Curriculum Vitae

Personal Data.

Name	**Za'er Salem Mohammad Abo-Hammour**
Date of Birth	**4-12-1969**
Place of Birth	**Salt, Jordan**
Marital Status	**Married**
Number of Children	**Four (Abdullah, Rama, Seema, Omar)**
Nationality	**Jordanian**
Work Address	**Mechatronics Engineering Department** **School of Engineering** **University of Jordan, Amman, Jordan.** **Telephone: - 00-962-6-5355000, ext. 23026**
Home Address	**Apartment No. 1, Ground Floor, Building No 20, Al-Hareth Bin Abi-Halah Street, Near Ibraheem Al-Khateeb Mosque, Al-Kursi, Amman, Jordan.**
E-Mail	**zaer@ju.edu.jo, zaer_hr@yahoo.com, zaer_hmr@hotmail.com.**
Mobile Phone	**00-962-777-212223**

Education.

Degree	*Field*	*Institution*	*Country*	*Year*
Ph.D.	**Systems Engineering**	**Pakistan Institute of Engineering and Applied Sciences[1], Pakistan Atomic Energy Commission.**	**Pakistan**	**2002**
M.Sc.	**Systems Engineering**	**Pakistan Institute of Engineering and Applied Sciences, Pakistan Atomic Energy Commission.**	**Pakistan**	**1998**
B.Sc.	**Electrical Engineering**	**Mu'tah University.**	**Jordan**	**1991**

[1] Pakistan Institute of Engineering and Applied Sciences (PIAES) is the top ranked Pakistani university in the QS World University Rankings 2019 (first Pakistani university, 397 global rank).

Awards.

Award	*Occasion*	*Institution*	*Country*	*Year*
Certificate of appreciation	**Outstanding research contributions in global university ranking.**	**University of Jordan.**	**Jordan**	**2020**
Certificate	**Distinguished University Researcher.**	**University of Jordan.**	**Jordan**	**2012**

Certificate	**First Position Project "Laser Guided Autonomous Vehicle", Technology Festival.**	**Philadelphia University.**	**Jordan**	**2011**
Certificate	**First Position Project, Made in Arab World Competition, "Integrated Solar System for Cooling and Heating of Residential Buildings".**	**Arab Science and Technology Foundation (ASTF).**	**Egypt**	**2010**
Presidential Gold Medal	**First Position in the Institute.**	**Pakistan Institute of Engineering and Applied Sciences, Pakistan Atomic Energy Commission.**	**Pakistan**	**1998**
Certificate of Merit	**Securing "A" score in M.Sc. Systems Engineering.**	**Pakistan Institute of Engineering and Applied Sciences, Pakistan Atomic Energy Commission.**	**Pakistan**	**1998**
Certificate of Merit	**First Position in M.Sc. Systems Engineering.**	**Quaid-I-Azam University.**	**Pakistan**	**1998**
Royal Prize	**First Position in B.Sc. in the Faculty of Engineering, Second Position in the University.**	**Mu'tah University.**	**Jordan**	**1991**

Work experience.

Period	***Position***
Nov. 2015 - Present	**Professor, Mechatronics Engineering Department, School of Engineering[1], University of Jordan, Amman, Jordan.**
Nov. 2011 - Nov. 2015	**Associate Professor, Mechatronics Engineering Department, Faculty of Engineering, University of Jordan, Amman, Jordan.**
Sep. 2008 - Nov. 2011	**Assistant Professor, Mechatronics Engineering Department, Faculty of Engineering, University of Jordan, Amman, Jordan.**
Sep. 2006 - Sep. 2008	**Founder and chairman of Mechatronics Engineering Department, Faculty of Engineering, University of Jordan, Amman, Jordan.**
Oct. 2005 - Sep. 2006	**Assistant Professor, Electrical Engineering Department, Faculty of Engineering, University of Jordan, Amman, Jordan.**
Mar. 2003 - Aug. 2005	**Chairman of Research and Studies Division, Scientific Research Department, King Abdullah II Design and Development Bureau, Amman, Jordan.**
Sep. 1996 - Dec. 2002	**Fellow at Pakistan Institute of Engineering and Applied Sciences, Pakistan Atomic Energy Commission, Pakistan.**
Jun. 1991 - Sep. 1996	**Telecommunication Exchanges Maintenance Officer, Royal**

Signal Corps, Jordan Armed Forces, Amman, Jordan.

[1] **Faculty of Engineering has been renamed to School of Engineering as of Feb 2016.**

Research Interests.

- **Path and motion planning of robot manipulators.**
- **Control systems design (conventional and optimal).**
- **Model order reduction techniques.**
- **Numerical differentiation and integration.**
- **Numerical solution of ordinary and partial differential equations.**
- **Numerical solution of initial and boundary value problems.**
- **Continuous and discrete optimization problems.**
- **Continuous and conventional genetic algorithms.**
- **System identification.**
- **Artificial intelligence and soft computing.**
- **Design of artificial intelligent IT systems.**

Development of Globally Unique Artificial intelligent IT systems

IT system	***Commercial name***	***Development Year***
Fully Automated Course Timetabling for Universities	**FACTFUN**	**2015**
An Interactive System for Selecting Senior Leadership Positions in Governments	**RPRP (Right Person in the Right Place)**	**2017**
An Automated System for the Execution of Appointments and Retirements in Armed Forces	**ASEAR-AF**	**2018**

Supervision of Ph.D. students.

Degree	***Student name***	***Institution***	***Country***	***Graduation Year***
Ph.D. in Mechanical Eng.	**Ali Al-Asasfeh**	**Univ. of Jordan**	**Jordan**	**2011**
Ph.D. in Mathematics	**Omar Abo-Arqoub**	**Univ. of Jordan**	**Jordan**	**2008**

Ph.D. in Mathematics	**Hussein Jaradat**	**Univ. of Jordan**	**Jordan**	**2006**
Ph.D. in Mathematics	**Omar Al-Sayed**	**Univ. of Jordan**	**Jordan**	**2006**

ISI Journal Publications. **(Average ISI Impact Factor =1.488)**

1. **Gharaibeh, Anne A.; Ali, Mansoor H.; Abo-Hammour, Zaer S.; Al Saaideh, Mohammad; Improving Genetic Algorithms for Optimal Land-Use Allocation; Journal of Urban Planning and Development, 147(4), 2021. (ISI Impact Factor 2020 =1.381)**

2. **Khasawneh, Hussam J.; Abo-Hammour, Zaer S.; Al Saaideh, Mohammad I.; Momani, Shaher M.; Identification of Hysteresis Models using Real-Coded Genetic Algorithms; The European Physical Journal Plus, 134(10), article 507, 2019. (ISI Impact Factor 2018 =2.612)**

3. **Alsmadi, Othman; Abo-Hammour, Zaer; Abu-Al-Nadi, Dia; Saraireh, Saleh; Soft Computing Techniques for Reduced Order Modelling: Review and Application; Intelligent Automation and Soft Computing, 22(1), 125-142, 2016. (ISI Impact Factor 2017 =0.652).**

4. **Momani, Shaher; Abo-Hammour, Zaer S.; Alsmadi, Othman MK.; Solution of Inverse Kinematics Problem using Genetic Algorithms; Applied Mathematics and Information Science; 10(1), 225-233, 2016. (ISI Impact Factor 2013=1.232).**

5. **Momani, Shaher; Abu Arqub, Omar; Hammad, Ma'mon; Abo-Hammour, Zaer S.; A Residual Power Series Technique for Solving Systems of Initial Value Problems; Applied Mathematics and Information Science; 10(2), 765-775, 2016. (ISI Impact Factor 2013=1.232).**

6. **Alsmadi, Othman M.K.; Abo-Hammour, Zaer S.; A Robust Computational Technique for Model Order Reduction of Two-Time-Scale Discrete Systems via Genetic Algorithms; Computational Intelligence and Neuroscience; Volume 2015, Article ID 615079, 9 pages, 2015. (ISI Impact Factor 2017=1.649).**

7. **Abo-Hammour, Zaer; Abu Arqub, Omar; Alsmadi, Othman; Momani, Shaher; An Optimization Algorithm for Solving Systems of Singular Boundary Value Problems; Applied Mathematics and Information Sciences; 8(6), 2809-2821, 2014. (ISI Impact Factor 2013=1.232)**

8. **Abo-Hammour, Z.S.; Samhouri A.D.; Mubarak Y.; Continuous Genetic Algorithm as a novel solver for Stokes and Nonlinear Navier Stokes Problems; Mathematical Problems in Engineering; Article ID 649630, 18 pages, 2014. (ISI Impact Factor 2017=1.145)**

9. **Alsmadi, Othman M.K.; Saraireh, Saleh S.; Abo-Hammour, Zaer S.; Marzouq, Ali H.; Substructure Preservation Sylvester-based Model Order Reduction with Application to Power Systems; Electric Power Components and Systems; 42(9), 914–926, 2014. (ISI Impact Factor 2017 =1.144)**

10. **Abu Arqub, Omar; Abo-Hammour, Zaer; Numerical solution of systems of second-order boundary value problems using continuous genetic algorithm; Information sciences; Volume 279, 396–415, 2014. (ISI Impact Factor 2017=4.305)**

11. **Alsmadi, Othman M.K.; Abu-Al-Nadi, Dia; Abo-Hammour, Zaer S.; Particle Swarm Optimization for MOR of Singularly Perturbed Systems with Critical Frequency Preservation and Application to Power Systems Simplified Modeling; Journal of Circuits Systems and Computers; 23(5), Article ID 1450073, 20 pages, 2014. (ISI Impact Factor 2017=0.595)**

12. **Abo-Hammour, Zaer; Abu Arqub, Omar; Momani, Shaher; Shawagfeh, Nabil; Optimization Solution of Troesch's and Bratu's Problems of Ordinary Type Using Novel Continuous Genetic Algorithm; Discrete Dynamics in Nature and Society; Volume 2014, Article ID 401696, 2014. (ISI Impact Factor 2017=0.757)**

13. **Abu Arqub, Omar; Abo-Hammour, Zaer; Momani, Shaher; Application of continuous genetic algorithm for nonlinear system of second-order boundary value problems; Applied Mathematics and Information Sciences; 8(1), 235-248, 2014. (ISI Impact Factor 2013=1.232)**

14. **Abo-Hammour, Za'er; Alsmadi, Othman; Momani, Shaher; Abu Arqub, Omar; A Genetic Algorithm Approach for Prediction of Linear Dynamical Systems; Mathematical Problems in Engineering; Volume 2013, Article ID 831657, 2013. (ISI Impact Factor 2017=1.145)**

15. **Abu Arqub, Omar; Abo-Hammour, Zaer; Al-Badarneh, Ramzi; Momani, Shaher; A Reliable Analytical Method for Solving Higher-Order Initial Value Problems; Discrete Dynamics in Nature and Society; Volume 2013, Article ID 673829, 2013. (ISI Impact Factor 2017=0.757)**

16. **Abu-Al-Nadi, Dia I.; Alsmadi, Othman M.K.; Abo-Hammour, Zaer S.; Hawa, Mohammed F.; Rahhal, Jamal S.; Invasive weed optimization for model order reduction of linear MIMO Systems; Applied Mathematical Modelling; 37(6), 4570–4577, 2013. (ISI Impact Factor 2017=2.617)**

17. **Abo-Hammour, Za'er S.; Alsmadi, Othman M. K.; Al-Smadi, Adnan M.; ARMA model order and parameter estimation using genetic algorithms; Mathematical and Computer Modelling of Dynamical Systems; 18(2), 201-221, 2012. (ISI Impact Factor 2017=0.586)**

18. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer S.; Al-Smadi, Adnan M.A.; Robust and efficient genetic algorithm for solving a chemical reactor problem: theory, application and convergence analysis; Transactions of the Institute of Measurement and Control; 34(5), 594-603, 2012. (ISI Impact Factor 2017=1.579)**

19. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer S.; Al-Smadi, Adnan M.; Robust model order reduction technique for MIMO systems via ANN-LMI-based state residualization; International Journal of Circuit Theory and Applications; 40(4), 341-354, 2012. (ISI Impact Factor 2017=1.444)**

20. **Abu Arqub, Omar; Abo-Hammour, Zaer; Momani, Shaher; Solving singular two-point boundary value problems using continuous genetic algorithm; Abstract and Applied Analysis; volume 2012; Article ID 205391; 2012. (ISI Impact Factor 2013 = 2.479)**

21. **Abo-Hammour, Zaer S.; Alsmadi, Othman M. K.; Al-Smadi, Adnan M.; Multi-time-scale systems model order reduction via genetic algorithms with eigenvalue preservation; Journal of Circuits Systems and Computers; 20(7), 1403-1418, 2011. (ISI Impact Factor 2017 =0.595)**

22. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer S.; Al-Smadi, Adnan M.; Artificial neural network for discrete model order reduction with substructure preservation; Applied Mathematical Modelling; 35(9), 4620-4629, 2011. (ISI Impact Factor 2017 =2.617)**

23. **Abo-Hammour, Zaer S.; Asasfeh, Ali Ghaleb; Al-Smadi, Adnan M.; A novel continuous genetic algorithm for the solution of optimal control problems; Optimal Control Applications & Methods; 32(4), 414-432, 2011. (ISI Impact Factor 2017=1.614)**

24. **Abo-Hammour, Za'er S.; Alsmadi, Othman M. K.; Bataineh, Sofian I.; Continuous genetic algorithms for collision-free Cartesian path planning of robot manipulators; International Journal of Advanced Robotic Systems; 8(6), 14-36, 2011. (ISI Impact Factor 2017=0.952)**

25. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer S.; Al-Smadi, Adnan M.; Genetic algorithm approach with frequency selectivity for model order reduction of MIMO systems; Mathematical and Computer Modelling of Dynamical Systems; 17(2), 163-181, 2011. (ISI Impact Factor 2017=0.586)**

26. **Abo-Hammour, Za'er S.; Albadarneh, Ramzi B.; Saraireh, Mohammad S.; Solution of Laplace equation using continuous genetic algorithms; Kuwait Journal of Science & Engineering; 37(2A), 1-15, 2010. (ISI Impact Factor 2014 = 0.312)**

27. **Abo-Hammour, Z. S.; Yusuf, M.; Mirza, N.M.; Numerical solution of second-order, two-point boundary value problems using continuous genetic algorithms; International Journal for Numerical Methods in Engineering; 61(8), 1219-1242, 2004. (ISI Impact Factor 2017 =2.589)**

28. **Abo-Hammour, Z. S.; Mirza, N.M.; Mirza, S.M.; Cartesian path generation of robot manipulators using continuous genetic algorithms; Robotics and Autonomous Systems; 41(4), 179-223, 2002. (ISI Impact Factor 2017=2.638)**

ISI conference publications

1. **Abo-Hammour, Zaer S.; Al Saaideh, Mohammad I.; Alkayyali, Malek; Khasawneh, Hussam J.; Optimal Design of Lead Compensator Using Nature-Inspired Algorithms; 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT); Amman, Jordan, 40-45, 2019.**

2. **Khasawneh, Hussam J.; Abdelaal, Osama; Al Saaideh, Mohammad I.; Abo-Hammour, Zaer S.; Optimal Lead Compensator for Two-Loop Control System of Linear DC Motor; 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT); Amman, Jordan, 634-639, 2019.**

3. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer. S.; Al-Smadi, Adnan M.; Intelligent Computational Technique with CGA Approach for Optimal Solutions; 2013 IEEE 20th International Conference on Electronics, Circuits, and Systems (ICECS); Abu Dhabi, United Arab Emirates, 233-236, DEC 08-11, 2013.**

4. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer. S.; Al-Smadi, Adnan M.; Artificial neural network for discrete model order reduction with frequency selectivity; 10th International Conference on Fuzzy Logic and Intelligent Technologies in Nuclear Science (FLINS 2012); Istanbul, Turkey, 1011-1016, AUG 26-29, 2012.**

5. **Abo-Hammour, Zaer. S.; Alsmadi, Othman M. K.; Al-Smadi, Adnan M.; A novel technique for ARMA modelling with order and parameter estimation using genetic algorithms; 2nd International Conference on Networked Digital Technologies (NDT 2010); Book Series: Communications in Computer and Information Science 88; Prague, Czech Republic, 564-576, 2010.**

6. **Alsmadi, Othman M. K.; Abo-Hammour, Zaer. S.; Al-Smadi, Adnan M.; Efficient substructure preserving MOR using real-time temporal supervised neural network; 2nd International Conference on Networked Digital Technologies (NDT 2010); Book Series: Communications in Computer and Information Science 88; Prague, Czech Republic, 193-202, 2010.**

7. **Alsmadi, Othman M.K.; Abo-Hammour, Za'er S.; Saraireh, Mohammad S.; Model-order reduction of singularly perturbed systems based on artificial neural estimation and LMI-based transformation; 6th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2009); Volume 1: Intelligent Control Systems and Optimization; Milan, Italy, 173-180, 2009.**

8. **Abo-Hammour, Za'er S.; Saraireh, Mohammad Suleiman; Alsmadi, Othman M-K.; A comparative study between conventional and continuous genetic algorithms for the solution of Cartesian path generation problems of robot manipulators; 6th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2009); Volume 2: Robotics and Automation; Milan, Italy, 417-424, 2009.**

Patents

1. **Abo-Hammour, Zaer; A method and apparatus for magnetic/electrostatic /electromagnetic treatment of fluids comprising three phases: the treatment phase, the mixing phase, and the usage phase which are spatially and temporally decoupled; United States Patent Office; US10407627B2, 28 Pages, 2019.**

2. **Abo-Hammour, Zaer; Method and apparatus for indirect magnetic treatment of fluids and gases; United States Patent Office; US9795938B2, 28 Pages, 2017.**

3. **Abo-Hammour, Zaer; A method and apparatus for magnetic/electrostatic /electromagnetic treatment of fluids comprising three phases: the treatment phase, the mixing phase, and the usage phase which are spatially and temporally decoupled; World Intellectual Property Organization; WO/2014/173672, 72 Pages, 2014.**

4. **Abo-Hammour, Zaer; Method and apparatus for indirect magnetic treatment of fluids and gases; World Intellectual Property Organization; WO/2012/156464, 40 Pages, 2012.**

Non-ISI Journal Publications

1. **Al-Asasfeh, A.; Hamdan, N.; Abo-Hammour, Z.; Flight control laws verification using continuous genetic algorithms; ISRN Robotics; Volume 2013, Article ID 496457, 2012.**

2. **Albadarneh, Ramzi B.; Shawagfeh, Nabil T.; Abo-Hammour, Za'er S.; Numerical solution of semi linear Elliptic Equations using 13-points FDM; International Mathematical Forum; 5(11), 527- 536, 2010.**

3. **Abo-Hammour, Za'er S.; Badarneh, R.; General numerical method to approximate the partial derivative based on Lagrange interpolating polynomial; International Journal of Computational Science; 3(3), 299-308, 2010.**

4. **Dar-Odeh, Najla S.; Alsmadi, Othman M.; Bakri, Faris; Abu-Hammour, Zaer; Shehabi, Asem A.; Al-Omiri, Mohammed K.; Abu-Hammad, Shatha M. K.; Al-Mashni, Hamzeh; Saeed, Mohammed B.; Muqbil, Wael; Abu-Hammad, Osama A.; Predicting recurrent aphthous ulceration using genetic algorithms-optimized neural networks; Advances and Applications in Bioinformatics and Chemistry; 2010(3), 7-13, 2010.**

Non-ISI Conference Publications

1. **Abo-Hammour, Zaer S.; Alkayyali, Malek; Khasawneh, Hussam J.; Al Saaideh, Mohammad I.; On the Design of the Integer and Fractional PID Controllers Using Particle Swarm Optimization; Proceedings of International Conference on Fractional Differentiation and its Applications (ICFDA) 2018; Amman, Jordan, 6 pages, 2018.**

2. **Abu-Al-Nadi, Dia I.; Alsmadi, Othman M.K.; Abo-Hammour, Zaer S.; Reduced order modeling of linear MIMO systems using particle swarm optimization; The Seventh International Conference on Autonomic and Autonomous Systems (ICAS 2011); Venice, Italy, 62-66, 2011.**

3. **Abo-Hammour, Zaer S.; Alsmadi, Othman M.K.; Al-Smadi, Adnan M.; Frequency-based model order reduction via genetic algorithm approach; 7th International Workshop on Systems, Signal Processing and Their Applications (WOSSPA 2011); Tipaza, Algeria, 91-94, 2011.**

4. **Alsmadi, Othman M.K.; Abo-Hammour, Zaer S.; Abu-Al-Nadi, Dia I.; Algsoon, Alia; A novel genetic algorithm technique for solving university course timetabling problems; 7th International Workshop on Systems, Signal Processing and Their Applications (WOSSPA 2011); Tipaza, Algeria, 195-198, 2011.**

5. **Abo-Arqoub, Omar A.; Abo-Hammour, Za'er S.; Numerical solution of stiff initial value problems using continuous genetic algorithms; Fourth International Conference on Information Technology (ICIT 2009); Al-Zaytooneh University, Amman, Jordan, 1-10, 2009.**

6. **Abu-Arqoub, Omar A.; Shawagfeh, Nabil T.; Abo-Hammour, Za'er S.; Numerical solution of initial value problems using continuous genetic algorithms; Australasian Corrections Education Association (ACEA 2009); Amman, Jordan, 1-5, 2009.**

7. **Abo-Hammour, Za'er S.; Alsmadi, Othman M.K.; Sarrayreh, Mohammad S.; Khasawneh, Husam J.; Genetic algorithm-based adaptive tuning method of PID controllers. International Symposium on Innovations in Intelligent Systems and Applications (INISTA 2009); Trabzon, Turkey, 527-531, 2009.**

8. **Alsmadi, Othman M.K.; Abo-Hammour, Za'er S.; Sarrayreh, Mohammad S.; Dimensionality reduction of multi-time scale systems via eigen value decoupling and state transformation; International Symposium on Innovations in Intelligent Systems and Applications (INISTA 2009); Trabzon, Turkey, 522-526, 2009.**

9. **Abu Arqob, Omar A.; Shawagfeh, Nabil T.; Abo-Hammour, Za'er S.; Numerical solution of fuzzy initial value problems using continuous genetic algorithms; The Second Conference on Mathematical Sciences (CMS 2008); Zarqa Private University, Zarqa, Jordan, 445-456, 2008.**

10. **Saraireh, Mohammed S.; Saatchi, Reza; AL-Khayatt, samir; Strachan, Rebecca; Abo-Hammour, Za'er; Optimization of IEEE 802.11 MAC protocol parameters using hybrid genetic-fuzzy approach; Proceedings of the IEEE SMC UK-RI 5th Conference on Advances in Cybernetic Systems (AIC 2006); Sheffield, United Kingdom, 253-258, 2006.**

Book publications

Abo Hammour, Za'er S.; A novel continuous genetic algorithms for the solution of the cartesian path generation problem of robot manipulators; In Robot Manipulators: New Research, Edited by Lui JX; Nova Publishers; 133-190, 2005.

Funded projects.

Project title	*Funding Organization*	*Fund (JD)*	*Year*
An automated wireless dual solar-diesel heating system for residential space and water heating.	**KAFD, KADDB**	**6450**	**2007**
Vision guided autonomous ground vehicle (image processing and control).	**KAFD, KADDB**	**5350**	**2008**
Vision guided autonomous ground vehicle (actuating and driving).	**KAFD, KADDB**	**7750**	**2008**
Design and construction of a liquid filling machine.	**KAFD, KADDB**	**6000**	**2009**
Laser-guided autonomous vehicle (phase 1).	**KAFD, KADDB**	**9040**	**2009**
Solar air conditioning for residential buildings.	**KAFD, KADDB**	**8000**	**2009**
Laser-guided autonomous vehicle (phase 2).	**KAFD, KADDB**	**8800**	**2010**
Design and construction of a testing setup for solar water heaters.	**KAFD, KADDB**	**4250**	**2010**
Commercial version of the automated dual solar-diesel thermal system for residential space and water heating.	**KAFD, KADDB**	**9360**	**2010**

Design and construction of a multi tank solar water heater system.	**KAFD, JOSCO**	**3900**	**2010**
Smart pharmacy system.	**KAFD, KADDB**	**4950**	**2012**
Reduction of environmental pollution in mining industries using viscosity control system.	**KAFD, JOSCO**	**8740**	**2012**
Design and construction of a thermal compression therapy setup.	**KAFD, KADDB**	**2500**	**2013**

KAFD: King Abdullah II Fund for Development.
KADDB: King Abdullah II Design and Development Bureau.
JOSCO: Jordan Oil Shale Company.

Additional activities

- **Leading and participating in a large number of committees at the national and the university levels in the field of scientific research, innovation, accreditation and quality assurance, course plans, outreach with industries, and faculty members promotions, investigation with students and faculty members.**
- **Proposing a group of novel proposals at the national level that are approved and applied from the concerned governmental authorities.**
- **Supervising a large number of master's degree students at the national and the university levels.**
- **Reviewing a large number of journals manuscripts in the field of robotics, control systems, modeling and simulation, optimization, and artificial intelligence.**
- **Teaching a lot of courses in the field of robotics, control systems, modeling and simulation, numerical analysis, and electrical circuits.**