



Yarmouk University
Hijjawi Faculty for Engineering Technology

Hijjawi Faculty Newsletter

Issue 3 | July 1st 2022



Established in **1984**



9 Engineering Departments
(**10 B.S.E.T / 5 M.S.**)



More than **125 Academic Staff**



More than **25,000 Engineering Graduates**



Entrepreneurship and Innovation Center
Established in **2003**

Yarmouk University

Hijjawi Faculty for Engineering Technology



Our Vision

Towards a distinct faculty in teaching and research exists among 500 best faculties in the world in the various fields of engineering by the year of 2025.

Our Mission

Excellence in teaching, scientific research and community service through the provision of high-quality education in line with the latest developments in various fields of science and engineering, and closely linked with industry as well as various community needs.

Our Objectives

- Provide high-quality education in line with the latest developments in the various fields of science and engineering.
- Achieve partnership with industry to prepare qualified graduates to work efficiently in this sector.
- Establish research centers to get familiar with the community needs and work to find effective solutions to these needs.
- The presence as a strong competitor in the field of scientific research in the world, through the quantity and quality of scientific publications issued by the faculty.

Our Values

The faculty seeks to prepare the graduate to be a good person who is productive in his community and loyal to his country and nation. Therefore, the faculty focuses on developing the student's personality and inclinations, encouraging him to be creative, and developing his moral aspect, which contribute to the preparation of the elites and the leaders of the future.

Founding Partner's Message



During the last decade, many great developments have occurred in our life. Our lives were impacted with a variety of events that disrupted the majority of humanity. After surviving amazing technological breakthroughs, a great Pandemic, and now an invasion in Europe, the human race had to quickly become very adaptive and flexible in meeting the challenges that we did not have less than a decade ago.

Most certainly the pillar of focus for us at the Hijjawi Foundation remains and will always be the health of the Educational Program at Hijjawi Faculty for Engineering Technology, remains at the top of the agenda at all times, and the academic team at the Yarmouk University under the leadership of the President Prof. Islam Massad, and the Dean of the Hijjawi College Prof. Mwaffaq Otoom, have been doing an amazing job in lifting the Hijjawi Faculty for Engineering Technology into a new frontier of excellence. The VET development, the Entrepreneurship and Innovation Center, the exceptional training programs that were availed to our students, the development of the Smart Rooms, and Laboratories, and the ABET accreditation are small samples of the great efforts working relentlessly behind the scene. Managing a headcount of over 4500, the Hijjawi Faculty for Engineering Technology can equal full-fledged universities in size and responsibility.

Parallel to this enormous effort, we at the Hijjawi Foundation seek to compliment these efforts by focusing on the futuristic aspect and the motivational drive of the students

of the Hijjawi College students. No success can come to a young man or woman if they do not have the drive and motivation to excel and compete in this ever-changing world.

The current job market for the new generation and millennials is very challenging. Yet if it is well tapped and well understood, it can also offer great opportunities to anyone who is willing to become part of this new world.

As you read this message today a new Meta world is being built in the ether. It is certainly detrimental for all stakeholder (Staff and Students) of the Hijjawi Faculty for Engineering Technology, to understand the great depth to which this Meta world is going to develop. Great cities, real estate, products, and services are being designed and developed in this magical virtual world. Virtual products are already being built and sold in this intriguing world. I can comfortably compare the importance of entering this virtual meta world to the landing on the moon. In fact I think the Meta world will impact the world far more than the impact of the moon landing.

The Hijjawi Foundation is very keen on continuing its Incubator program to introduce as many interested students to new technologies and skills. We plan to start offering a Gaming Development program in the Incubator as we see that the Gaming Industry will dominate the future of social media. The gaming world will play a major role in the Meta World.

Some of our graduates have already shown amazing understanding and resilience to this online virtual world. They have successfully developed amazing online businesses after a series of hard core Drop Shipping courses offered by the Hijjawi College. These successes are a true witness to the great potential and talent that our students and staff have, and we should really continue to motivate and inspire them to be better and better.

Eng. Ayman Hijjawi

Chairman, Board of Directors

The Scientific Foundation of Hisham Adeeb Hijjawi

Dean's Message



It is indeed an honor to welcome you again for the third time this academic year to the Hijawi Faculty for Engineering Technology Newsletter, in which we attempt to portray the Faculty through the eyes of its students, faculty members, and management personnel. In my welcome message for the first issue of the newsletter, I presented my action plan for this academic year. In the second issue, I presented what we have achieved in a short period of time. In this welcome message, I continue presenting our achievements for the past three months. As this is the last issue for this academic year 2021--2022, I also try to give some ideas for our plan for the next academic year 2022--2023.

We continue our efforts to upgrade our curriculum to include more hands-on experiences relevant to the rapidly changing market needs. At the same time, we are investigating partnerships with industrial players, inside and outside Jordan, to develop a customized curriculum that fits our needs. More about these partnerships will be presented in the next issues.

Our Entrepreneurship and Innovation Center has now its own identity, after being approved by the Higher Council of Higher Education to become a center at the university level. Its regulations have been already approved, and a structure that reflects

the status and inspirations has been proposed, waiting for approval from the relevant entities in the university. The modernized center will continue to offer career counseling, and to house research and development incubators for faculty members as well as industry research incubators for major international and local companies.

The Faculty has continued to be involved in several international projects. A new project on Entrepreneurship and Innovation, named SAXEED. ECO, has been accepted by the DAAD, with partners from Algeria, Jordan, and Germany. We are continuing this effort to build the required capacities to improve the quality of our education.

The Higher Council of Higher Education has approved a proposal from the Hijawi Faculty for Engineering Technology to establish a masters program in Computer Engineering to replace the existing program in Embedded Systems. The Council also approved another proposal on establishing a bachelor program in Civil Engineering, to replace the two existing tracks in construction management and building technology. We will continue studying the status of our existing programs and upgrade the content, accordingly, as well as proposing new programs that simulate the market needs.

Finally, the Faculty has successfully submitted the Self Study Reports for ABET accreditation for three programs, that are: Biomedical Systems Engineering, Biomedical Informatics Engineering, and Communication Engineering. We are currently preparing for the ABET visit, which will take place on this coming November. We plan for the next academic year to apply for the remaining programs.

I hope you a pleasant experience as you read this third issue of the Faculty newsletter. I'm sure that you will notice the energy of our students everywhere, something that makes us more confident about future.

Prof. Mwaffaq Otom, PhD

Special Titles:

1. Invited Article	6
2. Alumni	7
3. Student Corner	11
4. Faculty Events and Activities	24
5. Faculty Members	33

Invited Article

Yarmouk University Youth Summer Program 2022

A step into Jordan's second-century transition

**By Prof. Islam M. Massad, MD
President**



The latest reform initiative by His Majesty King Abdullah II and the discussion papers presented by His Majesty have called for activating the role of youth as a real and influential partner in public life and an investment in the future. Yarmouk University has early picked up the Royal Message and reacted in different ways at the curriculum, extra-curriculum, as well as the regulations and policies levels to implement the Royal Visions. In this line, Yarmouk University has recently launched its Youth Summer Program 2022. The program that will be filled with a large number of non-traditional activities that will be presented in modern methods concerned with

leadership, creativity, and skills development. Such activities will aim at refining the personality of the university's student through interactive workshops, dialogue sessions, debates, art exhibitions and seminars.

We at Yarmouk University emphasize the importance of unleashing the creative energies of our students, translating their creative ideas on the ground, and motivating the pioneers among them to be success stories and role models. Our goal is to maximizing students' achievements, enhancing their skills, instilling a spirit of initiative and positivity in them and raising their awareness of various national and global issues and challenges. With the aim of empowering them playing their pivotal role in the process of reform and sustainable development led by His Majesty King Abdullah II, this program comes to contribute to these efforts.

We at Yarmouk University believe in the importance of youth role in creating our future, as they are the cornerstone of the development process and of any positive change.

We hope that this program will achieve its objectives, and I would be pleased to talk about that in the next issue of this newsletter.

Alumni

■ H.E. Eng. Al-Ansari Almashakbeh



H.E. Eng. Al-Ansari Mohammad Almashakbeh (Class of 1996) is an experienced regulator, with more than 26 years of executive and senior management experience in regulatory bodies in the Arab region.

He was member of the Telecommunications Regulatory Commission of Jordan (TRC) board of Commissioners during September 2011 to September 2019, and TRC Vice-chairman from September 2015-to September 2019. Currently, he is the Senior Technical Adviser to the TRC since October 2019.

His experience extends to over 26 years of practical specialized experience in the various fields of ICT and its aspects of regulations (legal, economic / commercial, and technical) and technology issues. His specialty focuses on the fields concerning the regulation of access and interconnection, standards issues, numbering, licensing, and technical and technological studies, consumer protection, in addition to his experience in regulating the postal sector.

He joined the TRC in 1996 and served during his service in several leading managerial positions, the latest being in 2005 as Director of the Regulatory Department, whereas he has provided advice to the CEO of the TRC on all regulatory and licensing

matters and recommend the necessary course of actions.

Throughout his career, he took over a variety of tasks, notably:

- Participated in the various activities, accompanied the foundation of the Telecommunications Regulatory Commission in Jordan, concerning the licensing of new services and adopting the necessary regulatory frameworks for the work of the Commission at that stage;
- Participated in the development of the regulatory framework to promote the entry of the private sector in the telecommunications sector;
- Management of several important projects within TRC such as the preparation of the new regulatory framework for interconnection and its application, and the revision and implementation of the National Numbering Plan;
- Chaired many specialized working committees relating to TRC's work;
- Participated in the projects of liberalizing the telecom sector and the implementation of the new integrated licensing regime;

As a TRC representative, he participated in various committees assigned with drafting several draft laws, bylaws, and regulations related to the ICT and Postal sectors, as well represented Jordan in several ITU meetings; specifically, he had participated effectively in the several ITU meetings.

He also was member of the Bureau of the Telecommunication Development Advisory Group (TDAG) of the ITU-D sector between 2014--2022.

Eng. Al-Mashakbeh holds a Master's Degree in Digital Communication Systems & Technology from Chalmers University of Technology, Sweden, 2002 and Bachelor of Applied Engineering with major in Electronics Engineering from Hijawi Faculty for Engineering Technology/Yarmuk University,1996. He also obtained a specialized Certificate in Telecommunications Regulations in 1998 from City University, UK.

■ Dr. Yazan M. Alsmadi



Dr. Yazan Alsmadi (Class of 2010) received the B.S. degree (Summa Cum Laude, first in class) in Electrical Power Engineering from Hijawi Faculty for Engineering Technology at Yarmouk University, Jordan, in 2010, and the M.S. and Ph.D. degrees in Electrical and Computer Engineering from The Ohio State University (OSU), Columbus, OH, USA, in 2012 and 2015, respectively. He is currently an Associate Professor in the Electrical Engineering Department at Jordan University of Science and Technology, Irbid, Jordan. He has also served as a Senior Lead Engineer at American Electric Power (AEP), the largest transmission utility in the United States during the period 2016--2019.

Dr. Alsmadi has a wide international research and consulting experience in the power and energy area. He has served as a consultant to several international companies. He has also participated in the establishment of the Center for High Performance Power Electronics (CHPPE) (\$10 M) at The Ohio State University. This involved managing the acquisition of over three million dollars' worth of capital assets; performing engineering, design, research and

development activities; and providing technical guidance and direction to assigned staff as required. Dr. Alsmadi also has a wide experience in engineering training and education; improving the effectiveness of higher education; and STEM-based training and teaching initiatives.

Dr. Alsmadi is the recipient of several prestigious awards. This includes the Role Mode Recognition from American Electric Power (2018), W. Portnoy Award, IEEE IAS Power Electronics Devices and Components Committee (IEEE-PEDCC) in 2017, Outstanding Performance Award (2016) from American Electric Power, Presidential Fellowship (2014), the most competitive and prestigious scholarly recognition provided by The Ohio State University Graduate School; the Best Presentation Award at the IEEE Energy Conversion Congress & Expo (ECCE 2014); the Distinguish Service Award at the 2012 & 2013 IEEE Columbus Spring Awards Banquets; and the Yarmouk University Presidential Award for academic distinction (2008).

Dr. Alsmadi served as an Exhibition Chair for the First International IEEE Workshop on Wide Bandgap Power Applications (WIPDA) in 2013; and as a Program Chair of the First Annual Review Meeting of the Center for High Performance Power Electronics (CHPPE) in 2012. He also served as a president for the IEEE Graduate Student Body at The Ohio State University (IEEE GSB), which is the first IEEE graduate student body worldwide.

Dr. Alsmadi's current research interests include modeling, advanced control and grid integration of renewable energy conversion systems; advanced control theory of distributed power and variable speed systems; and the development of power electronics systems for renewable energy applications.

■ Dr. Haitham A.M. Alasha'ary



Dr. Haitham Ali Mohammad Alasha'ary (Class of 2000) enrolled as an undergraduate student in Hijjawi Faculty for Engineering Technology (formerly Hijjawi Faculty for Applied Engineering) at Yarmouk University in 1994, majoring in Electronics Engineering.

Dr. Alasha'ary graduated and obtained his Bachelor degree in Electronics Engineering (minoring in Biomedical Engineering) in February 2000. After graduation, he worked for two academic years as a computer and mathematics teacher in the Ministry of Education (at different schools in the cities of Wadi Musa and Ma'an).

In 2002, Dr. Alasha'ary attained an academic scholarship from Al-Hussein Bin Talal University (a governmental university in the Governorate of Ma'an) to pursue his postgraduate education (Master's and Ph.D. degrees). He obtained his Master degree in Biomedical Engineering from the University of New South Wales (Australia) in 2003, and his Ph.D. degree

in Electrical and Computer Engineering from the University of Newcastle (Australia) in 2010.

Dr. Alasha'ary started his professional academic career at Al-Hussein Bin Talal University in January 2011 as an Assistant Professor in the Department of Computer Engineering/Faculty of Engineering. He was promoted academically to Associate Professor in January 2016 and is currently preparing to apply for the academic promotion to Full Professor rank in the near future.

Administratively, Dr. Alasha'ary was assigned the following managerial positions at Al-Hussein Bin Talal University (Faculty of Engineering):-

- Acting Head of Computer Engineering Department during the periods (February 2013 till September 2016) and (October 2020 to date).
- Acting Vice-Dean for Development and Quality Affairs during the period (December 2018 till December 2020).
- Acting Vice-Dean during the period (December 2020 to date).

Research interests for Dr. Alashaa'ary lie in the following general knowledge fields, in which he published many articles in scientific, refereed, indexed and classified journals:-

- Automatic Control Systems.
- Digital Signal & Image Processing.
- Artificial Intelligence (specifically: Fuzzy Logic, Artificial Neural Networks, and hybrid Neuro-Fuzzy Systems).

■ Eng. Emad Mohammad Eid



Eng. Emad Mohammad Eid (Class of 1993)

studied Computer and Control Engineering at Hijjawi Faculty for Engineering Technology from 1989 to 1993. Since then, he has the following experiences:

Jordan TV: 2017- present

- Expert and consultant for studios and television systems
- Expert engineer for resource management, operation and development
- Engineering project Manager and Contracts Manager
- TV and Radio HD Digital Transformation/Archive Manager

OMAN TV: 2006 - 2017

- Expert and consultant for studios and television systems

- Engineering project Manager
- Automation system, video servers (Tapeless system) maintain, configure, monitor, updates system performance and live news on air.
- Administrator and monitoring Networks domain (Qseries -Autocue) and workgroup HARRIES using in News system for video, script and control system
- Installed Nonlinear editing suite, updates, maintain it and training editors (Newsflash and final cut).
- Performed upgrades, installation of software and drivers for video servers, database servers, wires and control servers.

Jordan TV: 1995 - 2006

- Video section director
- Chief engineer for many locations (small TV station establish for big events in Jordan, Iraq war: Iraq border (Jordan press center), election press center Davos submit & Arabs submit press center in Jordan.
- Project Manager for preserved the archives and archive 2 inch, 1 inch, U-matic ,cinema Tapes to Digital Tapes
- Head of Maintenance Department
- Video, Control & Studio engineer

Students' Corner

Hijjawi Faculty Students Organize "The Second Jordan IEEE-ComSoc Student Chapters Conference (ESBC 2022)"

Under the patronage of the Minister of Digital Economy and Entrepreneurship, the Hijjawi Faculty for Engineering Technology held the second IEEE-ComSoc engineering student branch conference (ESBC 2022) in the Prince Hussein Abdullah II building at Yarmouk University, which was organized by the Communications Society of the Institute of Electrical and Electronics Engineers at Yarmouk University (IEEE-YU ComSoc). A large group of engineering students from several Jordanian universities and their advisors participated, in addition to a large number of students from Hijjawi Faculty for Engineering Technology.



The conference dealt with a number of specialized sessions in different topics including: the fifth generation (5G) of communications and the Internet of Things (IoT), "Your Way to Success", Biomedical Sensors and Transducers", the characteristics of professionalism, a special session dealt with the topic "Communication: Between the Past and the Present, and another session addressed the issue of revolutionary innovation".

On the sidelines of the conference, a series of workshops were held, such as a digital manufacturing workshop, and another workshop on market excellence, a workshop on "Robots", and another workshop on the Internet of Things and Artificial Intelligence, and a workshop on conscious robots.

At the end of the conference, the organizers and volunteers were honored.



IEEE-EMBS Organizes a Workshop on “ Tips and Tricks to Scientific Research”

A workshop on “tips and tricks to scientific research” was presented by Eng. Malak Fora. The workshop was attended by IEEE-EMBS students and their counselor Dr. Ateka Khader at Zain Innovation Campus – ZINC. Eng. Fora presented the basics of scientific research, from sources, methods of writing, research ethics and citation. The workshop began with the definition of scientific research, where the scientific method and the research gap were introduced. The resources needed to tackle any research project were demonstrated. Moreover, the main blocks of the research paper, plagiarism and research ethics were explained. References, their types, and the citation techniques were also clarified. During the workshop, various important tools, such as websites and software that aid in the scientific research journey, were examined to pave the way for an easier research experience.



In Collaboration with Golden Electronics Company, The Electronics Engineering Department Organizes a Workshop on Microelectronics Development in Jordan

The Electronics Engineering Department organized a workshop on Microelectronics Development in Jordan. It was presented by engineers from Golden Electronics company, in which they talked about the company and its development in the field of large-scale integrated circuits. They also presented interactively with students examples of the company's projects and various programs in the design of integrated circuits and building layouts. The workshop was attended by a number of students from the departments of electronics, communications and computer engineering, and supervised by Dr. Yusra Obeidat.



The YU IEEE Women in Engineering Affinity Group Organizes a Scientific Trip to Shamal Start (Luminus Company)

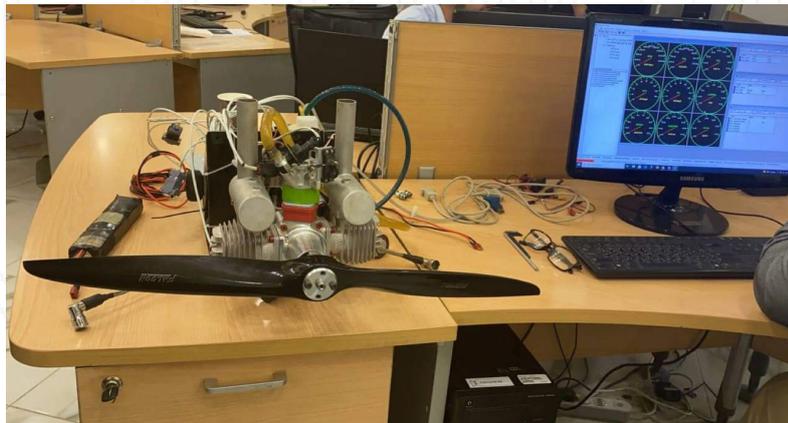
The YU IEEE Women in Engineering (WIE) Affinity group organized a scientific trip to Shamal Start (Luminus Company), where some of the engineers in the company provided an introductory tour in the Fab Lab and introduced the company's various laboratories, the manufacturing laboratory, the incubators, and the most prominent projects it had accomplished during last years.



YU IEEE Computer Society (IEEE-CS) Visits MARS Robotics Company

Student members of the IEEE Computer Society student chapter at Hijawi Faculty for Engineering Technology visited MARS Robotics Company for two-day workshop. Students were able to learn about the business areas of the company and the various projects that have been completed and are being worked on. The engineers in the company provided an introductory tour to show the students how to make, manufacture, design, and then program drones from the processor panel, to reach the stage of experimentation after practically simulating them, within a certain scope to test their effectiveness, and finally launching them in the field.

The trip was supervised by Dr. Manal Albzoor and Engineer Jihad Rawabdeh from the computer engineering department.



A Scientific Visit for The Hijjawi Students to the Jordanian Nuclear Reactor for Research and Training at JUST

The IEEE Power and Energy Society student Chapter at Hijjawi Faculty for Engineering Technology organized a scientific visit to the Jordanian nuclear reactor for research and training at the Jordan University of Science and Technology, as this community is considered one of the main components operating under the umbrella of the International Institute of Electrical and Electronics Engineers.

A number of students from the Department of Power and Electrical Machines Engineering at the Hijjawi Faculty for Engineering technology participated in the scientific visit, with the aim of informing them about how to operate, monitor and control the reactor and the nuclear applications learned from it, under the supervision of engineers and specialists with highly experienced competencies.

The Vice Dean of the Hijjawi Faculty, Dr. Ahmed Al-Quraan, the former academic supervisor of the Society of Power and Energy, Dr. Hussein Al-Masry, and the Head of the Department of Power and Electrical Machines Engineering, Dr. Ashraf Radaideh, also participated in the scientific visit.

The visit came with the aim of enhancing the understanding of the students of the Electrical Power Engineering Department to learn about several scientific aspects related to nuclear energy, such as the main and detailed components of a nuclear reactor, and how to produce electrical energy from the enormous thermal energy generated by nuclear fission.



Yarmouk University IEEE ComSoc Visits the Crown Prince Foundation

Under the supervision of the advisor of IEEE Communications Engineering Society – YU branch (IEEE ComSoc-YU), Dr. Sharief Abdel Razeq, a group of Yarmouk University students visited the Crown Prince Foundation (CPF) in the King Hussein Business Park. During the visit the students had the opportunity to learn about CPF's vision, programs, and initiatives, such as Nahno, 1 Million Jordanian Coders, and QUSAI. Moreover, there was a tour in the Fabrication Laboratory (FabLab).

The Crown Prince Foundation (CPF) was established in 2015 with a vision of capable youth for an aspiring Jordan. CPF has an underlying strategy to advocate for mainstreaming youth in all national development efforts with focus on different foundational areas, such as Employability, Entrepreneurship, Citizenship, and Leadership.



Hijjawi Faculty Students Participate in the Arab Innovation Forum on Sustainable Development Goals

A group of students at Hijjawi Faculty of Engineering Technology, Yarmouk University participated in Arab Innovation Forum on Sustainable Development Goals (AIFSDG), which was held in Jordan Arab Open University, Amman, under the supervision of Dr. Hasan Aldiabat and Dr. Sharief Abdel-Razeq.

The AIFSDG aims to build an Arab network that will serve as a Think Tank in order to develop policies, strategies, and executive plans in the fields of water, energy and environment to achieve comprehensive economic development and effective management of these vital resources.



Yarmouk University Receives the “Excellent Student Chapter Award” from the American Concrete Institute

The American Concrete Institute awarded the ACI student chapter at Yarmouk University the “Excellent” Student Chapter Award for the year 2021. This award is granted annually by the Institute to the most active and distinguished student chapters, in honor of the advanced and professional efforts of students based on criteria related to the number and quality of activities and competitions organized by student teams.

The team has organized several local competitions intending to enhance students’ practical knowledge in the field of concrete, in addition to actively participating in international competitions, the last of which was winning second place globally and first in the Arab world in the concrete solutions competition organized in Florida, by the American Concrete Institute.

The team has also organized local and regional seminars in cooperation with student chapters from Tanta University (Egypt) and the Islamic University of Beirut (Lebanon). These seminars included advanced and innovative topics in the field of civil engineering, in addition to networking students with the labor market and graduate studies, and contributing to broadening students’ horizons towards advanced knowledge in the concrete industry. As a part of social networking with the local community, the team has also visited the Model School of Yarmouk University and gave an awareness lecture to the school’s students related to civil engineering and various aspects of work fields.

It is noteworthy that the “Excellent” Student Chapter Award is the highest student award presented to student chapters in universities, noting that the Yarmouk University team had won the Outstanding Chapter award in 2019.



Four Student Projects from Hijjawi Faculty Selected to Participate in the SOFEX 2022 Military Exhibition

The Jordan Design and Development Bureau (JODDB) has selected four graduation projects for students of the Hijjawi Faculty for Engineering Technology, to participate in the SOFEX 2022 military exhibition. These four projects were selected in stages, starting with the nomination of 13 projects from different departments, and selecting seven of them for the official interview, which was attended by Engineer Radi Al-Wardat, The Head of the Research and Scientific Cooperation Department.

The selected projects are:

1. Contactless Optical Liquid Identifier (COLID): was done by Eyas Abu-Mousa and Razan Mushalji, and supervised by Dr.Yusra Obeidat from the Electronics Engineering Department.
2. Inertial Motion Capture For Animation: was done by Mahmoud Fayyad and Mohammed Jawabreh, and supervised by Inst. Ma'moun Tantawi
3. Insomnia analysis based on internet of things by using electrocardiography and electromyography: was done by Salsabeel Mutaz Husienat, Salsabeel Mutaz Husienat, and Nour Bassam Nusair, and supervised by Dr.Sharief Abdel-Razeq.
4. Wireless Charging of Electric Vehicles Using Solar Energy: was done by Samar Malkawi, Elien Ammari, Fatima Al-yousef, and Amal Al-Rabba'a, and supervised by Dr.Sharief Abdel-Razeq.

SOFEX Military Exhibition 2022 will be held in the city of Aqaba for four days at the end of October and beginning of November, where more than 400 military delegations from 34 countries will participate in this exhibition, which takes the form of a global conference. It includes 300 exhibitions and more than 13 international pavilions.



The Hijjawi Faculty for Engineering Technology Participates in the International Competition for Entrepreneurial Projects in Turkey

Participating in a competition that included twenty projects introduced by over 16 countries, including Canada, Italy, Romania, Georgia, Bulgaria, Azerbaijan, Jordan, Egypt and Turkey, the pioneering project of Hijjawi Faculty of Engineering Technology at Yarmouk University entitled "Development of Sustainable Safety Gloves to Reduce Work Injuries Using Smart Technology " was accepted to participate in the International Academic Cultural Forum (ICAMES'22) for Engineering students, which was held in Istanbul between 10/2022/05/16-.

The project provides a solution to the problem of regular industrial hand injuries, which are considered as one of the most difficult and costly injuries to treat. In addition to the fact that the project is environmentally friendly and sustainable, which made it a candidate for acceptance in this global competition

The students Deema Al-Husbani, Rasha Aloqaily, Deema Al-Saeed represented the project team from Industrial Engineering Department in this international competition, noting that the project team included, besides, the student Joman Almassri, and that the team was supervised by Dr. Mahmoud Mistarihi.



Our "Summer Work and Travel USA Program" Students 2022

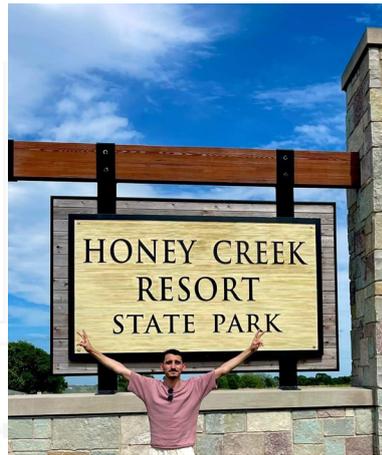
Nine Hijjawi Faculty students have been admitted to the Work and Travel USA program in Summer 2022. This program is such an extraordinary experience for anyone and everyone looking to live in a new culture, meet wonderful new people, experience the diversity of our human race, and explore the universal principles of what it means to truly live life, while learning something about them as a result.

Throughout this program students can work in a variety of jobs in the U.S. for a period not to exceed 4 months during their summer vacation. This program allows a student to immerse himself in American culture, earn money, enhance his/her resume, develop life-long friendships, and help him/her to gain self confidence and personal skills, discover fascinating places, and act as a student representative of his/her home country.

Participants names/information are in the next page ...



Abdallah Bani-Hani
Electrical Power and Machines Eng.
Delware State



Ahmad Batatineh
Electrical Power and Machines Eng.
Iowa State



Ammar Al-Shorman
Electrical Power and Machines Eng.
Michigan State



Mumen Abu-Sehyon
Industrial Engineering
Ohio State



Ra'fat Farahat
Architectural Engineering
New York State



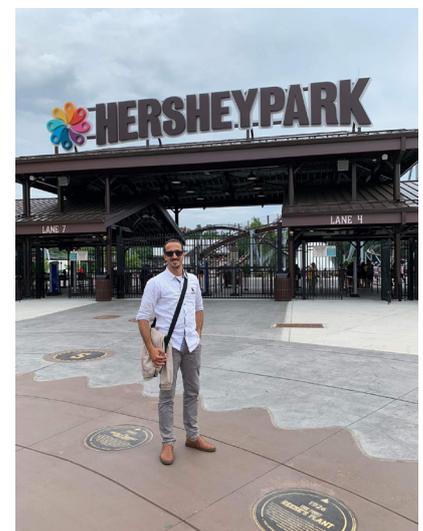
Rasheed Abwini
Electrical Power and Machines Eng.
Colorado State



Rashid Fraihat
Electrical Power and Machines Eng.
New Jersey State



Yaman Al-Zubidi
Electrical Power and Machines Eng.
New York State



Omar M Abushgair
Electrical Power and Machines Eng.
Pennsylvania State

Recently Defended Masters Theses

Computer Engineering Department

Hana'a Nabeel ELshqeirat

Quantum Image Processing: A Comparative Study for Applying Median Filter on Different Quantum Image Representation models

Advisor: Dr. Ola Taani

Fatima Ali ALdaweesh

A Decision Support System for Detecting the infection Stage in COVID_19 Patients

Advisor: Dr. Mohammad Alzubaidi

Ali Saif Aldeen Audaid ALKhafaji

Acceleration of Optical Mapping Algorithm for Early Detection of Cardiac Arrest using Multi-Core CPU

Advisor: Dr. Amin Jarrah

Ola Bakheet Attallah ALLasasmeh

An Ensemble Deep Learning for Glaucoma Classification

Advisor: Dr. Ola Taani

Jawad Wasfi Hussein Lababneh

Optimized implementation of ABCDE algorithm for In-silico high throughput molecular docking on FPGA using HLS tool

Advisor: Dr. Amin Jarrah

Electrical Power Engineering Department

Sohaib Mohammad Mahmoud Jawarneh

Short Term Load Forecasting by Using Artificial Neural Network Technique for Jordanian Power Grid as Case Study

Advisor: Dr. Ibrahim Al-Taweel & Dr. Mohammad Al-Momani

Mahmoud Ahmad Def-Allah Al-Tahat

Optimization of Fractional Order PI Controller to Regulate Voltage of Grid Connected Photovoltaic System

Advisor: Dr. Mohammad Al-Momani & Dr. Ibrahim Al-Taweel

Walaa Waleed Khalaf Thyabat

Impact of Weibull Distribution Parameter Estimation Methods On Wind Power and Dynamic Economic Dispatch

Advisor: Prof. Muwaffaq Al-Omoush

Communication Engineering Department

Maram Hayajneh

A joint Path-selection and Channel-assignment Algorithm for Multi-Hop In-band Full-duplex Cognitive Radio Networks

Advisor: Dr. Rami Halloush & Prof. Ahmed Al Shorman

Samah Albasheer

Efficient Three Dimensions Placement of a Drone Using Particle Swarm Optimization in Millimeter Wave Systems

Advisor: Dr. Hazim Shakhatreh

Eslam Alayesh

A Throughput-oriented Opportunistic Routing for Heterogeneous HD and FD CR-IoT Networks

Advisor: Dr. Rami Halloush & Prof. Haythem Bani Salameh

Waed Dagamseh

Efficient Three Dimensions Deployment of Multiple Drones in Millimeter Wave Systems

Advisor: Dr. Hazim Shakhatreh

Ferdous Abu-Keshek

Efficient Three-dimensional Deployments of Multiple Unmanned Aerial Vehicles Supporting Ground Base Station Toward Maximizing Served Users with Heterogeneous Quality-of-service Requirements

Advisor: Dr. Khaled Hayajneh

Ahmad Almusa

Improving Saturated Transmitting RF Power for Active Radar using Multistage Passive Technology

Advisor: Dr. Asem Alzoubi & Dr. Mohammad R. Rawashdeh

Nebal Alzoubi

Sparse Channel Estimation for Downlink Channel in Massive MIMO Systems

Advisor: Prof. Ahmed Musa & Dr. Zaid Al-Bataineh

Ra'ed Mayyas

Power Allocation and Optimization of Multi-hop Cooperative relays in uplink NOMA

Advisor: Prof. Ahmad Alshamali

Faculty Events & Activities

Cooperation in VET is Initiated between Hijjawi Faculty for Engineering Technology and the German Agency for International Cooperation GIZ

Cooperation in Vocational Education and Training is initiated between Yarmouk and the German Agency for International Cooperation GIZ. In order to consolidate Yarmouk University's cooperation with the German Agency for International Cooperation (GIZ) through the implementation of more teaching and training projects that positively reflect on the progress of the educational process, both theoretical and practical, in various disciplines, especially in the engineering disciplines offered by the Hijjawi Faculty for Engineering Technology.



Yarmouk, represented by Hijjawi Faculty, is also keen to update and develop its study plans in line with the needs of the internal and external labor market, so that these plans focus on the more practical and applied aspect in various engineering disciplines in order to graduate a group of students with the skills and competencies necessary to prove their worth and capabilities in the labor market.

"Yarmouk University" and "Orange Jordan" Renew the Agreement to Sponsor the Orange Yarmouk Innovation Lab (OYIL)

"Yarmouk" and "Orange" renewed the agreement to sponsor the Orange Yarmouk Creative Lab. This "lab" provides a space for creativity for university students in general and for students of Hijjawi Faculty for Engineering Technology in particular, and to allow more students to benefit from the technological capabilities it provides in terms of developing their cognitive skills.

This agreement comes within the framework of Orange's support and interest in order to improve education outcomes and support and empower young people digitally, especially as it pays great attention to digital education as one of the main axes of its strategy with regard to its social responsibility.



Yarmouk University Signs a Training Agreement with the Jordan Radio and TV Corporation

Yarmouk University signed a training agreement with the Jordan Radio and Television Corporation to train and hire students of the Communications, Electronics and Computer Engineering Departments in the Corporation's laboratories, factories and centers.



مؤسسة الإذاعة والتلفزيون
الأردنية

Yarmouk University and the American Smart Mobility Company (sPLUSm) Sign an Agreement to Establish a Training Incubator

Yarmouk University and the American Smart Mobility Company (sPLUSm) signed an agreement to establish a training incubator at Hijjawi Faculty for Engineering Teechnology concerned with education, training and development in the field of smart mobility. The signing of this agreement comes in the context of Yarmouk University's participatory approach with specialized international bodies to achieve integration in continuing technical education and provide training services to its students according to high levels of quality, and this includes a practical translation of the royal directives to develop and improve the outputs of higher education, and to supply local, regional and global labor markets With competent graduates who possess the technological skills required to compete.



Hijawi Faculty for Engineering Technology Hosted YURL Remote Lab Training Workshops Delivered by H-BRS

Hijawi Faculty for Engineering Technology hosted workshops in take-home labs and remote labs in the period from May 30th –June 2nd delivered by faculty members and professionals from The Bonn-Rhein-Sieg University in Germany. The training mobility is fully sponsored by the Yarmouk University Remote Lab (YURL) project, funded by the German Academic Exchange Service DAAD.

In the opening ceremony, the YURL coordinator, Prof. Mwaffaq Otoom Indicated the importance of having this type of collaboration with H-BRS in efforts made to transfer their experience in take-home labs and remote labs to the Hijawi Faculty for Engineering Technology. Prof. Otoom also highlighted the impact of the training experience at enhancing the students, lab engineers and faculty members' skills in topics related to competence oriented learning, take-home labs and remote labs. The lab engineers and faculty members are supposed to utilize this training to design and develop labs in the Hijawi Faculty for Engineering Technology

that can be offered both as a take-home lab or a remote lab. On the other hand, Prof. Rainer Herpers, the Project Coordinator at H-BRS expressed his contentment as being part of the YURL project. Prof. Herpers emphasized their successful experience with the Hijawi faculty for Engineering Technology and the long lasting prosperous relationship between both partners. Prof. Herpers also indicated the importance of the training workshop for the capacity building of the students, lab engineers and faculty members in competence oriented learning, remote labs design and take-home labs.

During the first day of the training, two workshops were delivered. The first workshop was related to teaching competence oriented learning as a collaborative workshop on advanced teaching methods. The workshop targeted both lab engineers and faculty members. Throughout the training, lab engineers and faculty members got the opportunity to know new and activating teaching methods, adapt to the current state of science, apply activating learning methods in their teaching, observe and apply the principles of neuro-didactics and constructivism and reflect their teaching attitude to improve their teaching skills.



The training included several topics of discussion such as: Teaching as changing the mind, Learning as a construction of knowledge, How to activate larger learning groups, Various activating methods for use in teaching, Neuro-Didactics: Brain-friendly methods in a lecture, Peer instruction in the lecture hall with PINGO. Moreover, it included topics on making instructional videos with Smartphone, Project oriented learning – how to set up modules with a high amount of practical projects and how to make use of extra-curricular student activities.

The second Workshop was designed to equip the students with a take-home lab experience at which it provided an introduction to circuit design. Seventeen students participated in the training workshop throughout the three days of the training. This workshop offered a hands-on experience with simple electronic components and circuits. The workshop is adapted from a regular module from H-BRS and addresses first semester or entry level students. In training workshop, participants explored the look and feel of basic components such as resistors, coils, capacitors, and LEDs to use them to build simple circuits on a breadboard. Participants also learned how to construct elements they may have seen only on paper.

The workshop extended for three days at which the students examined more complex components such as transistors and Integrated Circuits (ICs). Students also explored and analysed the wiring of a small device centred on integrated circuit chips. This in turn fostered an understanding of complex circuit diagrams and their translation into real circuits.

In the second day of the training, a workshop on setting up remote labs was delivered targeting lab engineers and faculty members. Participants learned about how to setup a remote lab with the weblab deusto remote lab management system (RLMS). A demonstration system was introduced, and different configuration files of the webleb deusto were discussed to learn how to implement a lab as a remote lab into the RLMS. The workshop provided a hands-on experience. A

continuation of the workshop on take-home labs on circuit design targeting students also took place.

In the last day of the training, a workshop on an introduction into competencies of a test engineer plus take home lab was delivered targeting both students and instructors. The workshop offered insights into a course program that addresses the competencies needed by test engineers.

For students, the main points in designing, setting up, and documenting tests were explored.

Students were asked to conduct their own test and evaluation, which they presented to each other. In order to conduct tests, students were given a measuring device connected to an Arduino micro controller with which to collect data. The entire course, as it was held in Germany, intended for the students to take the devices home, build up a test setting, and conduct the tests away from the university. For instructors, an overview of the entire course and the possibility of intensive discussion were given, parallel to the hands-on activities.

A consortium meeting was held to reflect on the training workshops and provide feedback on the training. Ideas were explored on a continuation of the project to set up other remote labs and have some take-home labs for the Hijawi faculty for Engineering Technology students. It is worth mentioning that the workshops included several social activities at which H-BRS professors take pleasure in being connected to peers, groups and other professors.



Hijawi Faculty for Engineering Technology Participates in the SAXEED.ECO Project Meeting and Workshop in Germany

Represented by the project coordinator, Dr. Hisham Almasaeid, and the vice dean of Hijawi Faculty, Dr. Ahmad Koran, Yarmouk University have participated in the Kickoff Meeting of the DAAD funded project "SAXEED.ECO". The meeting was held in Chemnitz University of Technology in Germany from June 27th to July 1st with participants from Jordan, Algeria, and Germany. Project SAXEED.ECO is being implemented in the Entrepreneurship and Innovation Center. As part of the project a lab for environmentally friendly solutions will be set up in universities in Jordan (namely Yarmouk University and JUST) and Algeria. In this lab, students can develop, test and implement their project and ideas in the field of renewable energy, water scarcity and waste recycling and, with the support of incubators at the universities, bring them to market (founding start-ups). In addition, practice-oriented technical courses will be developed in these areas. These courses shall be regularly offered courses for students after the end of the project.

Several activities took place during the kickoff meeting. First, the representatives of every participating university gave presentations about the readiness of their institutions to implement the project (strengths and weaknesses), and suggested ideas to work on during the project based on their institutions' expertise and capabilities. Then, the participants discussed and agreed on the execution plan for the four-years period of the project. Furthermore, a workshop was given by an expert from Germany to help the participants analyze the situation of transfer and start-up creation processes in their institutions, and to come up with a proper action plan to develop those processes.

The next activity of the project will be held in October 2022 at JUST university in Jordan. It will be a Hackathon for students from Jordan and Algeria in the area of renewable energy.



Hijjawi Faculty for Engineering Technology Organizes a Ceremony on the Occasion of the 76th Independence Day, entitled "Science is a Pillar of Independence Sustainability"

The Hijjawi Faculty for Engineering Technology organized a ceremony on the occasion of the 76th Independence Day, entitled "Science is the pillar of renaissance and the permanence of independence. This ceremony is one of a series of extracurricular activities that the Deanship of the faculty is keen to organize to encourage students to assume their responsibilities towards our dear country, and to consolidate the importance of arming them with experiences, skills and knowledge to qualify them to be good sons of this country, capable of developing its national institutions and building the future of Jordan we want, and to be the knights of change as desired by them.

renaissance in Jordan, and the role of student youth teams from various Jordanian universities in reaching the world through their participation in international competitions and conferences, and reviewed some youth initiatives aimed at consolidating the Jordanian heritage and its tourism marketing. Excerpts from the visions of His Majesty King Abdullah II Ibn Al Hussein about the future and the bicentenary of the life of the Jordanian state were presented, in addition to a number of poems on the occasion of Independence Day and student competitions. The ceremony was attended by a number of officials from the Deanship of Student Affairs and Hijjawi Faculty, faculty members and students of Hijjawi Faculty for Engineering Technology.

The celebration program included a set of various student segments, during which they talked about the scientific



Hijjawi Faculty for Engineering Technology Organizes a Closing Ceremony for the Second Semester and Honors the Top Students from all Departments

The Hijjawi Faculty organized a closing ceremony for the second semester and honored the top students from all departments. The ceremony included several competitions and entertainment activities and ended by honoring the top students from all departments.

The event was organized and coordinated by the efforts of the Hijjawi students, and attended by a large number of students, the parents of the top students, and a number of faculty and administrative staff in the Hijjawi Faculty.



The Hijjawi Faculty for Engineering Technology Organizes Ramadan Iftar

The Hijjawi Faculty for Engineering Technology organized a Ramadan Iftar for students, which included a group of faculty and administrative staff, under the patronage of the Hijjawi Faculty Dean and the presence of the Dean of Student Affairs at Yarmouk University. This activity is part of a series of scientific, cultural, social and recreational activities organized by the Faculty Deanship to communicate with its students and enhance their skills. The Iftar also included many activities such as competitions and entertainment sessions, which were organized by the students of the Faculty.



The Hijjawi Faculty for Engineering Technology Meets the Telecommunications Regulatory Commission TRC, Jordan

A delegation from Hijjawi Faculty for Engineering Technology met with the Dr. Noah Alshyab, the Commissioner at the Telecommunications Regulatory Commission (TRC), in Amman to discuss possible collaboration opportunities. The meeting ended with some collaboration items that would be framed in an MOU and an action plan will be developed to implement these items in a priority based order.



The Hijjawi Faculty for Engineering Technology Establishes Two new Academic Programs

The Higher Council of Higher Education has approved a proposal from the Hijjawi Faculty for Engineering Technology to establish a masters program in Computer Engineering to replace the existing program in Embedded Systems. The Council also approved another proposal on establishing a bachelor program in Civil Engineering, to replace the two existing programs in construction management and building technology.

Two Faculty Members Participate in Regional Interconnection Prospective Seminar

Dr. Lina Al-Hamoud and Inst.Asma Hatami from the Electrical Power Engineering Department attended a public seminar on the regional interconnection prospective at the National Electric Power Company in Amman on June 28, 2022.

Faculty Members

Faculty Members have been elevated to IEEE Senior Members



Dr. Zaid Bataineh
Electronics Engineering



Dr. Hussein Al-Masri
Electrical Power Engineering

Participation in International Conferences

Prof. Adnan Al-Smadi

Vehicle Auto Parking System

2022 9th International Conf on Electrical and Electronic Engineering (ICEEE), Turkey

Prof. Husam Hamad

Metamodeling Techniques in Analog Circuit Design

2022 9th International Conf on Electrical and Electronic Engineering (ICEEE), Turkey

Prof. Mohammed H. Bataineh

Error Bounds on Perturbation Analysis for the Dominant Mode of Rectangular Corrugated Waveguide

2022 9th International Conf on Electrical and Electronic Engineering (ICEEE), Turkey

Dr. Hussein Al-Masri

On-Grid Photovoltaic Energy System-A Case Study

2022 3rd International Conference on Smart Grid and Renewable Energy (SGRE), Qatar

Dr. Mahmoud Mistarihi

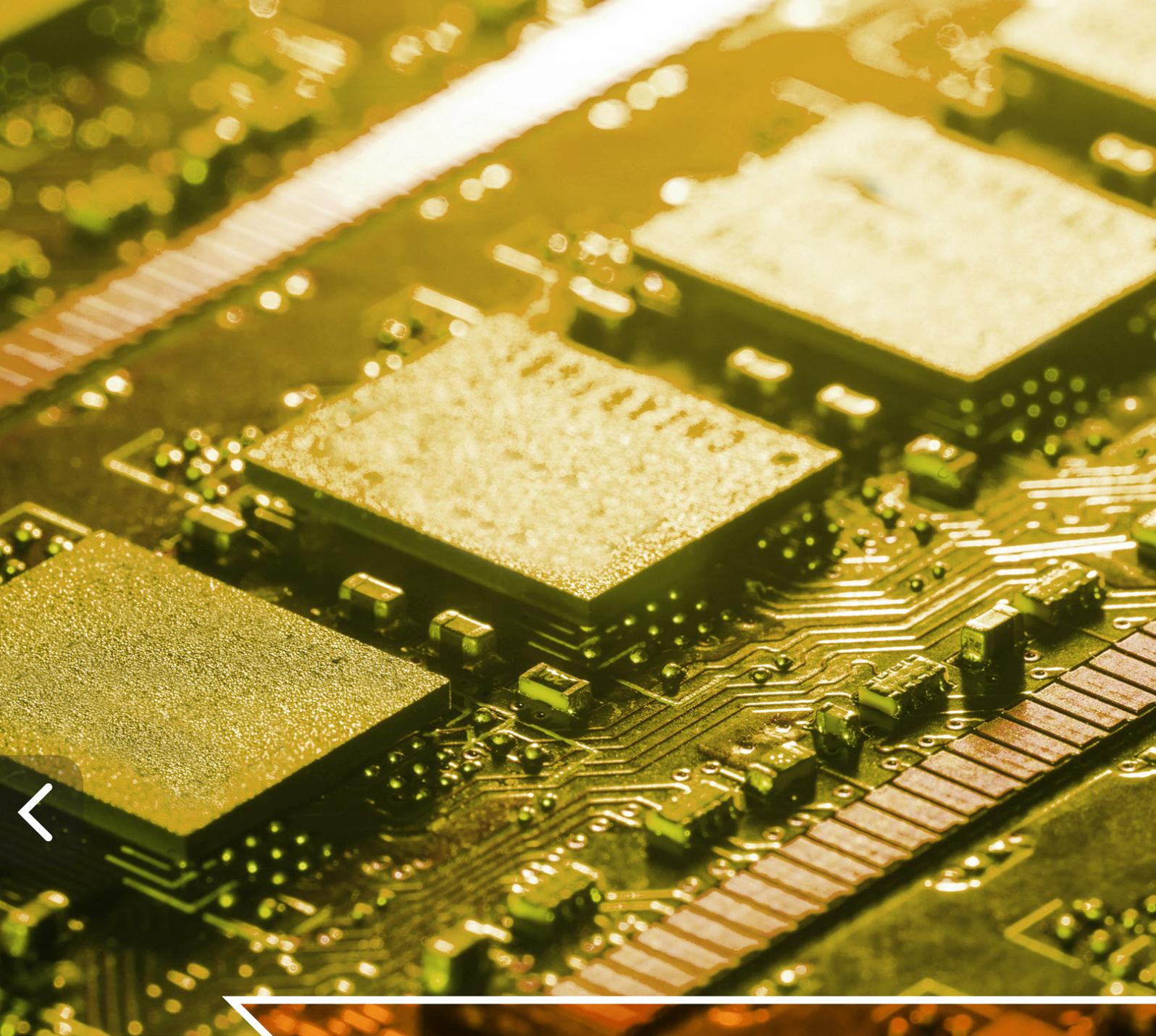
Using DMAIC Methodology and Simulation Technique to Improve Banking Services: A Case Study of Cairo Amman Bank

2022 Academics World International Conference, Egypt

Dr. Ghazi Magableh

Statistical Analysis of the Bullwhip Effect in a Special Supply Chain Structure

2022 13th International Conference on Mechanical and Aerospace Engineering (ICMAE), Turkey



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