



**Proceedings of**  
**2021 38<sup>th</sup> National Radio Science  
Conference (NRSC)**

*Organized by*

**Academy of Scientific Research and Technology**  
***National Radio Science Committee (NRSC)***

**and**

**Faculty of Engineering, Mansoura University,**  
***Mansoura, Arab Republic of Egypt***

**27 – 29 July 2021, Mansoura, Egypt**

**Proceedings of**  
**2021 38<sup>th</sup> National Radio Science Conference (NRSC)**

**27 – 29 July 2021, Mansoura, Egypt**

**Technical Program Chair:**

**Prof. Said E. El-Khamy**

**Publication Chair:**

**Prof. Hesham El-Badawy**

**Edited by:**

**A. Prof. Rowayda A. Sadek**

**Prof. Sherif E. Kishk**

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2021 38<sup>th</sup> National Radio Science Conference (NRSC), Proceedings, 27 – 29 July 2021, Mansoura, Egypt.

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# NRSC2021 Program Summary

Tuesday, July 27<sup>th</sup>, 2021

<b>9:00 – 10:30</b>	<b>Registration</b>		
<b>10:30 –11:15</b>	<b>Opening Ceremony</b> Main Hall		
<b>11:15 –11:30</b>	<b>Break</b>		
<b>11:30 –12:30</b>	<p><b>Keynote Speech KS-1</b></p> <p style="text-align: center;"><b>Antennas for Wireless Communications and other Applications: Recent Advances and Future Trends</b></p> <p style="text-align: center;"><b>Prof. Yahia Antar</b></p> <p><b>Chair: Prof. Said El-Khamy</b> <b>Co-Chair: Prof. Hamdy El-Mikaty</b></p> <p style="text-align: center;">Main Hall</p>		
<b>12:30 –13:00</b>	<b>Break</b>		
<b>13:00 –14:30</b>	<p><b>Session SC1</b></p> <p>Secure Communications and Deep Neural Networks Applications</p>	<p><b>Session SB1</b></p> <p>Antenna Design</p>	<p><b>Session SD1</b></p> <p>Electronic and Photonic Devices</p>
	<b>Room A</b>	<b>Room B</b>	<b>Room C</b>
<b>14:30 –15:30</b>	<b>Industrial session I</b>		<b>Tutorial Session I</b>
	<p style="text-align: center;"><b>Bridging the Gab: From Lab. To Market</b></p> <p style="text-align: center;"><b>Dr. Maged Ghonima</b> Ain Shams University and i-Hub Founder</p> <p><b>Chair: Prof. Moustafa Abdel-Nabi</b> <b>Co-Chair: Prof. Hesham El-Badawy</b></p> <p style="text-align: center;">Main Hall</p>		<p style="text-align: center;"><b>Internet of Vehicles: Concepts and Technologies</b></p> <p style="text-align: center;"><b>Dr. Rowayda Sadek</b> Helwan University</p> <p><b>Chair: Prof. Fayez Wanis Zaki</b> <b>Co-Chair: Dr. Ahmed El-Trass</b></p> <p style="text-align: center;">Room A</p>
<b>15:30 –16:30</b>	<b>LUNCH</b>		

## Wednesday, July 28<sup>th</sup>, 2021

<b>9:00 – 10:00</b>	<b>Registration</b>		
<b>10:00 – 11:00</b>	<p><b>Keynote Speech KS-2</b></p> <p style="text-align: center;"><b>Recent Research on Detection of Vulnerable Plaque in Virtual Histology Intravascular Ultrasound Images</b></p> <p style="text-align: center;"><b>Prof. Ali Selamat</b></p> <p><b>Chair: Prof. EL-Sayed Mostafa Saad</b> <b>Co-Chair: Prof. Sherif Kishk</b></p> <p style="text-align: center;"><b>Main Hall</b></p>		
<b>11:00 – 11:30</b>	<b>Break</b>		
<b>11:30 – 13:00</b>	<p><b>Session SC2</b></p> <p>4G and 5G Communication Technologies</p> <p style="text-align: center;"><b>Room A</b></p>	<p><b>Session SB2</b></p> <p>Antenna Arrays</p> <p style="text-align: center;"><b>Room B</b></p>	<p><b>Session SK1</b></p> <p>Biomedical Applications I</p> <p style="text-align: center;"><b>Room C</b></p>
<b>13:00 – 13:30</b>	<b>Break</b>		
<b>13:30 – 15:00</b>	<p><b>Session SD2</b></p> <p>Future applications of Electronics and Photonics</p> <p style="text-align: center;"><b>Room A</b></p>	<p><b>Session SB3</b></p> <p>Micro Strip and RFID Antennas</p> <p style="text-align: center;"><b>Room B</b></p>	
<b>15:00 – 16:00</b>	<b>Industrial Session II</b>	<b>Tutorial Session II</b>	
	<p><b>IT from Design to Machines Operation and Electronic Marketing</b></p> <p style="text-align: center;"><b>Dr. Reda Shoeeb</b></p> <p>CIO of Perfect international Ltd company</p> <p><b>Chair: Prof. Sherif Hussien</b> <b>Co-Chair: DR. Abeer Tawakl</b></p> <p style="text-align: center;"><b>Main Hall</b></p>	<p><b>Bluetooth Legacy: From Classic to Low Energy</b></p> <p style="text-align: center;"><b>Prof. Mahmoud El-Hadidi</b></p> <p>Cairo University</p> <p><b>Chair: Prof. Hadia El-Hennawy</b> <b>Co-Chair: Prof. Amira Yassen</b></p> <p style="text-align: center;"><b>Room A</b></p>	
<b>16:00 – 17:00</b>	<b>LUNCH</b>		

## Thursday, July 29<sup>th</sup>, 2021

<b>9:00 – 9:30</b>	<b>Registration</b>	
<b>9:30 – 11:00</b>	<b>Session SB4</b> Antennas for Future Systems & Applications	<b>Session SK2</b> Biomedical Applications II
	<b>Room A</b>	<b>Room B</b>
<b>11:00 –12:00</b>	<p style="text-align: center;"><b>Keynote Speech KS-3</b>  <b>Big Data Center for Smart and Connected Health</b>  <b>Prof. Ayman Al-Baz</b></p> <p style="text-align: center;"><b>Chair: Prof. Mahmoud El-Hadidi</b>  <b>Co-Chair: Prof. Mohamed Abdel Azim</b></p> <p style="text-align: center;"><b>Main Hall</b></p>	
<b>12:00 –12:30</b>	<b>Break</b>	
<b>12:30 –14:30</b>	<p style="text-align: center;"><b>Students' Poster Session</b>  <b>ECE Labs</b></p> <p style="text-align: center;"><b>Chair: Dr. Hossam El-Din Moustafa</b>  <b>Co-Chair: Dr. Ahmed El-Trass</b></p>	
<b>14:30 –16:00</b>	<p style="text-align: center;"><b>Best Paper and Best Student Awards</b>  <b>Closing Ceremony</b>  <b>Main Hall</b></p>	
<b>16:00- 17:00</b>	<b>LUNCH</b>	

# NRSC2021 Technical Program

**Tuesday, July 27<sup>th</sup>, 2021**

10:30-11:15

*Opening Ceremony*

**OPENING CEREMONY**

11:30-12:30

*Keynote Speech KS-1*

**ANTENNAS FOR WIRELESS COMMUNICATIONS AND  
OTHER APPLICATIONS: RECENT ADVANCES AND FUTURE TRENDS**

**Prof. Yahia Antar**

*Professor and Canada Research Chair in Electromagnetic Engineering  
Dept. of Electrical and Computer Engineering,  
Royal Military College of Canada & Queen's University (Cross Appointed)*

*Chair: Prof. Said El-Khamy*

*Chair: Prof. Hamdy El-Mikaty*

13:00-14:30

*Session SC1*

**SECURE COMMUNICATIONS AND DEEP NEURAL NETWORKS APPLICATIONS**

*Chair: Prof. Mohy El-Din Abou-ElSeoud*

*Co-Chair: Dr. Rowayda Sadek*

**INV1 Recent Advances in Image Encryption and Steganography Techniques Based on DNA, Fuzzy Integrals, and Hyper Chaotic Maps**

*Said El-Khamy, Amira G. Mohamed*

**C1 A Symmetric Key Dynamic Gates Encryption Algorithm Based on Quantum Computing**

*Karim H. Moussa, Mohamed Abd-Elbaset, Yasmine Abouelseoud, Hassan M. Elkamchochi*

**C2 A Deep Learning Approach for Channel Estimation in 5G Wireless Communications**

*Karam M. Ebrahiem, Heba Y. Soliman, Sherif M. Abuelenin, Hesham M. El-Badawy*

**C3 Going Shallower with MobileNets: On the Impact of Wavelet Pooling**

*Said El-Khamy, Ahmad Al-Kabbany, Shima EL-Bana*

13:00-14:30

*Session SD1*

**ELECTRONIC AND PHOTONIC DEVICES**

**Chair:** *Prof. Khaled Shehata*

**Co-Chair:** *Prof. Ahmed Shaban*

**INV4 Black Silicon and Its Optoelectronic Applications.**

*Diaa Khalil*

**D1 Ultra-Low-Power Low Drop-Out (LDO) Voltage Regulator With Improved Power Supply Rejection**

*Hazem H. Hammam, Hesham A. Omran , Sameh A. Ibrahim*

**D2 Average Household Grid Connected PV Generator with Different Intelligent Controllers**

*Sameh Mostafa , Abdel halim Zekry , Ayman Youssef , Wagdi Refaat Anis*

13:00-14:30

*Session SB1*

**ANTENNA DESIGN**

**Chair:** *Prof. Essmat Abd El-Fatah*

**Co-Chair:** *Dr. Ahmed Abdelmonem*

**INV2 Reconfigurable Antennas**

*Saber Zainud-Deen*

**B1 Circularly Polarized Hemispherical Dielectric Resonator Antenna with Graphene slots**

*H. El-Hemaily , S.H. Zainud-Deen , H.A. Malhat, H.A. Hamed, and A. Abdelmonem*

**B2 Reconfigurable Plasma 2D Leaky Wave Antenna**

*Abdelkarim S. Elhenawy, Noha A. Al-Shalaby, Saber H. Zainud-Deen and Hend A. Malhat*

**B3 A Dual-Band (38 – 60 GHz) Antenna Designed for Millimeter Wave Wireless Communication Systems**

*Mirehan A. Aboulila, Radwa K. Hamad, Amira I. Zaki , Moustafa H. Aly*

**Wednesday, July 28<sup>th</sup>, 2021**

10:00-11:00

*Keynote Speech KS-2*

**RECENT RESEARCH ON DETECTION OF VULNERABLE PLAQUE IN VIRTUAL HISTOLOGY INTRAVASCULAR ULTRASOUND IMAGES**

**Prof. Ali Selamat**

*Dean, Malaysia-Japan International Institute of Technology (MJIT)*

*Universiti Teknologi Malaysia*

*Chair: Prof. EL-Sayed Mostafa Saad*

*Co-Chair: Prof. Sherif Keshk*

**11:30-1:00**

*Session SC2*

### **4G AND 5G COMMUNICATION TECHNOLOGIES**

*Chair: Prof. Mahmoud El-Hadidi*

*Co-Chair: Prof. Fayez Wanis Zaki*

#### **INV3 Performance Analysis for Modern Mobile Communication Networks**

*Hesham El-Badawy*

#### **C4 Design and Performance Evaluation of a Multiuser OFDM System Based on Differential Quadrature Chaos-Shift-Keying Spread Spectrum**

*Ashraf Y. Hassan, Mahmoud O. El Beshry, Khaled T. Harb, H. El Hennawy.*

#### **C5 Experimental Validation of Interference Alignment Techniques for Homogeneous and Three-Tier HetNets Using USRP-Testbed**

*Hebatullah M. Sakr, A. M. Diab, Ramy Elamrawy, Maha M. Elsabrouty*

#### **C6 Quantification of Throughput Enhancement using Cooperative Communication in Cognitive Radio Networks**

*Mohamed AbdelRaheem, Reham M. Al-Hashmy, Usama S. Mohamed*

#### **C7 Recurrent Neural Networks for Pilot-aided Wireless Communications**

*Amr S. Hares, Mohamed A. Abdallah, Mohamed A. Abohassan, Doaa A. Altantaw*

**11:30-1:00**

*Session SB2*

### **ANTENNA ARRAYS**

*Chair: Prof. Hamdy El-Mikaty*

*Co-Chair: Prof. Saber Zainud-Deen*

#### **B4 Full-wave Simulation of Time-modulated Parabolic Linear Array Using the Method of Moments**

*Anas S. Zainud-Deen, Hend A. Malhat, Mona M. Badway, and Mohamed Rihan*

#### **B5 Dielectric Resonator Array Fed by Slot Ridge-gap Waveguide Cavity for Millimeter Wave Applications**

*Mohamed A. Asal, Shaymaa. M. Gaber, Saber H. Zainud-Deen, and Hend Malhat*

#### **B6 Detection and Correction of Faulty Patterns in Four-Dimensional Antenna Linear Array Using Particle Swarm Optimization**

*Anas S. Zainud-Deen, Hend A. Malhat, Mona M. Badway, and Mohamed Rihan*

**11:30-13:00**

*Session SK1*

### **BIOMEDICAL APPLICATIONS I**

*Chair: Prof. Imbaby Mahmoud*

*Co-Chair: Dr. Hossam El-Din Moustafa*



## **INV5 Bio-impedance Measurement Systems**

*Ahmed Madian*

- K1 Modeling and Simulation of Respiratory System for Acute Respiratory Distress Syndrome (ARDS) Associated with COVID-19**  
*Mohamed Elnoby Awad, Ahmed M. El-Garhy, Mohamed A. Eldosoky, Ahmed M. Soliman*
- K2 Exploring the Efficiency of Hub Genes in Identification of Alzheimer Disease**  
*Julysa O. Mohamed, Nancy M. Salem, Vidan F. Ghoneim*
- K3 Regularized Logistic Regression Model for Cancer Classification**  
*Ahmed Arafa, Marwa Radad, Mohammed Badawy and Nawal El-Fishawy*
- K4 Polynomial FLANN Classifier for Fetal Cardiotocography Monitoring**  
*Mohammad T. Haweel, O. Zahran, Fathi E. Abd El-Samie*

**13:30-15:00**

### **Session SD2**

#### **FUTURE APPLICATIONS OF ELECTRONICS AND PHOTONICS**

**Chair: Prof. Diao Khalil**

**Co-Chair: Prof. Nehal Fayez**

- D3 Optical Fiber Filters Linewidth Enhancement Based on Erbium-doped Photonic Crystal Fiber Cavities**  
*Mohamed Kilany, Zhou Ding, George A. Adib, Yasser M. Sabry, Cheng-Xiang Liu, Diao Khalil*
- D4 Cole-Cole Modelling of Reduced Graphene Oxide Decorated CuO Nano-Spheres Based Waterproof Conductive Ink for Flexible Electrodes**  
*Ahmed Maged, Ahmed H. Madian, Amany I. Raafat, A. El-Hag Ali*
- D5 A novel fast-switching 5-GHz phase-interpolator with superior linearity in 65-nm CMOS technology**  
*Muhamed F. Allam1, Hesham A. Omran, Sameh A. Ibrahim*
- D6 Reconfigurable Multi-Mode Sigma Delta Modulator for 5G Applications**  
*Bishoy M. Zaky, Hesham A. Omran, Hussein A. Elsayed*

**13:30-15:00**

### **Session KB3**

#### **MICRO-STRIP AND RFID ANTENNAS**

**Chair: Prof. Mohamed Yakout**

**Co-Chair: Dr. Hend Malhat**

- B7 Design of a Mirror Stairs Multiband Microstrip Antenna Using Defected Structures**  
*Faten Fouad, Maie A. Gaber, Mostafa El-Aasser, Nasr Gad*
- B8 A 38 GHz Modified Circular Microstrip Patch Antenna for 5G Mobile Systems**  
*Esraa I. Hassan, Radwa I. Hamad, Mohamed I Omar*

**B9 High-Gain Annular Ring with Meander Slots Antenna Array for RFID Applications**

*Basma M. Yousef , Zeeshan Yousuf, Allam M. Ameen, Ayman Elboushi*

**B10 Compact Multi-bits Chipless RFID Curl Resonator Tag with Temperature Sensing Capability**

*Hend A. Malhat, and Esraa A. El-Refaaay, Saber H. Zainud-Deen*

**Thursday, July 29<sup>th</sup>, 2021**

**9:30-11:00**

**Session SB4**

**ANTENNAS FOR FUTURE SYSTEMS & APPLICATIONS**

**Chair:** *Prof. Mohamed AbulDahab*

**Co-Chair:** *Dr. Mahmoud El-Zalabany*

**B11 Wideband Monopole Antenna with Multiple Stub Resonators for 5G Applications**

*Rania Eid, Ayman Elboushi, Moataza Hindy*

**B12 Compact Reconfigurable Polarization Plasma Square Microstrip Patch MIMO Antenna for 5G Wireless Applications**

*Sarah. Elgiddawy, Hend A. Malhat, Saber H. Zainud-Deen, Ahmed A. Ibrahim, and Hisham Hamed*

**B13 Compact Dual-Band Dual-Polarized Microstrip Patch Antenna for Synthetic Aperture Radar**

*M. Abo El-Hassan, K. F. A. Hussein1, K. H. Awadalla*

**B14 Dual-band Cavity-Backed Ka-Band Antenna for Satellite Communication**

*S. I. Abd El-Rahman, A.M. Attiya*

**9:30-11:00**

**Session SK2**

**BIOMEDICAL APPLICATIONS II**

**Chair:** *Prof. Mohamed Abdel-Azim*

**Co-Chair:** *Prof. Ahmed Madian*

**K5 A Comparative Study of Different Human Skin Impedance Models**

*Mohamed SalahELDin Ghoneim, Amr Mohammaden, Lobna A. Said , Ahmed H. Madian, Ahmed G. Radwan, Ahmed M. Eltawil*

**K6 Radiofrequency Ablation of the Renal Tumors**

*Rawhia S. Hamoud1, Mohamed A. Eldosoky1, Ahmed S. Elhggar*

**K7 Microwave Textile Sensors for Breast Cancer Detection**

*Dalia Elsheikh, Angie R. Eldamak*

**K8 The Electroporation Response of Normal and Malignant White Blood Cells**

*Sameh Sherif, Yehya H. Ghallab , Mohamed T. El-Wakad , Yehea Ismail .*

11:00-12:00

**Keynote Speech KS-3**

**BIG DATA CENTER FOR SMART AND CONNECTED HEALTH**

**Prof. Ayman Al-Baz**

*Distinguished Professor and Chair of the Bioengineering Department,  
University of Louisville, KY., USA*

**Chair: Prof. Mahmoud El-Hadidi**

**Co-Chair: Prof. Moawad El-Dessouky**

12:30-14:30

**POSTER SESSION**

**Chair: Dr. Hossam El-Din Moustafa**

**Co-Chair: Dr. Ahmed El-Trass**

**POST-GRADUATE POSTERS**

- PG1** **A Robust Machine Learning Algorithms for Cosmic Galaxy Images Classification Using Neutrosophic Score Features**  
*Aya Ahmed Abd El-Khalek, Abeer Twakol Khalil, Mohy El -Din Abo El Soud, and Ibrahim Yasser*
- PG2** **Impact of Energy Storage Devices on the Distribution System Stability with Distributed Generation**  
*Mohamed Talal, Sahar Kaddah, Abdelfattah Eladl*
- PG3** **Activity Recognition in 3D Objects**  
*Mohamed Abdel-Azim Mohamed, Mohamed Maher Ata, Mariam Labib Francies*
- PG4** **A Fractional Chaotic Circuit and its Application to Image Encryption**  
*Fatma M. Kamal, A. Elsonbaty, A. Elsaid*
- PG5** **Accurate Stratification of Malignancy in Brain Tumors using Deep Learning**  
*Mona Ahmed, Eman Abdelhaleem, Fahmi Khalifa, and Hossam El-Din Moustafa*
- PG6** **Classification of Dermoscopy Images for Early Detection of Skin Cancer**  
*Amal Galal Diab, Mervat El-Seddek, Nehal Fayez*
- PG7** **Fusion of Plamprint and Iris Images for Personal Identification**  
*Mai Essam Ibrahim, Mervat El-seddek, Fayez Wanis Zaki*
- PG8** **Automatic Diagnosis Of COVID-19 From X-ray Scans And Deep Learning**  
*Mohammed Abd Elazeem, Eman Abd Elhaleem, Abeer Abd Elhay*
- PG9** **An Innovative Damped Cuckoo Search Algorithm with a Comparative Study Against Other Adaptive Variants**  
*Mohamed Reda, Amira Y. Haikal, Mostafa A. Elhosseini, Mahmoud Badawy*

- PG10** **A Deep Learning H<sub>2</sub>O Framework for Emergency Prediction in Biomedical Big Data**  
*Ahmed Saad Elsayad, Ali I. El Desouky, Mofreh Mohamed Salem, Mahmoud Badawy*
- PG11** **Automatic recognition of handwritten Arabic Characters: a Comprehensive Review**  
*Hossam Magdy Balaha, Hesham Arafat Ali, and Mahmoud Badawy*
- PG12** **A New Arabic Handwritten Character Recognition Deep Learning System (AHCR-DLS)**  
*Hossam Magdy Balaha, Hesham Arafat Ali, Mohamed Saraya, and Mahmoud Badawy*
- PG13** **Impact of Energy Storage Devices on the Distribution System Stability with Distributed Generation**  
*Mohamed Talal, Sahar Kaddah, Abdelfattah Eladl*
- PG14** **Speed Control of Three Phase Induction Motor using Neural Network**  
*Nada Mohammed Abd Elmoneim Mahmoud, Mohamed Moawad Abdu, Sabry Fouad Saraya*
- PG15** **VSC-HVDC System-based on Model Predictive Control Integrated with Offshore Wind Farms**  
*Yara A. Sultan, Sahar S. Kaddah, Abdelfattah A. Eladl*
- PG16** **Proposed Framework for Software Defined Networking (SDN) Data Traffic Classification**  
*Menas Ebrahim Eissa, Mohamed Maher Ata, M. A. Mohammed*
- PG17** **Robust Crypto-Watermarking Scheme Based on Hybrid Transformers**  
*A.M. El-Assy, M.A. Mohamed, M.E.A. Abou-El-Seoud, H.E.S Mostfa*

### **UNDER-GRADUATE POSTERS**

- PU1** **Human Biochemistry Analyzer Based on Micro Sensors Fusion and Artificial Intelligence**  
*Karim D. Khalil, Ahmed M. Abd El Khalik, Abdullah Maher, Lama Zeyad, Adham Hesham, Amr Elgaml, Fatma Alzhraa Mouhammad, HourElen Sayed, Karin Ramy, Muhammed Refaat, Passant Elbaroudy*

**Supervised by: Dr. Yasser M. Sabry,**

- PU2** **Design of Smart Farm Prototype Based on Artificial Intelligence**  
*Hanady Hussien, Hassan Sanad, Nourhan Alaa, Nourhan Muhammed, Omar Abaza & Yassin Galal*

**Supervised by: Prof. Khaled Ali Shehata,**

- PU3** **Fight the Spread of the Covid-19 Pandemic by using Smart Robot in Quarantine Hospitals**  
*Mohammed Sami, Mohammed Hamdi,*

**Supervised by: Dr. Basma Yousef**

- PU4 Automatic Vacuum Forming Machine**  
*Housam Abdel-Maksoud, Hasan Mohammed, Ibrahim Hamed, Abdelrahman Nasr, Abdelrahman Mamdouh, , Kareem Khaled, Mohammed Hassan, Mahmoud Ali, Mahmoud Osman, Mohammed Farid, Amro Yousry, Mohammed Khaled, Islam Ali,*
- Supervised by: Dr. Mahmoud Saafan**
- PU5 Digitalizing Health care systems using IoT solutions (CloCare)**  
*Ahmed Adel, Ahmed Megahed, Eman Ashraf, Sara Elsayed, Islam Mohab, Omar Ashraf, Mohammed Elshinawy, Norhan Fathy*
- Supervised by: Dr. Mahmoud Saafan**
- PU6 E-Commerce Supply Chain and Smart Shipping Box using IOT**  
*Abdalla Hamdy, Basma Ezat, Kareem Elkady, Abeer Mahmoud, Mariam Shaalan, Manar Ghaly, Ahmed Hesham*
- Supervised by: Prof. Sherif Kishk**
- PU7 Design and Implementation of Flash Over The Air (FOTA) Embedded System**  
*Mohammed Havez, Abdel Rahman Mosaad, Osama Hegazy*
- Supervised by: Prof. Sherif Kishk**
- PU8 Design and Implementation of GPU Accelerator**  
*Mohammed Elsayed, Abdel Rahman Khalil, Abdalla Fathy, Mahmoud Fawzy, Aya Fawzy, Neveen Elsayed*
- Supervised by: Prof. Nihal Fayez**
- PU9 Low-Power Sigma-Delta ADC Implemented in 65nm CMOS technology**  
*Ahmed Moustafa, Mohammed Hesham*
- Supervised by: Prof. Nihal Fayez**
- PU10 Fire Detection Using Deep Learning**  
*Hasan Osama, Ahmed Elsayed, Shaimaa Mohammed, Mahmoud Sherif, Reda Sobhy, Ahmed Abdalla*
- Supervised by: Dr. Noha El-Zehiry**
- PU11 Delta-based 3D-Printer**  
*Khaled Hazem, Amr Farag, Mahmoud Tarek, Yasmeed Elsaid, Kareem Mohammed, Ahmd Adel, Ahmed Ibrahim, Ahmed Noaman, Reem Mohammed, Abdel Rahman Ramzy*
- Supervised by: Dr. Ehab Hani**
- PU12 OxyGen, Portable Oxygen Generator**  
*Mamdouh Mohy, Nadeen Khaled, Mohammed Ashraf, Ahmed Khaled, Eyad Hosam, Diaa Eldeen Elsharkawy, Ahmed Magdy, Amir Saber, Mazen Ahmed, Mahmoud Zaki*
- Supervised by: Dr. Eman Al-Gendy, Eng. Mohamed Fouda,  
 Eng. Ahmed Ramadan**

- PU13**    **Integrated Medical System using AI & Robotics**  
*Ahmed Shafiq, Ahmed Osama, Ahmed Elsayed, Abdel Hameed Samir, Mohammed Moustafa, Mahmoud Magdy, Hadeel Diab*
- Supervised by: Dr. Mahmoud Saafan, Eng. Hosam Balaha,  
Eng. Ahmed Elseddawy**
- PU14**    **Self-Operating X-Ray Machine Using IoT with Auto Diagnosing System Using Deep Learning**  
*Ahmed Taher, Ahmed Shaban, Saher Ghanem, Mohammed Elsayed, Mahmoud Elgohary, Mahmoud Ameen, Hagar Mohammed, Hala Yassen, Youmna Hatem, Youmna Tarek*
- Supervised by: Dr. Housam Eldeen Moustafa, Dr. Ehab Hani,  
Eng. Ali Elhenedy, Eng. Ali Zarad**
- PU15**    **A Micro-Controller-Based System for Registration, Fusion, and Encryption of Liver Cancer Images**  
*Ahlan Elbadry, Dalia Mahmoud, Radwa Shehta, Salam Hegazy, Mohammed Khaled, Mohammed Shawky, Mohammed Ali, Mohammed Moustafa, Mahmoud Adel, Merna Hesham*
- Supervised by: Dr. Mervat El-Seddek, Eng. Mohamed El-Berawy,  
Eng. May Essam**
- PU16**    **Non-Invasive Blood Glucose Monitor**  
*Karim Sherif, Youssef Mosad, Rana Alaa, Israa Ibrahim, Habiba Samir, Shaimaa Essam, Nahla Hosam, Karim Abdou, Menna-Allah Mohammed, Salma Mohammed*
- Supervised by: Dr. Beshoy Sedhom, Eng. Aya Abdel-Monem,  
Eng. Doaa Arafa**
- PU17**    **Portable Smart Glove for Dumb, Deaf and Blind**  
*Khaled Ayman, Abdel-Rahman Moustafa, Marko Hani, Moustafa Ashraf, Amro Ayman, Heba Alaa, Mahmoud Abdel-Aziz, Mariam Adel, Adel-ghafar Reda, Tasneem Ahmed*
- Supervised by: Dr. Mona Abou-ElEzz, Eng. Amira Mohammed,  
Eng. Ali Elhenedy**
- PU18**    **Variate Breast Cancer Optimization and Classification Approach based on Deep Learning, Meta-heuristic Optimizers, Web Development, and Computer Vision**  
*Moustafa Sami, Youseef Said, Ahmed Elmetwally, Maha Mohammed, Ashrakat Hasan, Alaa Fathi, Hadeer Nasr, Esraa Hamdi, Waad Ahmed, Sozan Shafiq*
- Supervised by: Dr. Eman Elgendy, Eng. Hosam Balaha,  
Eng. Samah Adel**

**PU19 (I can breath) Design and Implementation of a low-cost Ventilator**  
*Eman Hamdi, Lama Tarek, Amira Ismaeel, Menna-Allah Mahmoud, Alaa Magdy, Sohaila Mohammed, Sama abdel-Nasser, Manar Ali, Abdalla Adel, Khaled Mohammed*

**Supervised by: Dr. Fatma Ekarian, Eng. Samah Adel,  
Eng. Mostafa Sedeek**

**PU20 Smart Mask for Healthcare and Intelligent Medical System**  
*Sherif Hussein, Mahmoud Hamdi, Mohammed Emad, Mohammed Maged, Ahmed Ibrahim, Ayman Wael, Omar Hesham, Mohammed Sarhan, Hosam Mosbah, Salah Mohammed*

**Supervised by: Dr. Ibrahim Yaser, Eng. Haidy Elmougy,  
Eng. Rana Mohammed**

**PU21 Foot Pressure Distribution Digitizer**  
*Aya Abdel Ghani, Ghada Rabih, Hosam Hasan, Hasnaa Mohammed, Bassem Mahmoud, Kerlos Naem, Osama Mohammed, Salah Mohammed, Amro Emad*

**Supervised by: Prof. Noha Fouda, Eng. Abdel Rahman Omar,  
Eng. Aya AbdelMonem**

**PU22 Diagnoser System for Heart Diseases using Sounds and Deep Learning**  
*Mohammed Elsayed, Mahmoud Gafar, Mohammed Hadad, Nour Mohammed, Basant Mohammed, Ashraaqat Mohammed, Hams Mohammed, Nada Bahaa, Aya Adel, Hoda Ibrahim*

**Supervised by: Dr. Ahmed Eltanbouly, Eng. Nehal Elsonny**

**14:30-16:00**

**Closing Ceremony**

**BEST PAPER AND BEST STUDENT PAPER AWARDS  
CLOSING CEREMONY**