equivalent circuit, 3D full wave simulation, and in addition to that, this design realizes compactness size 20× 6 mm 2,(0.62× 0.186) 2 g.

Dr.Samer Ibrahim

Mohamed, S. I., AmrAbdelNabi, (2017), "AGENT-BASED CONVOLUTION AND REINFORCEMENT LEARNING", International Journal of Management, Information Technology and Engineering (IJMITE), Vol 5, issue 12, pp 17-28.

Abstract: The problem with the current models like Darwin-OP or Boston Dynamic's ATLAS is their up-time, especially with increased number of joints. These models try mimicking the human motion; they end up using a lot of actuators, which in turn leads to the use of a lot of battery power. This paper discusses the creation of a new model of humanoid robots, that does not try to mimic the bipedal walking gait used by humans, but who instead uses a full model constructed from scratch, that consists of a model free Deep Q-Learning (DQN) algorithm, which doesn't need any walking sequence or walking models, it just learns from trial and error by applying actions on the robot and observing the reward from that action to make an under-actuated robot able to balance and walk forward, backwards, sideways, and rotate in place using only 4 actuators (two in each leg). The proposed model uses a Regional Convolutional Neural Network (R-CNN) to detect and inform the robot about the place of its goal. A full sensory system of a camera and Inertial Measurement Unit (IMU) is utilized to extract and gather the required inputs for reaching the goal from the robot' environment. Thus instead of thinking that robot as a pre-programmed entity who performs specific task, we treat this as agent who can learn to take whatever actions towards specific goal controlled by evaluation function to maximize specific reward.

Samer I. Mohamed, Youssef Youssf, (2018), " Enhanced model-Free deep Q-Learning Based control", IOSR Journal of Computer Engineering (IOSR-JCE) e-ISSN: 2278-0661,p-ISSN: 2278-8727, Volume 20, Issue 1, Ver. III (Jan.- Feb. 2018), PP 23-32.

Abstract: There are many challenges currently faced by the humanoid robot' models to achieve the objective or target planned for them. One of these challenges is the trade-off between the ability to accurately mimic the human body and uptime. While some of these models like ASIMO has very accurate degree to mimic the bipedal walking gait used by human due to high actuations, it consumes high power. Through our proposed model we introduce a model-free deep Q-learning algorithm (DQN) that doesn't simulate the bipedal walking gait used by human based on predetermined sequence or modelling via supervised learning. On counter, our proposed model learns from interactions/interfacing with the surrounding environment by applying actions on the robot and observing the reward from that action to make an under-actuated robot able to balance and walk forward, backwards, sideways, and rotate in place using only 4 actuators. It takes quite long time at the start of the learning process where robot is learning by trial and error but once learned it becomes able to perform and reach the target goal without being fall down. Results achieved from the proposed simulated model show better performance in terms of ability to reach target without being fall and corresponding power consumption.
Keywords - Deep Q-learning, Humanoid robots, Multilayer Perceptron Deep Neural Networks.

Dr.Ashraf Ali

Mohamed, S. I., AmrAbdelNabi, (2017), "AGENT-BASED CONVOLUTION AND REINFORCEMENT LEARNING", International Journal of Management, Information Technology and Engineering (IJMITE), Vol 5, issue 12, pp 17-28.

Abstract: Compressive Sensing (CS) holds the promise to be a key for acquisition and reconstruction of sparse signals. The reconstruction of such signals makes sampling rates below Nyquist rate. In this work, a novel framework was proposed that is based on the idea of CS theory for the compression of mother and fetal heart beats. The proposed scheme is based on the sparse representation of the components derived from the ridgelet transform of the original Electrocardiogram (ECG) signal. The ECG signals may be approximated by a few coefficients that can be taken from a wavelet basis. This fact allows a compressed sensing approach for ECG signal compression to be introduced and to be a domain of search. ECG signals illustrate redundancy between adjacent heart beats. This redundancy implies a high fraction of common support between consecutive heart beats. The main contribution of this paper lies in the using of ridgelet transform in order to generate sparsity in ECG signal. This transformation is considered an excellent approach as illustrated in this paper. Simulation results represent a better approach than Discrete Wavelet Transform (DWT) that is based on compression of ECG. MIT-BIH database is used for experimentation. The MIT-BIH database contains different kinds of ECG signals that include both abnormal ECG and normal ECG, which have different sampling rates. MATLAB tool is used for simulation purpose. The novelty of the method is that the Compression Ratio (CR) achieved by detail coefficients is better. The performance measure of the reconstructed signal is carried out by Percentage Root Mean Difference (PRD). Finally the experiments confirm that the proposed framework can be used in an efficient compression of ECG signals.

Ashraf Mohamed Ali Hassan, "FPGA Realization for Baseline Wander Noise Cancellation of ECG Signals Using Wavelet Transform", International Journal of Computer Applications, Volume 168– No.2, June 2017, PP.1-6.

Abstract: Baseline Wander (BW) is a common noise in electrocardiogram (ECG). To effectively correct and to preserve more underlying components of an ECG signal, a powerful tool for removal of BW noise from various signals was introduced. This paper presented the discrete wavelet to get rid of that noise. This method is based on comparing signal with discrete multi-rate filter banks. A multi-level decomposition was performed on the noisy signal and then the splitting into low sub-bands and a high pass band sub-bands called detail level was performed. After that, the analysis of the details level and the identifying of a suitable threshold technique was done. Reconstruction of the signal was done through the calculation of the detail coefficients. Finally, the difference between the original signal and the reconstructed signal was calculated. The proposed technique was compared with the previous techniques in this domain of search. The algorithm was tested using Matlab tool. The results showed that the proposed filter could more effectively extract baseline wander from ECG signal and affect the morphological feature of ECG signal considerably less than both the traditional moving average filter and adaptive filter did. The results showed also that this proposed technique achieved excellent results in terms of Mean Square Error (MSE) and convergence rate rather than the previous approaches. This paper also introduced the efficient realization of the proposed approach using FPGA. The proposed method was verified by FPGA (Xilinx Virtex-7 XC7VX690T) realization, revealing its effectiveness in real-time applications.

Ashraf Mohamed Ali Hassan, "ECG Signals Compression Using Walsh Hadamard Transform and its Efficient Realization Using FPGA", Wulfenia, Volume 24– No.11, Nov. 2017, PP.115-125.

Abstract: The measurement of electrical activity of the heart via electrodes is named as Electrocardiography (ECG). An efficient compression technique using the compressive sensing method is required. In this paper, different transform methods of compression are proposed and are compared based on the performance measure parameters such as compression ratio (CR), Percentage Root Mean Difference (PRD), Peak Signal to Ratio (PSNR) and Mean Square Error (MSE). The best transform technique is based on their excellent reconstruction of the original ECG signal with the highest compression ratio. The different transform based methods compared here are Discrete Cosine Transform (DCT), Fast Fourier Transform (FFT) and Walsh Hadmard Transform (WHT). Simulation Results show that Walsh Hadamrd Transform (WHT) achieves the best results in terms of CR and PRD. Matlab Tool is used for simulation. This paper also introduces the efficient realization of the different transformation techniques using FPGA. Thus the contribution of this paper lies into two main parts. The first part is specialized in determining the proper transformation that is used in the compression of ECG signals. The second part of the contribution is summarized in using suitable hardware to implement this design. Architecture can be based on the ideas of parallelism and pipelining to get the minimum throughput and speed. Architecture is cascade and simple for calculating WHT coefficients. The reduction of the memory size can be done by splitting ROM table. The description and functionalities of the design are modeled by Verilog HDL. The simulation and synthesis methodology are used on Virtex-II Pro FPGA that uses less number of resources of the FPGA.

Ashraf Mohamed Ali Hassan, "Enhancement in Implementation of Real-Time Adaptive Compressive Sensing for ECG Signals Using FPGA", Ciência e TécnicaVitivinícola, Volume 32– No.11,Nov. 2017, PP.35-42.

Abstract: This paper presents Adaptive Compressive Sensing (ACS) process which can be accomplished by field-programmable gate array (FPGA) for hardware design. Although ACS can be implemented with the help of a high-level computer language in personal computer (PC) or multicore platforms such as graphic processing units (GPUs) and Digital signal processing (DSPs), but process of implementation requires complex algorithm computations as they consume both time and power. Hence, to solve this problem, the process of implementation is divided into two stages; the first is to find the correlated vectors. The second is the Least Square (LS) which requires scalable matrix decomposition operation for a large scale dictionary. In this large scale dictionary, time is consumed since a numerous number of matrices multiplication is required. Therefore, Fast Fourier Transform (FFT) is used for an efficient implementation. The proposed method is verified by FPGA (Xilinx Virtex-7) realization, showing its effectiveness in real-time applications. The proposed approach reconstructed the ECG signal at an optimized sampling rate.

Mohamed El Atrash, K. Bassem, and Mahmoud A. Abdalla, "A Compact Dual-Band Flexible CPW-fed Antenna for Wearable Applications", 2017 IEEE Int. Symp.Antennas Propag. Usn. Natl. Radio Sci. Meet., pp.2463–2464, 2017.

Mohamed SayedEl-Atrash

Abstract: A Compact Dual-Band Flexible CPW-fed Antenna for Wearable Applications: This paper presents a compact, dual-band, flexible, Co-Planar Waveguide (CPW)-fed antenna. The compact size is achieved by employing meander line technique. The antenna is implemented on a flexible substrate, Gil GML 1034; thus, it is appropriate to be realized for wearable applications. Dual-band is attained at 2.4 GHz of the ISM Band and 5.2 GHz, respectively. Hence, serving the Radio Frequency Identification (RFID) and Wireless Local Area Network (WLAN) applications.

Omar F. Abdalgalil, Mohamed El Atrash, Mahmoud A. Abdalla, "A Flexible High Gain Wide-Band Antenna for Wireless and Wearable Applications", 2018 IEEE Int. Symp.Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

Abstract: A Flexible High Gain Wide-Band Antenna forWireless and Wearable Applications:
A wideband, flexible printed antenna, fed via theCo-Planar Waveguide (CPW) geometry, with high gain ispresented in this paper. The high gain was realized by using areflector on the same level with the radiator and around it. Thehigh gain performance of the antenna was observed throughoutthe whole wide spectrum of 1.53 GHz to 2.74 GHz, with apercentage bandwidth of approximately 57%. For flexibility, theantenna was printed on the flexible Rogers Ultralam 3850substrate.With such characteristics, the antenna can berecognized in a number of wirelessapplications; such as, WLAN,-WI-Max and RFID, as well as, wearable applications.

Mohamed Kadry, Mohamed El Atrash, Mahmoud A. Abdalla, "Design of an Ultra-thin Compact Flexible Dual-Band Antenna for Wearable Applications", 2018 IEEE Int. Symp.Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

Design of an Ultra-thin Compact Flexible Dual-Band Antenna for Wearable Applications:
In this paper, a dual-band, flexible antenna is suggested. The low profile antenna, 35 × 20 mm2, is fed using the well known Co-Planar Waveguide (CPW)configuration, where it operates at 2.44 GHz and 5.8 GHz of the Industrial Scientific and Medical (ISM) radio band. By employing the flexible Rogers Ultralam 3850 as the antenna substrate, the proposed antenna exhibited high flexibility. Due to its compactness, flexibility and dual-band resonance at the ISM band, the antenna is highly chosen to be applied for wearable applications.

Zeinab K. Fouda, Ahmed A. Ibrahim, Mahmoud A. Abdalla,"High Selective SRR-Based Narrow Band Filter with 0° Feed Structure", 35th NATIONAL RADIO SCIENCE CONFERENCE (NRSC 2018), March 20 – 22, 2018

Eng. Zainab Fouda

Abstract: The design of two band pass metamaterial filters with high selectivity based on the coupling matrix technique is presented. The design methods discussed below are applied to metamaterial split ring resonators (SRRs) of second order but of differing feed structure. The high selectivity requirement of the second proposed filter is fulfilled through the use of a 0° feed structure which furnishes the filter response with two transmission zeros. The proposed band pass filters are devised to adhere to wireless LAN application requirements with a center frequency of 2.4 GHz. Both the simulated and measured results of the proposed filters show an insertion loss below 0.7 dB within the pass band range. The final proposed filter boasts a compact size of only 3 2 cm2 due to the use of SRRs.

Students Publications & Abstracts 2017

1.Mohamed El Atrash, K. Bassem, and Mahmoud A. Abdalla, "A Compact Dual-Band Flexible CPW-fed Antenna for Wearable Applications", 2017 IEEE Int. Symp.Antennas Propag.Usn. Natl. Radio Sci. Meet., pp.2463–2464, 2017.

2.Yasmin T. Hammad, ZeinabK. Fouda, and Mahmoud A. Abdalla, "An ultra-wide band filter with high selective dual notching", 2017 IEEE Int. Symp.Antennas Propag.Usn. Natl. Radio Sci. Meet., pp.2263–2264, 2017.

3.Donya Z. Nazif, Raneem S. Rabie, and Mahmoud A. Abdalla, "Mutual coupling reduction in two elements UWB notch antenna system", 2017 IEEE Int. Symp.Antennas Propag.Usn. Natl. Radio Sci. Meet., pp.1887–1888, 2017.

Ahmed F. Daw, Omar T. Hussein,Hania S. Abdelhamid, and Mahmoud A. Abdalla, "Ultra compact quad band resonator based on novel D-CRLH configuration", 2017 IEEE Int. Symp.Antennas Propag. Usn. Natl. Radio Sci. Meet., pp.1265–1266, 2017.

Ahmed M. Hussein, Yasser S. Farag, Ahmed F. Daw, and Mahmoud A. Abdalla, "A Novel Ultra Compact Four-way Power Divider with Integrated Filtering Function for WLAN Applications", 2017 IEEE Int. Symp.Antennas Propag. Usn. Natl. Radio Sci. Meet., pp.465–466, 2017.

6.Mohamed K. Rashad, Mostafa Ashraf, Ahmed F. Daw, and Ahmed A. Ibrahim, "Compact high selective DGS band-pass filters for WLAN applications", 2017 Sensors Networks Smart and Emerging Technologies (SENSET), pp.1–4, 2017.

Abstracts

1-A Compact Dual-Band Flexible CPW-fed Antenna for Wearable Applications:
This paper presents a compact, dual-band, flexible, Co-Planar Waveguide (CPW)-fed antenna. The compact size is achieved by employing meander line technique. The antenna is implemented on a flexible substrate, Gil GML 1034; thus, it is appropriate to be realized for wearable applications. Dual-band is attained at 2.4 GHz of the ISM Band and 5.2 GHz, respectively. Hence, serving the Radio Frequency Identification (RFID) and Wireless Local Area Network (WLAN) applications.

2-An ultra-wide band filter with high selective dual notching:
This paper introduces an ultra-wide band (UWB) band pass filter (BPF) with a coupled T-shaped stub. The filter's lower cut-off frequency and higher cut-off frequency are around 3.2 GHz and 9.7 GHz respectively. Moreover, the pass band exhibits two narrow notches at 5.9 GHz and 7.8 GHz which minimize the interference effects of the proposed filter with both the wireless local area network (WLAN) and SATCOM systems, respectively. The main pass band of the filter and the upper notch are implemented using a stepped impedance resonator, coupled with an inter-digital feeding line backed by defected ground structures (DGS) for coupling augmentation. The lower notch band is implemented using a stepped impedance stub that is grounded through a via hole at one end and coupled to the main filter form at the other end. The proposed filter features a small size of 0.443× 1.534 g2.

3-Mutual coupling reduction in two elements UWB notch antenna system:
In this paper, a two elements UWB (3.1 GHz-10.6 GHz) MIMO antenna is presented. A notch frequency at 5.8 GHz is interpolated within the UWB spectrum by using a dual of electromagnetic bandgap cells coupled to the antenna feeding line. By introducing a system of electromagnetic bandgap cells between the two antennas elements, the achieved results demonstrate nearly below -10 dB reflection coefficient over the spectrum and -1 dB at the notch frequency. Also, deposition between the two antennas is achieved to exceed 20 dB. The obtained results are simulated using full wave simulations.

4- Ultra compact quad band resonator based on novel D-CRLH configuration A Novel Ultra Compact Four-way Power Divider with Integrated Filtering Function for WLAN Applications:
This paper represents an ultra-compact quad band resonator based on novel configuration of dual-composite right/left handed transmission line. This design broaches quad band for 7.3 GHz, 8.3 GHz, 11.9 GHz, and 13.8 GHz along with insertion losses of 2.2 dB, 0.27 dB, 2 dB, and 1.5 dB, respectively. Furthermore, the return losses are 12.2 dB, 36 dB, 20.5 dB, and 19.5 dB, respectively. The quality factor proclaims selectivity equals 42.33, 15.58, 15.87, and 31.1, at the four frequencies respectively. The paper amplifies the equivalent circuit design, mathematical study, and 3D full-wave simulation. Additionally, the design actualizes a compactness size of 13.2 × 16.5 mm2 (0.548 × 0.6855 g2).

5- A Novel Ultra Compact Four-way Power Divider with Integrated Filtering Function for WLAN Applications:
A four-way ultra-compact power divider is proposed in this paper for antenna array applications. The power divider is constructed based on composite right/left handed microstrip structure. The analytical analysis are presented. The divider operates at 5.2 GHz for WLAN services. This paper introduces equivalent circuit, 3D full wave simulation, and in addition to that, this design realizes compactness size 20×6 mm2, (0.62×0.186) g2.

6- Compact high selective DGS band-pass filters for WLAN applications:
In this paper, compact size band pass filters are proposed and designed for WLAN applications. The coupled DGS resonators are considered the main block of proposed band pass filters. The three proposed filters are designed by using the same defected ground structure shape, but with different feed line configurations. The feed line configuration affects the presence of transmission zeros in the rejection band to enhance the filter selectivity. So, we proposed three designs based on the different feed line configuration. The first design is band pass without transmission zero, the second is with one transmission zero, and the last one is band pass with two transmission zeros. In general, the three band pass filters are designed to operate from 5 GHZ to 6 GHZ with a central frequency of 5.5 GHZ, return loss higher than 25 dB and a wide stop band rejection up to 10 GHz with level lower than 30 dB, and an insertion loss lower than 0.5 dB is achieved within pass band. The simulated results are presented to show the performance of these filters.

Students Publications & Abstracts 2018

1.Omar F. Abdalgalil, Mohamed El Atrash, Mahmoud A. Abdalla, "A Flexible High Gain Wide-Band Antenna for Wireless and Wearable Applications", 2018 IEEE Int. Symp. Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

2.Mohamed Kadry, Mohamed El Atrash, Mahmoud A. Abdalla, "Design of an Ultra-thin Compact Flexible Dual-Band Antenna for Wearable Applications", 2018 IEEE Int. Symp. Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

3.Kareem M. Salem, Donya Z. Nazif, Mahmoud A. Abdalla, "Two Elements Self-Complementary MIMO Antennas for Wideband Mutual Coupling Reduction ", 2018 IEEE Int. Symp. Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

4.Norhan N. Abdelhady, Ahmed M. Hussein, Mahmoud A. Abdalla, "A Novel L-CRLH Based Compact Wide Band Filtered Power Divider for WLAN Applications ", 2018 IEEE Int. Symp. Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

5.Ahmed F. Daw, Marian N. Adly, Mahmoud A. Abdalla, "Novel Triple Band Compact Resonator Based on New Configuration of Composite Right/Left-handed (CRLH) Metamaterial Transmission Line ", Microwave and RF Magazine, 2018.

6.Ahmed M. Abdelwahab, Islam D. Youssef, M. I. Ahmed, "A Quad-Band Compact Inverted-F MIMO Antenna for USB Dongle Applications ", 2018 IEEE Int. Symp. Antennas Propag. Usn. Natl. Radio Sci. Meet, 2018.

Abstracts

1.A Flexible High Gain Wide-Band Antenna for Wireless and Wearable Applications:

A wideband, flexible printed antenna, fed via the Co-Planar Waveguide (CPW) geometry, with high gain is presented in this paper. The high gain was realized by using a reflector on the same level with the radiator and around it. The high gain performance of the antenna was observed throughout the whole wide spectrum of 1.53 GHz to 2.74 GHz, with a percentage bandwidth of approximately 57%. For flexibility, the antenna was printed on the flexible Rogers Ultralam 3850 substrate. With such characteristics, the antenna can be recognized in a number of wireless applications; such as, WLAN, WI-Max and RFID, as well as, wearable applications.

2.Design of an Ultra-thin Compact Flexible Dual-Band Antenna for Wearable Applications:

In this paper, a dual-band, flexible antenna is suggested. The low profile antenna, 35 × 20 mm2, is fed using the well known Co-Planar Waveguide (CPW) configuration, where it operates at 2.44 GHz and 5.8 GHz of the Industrial Scientific and Medical (ISM) radio band. By employing the flexible Rogers Ultralam 3850 as the antenna substrate, the proposed antenna exhibited high flexibility. Due to its compactness, flexibility and dual-band resonance at the ISM band, the antenna is highly chosen to be applied for wearable applications.

3.Two Elements Self-Complementary MIMO Antennas for Wideband Mutual Coupling Reduction:

This paper presents a compact, two elements MIMO antenna systems with a size of 57.2 × 57.2 mm2. The antennas have mutual coupling reduction over a wide band of 2.35 GHz to 2.65 GHz. It consists of two monopole triangle self-complementary antenna elements (TSCA). The simulation results show that the proposed MIMO antenna configuration has below enhanced mutual coupling which goes lower than -20 dB (an enhancement by more than 10 dB compared to conventional configuration). The obtained results are simulated using full- wave simulations

4.A Novel L-CRLH Based Compact Wide Band Filtered Power Divider for WLAN Applications:

A new compact power divider based on inductor loaded composite right/left-handed transmission line (L-CRLH) is presented in this paper. The simulated results show that each output port is able to achieve a frequency range of 5 GHz to 6.5 GHz. Wide band and compactness is realized from L-CRLH. The results show 3 dB insertion losses and 14 dB return losses in overall size equal to 17.3×15.4 mm2, (0.53×0.47) g2.

5.Novel Triple Band Compact Resonator Based on New Configuration of Composite Right/Left-handed (CRLH) Metamaterial Transmission Line:

This article presents for the first time, a new compact multiband resonator. The introduced structure is designed based on additional series resonance branch integrated with composite right/left-handed (CRLH) metamaterial unit cell with controllable frequencies and high selectivity. The operating frequencies of the resonator are 2.8 GHz, 4 GHz, and 10.4 GHz with insertion loss 3 dB, 1.5 dB, and 1.7 dB, respectively. Furthermore, the proposed design has good matching of return losses that are equal to 14 dB, 12 dB, and 23 dB, respectively. The proposed resonator is designed on Arlon material with dielectric constant 3.55 and thickness 1.52 mm. This resonator is introduced to fulfill compactness of modern technology with perfect size reduction (16.5 × 8.9 mm2). The resonator consists of CRLH unit cell connected with additional series resonance circuit that tune the design and provides the third band.

6.A Quad-Band Compact Inverted-F MIMO Antenna for USB Dongle Applications:

This paper shows multi-band (quad) inverted-F MIMO antenna with the high isolation that covers WIFI and WiMAX bands (2.4, 3.7, 4 and 5.3 GHz). The design consists of two symmetric inverted-F antennas separated by 0.12 0. The high isolation is achieved by adding a meander line immersed in inverted T-slot shaped in the ground plane which is a vital element for the least three bands. Moreover, two U-shaped slits were etched on the two 50 Ω transmission lines to modify the impedance matching. The S11 < -15db to ensure the high isolation of the proposed design that covers multi-range bandwidth. The proposed design was modified by shifting the vias locations, chamfering the edges of the feeding lines and extending the length of the inverted-F antennas to cover the lower band of WIFI. The proposed design dimension is 52x77.5 mm2.

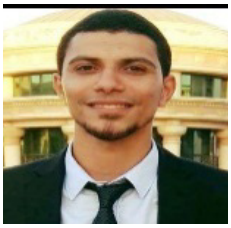
Awards & Prizes

Dr.Sherif Kamel

Won the Excellent Tutor for his outstanding performance for mentoring the Egyptian Team in the final Global Competition event of Huawei in China during the period 14-19/5.
(Skhussein@msa.eun.eg)

Eng.Zainab Fouda

1st Place at the second forum of innovations and graduation projects at the Egyptian Engineers Syndicate 2017.
zfouda@msa.eun.eg & ythammad@msa.eun.eg



Dr. Eman Saleh

2nd Place at the second forum of innovations and graduation projects at the Egyptian Engineers Syndicate 2017.
2nd Place at the Scientific Conference of the Faculty of Engineering in MSA University 2018.
amsaeed@msa.eun.eg

Two Students who won fund for IoT graduation projects in Egypt IoT Challenge Year 2017. In fact, their graduation project was related to IOT, precisely "Home Security System with IoT Technology".
Abdelrahman Mohamed, ID: 133449, email: bedomohamedibrahim95@hotmail.com
Mohamed Sami, ID: 131931, e-mail: mohamedsamy731@gmail.com

National Authority for Remote Sensing and Space sciences (NARSS)
EUS-1[Egy- Univer Sat] PROJECT
The main objectives of this project is to graduate new generation of Egyptian engineers that has a theoretical and practical experience in space technologies fields, supporting new trend in the graduation projects that links the theoretical subjects with practical issues taking into account space technology requirements.
MSA participated with two graduation projects in the competition:
Design and developing of software and hardware of communication subsystem CS2 versus 3 teams from different Universities (one team from Ain shames University and two teams from Banha University, Shoubra Branch.

MSA Team finished the Phase one of EUS-1[Egy- Univer Sat] and win the best design for communication subsystem CS2 in Phase I. the MSA design will be the platform for all teams from other universities in the second phase
of EUS-1.

The team is:
Supervisor: Dr.Somaia Mohamed
Sudents:

Hardware Group
1.HossamHaggagh.hagag.ali@gmail.com
2.Mahaitab Yassermahitab94@gmail.com

Software Group
1.Ahmed AbdelkreemAhmedkareem808@gmail.com
2.Mohamed Ibrahim Hanyeng.mohamedihany@gmail.com

Academic Events

Second Annual MSA University Workshop on Advances in Communication and Electronic Systems29 April 2018

During the workshop, practicing communication and electronics engineers and planners in addition to MSA students were invited to attend the workshop.

The workshop was held on one day and included talks about state-of-the-art subjects delivered by top notch international and national pioneers in the field. This includes the following:
4G to 5G: Future Communication and how it will enhance our life?
by Dr. Ayman Radwan,
Senior Researcher and EU Project Coordinator with, Instituto de Telecomunicações, Aveiro, Portugal
Optical Fiber Sensors: Concept overview and IoT applications
by Dr. Maria de Fátima F. Domingues,
Research Fellow at the Instituto de Telecomunicações, Aveiro, Portugal
Electronics and Communication in Agriculture
by Dr. Said Mabrouk,
Faculty Member, Electrical Systems Engineering, MSA University, Cairo, Egypt
Cloud Computing
by Omar Badr,
Sr. Analyst, CS- Cloud Community, Dell-EMC, Cairo, Egypt
Automation Systems in Egypt
by Tamer Tolba,
Middle East for Automation System and Trading (MAS Trading)

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

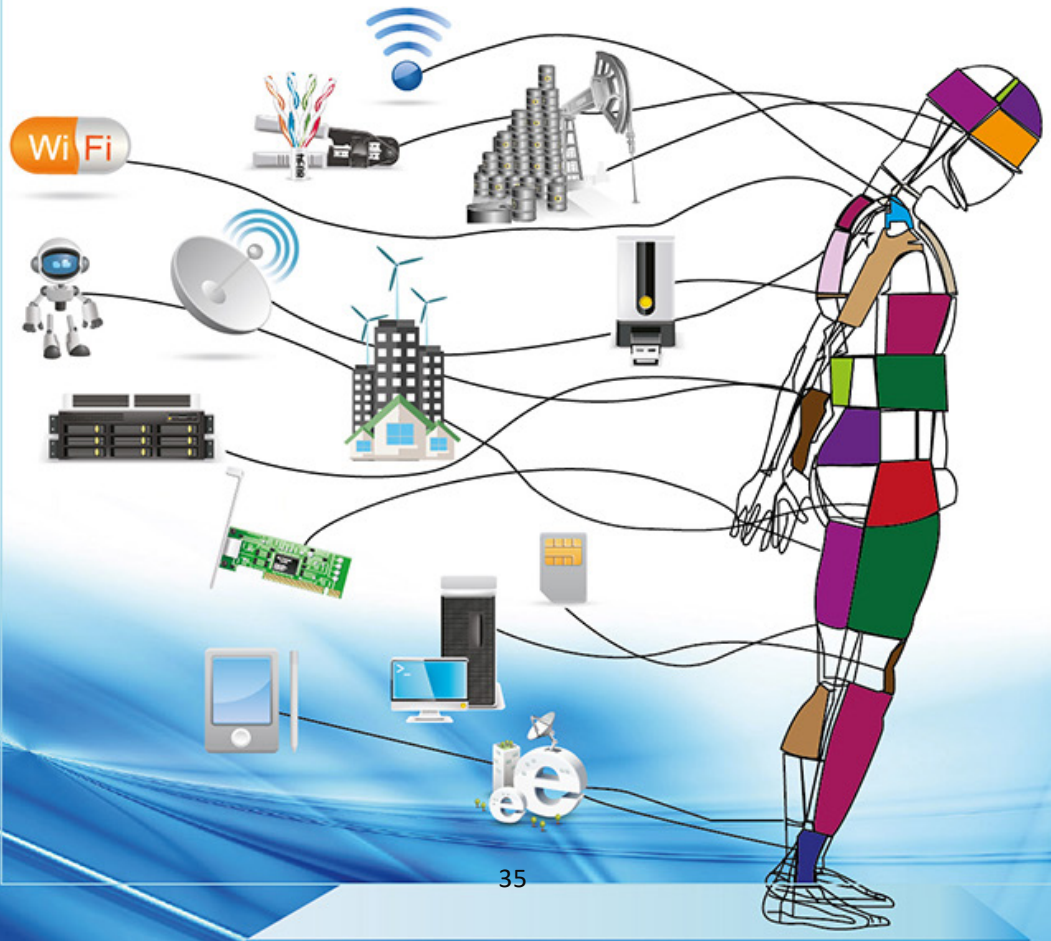
Under the auspices of Dr. Nawal El Digwi
Head of MSA Board of Trustees

SECOND ANNUAL MSA UNIVARSITY WORKSHOP ON ADVANCES IN COMMUNICATION AND ELECTRONIC SYSTEMS

ESE Workshop 2017/2018

29 April, 2018

October University for Modern Sciences and Arts (MSA), 6th of October, Egypt



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Under the auspices of Dr. Nawal El Degwi
Head of Board of Trustees
SECOND ANNUAL MSA WORKSHOP ON ADVANCES
IN COMMUNICATION AND ELECTRONIC SYSTEMS


Cloud Infrastructure


Under the auspices of Dr. Nawal El Degwi
Head of Board of Trustees
SECOND ANNUAL MSA WORKSHOP ON ADVANCES
IN COMMUNICATION AND ELECTRONIC SYSTEMS
ESE Workshop 2018
29th April, 2018

Students Activities

Third Annual MSA University Workshop on Career advice 30 April 2018 [Build Your Future Round 3]

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 "give back" 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.

During the event, practicing MSA students were invited to attend the workshops about how to be ready for the future.

During the event, practicing MSA students were invited to attend the workshops about how to be ready for the future.

This workshops includes the following:
-Keynote Speaker:
-Eng.Mona Hussen
-CEO of MHDH for interior design.
-Career advices for future engineers in the field of interior

Session Titles:
1-Automotive Industry Revolution and Your Career with Valeo Egypt
Eng. AHMED ABDELFATAH
Knowledge Management Manager
Expertise and Knowledge Management Dept, Valeo Egypt.

2-Career Advice Session
Mrs. Injy Osama
Hr Manager General Motors Egypt.

3-New Requirements for Media fields
Mr. Ayman Salah
Creative director and co-founder of Gorilla for media seniors.

-Interview level 3 and level 4 students faculties: Engineering (All majors), Art and Design, Computer Sciences, Mass Communications, Languages.
-Companies Participation:
-UNB Bank - Systel "Motorola" – GM "General Motors" – Sabbour – Al Masry Al Youm- Life Art Advertising Agency – Mona Hussein Design House.

-Total number of registered students for the event : 367 students.
-Total number of interviewed students : 115 students.

Protocol competition
MEMORANDUM OF UNDERSTANDING with Huawei Technologies (Egypt)18 October 2017

MSA University signed a MEMORANDUM OF UNDERSTANDING with Huawei Technologies (Egypt)
MSA-Summer Training committee (MSA-STC) and IEEE-MSA student branch organized today a great event for our network students, with the president of Mrs. Xieli " Huawei China Head Quarter" and Dr. Nahed Sobhy faculty of engineering dean, Dr. Samy El Hennawy ESE Head, and Dr. Ahmed Fawy Daw chair of MSA-STC. In the event Mr. Wangke "Huawei Egypt senior manager" and Mrs. Issra Habib "Cooperate head" introduced the modern technology of Huawei in the field of network technologies, and for the first time in Egypt our MSA students will have the opportunity to join the network domestic competition, the winners will have a chance to join Huawei's training then the top grades shall have to participate in the international competition in China.

Finally, Dr. Nahed sobhy and Mr. Wangke signed a cooperation protocol aims to build the strategic and long-term partnership with Huawei, and explore more areas for cooperation, Huawei as a global leader in ICT solutions, we aim to launch Authorized Information and Network Academy as partnership program that authorizes MSA University to deliver Huawei Certification courses to students. The students who are benefited from the Huawei Authorized Information and Network Academy program are encouraged to attain Huawei Certification in support of a subsequent career in the ICT industry.

الأهرام
الاقتصادي

رئيس مجلس الإدارة: عبدالمحسن سلامة

رئيس التحرير: خليفة أدهم

29 اكتوبر 2017

"هواوي" تطلق اول مسابقة في مهارات تكنولوجيا المعلومات والاتصالات في شمال أفريقيا

27-10-2017 | 07:55 189

Experience of the Huawei ICT Academy ICT Skill Competition Held in the Northern Africa Region | Issue 30

First Huawei ICT Skill Competition in Northern Africa — Roadshow Highlights of the First Week

Enterprise Training and Certification Dept

[Roadshow for the ICT Skill Competition]

ICT Skill Competition 2017 of the Huawei ICT Academy has set sail in Northern Africa for the first time. This competition has attracted wide attention since the preparation phase. It consists of a preliminary round and a national final round for students in Cairo and Alexandria.

- [Egypt, Northern Africa, October 15 to 19, 2017] The roadshow of the first week for the first ICT Skill Competition in Northern Africa has been successfully held in Egypt's Helwan University, Ain Shams University, MSA University, and the British University in Egypt. Hosted by the Enterprise Business Dept in the Northern Africa Region, it marked the start of the first ICT Skill Competition in Northern Africa. Teachers and students packed the activity site.
- By October 19, 406 people had registered for the competition.

[MSA University]

Presentation on campus: **Wang Ke** and Israa Habib, from the Northern Africa Region, and Xie Li, from the Enterprise Business Training & Certification Dept, introduced the competition and registration methods during the presentation.



Promotion on campus: We promoted the competition with the support of the IEEE Student Union and sent related information to the university's official website for reporting. (https://www.msa.edu.eg/msauniversity/)

Training/ Field Trips

Summer Training Committee introduces more than 2000 training chances for MSA University including national and international companies such as : Motorola Systel , Vodafone, Orange, Telecom Egypt, Dell EMC, Valeo, Sabbour , Arab Contractor, UNB Bank , Alex Bank , Egyptian TV , AL Nahar TV, Dream TV, Life Art , MHDH, National Telecommunication institute , Electronic research center , Xerox, Al Alamya , El Sab3 Automotive, AL Masry Al youm, Juhaynah factory, Egypt air, Huawei.

We held Three Filed Trips to Vodafone, Systel, and Maspero broadcasting station.

National projects + grants

Radiosonde Project Technically Accepted by the Scientific and Technology Development Fund - STDF

English Abstract :

The climate of a given area or region determines how much investment can be spent and the cash return related to this area of land. The effect of climatic factors on the natural resource management and agriculture is vital. Climatic factors affect crop water requirements, time of cultivation, economic viability of agricultural production, and civil aviation. The meteorological and climate data measurements as well as the quality control of such data is the corner stone of the utilization processes.
Radiosonde is a balloon-borne device that is used worldwide to measure several vertical meteorological parameters like temperature, humidity, air pressure, wind speed, and wind direction at various layers of the atmospheres. It then transmits these parameters to ground station for further processing related to weather forecasting that serves aviation, marines, military, agriculture as well as many other applications. This device is one time use since it is carried by the balloon that explodes at high altitude (20 Km high). Egyptian Meteorological Authority (EMA) is one of the main users and consumers of radiosonde devices. EMA has 6 ground stations distributed across Egypt. Each station launches 2 devices daily with around 5 thousands devices per year. To have more precise forecasting profiles the number of stations in Egypt and number of launches need to be doubled. This could cost EMA more than 2 million American dollars or 40 million Egyptian pounds per year and puts a lot of pressures on the budget allocated for EMA which in turn raises massive need to design and innovate a new device or system. The proposed system as part of this research aims to overcome the current imported system drawbacks and weaknesses, improve performance and features, along with the economic and social benefits from the designing and implementing this device to serve and satisfy our national and regional needs.

Objectives

1.Wider Objective
Establish the capability for designing and manufacturing national meteorological observation devices in Egypt and moving from the user role of such devices to the designer and manufacturer roles is the wider objective. Primary goal as a first phase to achieve this wider objective is to design and manufacture the radiosonde transmitter device along with the ground station nationally in competitive cost compared to current imported systems. Second goal of this wider objective is to market the developed system to the regional market after satisfying the national and local needs

2.Specific Objectives
Objective 1: "Design and develop 12 Egyptian Radiosonde transmitters".
These transmitters will be able to measure, process, and transmit the weather data at various altitudes with accuracy and performance competitive with the international measures.
Objective 2: "Design and develop 2 Egyptian Radiosonde ground stations".
The ground stations will be able to receive the data from the transmitter, process and implement the data by different software applications.
Objective 3: Design and implement software tools needed to handle the data for different applications".

When achieving the above specific objectives the following concerns will be considered:

Further technical development and improvement to satisfy always new demands/features requested from customers/agencies.
Enhance some of the current limitations and technical constrains in data accuracy, device weight, sensors durability, actuators and other components like batteries.
Start point for design and develop the ground station project afterwards to have full end-to-end system that will help later being independent from importing such devices.
Facilitate and improve the overall data precision and accuracy by lunching 4 devices instead of 2 on a daily basis from the 6 ground stations across Egypt.
Provide full documentation of the designed system including both technical user guide along with user guide for troubleshooting and overall system usage.

Detailed Research Approach and Methodology

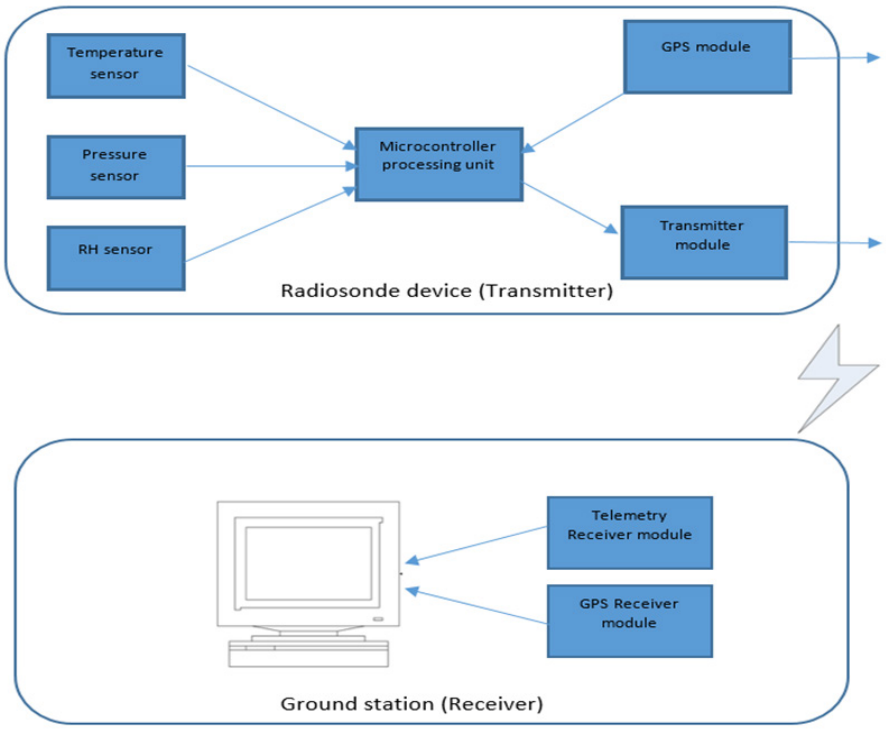
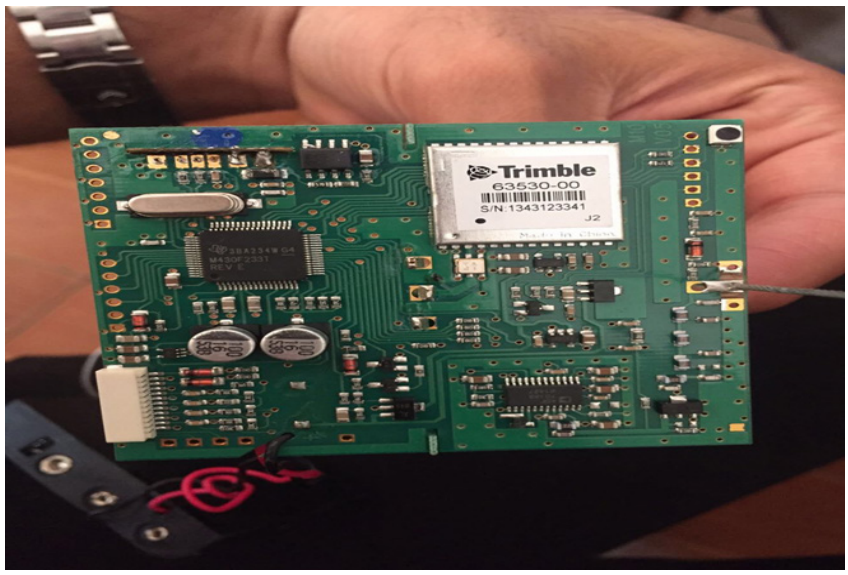


Fig. (1) Proposed national radiosonde system block diagram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LOVE IS
THE SLOWEST
FORM OF
Suicide

October University for Modern Sciences & Arts
Established per the Presidential Decree No. 244, 1996

Endorsement Letter

This letter is to certify that: Project titled "Design and implementation of National Radiosonde Device"

PI: Dr. Said Abd El Moniem Mabrouk

The project's idea wasn't funded or submitted to another STDF program, or another agency (national / international) , and that MSA University approves the project .

Prof. Dr. Khairy Abdel- Hameed

MSA University President

27/3/2017

Main Admission Office: 26 July Mehwar Road intersection with Wahat Road, 6th October City, Egypt.
Tel: (+202) 383 71518 (20 lines) Fax: (+202) 383 71543
www.msa.edu.eg

Downtown Admission Office: 14 Amer St, El Messaha Square, Dokki, Egypt.
Tel: (+202) 333 65037 (12 lines) Fax: (+202) 376 03811
16672 (16MSA)

QF 4-2-4-3
Egypt Meteorological
AUTHORITTY
QUALITY MANAGEMENT
( )Code
Reference :
Enclosure :
Date : / /

وزارة الطيران المدني
الهيئة العامة للأرصاد الجوية
مكتب : رئيس مجلس الإدارة
كود ( )
ملف رقم :
مرفقات :
التاريخ : / /
الموضوع : ( )

To whom it may concern

This letter to certify that the Egyptian MeteorologicalAuthority (EMA) is the beneficiary of the project :

" Design and Implementation of National Radiosonde Device "

Under the research and development, the Scientific Research Department at the Egyptian Meteorological Authority is willing to cooperate within the context of this project.

Dr. Ashraf Zakey

Ashraf Zakey
30/3/2017

Under Secretary of State for Research and Climate
theEgyptian Meteorological Authority EMA

P.O.BOX:11784CABLE ADDRESS : WEATHER CAIRO – TEL (202)6849860
FAX: (202) 6849857 ADDRESS:KOUBURY EL_QUOBRA CAIRO – EGYPT
E@MAIL:ma@idsc.gov.eg-Website :nwp.gov.eg

ا.ع

ProposalApplication Form

Title of the Project:	Design and implementation of National Radiosonde device	
Name of Applicant:	Dr. Said Mabrouk	
Specialty:	ICT and computer engineering	
Affiliation:	Lecturer at MSA university	
Beneficiary/End User:	Egyptian Meteorological Authority (EMA)	
Requested Budget LE (STDF Support):	800,000	
Estimated Value of Cost Sharing Budget LE (By Beneficiary/End User):	160,000	
Duration (Max 2 yrs):	2 years	
Date of Submission:		
Grant Type:	Max Budget STDF fund excluding beneficiary cost sharing (K LE)	Max Lifetime (Yrs)
☐ Demand Driven Program	3000 KLE	2 Yrs
☒ National Challenges Program	3000 KLE	2 Yrs

Project Area

BASIC SCIENCES		Nanotechnology	☐
Aquaculture	☐	Space and Remote Sensing	☐
Biochemistry	☐	Textiles	☐
Biology	☐	Transportation and Traffic	☐
Chemistry	☐	Urban Planning	☐
Geology	☐	Water	☐
Mathematics	☐	MEDICAL SCIENCES	
Microbiology	☐	Medicine and Therapy	☐
Mineral Resources	☐	Pharmaceuticals	☐
Oceanography	☐	AGRICULTURE	
Physics	☐	Agriculture	☐
ENGINEERING SCIENCES		Biotechnology	☐
Water Desalination	☐	Fisheries	☐
Electronics	☐	Food	☐
Energy (including Renewable)	☐	Veterinary Medicine	☐
Engineering	☐	HUMANITIES & SOCIAL SCIENCES	
Environmental Sciences	☒	Foresight	☐
ICT	☐	Humanities	☐
Materials	☐	Social sciences	☐

Keywords: Radiosonde, Meteorological upper-air observation, ground station

Submitted Porposals, View Porposal [Project ID:30501]

Participator Full Name	Said Abdel Moneim Mabrouk
Participator ID	651CBB89-A5FC-4734-A283-99166C802F52
National ID	25112180200395

Proposal Basic Data
Abstract
International Collaboration
For (NCP-DDP-FFF) Calls Only
PDF Proposal File

Project ID: 30501
Grant Name: Development & Innovation Grants
Type Of Grant: National Challenges Projects (STDF - NCP)
Call/Cycle: 6
Project Status: Completed Submission
Project Title (Arabic): تصميم وتنفيذ جهاز راديوسوند مصرى
Project Title (English): Design and implementation of a National Radiosonde device
Main Field : ENGINEERING SCIENCES
Specialization: Environmental Sciences
Total Duration (Monthes): 24
Total Requested Budget(L.E.): 800000.0000
Key Words: Radiosonde, Meteorological upper-air observation, ground station

Radiosondeو
Meteorological upper-air observation,
ground station

Hosting Institute: Modern Science and Arts University, six of October
Previous / Running Projects (Numbers Only):
Last Submitted Preproposals:
Submission Date: 4/2/2017

03 Industrial Department

Achievements

The following subject areas are assigned for teaching and carrying out relevant research work:

Workshop Technology, Engineering Materials, Engineering Measurements, Thermodynamics & Heat Transfer, Fluid Mechanics, Electricity, Electronics, Stress Analysis, Machine Design, Tool Design, Product Development & Design, Traditional & Advanced Manufacturing Processes, CNC Machines & CAD/CAM, Engineering Economic Analysis, Operations Research, Work Analysis & Measurements, Facilities Planning & Design, Statistical Quality Control, Quality Management & Assurance, Production Planning & Control, Maintenance Planning & Control, Lean Six-Sigma Manufacturing Systems, Project management Systems, Simulation Modeling and Analysis, Robotics & Automatic Control Systems, and Design of Experiments.

Research + Publications

Dr. Ayman Elsayed

Ayman Elsayed, "Technology Enhanced Assessment in Higher Education Institutions", MSA-Greenwich Conference on Exploring technology- enhancement teaching , March 29, 2018.

Ayman Elsayed "Human Teacher vs. Robot Teacher in Higher Education Institutions", MSA-Greenwich Conference on Exploring technology- enhancement teaching , March 29, 2018.

Ayman Elsayed "The Future of Higher Education : Moving Twards a Post Digital Age" ", MSA-Greenwich Conference on Exploring technology- enhancement teaching , March 29, 2018.

Dr. Sameh Ahmed

S. A. Salah and N. Sobhi " Productivity Enhancement through Lean Implementation– A case study", 18th International Conference on Applied mechanics & mechanical engineering, April 3-5, 2018, M T C, Cairo, Egypt.
Sameh Ahmed Salah " Effect of implementing Single Minute Exchange of Die Methodology in Mass Production Company", 18th International Conference on Applied mechanics & mechanical engineering, April 3-5, 2018, M T C, Cairo, Egypt.
Sameh Ahmed Salah "Changing the status quo employing technology to improve assessment efficiency" MSA-Greenwich Conference on Exploring technology- enhancement teaching , March 29, 2018.
Sameh Ahmed Salah "Developing culture for effective learning" MSA-Greenwich Conference on Exploring technology- enhancement teaching , March 29, 2018.

Safan ,Y. M., Shaaban, S., and El-Sebah, M. I. A., 2017, "Hybrid Control of A Solar Tracking System Using SUI-PID Controller," IEEE International Conference on Sensors, Networks, Smart and Emerging Technologies (SENSET), 2017, Beirut, Lebanon, 14th September 2017. Date Added to IEEE Xplore: 01 December 2017.

Safan, Yasser M., S. Shaaban, and Mohamed I. Abu El-Sebah. "Performance evaluation of a multi-degree of freedom hybrid controlled dual axis solar tracking system." Solar Energy 170 (2018): 576-585.

LA. Yaser Mohamed

Fady Safwat, Nahed Sobhy and Mohamed Awad "Project Scheduling and resource Allocation under uncertainty: A Comparison between Genetic Algorithm and nonlinear optimization" , International Conference on Innovation in Engineering Science and Management, New Delhi, ISBN: 978-81-931974-1-7

LA. Fady Safwat

Staff Promotions

University of Greenwich Mater's Scholarship Awards

Our Outstanding graduates received scholarships to study Ph.D Degree in University of Greenwich, where they achieved a grade of Distinction upon completion of the MSc. Degree and continuing the Ph.D study

Ahmed Mohamed Akram: Best student in the Department of Industrial Engineering, 2014 and he has completed the MSc. Degree on:
"Combining TOC with Different Techniques for Quality Improvement" and registered now for the Ph. D degree in University of Greenwich, expected to complete his Ph. D this year

Ghofran Mohamed Jan: Best student in the Department of Industrial Engineering, 2015. she has completed the MSc. Degree on:
"Application of Six Sigma Methodology to Inventory Management with a Case Study in Higher Education" and she expected to complete her Ph. D this year.

Master's Holders

Arab Academy for Science, Technology & Maritime Transport (AASTMT), Cairo, Egypt, 2018
Hybrid Control of a Solar Tracking System using A Multi-Degree of Freedom Controller

LA. Yaser Mohamed

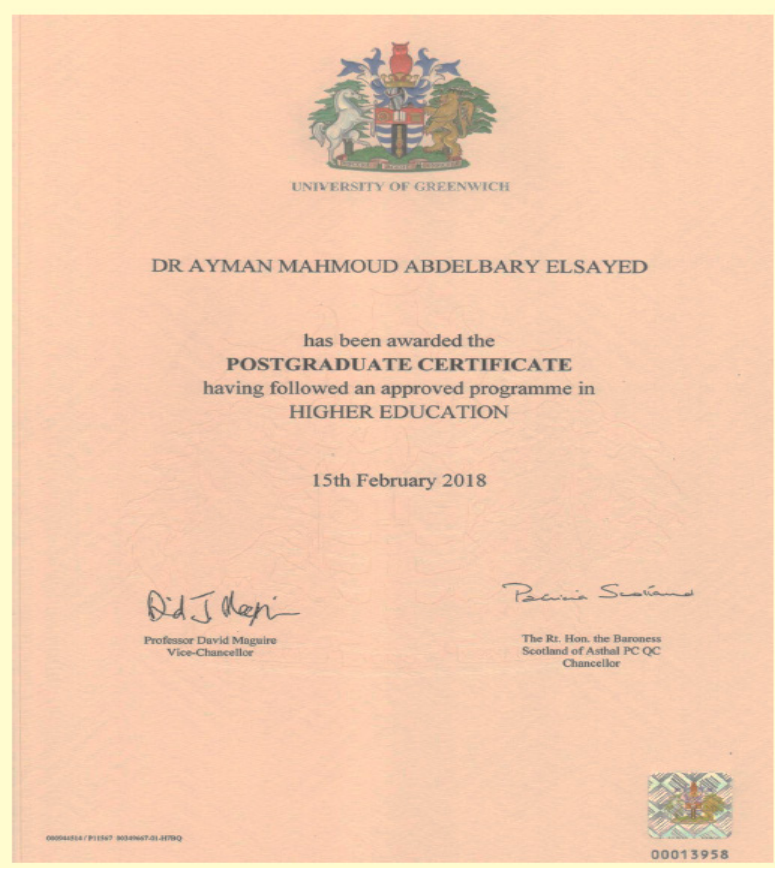
PG Certificate

UoG PG Certificate in HE

Ayman Abdel-Bary
Assistant Professor

Dr. Ayman Mahmoud Abdel-Bary El-Sayed, Assistant Professor

- attended the MSA - Greenwich International Conference on "**Exploring technology- enhancement teaching , March 29, 2018.**



UNIVERSITY OF GREENWICH

DR AYMAN MAHMOUD ABDELBARY ELSAYED

has been awarded the
POSTGRADUATE CERTIFICATE
having followed an approved programme in
HIGHER EDUCATION

15th February 2018

Professor David Maguire
Vice-Chancellor

The Rt. Hon. the Baroness
Scotland of Asthal PC QC
Chancellor

00013958

Presented 3 papers in the MSA - Greenwich International Conference on "Exploring technology- enhancement teaching , March 29, 2018.


October University for Modern Sciences and Arts
University of Greenwich

Certificate of Presentation

This certifies that

Dr. Ayman Elsayed

Has presented the poster entitled:

"Technology enhanced assessment in higher education institutions"

MSA-Greenwich International Conference on
"Exploring technology-enhanced teaching,
learning and assessment practices in a post-digital age"

Thursday March 29, 2018

Prof. Dr. Khairi Abdelhamid
MSA University President


October University for Modern Sciences and Arts
University of Greenwich

Certificate of Presentation

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"Exploring technology-enhanced teaching,
learning and assessment practices in a post-digital age"

Thursday March 29, 2018

Prof. Dr. Khairi Abdelhamid
MSA University President


October University for Modern Sciences and Arts
University of Greenwich

Certificate of Presentation

This certifies that

Dr. Ayman Elsayed

Has presented the poster entitled:

"The future of higher education: Moving towards a post digital age"

MSA-Greenwich International Conference on
"Exploring technology-enhanced teaching,
learning and assessment practices in a post-digital age"

Thursday March 29, 2018

Prof. Dr. Khairi Abdelhamid
MSA University President

Sameh Ahmed Salah
Asst Prof.

Dr. Sameh Ahmed Salah, Assistant Professor

- He has successfully completed the certification requirements for :

Assessment Strategies Workshop

- He Presented a poster in the MSA - Greenwich International Conference on "**Exploring technology- enhancement teaching , March 29, 2018.**

He Presented a paper in the MSA - Greenwich International Conference on “Exploring technology- enhancement teaching , March 29, 2018.

October University for Modern Sciences and Arts
University of Greenwich

UNIVERSITY of GREENWICH

Certificate of Presentation

This certifies that

Dr. Sameh Salah

Has presented the paper entitled:

“Developing culture for effective learning”

MSA-Greenwich International Conference on
“Exploring technology-enhanced teaching,
learning and assessment practices in a post-digital age”

Thursday March 29, 2018

Prof. Dr. Khaygi Abdelhamid
MSA University President

Ph.D Degree Candidates

LA. Ahmed Mohamed Akram

Greenwich University, London, U.K

Ghofran Mohamed Jan

Greenwich University , London, U.K

Fady Safwat Labib

Faculty of Engineering, Suez Canal University

Ali Bahig Ali

Faculty of Engineering, Cairo University

Shireen Bishara

Faculty of Engineering, Alexandria University

Students Activities

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.

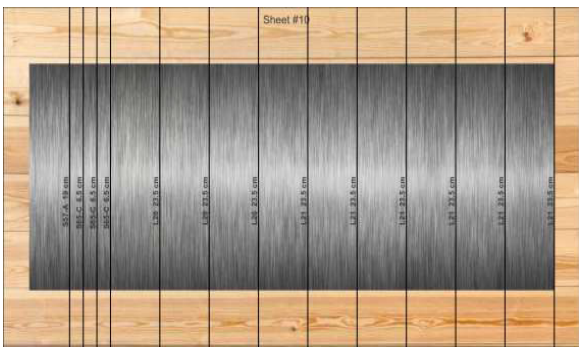
The following are samples of the best projects and some of joint and environmental projects

Company: Feeding industry manufacturing Company "FIMCO"

Waste Elimination in an automotive Feeding Industry

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

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



Sample of a Cutting Pattern

FIMCO
eding Industries Manufacturing Co.
S.A.E

فيمكـــــو
الشركة المتحدة للصناعات المغذية
ش.م.م

شهادة شكر وتقدير

تشهد الشركة المتحدة للصناعات المغذية للسيارات
أن الطلاب الآتي أسمائهم:
١-خالد محمد أحمد منصور
٢- عمرو محمد منصور القليل
٣- محمد خالد محمد خليل

- قد قاموا بعمل تدريبات وتجهزات على خط الانتاج بمصنع الاجزاء المعدنية.
- قد قاموا بتفعيل نظام الجودة وسياستها داخل الشركة.
- قد قاموا بتطبيق linear programming على قسم تقطيع معدن الصاج وقد ساهم في تقليل الهدر في الخامات لعدم ضياع الوقت والجهد.
- قد قاموا بتطبيق تعليمات العمل القياسية (SOS &SOP) بقسم اللحاموقد ساهم ذلك في تقليل عدد المنتجات التالفة.
- قد قاموا بتطبيق (SMED) على قسم المكابس وقد ساهم ذلك في تقليل وقت تغير الاسطمبات.
- قد قاموا بعمل برنامج بهدف تحسين خطة تحميل المنتجات على قسم المكابس ساهم ذلك لتحقيق الخطة الشهرية بمعدل زمنى أقل من الشهور السابقة .

وبناءاً عليه:
قد تم إجتياز هذه المجهودات مجلس ادارة الشركة وقررت منح هؤلاء الطلاب شهادة تقدير على ذلك.

إدارة الموارد البشرية
أ/ رؤوف عبد الرحمن

نائب المدير العام للإدارات الفنية
م/ وليد حمدى

Factory: 6 th October City - Zone 4 - Area 34, Egypt
Tel.: 38338553 - 38338554 Fax. 38335573
Office: 28 El Ashgar St., Flat No.: 6 - Mohandiseen - Giza - Egypt

Company: Delta El Nile For Plastic Bottles Industry

Maintenance Planning and Scheduling in Plastic Industry

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

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

Injection Machine

Blowing Machine (Sidel)

Delta El Nile
For Industry

السادة/ جامعة اكتوبر للعلوم الحديثة والآداب (Modern since and art)

تحية طيبة وبعد،،

حرصاً من ادارة شركتنا على ترسيخ روح التعاون بينها وبين باقي المؤسسات.

فإننا نحيط سيادتكم علماً بأن الطلاب الاتي اسماؤهم والمقيدين طرفكم بالجامعة قسم هندسة صناعية وهم :-

١-عبدالرحمن حسن سليمان 121653

٢-عمر جمال محمود 136257

قد اتموا مشروع تخرجهم وهو(maintenance planning and scheduling in plastic industry).

والذي تم تطبيقه بالفعل على ارض الواقع بعد متابعتهم لتطورات الاحداث باستمرار داخل المصنع مع قسم الصيانة من خلال الزيارات الدورية لهم .

وقد حررت هذه الشهادة بناءً على طلب المذكورين،،

وذلك دون ادنى مسئولية على الشركة،،

وهذا للعلم واتخاذ اللازم ،،

وتفضلوا بقبول فائق الاحترام ،،

شركة دلتا النيل للصناعة

Delta El Nile
دلتا النيل ش.م.م

الإدارة والمصانع بالصالحية الجديدة المنطقة الصناعية – الشرقية ت : ٠٥٥/٣٢٠٢٣٠٠ – ٠٥٥/٣٢٠١٤٢٩ محمول : ٠١٠١٧٩٩٥٧٥ فاكس : ٠٥٥/٣٢٠١٣١١
Head office & factories at New Salhiya - Sarkia Tel: 055 / 3201429 - 055 / 3202300 Mobile: 0101799575 Fax: 055 / 3201311

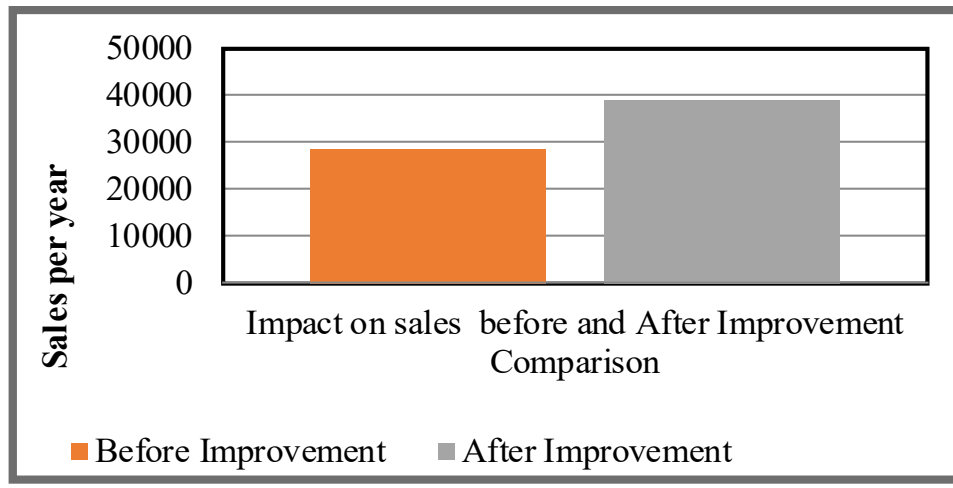
Company: Commercial Body Cars Company

Production Scheduling in Commercial Body Car Factory

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

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

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



Annual Opportunity Sales Comparison

Joint project with faculty of Pharmacy

Design and Manufacturing of a Single Tablet Compaction Machine

Andrew Samy Atta (142605) and
Mostafa Ahmed Kamal Abu-Taleb (143497)

The main purpose behind this project is to design and manufacture a simple, reliable cheap cost single station tablet press machine to compress tablets. With the collaboration with faculty of pharmacy, a machine that achieves their requirements is designed and built. Procedures to finally build the machine were that the requirements needed in the tablet regarding physical and mechanical properties were investigated. Finally, a design that has the answers and all the requirements needed; this design uses a pneumatic system for applying pressure.

Manufactured Machine

Produced tablets

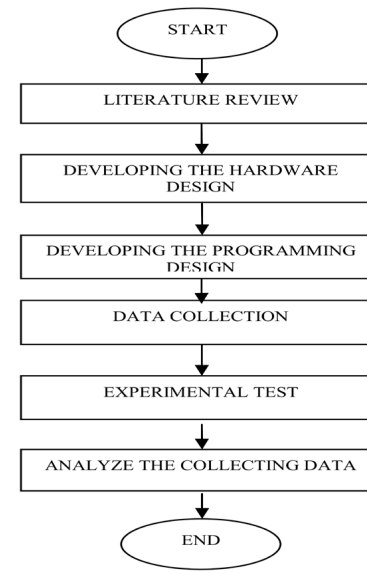
Environmental Agricultural Application Project

Monitoring and Control of Aquaponic Systems

By
Ahmed Hasanein Khallaf (125111) and
Mostafa Amer Abdelhakim(143791)

The semi-controlled aquaponics system has been implemented, which is now able to produce some kinds of plant and the system is stable by providing some of the available sensors in the local market. The fan, temperature sensor, and all other sensors is now monitoring the aquaponic system for fully controlling with the minimum human effort and interference. Besides, a data acquisition system has been integrated to gather a big data from the sensor for further processing and manipulation by all specialists. An economic analysis is implemented to justify successfulness of the semi-automated controlled aquaponics system.

Designed Aquaponic System



System Control Flow Chart

Factory: Environmental Project at MSA University
Converting the Frond Midrib of Palm tree into Particleboard

Mohamed Mahmoud Saadaldin (112953)
Hisham Diaa Ibrahim (135141)

The project aims to benefit from the non-utilized midrib of the palm tree in order to be used as an alternative to the imported wood. The main objectives of this project are to fabricate sheets of particleboard with fine, medium and coarse particles, and to accomplish this goal a machine was designed and fabricated to produce these particles.
The fabrication of the particleboard midrib sheets will contribute to the reduction of Egyptian waste also reducing the cost of imported wood and help in creating a new industry based on local resources.

Palm frond midrib collection

view of final sheet product

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:

Marina for Armored steel Manufacturing Factory (2017/2018)
Americana Food Factory(2017/2018)
LEONI for Automotive Harnesses, Free Zone Nasr City (2017/2018)
UNION Air Factory, 6th October (2017/2018)
FIMCO – Feeding Industry Manufacturing Company (2017/2018)
GOLD – Engineering Sanitary Ware Company 6th October (2017/2018)
Delta El-Nil – for Plastic Bottles Production, (2017/2018)
GENERAL Print Company, 6th October (2017/2018):
Commercial Body Cars Company, 6th October, (2017/2018):
DOMTY – for Diary Products, 6th October, (2017/2018)
Elshafey Group for Textiles, 6th October , (2017/2018)
Bahgat Group Factory Electrical Appliences, 6th October, 2017
Elsweedy Group, 6th October , 2017
Misr Universal for Printing Equipment, 6th October , 2017
Ahmed Dawood Company for Auto feeding Industry, 6th October , 2017

Group of 16 students of industrial systems engineering visited American Arab Vehicles Factory (AAV) on 22/11/2017. The manager of the company has explained the general layout and the facilities of the factory and then visited the automobiles production line, the assembly line and other factory departments.

General Presentation by the Manager

Tour in the Factory

Explanation of the final production Stage

General Discussion with Students

11/14 Amer St. off El Mesaha
Sq. Dokki. Gizah, Egypt.

Tel. : (+202) 3336-5037
Tel. : (+202) 3336-5038
Fax : (+202) 3760-3811

26 July Mehwar Road intersection
with Wahat Road, 6th October
City. Egypt.
Tel. : 3837-1516
Tel. : 3837-1523
Fax : (+202) 3837-1543

Email: Info@msa.eun.eg
admission@msa.eun.eg

www.msa.edu.eg
Hotline : 16672