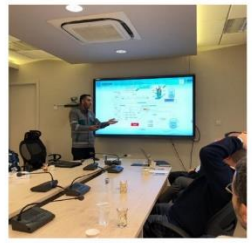
SATS Newsletter









Sixth Issue 2018
Newsletter Committee:
Dr. Mariam Wajdi Ibrahim
Eng. Shuruq Shawish
Eng. Haneen Aboud
Designed by Eng. Qamar Al-Tarawneh
School of Applied Technical Sciences
German Jordanian University

3RD Annual GJU Research Day

Micro/ Nano Systems for Biomedical and Pharmaceutical Applications

On Monday, December 3, 2018, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU) organized the third Scientific Day, under the frame of the German Academic Exchange Service (DAAD) funded project “Inertial focusing on continuous nanoparticles separation in femtosecond laser 3D micromachined curved channels”.

Prof. Ala’aldeen Al-Halhouli from SATS welcomed the students, guests, and speakers. He expressed his deep gratitude for the DAAD continuous support to GJU, mentioning the importance of the DAAD programs, which have a dominant impact on developing experiences, exchanging of knowledge and contributing effectively to the society.

During the opening, the DAAD director in Amman, Ms. Gabriele von Fircks introduced the DAAD programs. She encouraged students, and faculty members to participate in such programs. After that, Professors and researchers from TU Braunschweig - Germany, University of East Anglia- UK and Jordan University of Science and Technology- Jordan presented their recent projects in the field of microfluidics and its applications, Pharmaceutical innovation and single cell analysis.

In the afternoon session of the research day, GJU president, Prof. Manar Fayyad, and vice president, Prof. Dorit Schumann joined the Networking and demo presentations in the Nanolab. She stressed the importance of applied research especially when it can be reflected in a successful collaboration with industrial partners to make products. The Nanolab team presented their recent research projects and discussed possible collaborations among partners.

Delegation from Bochum University of Applied Sciences Visits GJU

On Tuesday, November 13, 2018, A delegation from Bochum University of Applied Sciences visits German Jordanian University (GJU) to strengthen the scientific Cooperation.

The President of the GJU, Prof. Manar Fayyad, Vice Presidents Prof. Dorit Schumann and Prof. Atef Kharabsheh welcomed the delegation in the presence of the Dean of the School Applied Technical Sciences (SATS) Dr. Safwan Altarazi and Vice Dean Dr. Nathir A. Rawashdeh.

Fayyad stressed the importance of this visit, which seeks to strengthen channels of cooperation between the two parties, and networking in the fields of teaching and human rehabilitation of their cadres in order to enhance the high technical reputation for both universities .

Altarazi reviewed a brief overview of the university in terms of establishment, faculties and specializations that deal with the scientific aspect significantly. Explaining the most important achievements achieved by the university during the past few years.

Rawashdeh pointed to the originality of cooperation between the two universities, which began to develop the Mechatronics plans in 2004 with the assistance of the German Head of Network of Mechatronics Partners, Dr. Rolf Biesenbach when the GJU was established. In addition to the continuous cooperation of Flying Faculty Program, joint European projects and Train the Trainer Program.

President of Bochum University of Applied Sciences, Dr. Juergen Bock expressed the university’s interest to extend the joint cooperation between the two parties in the future in the fields of Business and Economy, Electrical Engineering and Sustainable Development.

Conferences participation

The 3rd International Conference on System Reliability and Safety (ICSRS 2018)

Dr. Sameer Al-Dahidi participated from 24–26 November, 2018 in the The 3rd International Conference on System Reliability and Safety (ICSRS 2018) at Barcelona, Spain. Dr. Al-Dahidi presented the paper entitled “Quantification of Uncertainty of Wind Energy Predictions” in the Oral Session entitled “Safety Analysis and Risk Assessment”. His Oral presentation has been selected as the best one in the session.

International Conference on Cyber Physical Systems and IoT

Dr. Mutaz Ryalat attended the “2018 International Conference on Cyber Physical Systems and IoT” that held in Stockholm, Sweden on Sept. 21-23. 2018. He presented his paper “Design and Integration of an IoT Device for Training Purposes of Industry 4.0.”

International Conference on Innovative Engineering Applications (CIEA’ 2018)

Dr. Anas M. Atieh, Abdulaziz AlHazaa, Rohit Upadhyaya (2018) “Advances in the Application of WC-10Co-4Cr coatings produced by HVOF and HVOLF thermal processes for surface protection in petrochemical industry” International Conference on Innovative Engineering Applications (CIEA’ 2018), Sep. 20-22, 2018, Sivas, Turkey. (By invitation) and he won the best paper presentation Award in this conference

Conferences participation

International Conference on Time Series and Forecasting (ITISE 2018)

Dr. Al-Dahidi presented the paper entitled “Direct and Recursive Strategies for Multi-Step Ahead Wind Speed Forecasting” in the Oral Session in the field of Computational Intelligence methods for Time Series (Dr. Hisham ElMoaqet as a co-author). In the International Conference on Time Series and Forecasting (ITISE 2018), Granada, Spain | 19th to 21st September, 2018

American Control Conference (2018 ACC),

Dr. Mutaz Ryalat attended the “2018 American Control Conference (2018 ACC), that held in, June 27–29, 2018, at the Milwaukee Hilton City Center, Milwaukee, Wisconsin, USA. He presented his paper “A Novel Dynamic IDA-PBC Controller for Electrostatic MEMS Devices” .

10th International Conference on Electronics, Computers & Artificial Intelligence -ECAI 2018

Dr. Mariam Wajdi Ibrahim, Eng. Qais Hindawi, and Eng. Ahmad Alsheikh presented two papers in the the “10th International Conference on Electronics, Computers & Artificial Intelligence -ECAI 2018”, which was held in Iasi, România, June 28 - 30, 2018. The papers are entitled "Attack Graph Modeling For Nuclear Power Plant", and "Assessing Level of Resilience Using Attack Graphs ".

A workshop on "Industry 4.0 "at GJU

On Sunday October 28 2018, The Department of Mechatronics Engineering- the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), organized a workshop on "Industry 4.0 "delivered by Eng. Tariq Adaileh and Eng. Ahmad Rayyan from Bosch Rexroth – UAE.

Eng. Tariq Adaileh is a 2011 mechatronics engineering GJU graduate, and he opened the seminar by talking about his experience as a student and how he grew into becoming a working engineer.

Eng. Ahmad Rayyan explained the concept on Industry 4.0, which entails the use of could computing, intelligent systems, and internet of things to achieve a competitive advantage in factories and businesses. It stands for "the fourth industrial revolution" and companies worldwide are investing in it to increase their competitiveness.

Some benefits of industry 4.0 technology include real-time monitoring and reconfiguration of factories; predicting failures and planning maintenance; reducing inventory; increasing productivity and efficiency; reducing production down-time.

Workshops

A Solidworks workshop

The school of applied technical sciences (SATS) strives to develop its human resources and keep them up-to-date with the current trends in the market. Along this strategic vision, a training workshop was conducted to teaching assistants of SATS on the Solidworks software package. Solidworks is a new member of the computer aided design (CAD) software family of SATS. The new design tool will be used for both faculty research at GJU and student teaching at the department of Mechanical and Maintenance engineering.

A welding workshop

Eng. Emad Alzoubi and Mr. Yousef Jumah conducted welding training course to the Jordan Aircraft Maintenance Limited Company (JORAMCO). The course consisted of 5 levels starting from the basics of welding in level 1 through the various welding positions with SMAW (levels 2 -4) and ending with tungsten inert gas welding (TIG) in Level 5. The course was attended by 5 participants from JORDAMCO.

Nanolab's participation in GJU Industry collaboration workshop

Prof. Ala'aldeen Al Halhouli participated in the GJU's Industry collaboration workshop that took place at the German Jordanian University on Oct. 10, 2018, where he presented new micro/ nanotechnologies for regional industry. He also introduced the Nanolab's recent achievements, ongoing research projects and, as well as the Nanolab's progress, vision and its future plans to serve the community.

TOT Workshops

Train of Trainers Workshop in Höxter

Dr. Nidal Alshawara and Eng. Shuruq Shawish have joined the training workshop within EGREEN project which was conducted in Hochschule Ostwestfalen-Lippe, University of Applied Sciences in Höxter, Germany during September 11-15, 2018. The training is focusing on modeling and simulation of power plant cycles, water resources engineering including non-conventional water resources, water and wastewater treatment, air pollution, air quality, management, power plant cycles, refrigeration cycles and monitoring systems. The workshop was closed with an excusion to pv-power plant and environmental monitoring systems.

EGREEN Train-the-Trainers-Workshop

Dr. Hani Muhsen Participated in ToT workshop in Technical University of Hamburg Harburg (TUHH) during the period 27.08-31.08.2018. The covered topics in this ToT workshops included different Workshops to improve the quality of academic teaching, Different Workshops to improve the quality of academic teaching, Environmental Issues and Sustainable Development [Environmental Engineering], Environmental Issues and Sustainable Development [Environmental Engineering], Hydropower [Design of Renewable Energy Systems], Management of international projects, Excursion to “Tiefstack combined power plant” (Meeting point: IUE) [Energy Resources and Engineering], Excursion to “Waste incineration plant Borsigstraße” [Waste resource management].

TOT Workshops

Training of the Trainers Workshop Hosted by the Sapienza Università di Roma

On Wednesday July 11th, 2018 the Train- of-the-trainers (ToT) workshop started at the Sapienza Università di Roma. In total, seventeen participants attended the meeting. The audience is made up of teaching staff from MENA countries, i.e. Syria, Egypt and Jordan. In cooperation with the University of Jordan (UJ) and the University of Aswan (AU), two advanced teaching modules were presented:

- Climate effects, Environmental Management and Sustainable Development (TU/UNIROMA1).
- Health, well-being and Environmental Quality (TU/UNIROMA1).

The first module was introduced on the first day, presented by Dr. Katiuscia Cipri, Prof. Moussa ALSamara and Dr. Badia Haidar. Dr. Bshar Bdoor introduced the second module on the second day.
The duration of the third day was spent in a an open discussion and recommendations for making the modules more ideal/relevant to the needs of each institution in future.

Training of the Trainers Workshop Hosted by the University of Cyprus

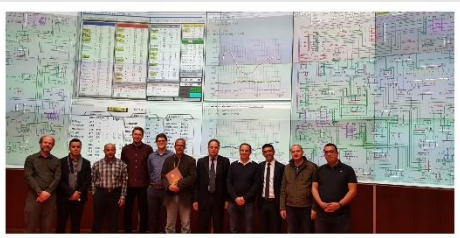
Starting on Wednesday June 27th, 2018 the Train-of-the-trainers (ToT) workshop was held at University of Cyprus (UCY). In total, sixteen participants attended the sessions.

The audience is made up of teaching staff from MENA countries, i.e. Syria, Egypt and Jordan. In cooperation with the German Jordanian University (GJU) and the University of Damascus (UD), two advanced teaching modules were presented:

- Technological Innovations of Renewable Energy Systems (DU/UCY)
- Job Creation in Renewable Energy & Energy Efficiency (GJU/UCY).

The first module was introduced on the first day, presented by Dr. George Konstantinou. Prof. Alaa’aldeen Al-Halhouli introduced the second module on the second day. The duration of the third day was spent on an open discussion about the innovations and job creation in the RE&EE fields as well as a tour of UCY’s labs.

Meetings



Steering Committee Meeting, Scientific and Technical Committee Meeting in Morocco under Erasmus+ umbrella

Dr. Hani Muhsen and Prof. Alaadeen Al-Halhouli Participated in Scientific and Technical Committee Meeting which was held in Morocco during the period 24.11-01.12.2018. The meeting discussed the achieved and upcoming actions which are related to the project. The project aims at developing advanced Teaching and training on Smart grid and Grid Integration of Renewable Energy Systems. The visit includes visiting Smart Grid Research Lab, MAScIR and Renewable Energy National Dispatching Center in Casablanca. Also, the tour included visiting the Solar Platform – Noor I in Ouarzazate.

Steering Committee Meeting Hosted by the Sapienza Università di Roma, 10-9 July 2018

The faculty of the Sapienza University of Rome (UNIROMA1) hosted the GJU-led Erasmus+ DESIRE project's steering committee (StC) meeting in Rome, Italy. In attendance were representatives from partner universities – German Jordanian University (GJU), University of Jordan (UoJ), Aswan University (AU), Damascus University (DU), Tishreen University (TU), Technical University of Dresden (TUD), University of Cyprus (UCY), and Wuppertal Institute for Climate, Environment and Energy (WI).

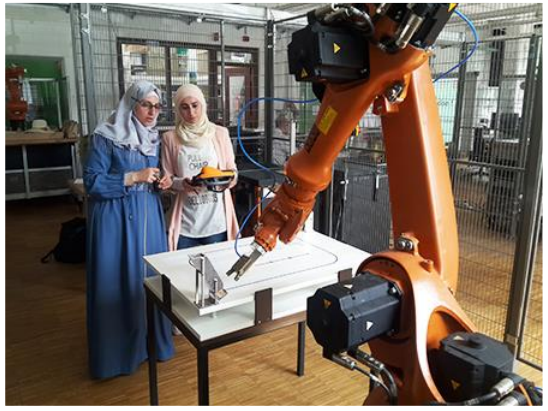
Prof. Ala'aldeen Al-Halhouli, of GJU's School of Applied Technical Sciences and the DESIRE project's coordinator, inaugurated the meeting with remarks on the status of the project along with the short-term and long-term goals. Prof. Al-Halhouli stressed the importance of disseminating the DESIRE project's outcomes to all interested stakeholders.

he DESIRE project is nearingits conclusion with a main objective of creating teaching modules to be implemented by beneficiary institutions in the Middle East and North Africa (MENA) region under the supervision of their European Union (EU) counterparts. All StC members agreed to request a six-month extension on the current duration of the project to ensure quality production of teaching modules. The request was later approved by the EU's ERASMUS+ Programme.

Training Participating

Dr. Safwan Altarazi Participating in TtT program

Dr. Safwan Altarazi spent September 2018 in Technical University of Hamburg (TUHH) under Train-the-Trainers (TtT) DaaD-GJU funded program. the visit mainly aimed to explore future cooperation between GJU and TUHH particularly for the master program of engineering management offered by the IE department in SATS. During the vist Dr. Safwan has discussed this issue with TUHH international relations head, dean of Management Sciences and Technology School, and other related faculty members and administrators; initial cooperation issues were explored which be followed up to hopefully reach an official MoU. Additionally, during the visit Dr. Safwan visited Airbus factories and Fraunhofer IAPT in Hamburg, and participated in Hamburg International Conference of Logistics 2018. SME 4.0 Competence Center Hamburg, TUHH being one of its founders, has also gained significant portion of Dr's Safwan vist.



Erasmus+ Project trains Mechatronics Engineers on KUKA Robots at HS Bochum

GJU Mechatronics Department, engineers Alaa Alshubbak and Marwa Alfaouri have participated in a 10-day training on KUKA industrial robots at Hochschule Bochum benefiting from an Erasmus+ mobility grant.

The training spanned the period from 23/7/2018 to 3/8/2018 and included work on KUKA industrial robots, open source programming, and handling a 7-DoF cooperative robot.

During their stay, our engineers had the chance to meet the President of HS Bochum, visit a coal firing power plant, STAEG company, and at 60 meters, the highest cold-water geyser in the world at Andernach.

The Erasmus+ project is managed by Dr. Rolf Biesenbach at Hochschule Bochum, Dr. Nathir Rawashdeh at the German Jordanian University, and Dr. Tarek Tutunji at Philadelphia University.

SATS Faculty Visits MANASEER Group

On Thursday, 29th of November, the school of Applied technical sciences (SATS) at the German Jordanian University (GJU) arranged a field trip to one of the leading company in economic environment and industry in Jordan, Manaseer Group.

The visit comes within the School's strategy in maintaining a sustainable and integrative relationship with the industry.

While touring the cement plant, Manaseer Carbonate, and power plant, Manaseer's team discussed with SATS' professors and engineers the Group's contribution to the development of the business environment and their commitment in securing sustainable jobs as well as providing the market with new skills and technology.

Manaseer Group includes more than 18 companies, in addition to partnerships with leading companies in Jordan, and it employs approximately 10,000 employees in Jordan with investments up to 2 billion dollars.

Training of the Trainers Workshop Hosted by the Technische Universität Dresden.

On Wednesday August 1st, 2018 the Train-of-the-trainers (ToT) workshop started at the Technische Universität Dresden (TUD). In total, fifteen participants attended the meeting. The audience is made up of teaching staff from MENA countries, i.e. Syria, Egypt and Jordan. In cooperation with the University of Jordan (UJ) and the University of Aswan (AU), two advanced teaching modules were presented:

- Economics of Renewable Energy Systems (UJ/ TUD)
- Integration and System Aspects of Renewable Energy Sources (AU/TUD)

The first day introduced the first module, presented by Prof. Ahmed Al-Salaymeh and his team. The participants discussed concepts to evaluate the economics of renewable energy technologies, e.g. theapproachoflevelizedcosts of electricity (LCOE). In the evening, a common dinner gave all participants the opportunity to intensify their discussions and exchange. The second day introduced the module No 04, presented by Prof. Salama Abdelhady and his team. This module focus on the grid integration of renewable energy sources.

The ToT workshops give teachers from MENA countries the opportunity to become familiar with the new developed teaching materials and to transfer the knowledge to their home universities. The host university, Technische Universität Dresden, thanks all participants for their contribution and valuable comments.

VISITS

University's Students Visit GJU Robotics Lab

Led by Dr. Tarek Tutunji, a group of Philadelphia University (PU) students and professors visited the German Jordanian University (GJU) robotics laboratory on 26/12/2018.
They were received by Dr. Nathir Rawashdeh, Acting Vice Dean of the School of Applied Technical Sciences (SATS).
This visit was part of an Erasmus+ project in mechatronics engineering to develop expertise in robotics and comprises the GJU, PU and Hochschule Bochum in Germany.
During the visit, Dr. Rawashdeh and Eng. Marwa Alfaouri presented robot types in the industry and how to program the KUKA Agilus robot.
A live demo of the KUKA robot was also presented with the help of Eng. Alaa Alshubbak.
Mechatronics Engineering master's students at PU discussed their thesis topics and shared ideas for cooperation between the two universities.

Mechatronics Co- Teaching at Hochschule Bochum

Dr. Nathir Rawashdeh of the mechatronics engineering department at the German Jordanian University (GJU) has visited Hochschule Bochum during the week of 10/12/2018 for a Co-teaching assignment funded by an Erasmus+ project in mechatronics engineering and robotics.
The lecture topics were delivered in the English language an entailed MATLAB and Simulink software examples in the field of automatic control theory.
During this visit, Dr. Rawashdeh was hosted by Professor Rolf Biesenbach, Dean of electrical and computer engineering, and met with the President of the Hochschule, Prof. Juergen Bock where they discussed the expansion of the long-standing cooperation with GJU to include the majors: business administration, electrical engineering, and sustainable development.

VISITS

HRH Princess Sumaya bint El Hassan visits GJU's Nanolab Booth at AmCham Conference

On October 27th -28th , 2018, Engineers Loiy Alghussain and Ahmed Albagdady represented GJU's Nanolab at the 2018 AmCham MENA Council Annual Conference & Exhibition: A Driver for Growth in the MENA Region as exhibitors to show the progress and commercialization potential of the lab's research projects in the fields of wearable sensors, microparticle separation and Lab-on-CD systems.

HRH Princess Sumaya and AmCham's Chairman Mohammed Bataineh visited the Nanolab's booth and praised the ongoing research work encouraging them to cooperate with both local and international corporations to push research projects a step further towards commercialization.

Nanolab's team visit to the institute of micro-technology in Braunschweig (IMT)

The Nanolab members visited the Institute of Microtechnology (IMT) at Technical University Braunschweig during the period of Aug. 19th - 26th under the frame of a DAAD-funded research project "Inertial focusing for continuous nanoparticles Separation in femtosecond laser 3D micro-machined curved channels".

The members were introduced to labs and facilities available at the IMT, in addition to training in the clean room, as well as visiting different institutes and research centers in TU BS such as the Institute of Adaptronics, Zentrum für Pharmaverfahrenstechnik (PVZ), the Battery Lab in Brausnchweig and Aeronautics Research Center (NFL).

Royal Academy of Engineering's visit to the Nanolab

The royal academy of engineering visited the Nanolab at Oct. 9, 2018, where they were introduced to the Nanolab's facilities and discussed the progress of the funded projects. The Nanolab team are working on a new research project funded by the royal academy of engineering in collaboration with Anglia Ruskin University and two industrial partners (ATLAS Medical from Jordan and THERAPYAUDIT Limited from the UK). The project targets developing remote monitoring sensors for the respiratory rate of new born babies in refugee camps and low setting areas. The fabrication of the sensors utilizes the available inkjet printing facilities at the NanoLab to pattern conducting line of nanoparticles on stretchable substrates.

Human of SATS

SATS Faculty

"No impossible in my dictionary". This is what my mom used to tell me when I was a kid. I was raised in a family who taught me that there is no limit for ambition. I always wanted to be an effective person who can leave a trace on people's lives. I studied Electrical and Computer Engineering at The Hashemite University for 3.5 years, during which I learned that engineering is all around us, and I got to appreciate the knowledge conveyed to us and not just taking it for granted. Just before graduation, I was hired in the same department as a lab supervisor, and my life was changed as I was no longer a student, I became an instructor.

Dr. Mariam Wajdi Ibrahim

This made me feel responsible for carrying knowledge for the younger generations. During my work at HU, I got my MS degree in Mechatronics Engineering from Al Balq'a Applied University, and just before graduation, I applied for a scholarship through The German Jordanian University to pursue my PHD studies in Electrical Engineering at Iowa State University. My four-year PHD studies were just like opening a box of wonders; you don't know what it holds for you. Sometimes you find all doors closed in your face and you are on your own to seek for answers for research problems you face, as my advisor used to say "you must live, breath, eat doing research as a graduate student". In other times, this box gave me opportunities to explore new cultures and meet people from all over the world, exchanging knowledge and collaborating with them. I had the chance to meet the World Food Nobel winner prize Laureate Dr. M. S. Swaminathan who is recognized as a leader in the world's "Green Revolution". His vision is to rid the world from hunger and poverty.

In my career life, I learned that there are times in life you have to make choices and be responsible for your decisions. It is not easy to make them, but it is devastating doing nothing. Finally, I would like to thank God, my country Jordan, the GJU, and my family especially my mom for believing in me. Really it is all about keeping your spirit high, believing in yourself, never giving up on your dreams, and don't say "I can't", but "I will try my best".

Human of SATS

SATS Student

"Find yourself a goal, plan your steps, execute the plan, achieve your desires, and always strive for more. This would be my recipe for success.

Saleem Ghannam

I am a fourth year Industrial Engineering student, currently based in Germany. I always look for something to challenge myself with to get to the better version of myself. But throughout any challenge one would undertake to be the best at what you do, be it in your studies or even in hobbies, you will always need 3 companions:

1. Hard work
2. Dedication
3. The blessing of your parents

One can easily say that the third factor is probably the most important factor. This blessing, in all events the major and the minor, is the source of strength that was behind my success in different events. It is because of those 3 factors that I finished high school with an outstanding GPA, aced my piano certificates, and became one of the highest ranked GPAs at GJU."

IISE GJU Kicks Off First Semester with Charity Walk

IISE GJU Student chapter re-initiates the chapter with brand new committee members and are guided by the new faculty advisor, Dr. Saleem Ramadan, the successor of Dr. Nidal Shwawreh. The President of the club, Linda Hijazi, led her committee into organizing a Charity Walk for the King Hussein Cancer Foundation, during which around 50 attendees were present. Guiding Linda and the rest of the committee are Eng. Mutasem Al-Abweh and Eng. Aseel Ammari. Through their collected vision and Dr. Saleem's strategy, IISE GJU aims for memorable academic and non-academic activities that will enhance both soft and hard skills of Industrial Engineering students.

Launch of DESIRE e-learning platform

DESIRE is launching a new e-learning platform to provide access for faculty and students with course content in the field of socio-economic impact of renewable energy. The e-learning platform utilizes Moodle open source as its learning management systemof Rome (UNIROMA1), Technical University of Dresden (TUD. The e-learning platform was launched in a preliminary stage in late May of 2018. The DESIRE project's partners - German Jordanian University (GJU), University of Jordan (UoJ), Aswan University (AU), Damascus University (DU), Tishreen University (TU), Sapienza University), University of Cyprus (UCY), and Wuppertal Institute for Climate, Environment and Energy (WI) - have all signed up and participated in e-learning platform training sessions under ERASMUS+ programme funded from the European commission.

The project consists of two parts; first, preparation of basic and advanced teaching/ training modules during the years of 2018-2015. Second, creation of an e-learning platform where smooth and user-friendly access to developed modules is possible. The platform is intended for a wide audience: national and international faculty and students.The developed basic model is:

- Energy system Transformation Processes and Introduction to Socio-Economic Impacts of Renewable Energy & Energy Efficiency The developed advanced models are:
- Technological Innovation of Renewable Energy Systems
- Job Creation in Renewable Energy & Energy Efficiency
- Economics of Renewable Energy Systems
- Integration and System Aspects of Renewable Energy Systems
- Climate Effects, Environmental Management and Sustainable Development
- Health, Well-being and Environmental Quality

Each module on the e-learning platform is divided into several chapters. Supporting documents such an introduction, a syllabus, outlines, exams, and a handbook are included. An instructor can gain access to the e-learning platform and can manage and use the material for teaching and training purposes.

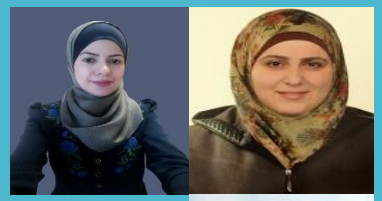
The DESIRE project aims to raise the awareness on the socio-economic impact of renewable energy and to make the teaching materials, prepared up to EU standards, available to faculty and students in the MENA region.

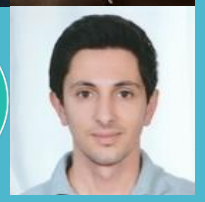
The e-learning platform was developed by UNIROMA1 in collaboration with GJU where it will be hosted.You are invited to visit the website: http://www. desire-elearning.gju.edu.jo

Launching GRADUATE STUDIES in SATS

In September 2018, SATS launched its first graduate study program: Masters of Science in Engineering Management (MSEM). Twelve students were enrolled in the program for the first semester 2018/2019. MSEM is a degree that bridges the gap between the fields of engineering, technology, business management, and innovation. It is a multidisciplinary field that involves the application of advanced business methods, engineering techniques, and innovation tools to design, manage, and improve complex systems and achieve organizational objectives.
MSEM is aimed at attracting ambitious engineers who aspire to obtain a senior role in their organizations in which they integrate technical and management responsibilities with innovation to support business growth and new organizational trends. It is ideal for recent graduates hoping to make their first move into engineering and innovation management, as well as established professional engineers who aspire for a higher management role and wish to extend their knowledge beyond their specific technical field.
MSEM graduates can work as engineering managers, quality managers, innovation and technology managers, project managers, operations managers, as well as in planning and strategic management to lead their organizations.

Congratulations to SATS Staff





AutoCAD Certified Professional

Eng. Shuruq Shawish, Eng. Mohanad Batarseh, and Eng. Ohoud Aljaloudi have passed the Autodesk Certified Professional (ACP)-AutoCAD 2018 test which is one of official tests organized by Autodesk Company. Autodesk certifications provide reliable validation of knowledge and skills. These credentials can Lead to accelerated professional development, improved productivity, and enhanced credibility.


2018 International Conference on Mechatronic Systems and Robots

2018 International Conference on New Energy and Environment Engineering

Best Presentation Award

to

Hani Muhsen, German Jordanian University, Jordan

For certifying his/her oral presentation was selected as one of the best in Session 4: Information Engineering & Measurement and Control Technology

On May 25-27, 2018; Singapore

IACT

A Research about energy harvesting from in-pipe hydro systems in Amman won an international award

A team led by Dr. Hani Muhsen from the School of Applied Technical Sciences won the best presentation award in the 2018 International Conference on New Energy and Environmental Engineering (ICNEE 2018) which was held in Singapore in May 2018. The goal of the research was to investigate the impact of different utilized turbine designs on the harvested energy from in-pipe systems. Dr. Muhsen's team designed several proposed turbines. These designs were then implemented in a prototype to determine the performance of each design. The study was carried out on the major water distribution network in Amman the capital of Jordan.

Dr. Anas M. Atieh was honored as an assessor of King Abdullah II center for excellence

Congratulations to SATS Staff

PROMOTIONS

SATS Family would like to congratulate our professors to their promotions:

Dr. Nathir A. Rawashdeh
Associate Professor

Dr. Anas M Atieh
Associate Professor

#News

Graduate students advising: Dr. Sameer Al-Dahidi is co-supervising THREE Master students and ONE PhD student at Department of Energy, Politecnico di Milano since March, 2018. The Master and PhD thesis aim at developing advanced and efficient computational methods and soft computing techniques for renewable energy production predictions. A recent accomplishment of one Master student has been presented in the poster session as part of the Department of Energy of Politecnico di Milano 10th anniversary event.

Dr. Al-Dahidi is a part of the ICSRS Technical Committee since 2017.http://www.icsrs.org/committee.html

Dr. Sameer Al-Dahidi has been assigned the role of Exchange Coordinator for the Mechanical and Maintenance Engineering Department for the academic year 2018/2019.

New SATS Faculty Members

Dr. Mohammad I. AbuShams is an assistant professor of industrial engineering in School of Applied Technical Sciences at German Jordanian University. Dr. Mohammad obtained his PhD in Materials Science and Engineering from Central Michigan University, USA, in 2017; he holds a MA degree in Industrial Management and Technology as well as a MS degree in Engineering. He was working as a post-doctoral research associate at Central Michigan University before he joined the Industrial engineering department on spring of 2018.

Dr. Ala Hijazi is an Associate Professor in the Department of Mechanical and Maintenance Engineering at German Jordanian University. He obtained his Ph.D. degree in Aerospace Engineering (Structures & Solid Mechanics) from Wichita State University in 2001. Prior to joining GJU, he worked at the Hashemite University - Jordan, King Abdul-Aziz University - Saudi Arabia, and Wichita State University - USA. Dr. Hijazi's main research interest is in the field of experimental solid mechanics. He is also an expert in the field of high-speed motion and deformation measurements and he has long experience in non-destructive testing (NDT) and optical systems design.

Bashar Hammad received B.S. degree from University of Jordan in 1997, M.S. degree from University of Texas at Arlington in 2003, both in Mechanical Engineering, and PhD in Engineering Mechanics from Virginia Tech (VT) in 2008. He received the Graduate Teaching Fellowship at VT in 2007. He focused on solar energy in his undergraduate study and micro-electro-mechanical systems (MEMS) in his postgraduate research. He working in the Hashemite University (HU) for ten years before joining the German Jordanian University in Fall 2018. His current research interests are in photovoltaic systems, energy harvesters and e-learning education. He served as assistant dean of Engineering for student affairs and the director of Academic Quality Assurance Center at HU. He is the contact person at HU for several European-funded projects (EQuAM, T-MEDA, and NQFJ) in the fields of Higher Education reforms, quality assurance and e-learning.

New SATS Faculty Members

Dr. Khaleel Abushgair received B.S. and M.S. degrees from Jordan University of Science and Technology in 1995, 1998, both in Mechanical Engineering, and Dr.-Ing. degree , in Thin Film Coating (Nanomaterials), Technical University Kaiserslautern, Germany in 2002. In research Dr. Khaleel have been working in nanotechnology and nanomaterials specially deposition of thin films coating for different application such as mechanical, electrical and solar cells. The resultant films of his work were implemented in many applications such as hard coating for mechanical cutting tools, wear resistance applications, solar cell devices

Mohammad Garibeh has a bachelor of science in Mechanical engineering (Mechatronics) from Jordan University of Science and Technology in 2003 and Master of Science in Industrial Automation Engineering from Yarmouk University in 2008. his work expereince concentrated in construction of industrial plants and building for more than 14 years in both Jordan and KSA. He has a 1 year academic experience in Hussain Technical University as a faculty member in mechanical engineering department. he published two scientific papers in the field of robotics and automation. currently he is working to publish new three papers in international scientific Journal in the field of Unmanned Ariel Vehicles motion planning.

Research fund

Dr. Ahmed Almuhtady (Principle Investigator), together with Dr. Sameer Al-Dahidi (Co-Principle Investigator) Dr.Hani Muhsen (Co-Principle Investigator) and Dr. Rafat Al-Waked (Co-Principle Investigator) have won the GJU Seed-grant (~50,000 JOD) of the research proposal entitled "Engineering-based Economical Evaluation of the Retired Li-ion Batteries from Electric and Hybrid-Electric Vehicles in Jordan"

New SATS Staff Members

Noor Arabyat is a research and teaching assistant at German Jordanian University. In 2017, she received her master degree in Industrial Engineering from Texas A&M University, College Station, Texas. she had her bachelor degree from University of Jordan in Mechatronics Engineering. she also had an experience working as electrical and lightening engineer in private company in Amman. “I’m so excited to be a part of SATS!” Noor Arabyat

Baider Alhamanreh, a mechanical engineer graduated with an excellent GPA from the German Jordanian University, after he graduated he worked for a year in Saudi Arabia as a site engineer, directly after he worked in research with Dr. Ala’aldeen Al-Halhouli in the nano lab, this research was published in the Micromachines journal, and he Represented the research team in the 2nd Symposium on Pharmaceutical Engineering Research. also he worked with Dr. Rula Allaf on her ongoing research, currently he is working as a TA in the manufacturing process lab and simultaneously on a research with Dr. Nidal Shwawreh.

Eng. Mutasem Al-Abweh A fresh undergraduate in Industrial Engineering from the German Jordanian university in August 2017. His values revolve around Service/Dedication to a Cause and Pure Challenge, in accordance with the Career Anchors - Work Value Test by Edgar H. Schein.
Meeting and working with people from various cultures is his pleasure (as he have at PKF and HeidelbergCement) and he look forward to more work under an international workforce.
he strongly support Volunteering Organizations whenever the chance arises (Global Nomads Group, Rio 2016 Summer Paralympics, Basmitak Hatallim). During my studies,he had joined many student clubs. his most prominent role was as Vice President at IISE GJU (Institute of Industrial and Systems Engineers), in which collaboration between students, professors and company managers became a regular part of work. These were necessary to plan, create, and organize activities.
“If you're looking for someone who is pro-active, works hard, and likes having fun with colleagues during as well as after work, then I am your candidate.” Eng. Mutasem Al-Abweh

Train the Trainer

Ohoud Al-Jaloudi, DHBW – Karlsruhe – 2018

When?	**01/07/2018 – 31/07/2018**
Where?	Duale Hochschule Baden-Württemberg Karlsruhe Baden-Wuerttemberg Cooperative State University Karlsruhe, Erzbergerstr-121. 76133 Karlsruhe, Germany
Why?	Train program on solid work software also train how to be able to deal with modern manufacturing machines. Learn more about CAD/CAM technology and 3D-printing technology.
Whom?	Prof. Dr. Nick Albrecht Mr. Bruno Bartl

Samer Kasht DHBW – Karlsruhe – 2017

When?	**15 / 9 / 2017 – 18 / 10 / 2017**
Where?	STUDIENGANG MASCHINENBAU – Duale Hochschule Baden-Württemberg Karlsruhe - Germany
Why?	Train the Trainer Program CNC 5 Axes Machining Centers – Conventional Lathes, CAD & CAM Practical Training
Whom?	Prof. Dr. Nick Albrecht, Mr. Bruno Bartl Mr. Gunter Schaefer

Published Researches

1. Anas M. Atieh, Nathir A. Rawashdeh, and Abdulaziz N. AlHazaa, (2018) "Evaluation of Surface Roughness by Image Processing of a Shot-Peened, TIG-Welded Aluminum 6061-T6 Alloy: An Experimental Case Study", Materials Journal, May 2018, Volume 11, Issue (5), pp 771, DOI:10.3390/ma11050771.

2. Abu-Khalaf, J., Saraireh, R., Eisa, S., Al-Halhouli, A. T. (2018) Experimental Characterization of Inkjet-Printed Stretchable Circuits for Wearable Sensor Applications. Sensors, 18, 3476.

3. Al-Halhouli A. T., Al Shishani G., Al Baghdadi A., Al-Faqheri W. (2018) New generation of Spinning System For Robust Active Mixing On Microfluidic CDs: Oil/Water Emulsion as an Evaluation Test. RSC Adv., 2018 (8), 26619-26625.

4. Al-Halhouli A. T., Al-Faqheri W., Alhamarneh B., Hecht L., Dietzel A. (2018) Spiral Microchannels with Trapezoidal Cross Section Fabricated by Femtosecond Laser Ablation in Glass for the Inertial Separation of Microparticles. Micromachines, 2018, 9(4), 171.

5. Al-Halhouli A. T., Qitouqa H., Alashqar A., Abu-Khalaf J. (2018) Inkjet Printing for the Fabrication of Flexible/ Stretchable Wearable Sensors, Sensor Review, 38 (4), 438-452, https://doi.org/10.1108/SR-07-2017-0126.

6. Abu-Khalaf, J., El Bouri, S., Giha, N., Al-Chalaby, L., Al-Halhouli, A. T. (2018) Neural Network Based Activity Tracker, 19th International Conference on Research and Education in Mechatronics (REM). Nietherland.

7. Sari, M.S., Ghaffari, S., S. Ceballes, Abdelkefi: Nonlocal buckling characteristics of functionally graded nano-plates subjected to thermal loads and biaxial linearly varying forces, ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, San Antonio, Texas, September 10-12, 2018.

8. Sari, M.S., Al-Kouz, W., Atieh, A.: Buckling Analysis of Axially Functionally Graded Tapered Nano-Beams Resting on Elastic Foundation Based on Nonlocal Elasticity Theory, Journal of Mechanical Engineering 64 (2018) 1-11.

9. Sari, M.S., Alrbai, M., Qawasmeh, B. R.: Free Vibration Characteristics of Functionally Graded Mindlin Nano-Plates Resting on Variable Elastic Foundations Using the Nonlocal Elasticity Theory. (Accepted for publication in Advances in Mechanical Engineering).

10. KM Abughalieh, BH Sababha, NA Rawashdeh, "A video-based object detection and tracking system for weight sensitive UAVs", Multimedia Tools and Applications, Springer, 2018

11. Sameer Al-Dahidi "Extreme Learning Machines for Solar Photovoltaic Power Predictions" Energies Journal (Class A: SCIE – Impact Factor 2.676 (2017); 5-Year Impact Factor: 3.045 (2017)) in the field of Renewable Energy, Sustainability and the Environment.

12. M.Abu-Shams " Title: Primary radiation damage of Fe-10% Cr models under uniaxial, biaxial, and hydrostatic pressure using MD simulation"Journal: Journal of Nuclear Materials.Volume: 509.Pages: 335-342 https://doi.org/10.1016/j.jnucmat.2018.07.016

13. Mariam Ibrahim and Qays Al-Hindawi, "Attack Graph Modeling For Nuclear Power Plant", 10th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), Iasi, Romania, (June 2018).

14. Mariam Ibrahim and Ahmad Al-Sheikh, "Assessing Level of Resilience Using Attack Graphs", 10th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), pages: Iasi, Romania, (June 2018).

15. Altarazi S., Ammouri M., Hijazi A., 2018, "Artificial neural network modeling to evaluate polyvinylchloride composites' properties", Computational Materials Science, 153, 1-363.

16. Altarazi S., 2018, "Enhancing conformance of injection blow molding by integrating machine learning modeling and Taguchi parameter design", Advances and Applications in Statistics, 53 (5), 519-535.

17. Alhindawi F. and Altarazi S., 2018, " Predicting the Tensile Strength of Extrusion-Blown High Density Polyethylene Film Using Machine Learning Algorithms", IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), Bangkok, Thailand.