

# PUA



Mr. Mohamed Ragab  
Pharos University  
Founder

**PHAROS UNIVERSITY ALEXANDRIA**  
**Faculty of Applied Health Science Technology**



Annual Newsletter issued by Medical Equipment Department –Issue (1) -January 2020

## *Medical Equipment Department* *(MED)*

**Be Connected**



**MED 2019**  
**HIGHLIGHTS**



Issue 1 , January 2020





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### Department Chair's message



I am excited to share department activities , on behalf of department staff , students it is my pleasure to welcome you in your department with my best wishes for a successful period of your academic life , we provide dynamic curricula with excellent, comprehensive and high quality programs with integrated practical (activity and problem base learning) and theoretical means targeting distinctive graduates who are equipped with the recent and advanced knowledge and skills that will serve them well for competition not only nationally, but also regionally & internationally. This is supported by the competent and distinguished staff members of the department who are doing their best for their students in all aspects, scientifically and socially. I advise the students to consult their professors in any scientific or personal problems, and I am sure they will do their best to help solving their problems. In addition, The University offers excellent social and entertainment activity opportunities for the students and values their participation in local and international events. Lastly, I hope that you will enjoy your stay in the University, wishing you all a fruitful academic life and a lot of fun among your colleagues and staff members. *Assoc. Prof. Mohamed I. Badawi*

### Success Stories ... Ahmad Khames

**Give man a fish, and he will eat for a day; teach man to fish and he will eat for a lifetime**



#### Ahmad Khames

**Graduated from the department on 2018** and established the Royal Medical Equipment Company , his graduation project title (Autoclave) he implement his graduation project and Sale over a 30 unit in Egypt , also his company product a unique cost effective other 2 equipment , Surgical auto drain suction Auto drain , and dental mobile cart .



**Royal Surgical Suction Unit**

- Suction pump 1h
- Suction distance up to 15 metre
- Work as high or low suction
- Central or with remote
- Can connect with any dental unit
- Amalgam separator
- Anti fuming
- Auto drain
- Wireless Foot Switch

**Royal Portable Dental Unit**

- Made of fibreglass
- Anti rust
- Movable
- Shipsearing
- 2 module
- Electric suction
- Internal full compressor
- Wireless Foot Switch



#### Bassem khaled

**Graduated from the department on 2016** , worked in a medical equipment company in Cairo, Techno Scientific Company, a private company in the factories, and then in the military service at the Bridge Hospital, the military dome as a general engineer responsible for the maintenance of the medical devices completely inside hospital . In 2018, work as biomedical engineer at Mabrat Al Asafra Hospital as a maintenance engineer and know Head medical maintenance department of Mabrat Al Asafra Hospital

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***Head of the Department (Students Follow-up and Advising )***



The **introductory symposium** of the Department of Academic General Medical Technology 2019/2020 on **Sep 2019** for new students of the Department by **Assoc. Prof . Mohamed I.Badawi** of Giving Profile of the College and the academic system followed therein, the introduction of the department and the system of student follow-up in the department ,also flow up and solve any students demands.



**Head of the Medical Equipment's Department monthly meeting** with the **4th academic year** students, To inform students of the department's study plan and the names of the department's complaints committee, as well as raising awareness of the importance of educational achievement also flow up and solve any students demands.



**Head of the Medical Equipment's Department monthly meeting** with the **2nd academic year** students, to inform students of the department's study plan and the names of the department's complaints committee, as well as raising awareness of the importance of educational achievement, also flow up and solve any students demands.



**Head of the Medical Equipment's Department monthly meeting** with the **3rd academic year** students, To inform students of the department's study plan and the names of the department's complaints committee, as well as raising awareness of the importance of educational achievement, also flow up and solve any students demands.

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**Department Graduation Projects 2019 (Samples)**



**Portable Dental Unit**

**Advantages:**

- Low Cost
- Less Weight
- Easy Sterilization
- Less Trouble Shooting



**Compression Boot**

**Advantages:**

- Smaller in Size
- LCD Display
- Control in Pressure and Time
- Easy to Use



**Bubble CPAP**

**Advantages:**

- Cost effective prototype.
- Upgrade by Implementing IOT.



**Smart Syringe Pump**

**Advantages:**

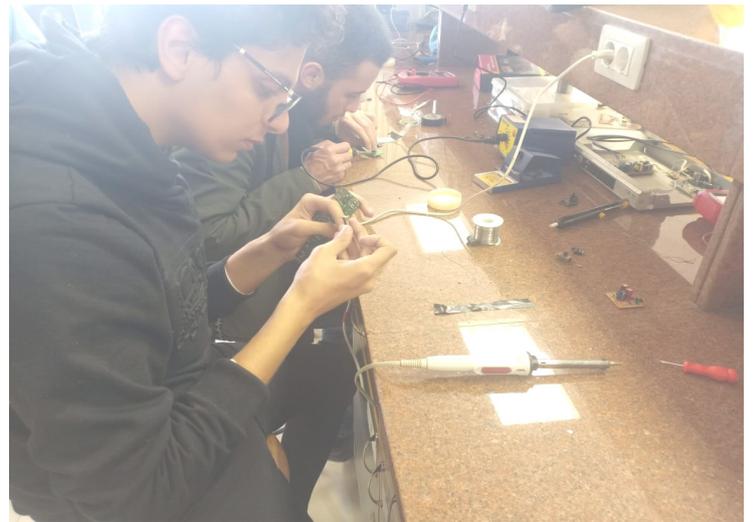
- Upgrade late devices using IOT .
- Cost effective devices.
- Artificial Intelligent using user-friendly Interface.
- Increasing Productivity .

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*Students Practical Training Photo Gallery , 2019*



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**Students**



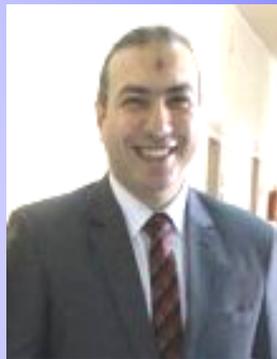
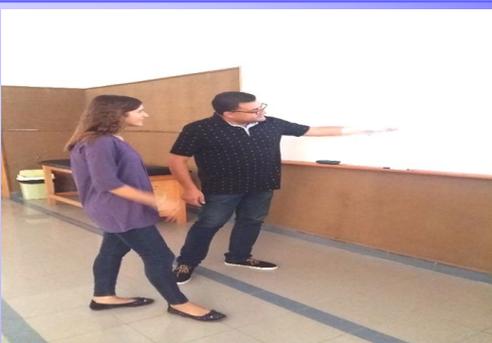
Practical training for department students on electronic circuit design (Activity and troubleshooting Base Learning) for Students technical development.

**Department Participation in Sport Day**



The department's participation in the college's sporting day on Nov 2019, giving students the opportunity to practice sports activities, and the participation of faculty members and the support staff in an atmosphere of fun, familiarity, and closeness

**European Union scholarship (Erasmus)**



Teaching two courses in the department for European Union scholarship (Erasmus), titled Instruments and Electrical Measurement (MEIE-301) by Assoc. Prof. Mohamed I. Badawi, Electronic Circuits & Devices (MEEC-301), Dr. Eslam Elsaba Students (CODREAN ANDREA and FLORINA SAS ALINA),

**University Administration Meeting**



Conference with the administration of Pharos University Fall semester 2019/2020 on September 24, 2019 for Fall 2019 instructions and recommendations, In the presence of the President of the Board of Trustees - President of the University - Vice President for Education and Student Affairs - Vice President for Community Service and Environmental Development - Vice President for Graduate Studies and Research

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### Workshops by the Department



**Workshop** on how to draw statistics for master's and Phd thesis using the Origin program on **Oct 2019**, by **Dr. AbouZeid Thabet** . Lecturer in MED . For helping the assisting staff member and informing them about the method of preparing and drawing the data for the scientific thesis ,

### Department Community Service



**Air pollution conference** ,under the auspices of the Governor of Alexandria , UNESCO and Pharos University on **August 2019** in Azur Hotel in the presence of **Dr. Mervat Mostafa and Dr. Doaa Talha** . Objective: To make Alexandria a city free from air pollutants

### Department Community Service



**A sustainable energy conference** sponsored by the Governor of Alexandria on **July 2019** in the Nuclear and Radiological Control Authority , **student Ahmad Hisham Tawfiq - 4th year** present a **lecture on sustainable energy** **Objective:** Participating students of the department and providing distinct proposals for the sustainable with the attendance of department students and department teaching staff.



**The science fair competition jury** sponsored by Pharos University and the Farco Pharmaceutical Company **Nov 2019** in the presence of Dr. Mervat Mustafa and department students to creativity of students in preparatory and secondary stages and arbitration of the competition students of the Department of Equipment.

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*Department Community Service*



**Alexandria Creative Youth Conference** under the auspices of the Governor of Alexandria, on **Dec 2019** in the Nuclear and Radiological Control Authority, in the presence of the department's students and **Dr. Mervat Mostafa** and Department Staff member to develop the scientific creativity of youth



**The conference on environment and avoiding plastic products** under the auspices of UNESCO and Alexandria Governorate, on **June 2019** in Alexandria Governorate building in the presence of **Dr. Mervat Mostafa** and the department teaching staff member. **Objective:** Make Alexandria a city free from plastic pollution



**Alexandria Television channel** hosted **Dr. Mervat Mustafa**, Lecturer in the department on **Nov 2019** and presented a meeting on protection from plastic pollution. **Objective:** To give community awareness about plastic pollution



**A workshop Entitled Towards healthy methods and habits** under the auspices of the Ministry of Health and Alexandria Governorate on **August 2019** in Lions Club Alexandria in the presence of the department teaching staff member. **Objective:** Community education to avoid bad health habits

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*Department Contributions in Faculty Scientific Committee*



**Honoring the head of Medical Equipment Department Assoc. Prof . Mohamed I.Badawi for department contribution in the activities of the Scientific Committee on Tuesday 31 Dec 2019 , In the presence of the faculty teaching staff , and college students**



**Honoring A.L Abdelrahman Miky from the Department of Medical equipment at the second scientific meeting of the college's scientific committee on March 2019 ,to deliver a lecture entitled Brain Computer Interface Touch The Imagination**



**Honoring A.L Sherin Shawky, from the Department of Medical equipment's at the 6th scientific meeting of the college's scientific committee on April 2019 ,to deliver a lecture entitled Visible Light Communication**



**Honoring A.L Sherin Shawky, Department of Medical Equipment's, member of the college's scientific committee, Dec 2019, for her assistance in the committee's activities, in the presence of college students and faculty staff members.**

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*Department Staff Member Scientific Activity*



**Participation of Medical Equipment Department in the 1st Alexandria Conference on Biophysics and its Applications Dec 2019 - Alexandria University** under the auspices of Prof. Essam El-Kordy - President of Alexandria University



**Honoring Assoc. Prof. Mohamed I. Badawi, Head of the Medical Equipment Department on Dec. 2019, for participating by 3 research papers and being the chair of the Medical & Industrial Nanotechnology Session, Alexandria's 1st Conference on Biophysics and its Applications** under the auspices of Esam El-Kordy - President of Alexandria University at the Medical Research Institute - Alexandria University



**Dr. Mervat Mostafa** from the Medical Equipment's Department sharing a research paper entitled **Microwave Physico-Chemical & Biological Studies of Propolis in Nanoparticles**, Alexandria's 1st Conference on Biophysics and its Applications at the , on **Dec .2019** ,Medical Research Institute - Alexandria University.



**Demo. Nada Hegazy** from the Medical Equipment's Department sharing a research paper entitled **Microwave Supper Lens Array for Thyroid cancer detecting**, Alexandria's 1st Conference on Biophysics and its Applications at the , on **Dec .2019** ,Medical Research Institute - Alexandria University.

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### *Department Staff Member Scientific Activity*



**A.L. Radwa Musharraf** from the Medical Equipment Department sharing a research paper entitled **Deep learning for Universal Mapping of cancer**, Alexandria's 1st Conference on Biophysics and its Applications at the , on **Dec .2019** ,Medical Research Institute - Alexandria University.



**Assoc. Prof. Mohamed I. Badawi** , Head of the Medical Equipment Department , **Member of the Jury for Graduation Projects** for the Department of Electrical Engineering - Alexandria University - Faculty of Air Defense - Ministry of Defense, on **July 2019**.



**BIONAT-6 conference** at Al-Azhar University on April 2019 in the presence of **Dr. Doaa Talha** and **Dr. Mervat Mostafa** presented a research paper entitled Preparation Methods of Nanoparticles of Propolis & its application in cancer Treatments .

### *Department Staff Member International Scientific Organization Participation*



**Dr. Ehab Barakat** , Lecturer in Medical Equipment Department **Head of the jury Committee and a speaker of African forum conference** of innovation technology 2020 , held in Luxor Jan 2020.

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**Department Staff Member Participation in International Scientific Organization**



**Dr. Ehab Barakat**, Lecturer in Medical Equipment Department

- 1- Obtaining **membership of the National Committee for Innovation Management** at the Egyptian Organization for Standardization and Quality as a consultant
- 2- Obtaining a certificate in Instructor in Innovation Management from the German University of Leipzig
- 3- **Supervising the Innovation** Department at the Prima Ceramic Factory
- 4- **Participating with the Ministry of Communications** in training Egyptian university students on the methodology for generating ideas for startups



**A.L Kariim Hafez**, member of the jury of the competitions of the **Bibliotheca Alexandrina of Science and Engineering Exhibition (BASEF)** on December 2019 at the Bibliotheca Alexandrina

**Objective:** Representing Egypt at the Intel International Exhibition for Science and Engineering (ISEF)

**Dissertations Supervision 2019**



**Dissertations Supervision 2019**  
(2 thesis)

**Dr. Mervat Mostafa**, Lecturer in Medical Equipment Department

- 1- **Effect of Nanoparticles of Pomegranate as effect of Obesity.**, M.Sc., **Medical Research Institute (MRI) - Alexandria University**, register on 2019.
- 2- **Preparation and Physical characterization of Echinops Spinus L. Nanoparticels for application in Dermatological Diseases** **Medical Research Institute (MRI) - Alexandria University**, register on 2019.



**Demo . Nada Hegazy**, member of the jury of the competitions of the **Bibliotheca Alexandrina of Science and Engineering Exhibition (BASEF)** on December 2019 at the Bibliotheca Alexandrina

**Objective:** Representing Egypt at the Intel International Exhibition for Science and Engineering (ISEF)

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### *Dissertations Supervision 2019*



**Dissertations Supervision 2019  
(5 thesis )**  
Assoc. Prof. Mohamed I. Badawi ,  
Head of the Medical Equipment Department

- 1- Role of nanomaterial's in enhancing hyperthermia effect for liver cancer treatment, M.Sc., Dammanhur University Faculty of science.
- 2- Hyperthermia Breast Cancer Treatment Using a Finite Elements Adaptive Meshing Modeling for a Realistic Breast Model, M.Sc., Alexandria University.
- 3- A Study on Using Finite Element Modeling in Enhancing Hyperthermia Treatment for liver Cancer Using Nanomaterials, M.Sc., Alexandria University.
- 4- A Microwave Super-Lens Array for Early Diagnosis and Hyperthermia Treatment of Thyroid Cancer by Finite Element Modeling, M.Sc., Alexandria University.
- 5- Using Microwave Antenna for Enhancing Breast Cancer Hyperthermia Treatment In a 3D Realistic Breast Model, , M.Sc., Faculty of Engineering –Alexandria University, Electrical Engineering Department.

### *Scientific Publication 2019*



**Scientific publishing 2019**  
Dr. Adozid Thabet ,  
Lecturer in Medical Equipment Department ,  
two papers in a ranked journal .

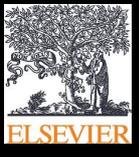
- 1- Q2 journal: New mathematical approach to calculate the geometrical efficiency using different radioactive sources with gamma-ray cylindrical shape detectors, *Nuclear Engineering and Technology*, Accepted for publication,
- 2- Q3 journal: Study of some  $\gamma$ -ray attenuation parameters for new shielding materials composed of nano ZnO blended with high density polyethylene, *Nuclear Technology and Radiation Protection*, Accepted for publication

### *Scientific Publication 2019*



**Scientific publishing 2019**  
Assoc. Prof. Mohamed I. Badawi ,  
Head of the Medical Equipment Department ,  
6 papers in a ranked journal and conferences.

1- Q1 journal : A Novel Morphological Analysis of DXA-DICOM Images by Artificial Neural Networks for Estimating Bone Mineral Density in Health and Disease, *Journal of Clinical Densitometry Elsevier*, Volume 22, Issue 3 (2019), Pages 382-390, ISSN:1094-6950, (ISI IF = 3.015, Q1 : Scopus (SJR), Q3 : Web of science)



2- Q2 journal: Volatile Organic Compounds of Biofluids for Detecting Lung Cancer by An Electronic Nose Based on Artificial Neural Network, *Journal of Applied Biomedicine, Elsevier Publisher* ,2019, Vol 17, Issue 1, SSN:1214-021X , (ISI IF = 1.783, Q2: Scopus (SJR), Q4: Web of science).



3- Nanoparticles in enhancing microwave imaging and microwave hyperthermia effect for liver cancer treatment, *2019 International Conference on Materials and Nanomaterials (M&Ns-19)* held in Paris, France, from 17th to 19th of July 2019, PP 45 :50.

4- Deep learning for universal Mapping of Odors from Different cancers , *1st Alexandria Conference on Biophysics and its Applications Dec 2019 - Alexandria University*

5- Finite Element Modeling in Enhancing Hyperthermia Treatment for liver Cancer Using Nanomaterials *1st Alexandria Conference on Biophysics and its Applications Dec 2019 - Alexandria University*

6- A Microwave Super-Lens Array for Early Diagnosis and Hyperthermia Treatment of Thyroid Cancer by Finite Element Modeling , *1st Alexandria Conference on Biophysics and its Applications Dec 2019 - Alexandria University*

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**2020 Calendar**

JANUARY						
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FEBRUARY						
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MARCH						
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APRIL						
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MAY						
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31						

JUNE						
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JULY						
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AUGUST						
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SEPTEMBER						
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OCTOBER						
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NOVEMBER						
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DECEMBER						
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