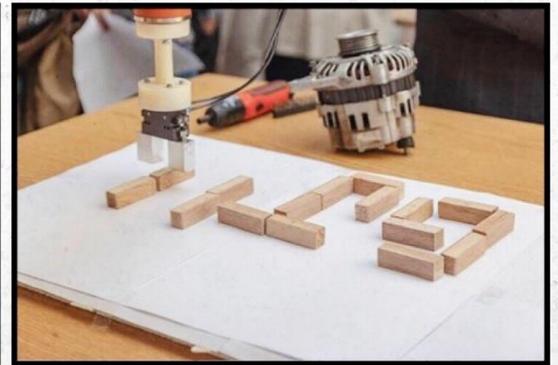


# Fifth Issue, 2018

School of Applied Technical Sciences

# SATS Newsletter



Newsletter Committee

School of Applied Technical Sciences

German Jordanian University 

# SATS Newsletter

## Open Day

On Tuesday 15th of May 2018, under the patronage of German Jordanian University (GJU), Prof. Manar Fayyad, the School of Applied Technical Sciences (SATS) organized its annual "Open Day".



The "Day" was a collection of scientific, educational, social, and marketing events presented through lectures, panel discussion, posters presentations, labs demonstrations, success stories by SATS graduates, talents show, small water show, and social gathering.

In her address, Prof. Manar Fayyad said that she is very proud to witness the tremendous amount of creations and achievements presented by the SATS students, indicating to the exceptional reputation GJU's students leave either in Jordan or

in Germany. She encouraged the students to maintain and excel with their education, as a weapon of resistance, determination to change the bitter reality that surrounds us.



Dean of SATS, Dr. Safwan Altarazi, thanked the students and staff for their passion towards their school, assuring SATS vision to be a pioneer educations and research school in the whole region.

At the end of the "Day", a ceremony was conducted to honor SATS first class students, distinguished research and teaching assistants, distinguished technician, and students and academic staff who have obtained international and local awards during the last year.

## Flying Faculty



As a part of Flying Faculty Program 2018 School of applied technical science hosted 3 professors, Prof. Dr. Wolfgang Eibner from Ernst-Abbe-Fachhochschule Jena introduce a Business Simulation course , Prof. Dr. Ralph Schuhmann also from Ernst-Abbe-Fachhochschule Jena introduce an Engineering, Management and Law course and finally Dr. Zuheir matter from Airbus Operations SAS introduce Aviation Project Management and Industrialisation course.

# Workshops

## Certified Quality Management System Consultant

Dr. Hani Muhsen participated in the training course (Certified Quality Management System Consultant ISO 9001:2015) during 09.Nov. 2017- 01.03.2018 and he could completing all necessary requirements, held by American Institute of Professional Studies' and He was graded with Excellent. The training course was intended to create awareness of Quality and the importance of Quality Management System. It covered the Terms and Definitions related to Quality as per ISO 9000 standard, seven Quality Management Principles, the Process Approach methodology specified in ISO 9001 and the requirements of ISO 9001 in detail. The importance of establishing, documenting, implementing, maintaining and continually improving the Quality Management System was dealt with in detail.



## Sustainable Development through Effective Knowledge

Dr. Hani Muhsen participated from 23-24 February 2018 in a workshop which is entitled with

"Sustainable development through effective knowledge sharing: Concepts, Methods and Process."

The workshop was focusing on:

- Overview of important principles and approaches in international cooperation.
- Contribution of Returning Experts for sustainable development.
- Concepts and instruments for successful knowledge sharing.
- Identification of individual core competencies for effective knowledge sharing in international cooperation.
- Knowledge sharing in cross-cultural contexts.
- Challenges and solutions in the area of knowledge sharing.

## DESIRE Project Workshop

On Tuesday the 9th of January 2018, the School of Applied Technical Sciences (SATS) at the GJU organized dissemination workshop for the DESIRE project that was co-funded by the Erasmus+ program of the European Union for the development of higher education teaching modules on the Socio-economic Impacts of Renewable Energy implementation.



GJU's Vice President Prof. Atef Al-Kharabsheh said in his opening remarks that the DESIRE modules' teaching material is necessary to cover the increasing demand for energy in the Middle East and North Africa (MENA) region. Prof. Al-Kharabsheh added that by joint efforts of the institutions from the MENA region and the EU though financial support of the Erasmus+ program, six teaching materials on the subject of socioeconomic aspects of the renewable energy and energy efficiency will be provided.

Prof. Al-Halhouli said that the aim of the workshop is to discuss the project's results, outputs, and the latest achievements; he stated that the progress over the last year was great and the evaluation reports were very encouraging and motivating.

# Conferences

## GCREEDER Conference



Under the patronage of His Royal Highness, Prince Hamzah bin Al Hussein inaugurates the 6th Global Conference on Renewable Energy Efficiency for Desert Regions (GCREEDER 2018) at the University of Jordan (UoJ). The conference looks for the participation of local and international

energy experts and academics. The opening ceremony featured remarks from Dr. Saleh Al-Kharabsheh, Jordan's Minister of Energy and Mineral Resources; Prof. Azmi Mahafzah, President of UoJ; and Prof. Abeer Al-Bawab, General Director of the Scientific Research Support Fund (SRSF). Also at the ceremony, HRH Prince Hamzah presented the honor trophies to the conference sponsors and guests of honor, including Prof. Ala'aldeen Al-Halhouli, DESIRE's Project Coordinator.

The 5th DESIRE project's biannual and steering committee meeting was held in Amman, Jordan at the UoJ campus on April 5th, 2018, during the third day of GCREEDER conference. The DESIRE partners from the GJU, UoJ, University of Cyprus (UCY), UNIROMA1, Wuppertal Institute (WI), Technical University of Dresden (TUD), DU, and TU participated in the meeting.



The DESIRE Project Coordinator, Prof. Al-Halhouli, inaugurated the meeting and welcomed the participants. In the first session, the project partners presented their progress and results of their assigned work packages over the past six months. In the second session, a general discussion was held on the elaboration of the teaching materials, teaching plan, the e-learning platform, the scheduling of the training of trainers (ToT), dissemination workshops and the next

steering committee meeting, attempting to finalize the project and to meet all the objectives.

## International Conference on New Energy and Environmental Engineering

Dr. Hani Muhsen participated in the international conference on new energy and environmental engineering ICNEE 2018.



His contributed paper is entitled with "Turbine Design and Its Impact on Energy Harvesting from In-Pipe Hydro Systems." The paper was presented in the Oral session, and it was selected to the best paper award according to the paper contents and presentation on-site.

## Visits

### Fine Factory Field Trip

On Thursday the 3rd of May 2018, a group of the German Jordanian University (GJU) from SATS students together with their Dean Dr. Safwan

Altarazi and a group of staff members of GJU's Office for Industrial Links (OIL) conducted an educational field trip to Fine Factory, as a part of the course "Quality Control", and as part of the adapt2job training that took place in March this year, in order to get an insight about Fine's production lines and discuss cooperation opportunities.

The Fine Factory Company of Jordan in Al-Jeze, Amman, offered the participants a tour of the production facilities and the warehouses, and gave an overview over the regional and national training and development schemes for employees.



The field trip was an opportunity to gain in-depth knowledge on the training needs and facilities of Fine Holding Company in Jordan. It was also an excellent opportunity to exchange on further possibilities for cooperation, a key objective of the GJU to foster its cooperation with industrial partners.

### EU's Delegation's Visit to GJU

On Wednesday March 28th, 2018, an EU delegation headed by Mr. Michael A. Köhler, Director Neighbourhood, Directorate-General for Development Cooperation of the European Commission visited the GJU as part of two-day visit

to Jordan. The delegation visited EU funded laboratories at GJU. In addition, they have been introduced to the three Erasmus+ plus projects running at the School of Applied Technical Sciences: DESIRE, EGREEN, and AT-SGIREs.



The Project's Coordinator, Prof. Al-Halhouli, and his team presented project's objectives, expected results, achieved tasks and plans. In addition, Mr. Köhler and Prof. Manar Fayyad, GJU's President, discussed the importance of these projects in the development of the higher education at the partner universities. Mr. Köhler emphasized on strategies to ensure that the impacts of these projects will be sustained beyond the projects' lifetime.

## German Friendship Association's visit to GJU

On Thursday March 29th 2018, Dipl.-Ing Helmut Henseler, Prof. Anton Mangstl, former Vice President of GJU, and the German Jordanian Society members visited the GJU. The delegation received a warm welcome by the GJU President Prof. Manar Fayyad followed by a briefing on the current affairs at the university by GJU's Vice President Prof. Dr. Dorit Schuman. The delegates had the opportunity to gain further insight into

GJU's activities and projects. They were



introduced to the EU funded projects running at GJU including the DESIRE project. Prof. Al-Halhouli presented the project objectives, running activities, expected results and achieved tasks. Lastly, the project's sustainability and importance for the region was discussed.

## Foundation Entrepreneurship Berlin and TUM International GmbH visit to the Nanolab



Mr. Simon Joachim from Foundation Entrepreneurship Berlin and Mr. Daniel Gottschald and Ms. Cristina Gaertner from TUM International GmbH visited the Nanolab as a part of the

commercialization efforts spent by the principle investigator Prof. Ala'aldeen Al-Halhouli.

The Nanolab team introduced their projects and discussed the commercialization opportunities of their research products specially the commercialization of the novel dual-motor spinning system that the Nanolab members has developed. The novel dual-motor spinning system can be integrated with fluid-on-chip technology which can be used in biomedical, pharmaceutical and chemical analysis applications.

## Dr. Daniel Irimia from Harvard Medical School visit

The principle investigator of the Nanolab Prof. Ala'aldeen Al-Halhouli invited Dr. Daniel Irimia from Harvard Medical School to visit the GJU and the Nanolab. Dr. Irimia was an invited to give a talk on "Microfluidic Assays for Studying Inflammation and Infections" in which he presented some of his work to the professors and the students in GJU.



After his astonishing talk, Dr. Irimia visited the Nanolab where the Nanolab team introduced the research facilities available and their research projects and discussed possible collaborations on microfluidic devices for point of care.

# Achievements

## SATS Research Laboratory



SATS established new research lab in building c , at which group of researchers and doctors are working on their projects. Those projects focus on material science , manufacturing and testing of PV solar system, at which one of those projects focus of developing a low -cost 3D printer to fabricate metallic micro and nano devices on various substrates and the other developing of eco-efficient porous filters and membranes via a novel hybrid milling-molding process for potential water purification application project.

The lab also have a training kit for solar PV system for which any researchers and students can used in developing his/her thesis and work.

## IE Partner Network Meeting



The Industrial Engineering Department held its first Network meeting on 15th and 16th of Feb. 2018 at the premises of Ernst-Abbe Hochschule in Jena, Germany. Representatives from EAH Jena, Hochschule Aalen, Hochschule Fulda, Technische Hochschule Deggendorf, and Westsächsische Hochschule Zwickau attended the meeting. In addition to academic exchange issues and means of collaboration, the attendees discussed the preparation of a summer school at GJU with the participation of several network partners and various fields of engineering. A follow-up meeting will be held in Nov. 2018 at Hochschule Fulda. At the end of the meeting the participants visited the factories of Cals Zeiss Jena GmbH.

# # NEWS

# New faculty member:



## Dr. Sameer Al-Dahidi

An assistant professor in the Department of Mechanical and Maintenance. He obtained his PhD in Energetic and Nuclear Science and Technology (predictive maintenance in energy production plants) from the Polytechnic University of Milan (Politecnico di Milano), Milan, Italy in March 2016

# **Dr. Nathir Rawashdeh's IEEE membership has been upgraded to "Senior Member" in May 2018.**

# **Dr. Nathir Rawashdeh has completed 8 years of service as the academic Exchange Coordinator at the Dept. of Mechatronics Engineering.**

# **Dr. Nathir Rawashdeh attended the World Congress Experience automotive conference in Detroit, MI - USA in April 2018.**

## School Publications and Projects

### Publications

1. Al-Halhouli, A., Qitouqa, H., Alashqar, A., & Abu-Khalaf, J. (2018). Inkjet printing for the fabrication of flexible/stretchable wearable electronic devices and sensors. *Sensor Review*.
2. Al-Halhouli, A. A., 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*, 9(4), 171.
3. Atieh, A. M., Rawashdeh, N. A., & AlHaza, A. N. (2018). Evaluation of Surface Roughness by Image Processing of a Shot-Peened, TIG-Welded Aluminum 6061-T6 Alloy: An Experimental Case Study. *Materials*, 11(5), 771.
4. Rawashdeh N. A., Rawashdeh S. A. (2018). Effect of Structural Scene Content on Feature-Based Visual Odometry Performance, Technical Paper, WCX World Congress Experience, Detroit, MI, USA.
5. Khraisat, W., Abu Jadayil, W., Rawashdeh, N., & Borgström, H. (2018). The role of phosphorus in pore rounding of sintered steels. *Cogent Engineering*, 5(1), 1452350.
6. Rawashdeh, N. A., Abu-Khalaf, J. M., Khraisat, W., & Al-Hourani, S. S. (2018). A visual inspection system of glass ampoule packaging defects: effect of lighting configurations. *International Journal of Computer Integrated Manufacturing*, 1-9.
7. Altarazi, S., Ammouri, M., & Hijazi, A. (2018). Artificial neural network modeling to evaluate polyvinylchloride composites' properties. *Computational Materials Science*, 153, 1-9.
8. Abidi, M., Lattouf, A., & Altarazi, S. (2018, April). A system dynamics simulation modeling for managing the inventory in multi-echelon multi-product pharmaceutical supply chain. In *Proceedings of the Annual Simulation Symposium* (p. 3). Society for Computer Simulation International.
9. Altarazi, S. A., & Ammouri, M. M. (2017). Concurrent manual-order-picking warehouse design: a simulation-based design of experiments approach. *International Journal of Production Research*, 1-19.

### Projects

1. Mathematical and Simulation Modeling for an Effective Healthcare Supply Chain: The Case of Jordan, PI: Dr. Safwan Altarazi, Funded by: Deanship of Scientific research, GJU - Amount of 6,300 JD.
2. Development of a low-cost printer to fabricate 3D micro scale metallic devices by electrochemical deposition, PI: Dr. Nidal Alshwawreh, Funded by: Scientific Research Fund, Amount of 47,000 JD.

CONTACT US:

S  
A  
T  
S



+962 6 429 4444



[www.gju.com/SATS](http://www.gju.com/SATS)



SATScommunity



+962 6 430 0215



German Jordanian University



Amman Madaba Street  
P.O. Box 35247  
Amman 11180 Jordan