## GHASSAN M. TASHTOUSH

**JORDAN UNIV. OF SCIENCE AND TECHNOLOGY**
**MECHANICAL ENG. DEPT.**
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## OBJECTIVE

Engaging in meaningful knowledge exchange activities by translating knowledge and discovery into impact or benefitting both industries and communities.
Integrating the industrial experience and professional practice effectively with teaching

## SKILLS

1. Academic advising
2. Course development
3. Course lecturing
4. Student mentoring
5. Graduate student support
6. Departmental leadership
7. Plan courses
8. Mentor graduate students
9. Researching

## PROFESSIONAL SUMMARY

An insightful educator with a solid background in mechanical engineering at all levels helping students learn and excel by successfully building courses at both undergraduate and graduate levels. Mentor students closely to improve academic and vocational success. Hardworking and reliable educator focused on going above and beyond to support the students in their education. Trained in online teaching and offering top-notch teaching abilities. Motivated to continue to learn and grow as a mechanical engineering professional. Motivating currently enrolled college students that are seeking an opportunity to apply skills in renewable energy, energy efficiency, and other energy applications to meet challenging work assignments that support the industry. Excellent at communicating, writing, and editing. Keen attention to detail and focus on meeting deadlines.

## EDUCATION

**PH.D. 1997**
University of Kentucky, Lexington, KY, USA.
**Mechanical Engineering/ Thermal Energy**

**M.SC. 1993**
Jordan University of Science and Technology, Irbid, Jordan.
**Mechanical Engineering/ Thermal Energy**

**B.SC. 1989**
Jordan University of Science and Technology, Irbid, Jordan.
**Mechanical Engineering/ Thermal Energy,**

## LEADERSHIP EXPERIENCE

9/2014- 8/2016 **Director of Mechanical and Industrial Eng. Dept.**

9/2013- 8/2014 **Director of Energy Center**

9/2011- 9/2012 **Chairman of the Mechanical Eng. Dept.**

Delegated assignments and coordinated schedules to manage day-to-day student activities and functions. Inspected department daily to verify teacher conformance with policies and expectations. Documented department activities through logs and reports. Implemented and improved teaching strategies to achieve student learning goals. Resolved escalated issues with a positive approach, persuasive communication skills, and conflict management strategies. Assigned tasks to department members and helped associates to meet students' needs. Reviewed and evaluated students' performance, providing learning opportunities to fuel professional development.

## TEACHING EXPERIENCE

**9/1999 - Present** **Teaching Professor**, **Mechanical Eng. Dept.**
**Jordan Univ. of Science and Technology, Jordan.**
**(**Accredited by the Engineering Accreditation Commission of **ABET)**

- Developed in-depth lectures based on books, personal research, and course objectives to drive student learning.
- Created new course offerings for both undergraduate and graduate students.
- Encouraged debates during and outside of class to develop students' understanding of classroom content.
- Collaborated with fellow professors to improve department function, courses, and student engagement through proactive strategies.
- Oversaw research into renewable energy and published 30 papers in academic journals.
- Helped struggling students understand the field and better grasp core topics vital to continued studies.
- Mentored graduate students as they completed Master's degrees, overseeing their research and helping each make career plans.
- Supported graduate students in selecting research topics, planning projects, and meeting graduation requirements.
- Advised and co-advised graduate and undergraduate students on their final-year projects and theses
- Involved in teaching the following classes:

**Undergraduate Courses:**

- Instrumentation for Engineering Measurements
- Fluid Mechanics I&II
- Gas Dynamics
- Thermodynamics I&II.
- Heat Transfer
- Strength of Material
- Statics and Dynamics
- Internal Combustion Engines
- Automotive Engineering Systems
- Renewable Energy Laboratory
- Design of Thermal System
- Mechatronics Measurements and Testing Laboratory
- Thermo-fluid Laboratory
- **Internal Combustion, Hybrid, and Electric Vehicles** Laboratory
- Heating Refrigeration and Air Conditioning (HVAC)
- **Air Pollution Measurements and Control**
- Mechatronics Measurements and Testing Laboratory

**Graduate Courses:**

- Alternative Energy Resources
- Wind Energy
- Energy Efficiency and Management
- Research Methodology
- **Energy and Environmental Science**
- Theory of Combustion Science Fundamentals
- Renewable Energy Resources
- **Maintenance Management**
- Project Management.
- Applied Statistics for Engineering.
- **Design of Experiment DOE**
- **Project Management.**
- **Production, Operation, and Risk Management**
- **Lean Manufacturing management, TQM, and TQC.**

**9/2006- 5/2009** **Adjunct Professor** at **NYIT, Amman branch.**

- Involved in teaching the following classes:
- **Operation Management,**
- **Project Management, and Quantitative Methods in the MBA Program.**

**8/1993 - 5/1997** **Teaching and Research Assistant, University of Kentucky**, Lexington Kentucky, USA

- Assisted in teaching undergraduate courses including thermodynamics and instrumentation laboratory.

**1989-1993** **Teaching Assistant**, Jordan Univ. of Science and Technology, Jordan

## Online/hybrid Teaching Experience.

As an educator, my goal is to promote students learning using a variety of tools and delivery mediums that are best suited and help to develop the best possible outcomes given all the pre-existing conditions.

- I am using elements of online education in all of my classes because I believe that technology is necessary for educating students to navigate in the world of information overload
- To enhance students learning with online course delivery, everything should be prepared well before the course starts date as the online environment lacks the crucial component of teaching: human in-person interaction.
- Preparing well in advance and focusing on students' learning outcomes while teaching the online course to substitute the human interaction piece.
- students are diverse, and although a learning environment can have a lot of positive features, the fact that people have different learning styles and distinct understandings of technology and exposure to and experience with its use requires me to adapt my use of technology to the specific educational context.
- My philosophy of teaching in the online learning environment is very simple; technology is a tool—each tool when in use, can produce both positive and negative results.

- **Involved in teaching the following courses using the hybrid (50% online/ 50% in class) approach**
  1. **I taught an automotive engineering course for undergraduate students using a problem-based learning approach. It was a highly engaging and fulfilling experience for my students. The course started with an introduction to the basic concepts of automotive technology, including various types of internal combustion engines, hybrid systems, and electric drive systems. We then had discussions and activities that delved into the scientific principles behind engines and the practical ways to improve the efficiency of vehicles and reduce their environmental impact. As the course progressed, my students worked on real laboratory experiments that allowed them to apply their knowledge and skills to address specific performance-related challenges in their community or workplace. These experiments were designed to be hands-on, collaborative, and solution-oriented, giving my students a chance to think critically, work in teams, and make a tangible difference. To provide a solid foundation in vehicle design and performance and the ability to apply their learning to real-world situations, the students presented their results in class for evaluation during the final week of the course.**

  2. **I Taught a course in energy efficiency for graduate students with a project-based learning approach, it was a rewarding and engaging experience for me and my students. The course began by introducing the fundamental concepts of energy efficiency and the various ways in which it can be improved in different applications. This is followed by discussions and activities that explore the scientific principles behind energy conservation and the practical steps that can be taken to increase the efficiency of buildings, appliances, and other systems. As the course progressed, students were allowed to work on real-world projects that allow them to apply their knowledge and skills to address specific energy-related challenges in their community or workplace. These projects were designed to be collaborative, hands-on, and solution-oriented which gave the students a chance to think critically, work in teams, and make a meaningful impact. To provide them with a solid understanding of energy efficiency and the ability to apply what they have learned to real-world situations in the last week of the course, the students had a chance to present their results in class for evaluation.**

**<u>Contribution to diversity.</u>**

**At my current institution, as a professor, I was a faculty advisor for the low-performing students in the Mechanical Engineering program and I actively mentored more than fourteen students each year as part of our organization's distributed mentors' program so I can help ignite the interest of their knowledge in engineering and science.**

**As a professor, I am interested in working with the campus to expand using renewable energy resources in all facilities. With help from campus, I recruit each year students from underserved or underrepresented populations to work for the summer on renewable energy research in my lab, expose them to new ideas and developments in this area, and encourage them to bring some of these into their daily activities. I would also work to engage other faculty in renewable energy as part of their participation in their research grant proposals to serve local society.**

## RESEARCH EXPERIENCE

**Sept. 2010 - Present** **Mechanical Eng. Dept. Jordan Univ. of Science and Technology (Accredited by the Engineering** Accreditation Commission (**ABET)**

- **Conducted Research in the Renewable energy** field with a focus on solar thermal systems design, wind, and biosystems including simulation, fabrication, and testing for several applications of desalination, thermal heating, refrigeration, and air-conditioning systems.
- **Principal Investigator for many-funded research grants.**
- Advised and co-advised graduate students and undergraduate students on their final-year projects and theses

**Supervised Theses:**

- 2023, Novel green lean six-sigma approach for energy management in industry: Framework and a case study.
- 2022, Design and Fabrication of an Optimal Transportable Hybrid and Continuous Power Generation System, Power Cube
- 2022, Feasibility study and environmental impact analysis of introducing a PV supplied Electric Bus network in public transport, case study.
- 2022, Locating and sizing of electric vehicle fast-charging stations in high-density cities in Jordan powered by renewable energy sources: A case study using public parking in Amman.
- 2022, Techno-economic analysis and life cycle environmental impact assessment of power production using oil shale in comparison with Photovoltaic systems in Jordan
- 2021, Analysis and optimization of stress and strain concentration factors in countersunk holes due to mechanical bending.
- 2021, Simulation and Analysis of magnetohydrodynamic power generator coupled with a rectangular single-phase natural circulation loop using low-temperature liquid metal as the working fluid
- 2021, An environmental impact of using Photovoltaic systems in Jordan, life cycle assessment
- 2020, Design and Optimization of the Optical Properties of Graphene Derivatives as Hole Transmission Layer for Perovskite Solar Cell
- **2020, Optimization of anti-reflective coatings on PV cells using response surface methodology for solar cells with nanostructured Materials**
- **2020, The environmental life cycle assessment for using electric vehicle technology compared to conventional vehicles in Jordan**
- **2020, Theoretical study for Hybrid Solar Photovoltaics' /Thermal (PV/T) air conditioning system using a vapor compression cycle combined with a cooling ejector system.**
- **2020, A PV system connection and sizing design methodology based on system modeling and simulation**
- **2019, Introducing a new prototype for energy efficiency public buildings using design of experiments**
- **2019, Axiomatic design of a ready-to-use solar hot air heating system**

- **Thermal performance analysis and testing of stationary and tracking Compound Parabolic Concentrator (CPC) with flat plate absorber for Jordan climate**
- **Design and fabrication of a portable refrigeration solar adsorption unit.**
- **Characterization and Properties of Aluminum–Silicon Carbide – Graphite Metallic Matrix Composites**
- **Energy auditing and analysis at JUST for saving the energy**
- **A General Equation for Stress Concentration Factor in Countersunk Holes in Orthotropic Plates**

**Sept. 1999- Sept. 2010 Mechanical Eng. Dept. Jordan Univ. of Science and Technology, Jordan**

- Performed experimental research on biofuel production systems. Part of this research was the development of an efficient Conversion of **Waste Animal Fat and oil into Biodiesel**.
- Studied the performance and emission of a diesel engine fueled with dual fuel waste cooking oil (methyl ester)-diesel.
- Winner of Research internship, summer 2004 at Sokhtian CO. as part of the **Faculty for Factory (FFF) Scholarship** program supported by Higher Counsel of Science and Tech., Jordan
- Winning the DAAD Scholarship research award in the summer of 2003 in GERMANY (In Fachhochschule Amberg - Weiden) on renewable energy research.
- Attended the Energy Efficiency Workshop, Larnaca, Cyprus, Given by NEEi, USA April 20-25, 2003.
- Visiting Scholar for a summer research study on $NO_x$ emission reduction at the University of Kentucky, Lexington, KY USA July 1st- Sep.15th, 2001
- Attended the Environmental Management Systems And ISO 1400 workshop at the Queen Rania Al-Abdullah Center for Environmental Science & Technology. JUST Irbid Jordan May14-22,2000
- Attended an Advanced Training Course on Industrial Laser Applications at NILLES, Cairo, Egypt May 27th- June 8th,2000.
- Advised and co-advised graduate and undergraduate students.

**Supervised Theses:**

- **Experimental evaluation of the conversion and utilization of waste vegetable oils and fats as biodiesel**
- **Experimental study of combustion characteristics of pulverized olive cake in a drop-tube furnace.**
- **Design and Fabrication of a Reactor for converting waste vegetable oils and fats into biodiesel.**
- **Experimental Study of a Solar Adsorption Refrigeration Unit**
- **Statistical and Fuzzy Logic Modeling for A Solar Adsorption Refrigeration (SAR) System**

**May 1997- August 1999** **Post. Doctoral,** University of Kentucky, Lexington, KY, USA

- Prepared proposals and research articles in the area of flame spreading and fire safety.
- In charge of building the **Nondestructive Optical Measurement and Testing** laboratory, including:
  - Holographic Interferometry **(HI)**
  - High-speed laser sheet particle image velocity measurements **(PIV)**
  - Image processing and analysis
  - Infrared Thermography **(IR)**
  - Laser light scattering **(LLS)**
  - Laser Doppler.

**8/1993- 5/1997** **Teaching and Research Assistant,** University of Kentucky, Lexington Kentucky, USA

- **Winner of an Academic Grant** for The Ph.D. Research at the University of Kentucky sponsored by the **NASA EpScore Program**, 1994-1999

## MENTORING EXPERIENCE

Over the last 20 years of teaching, researching, and mentoring students, I have actively engaged in theoretical and practical projects/thesis in the thermal and renewable energy fields of study. In addition to my experiences as a teacher, I have also mentored undergraduate students on various research and capstone projects and supervised theses for more than twenty graduate students. These projects eventually evolved beyond the courses into more than 40 publications in top journals and international conferences. Working on these projects allowed me to share my experiences as a researcher, initiate and refine research discussions, and ultimately enabled me to guide my students through the entire research methodology cycle from the inception of an idea to shape it into a concrete research problem to finally publishing and presenting it at top-tier research conferences.

## RESEARCH PROPOSALS EXPERIENCE

PI in the following funded/unfunded research grants

- Introducing a New Prototype for Energy-Efficient Public Buildings
- Environmental Life Cycle Assessment of Electric Vehicles
- Thermal performance analysis and testing of stationary and tracking Compound Parabolic Concentrator (CPC) with flat plate absorber for Jordan climate
- Axiomatic design of a ready-to-use solar hot air heating system
- $NO_x$ Reduction in acoustically enhanced Combustion
- Experimental study of the combustion characteristics of pulverized olive cake (JIFT) in a drop-tube furnace
- Experimental evaluation of the conversion and utilization of waste vegetable oils and fats as biodiesel
- Design and fabrication of a portable refrigeration solar adsorption unit
- Energy auditing and analysis at JUST for saving energy.
- A novel solar-powered adsorption refrigerator module using CPC solar collector

## COMMUNITY SERVICES

- Participated in the Mechanical Engineering department committees, including the secretary-general of the council, scientific research committee, laboratories committee, workshops, conferences, electronic homepage committee, and students' affair committee.
- Participated as a member of the JUST central tender committee.
- Participated in organizing an engineering scientific day at JUST.
- Participated in the Research building capacity committee at the Jordan higher council for Science and Technology.
- Member of the ***ABET*** Committee of the Department of Mechanical Engineering. Carried out an internal evaluation study for the College of Engineering program in light of the ABET criteria, in preparation for accreditation
- Representative of the ME department at the Council of College of Engineering at JUST (2002-2003).
- Member of the Research Committee at the Dept. of ME. Eng., JUST (2001-2002).
- M.Sc. Thesis Defense Committee Member in Local and national universities several times.
- Participation in scientific consultation committees in terms of measurements and standards for different industrial sectors in Amman, Jordan.

## INTERNATIONAL JOURNALS PUBLICATIONS

1. 2023 **Ghassan Tashtoush,** Osama Saadeh, and Ashraf Dawagreh, "Environmental Life Cycle Assessment of using Electric Vehicles Compared to Conventional Internal Combustion Vehicles: A Case Study in Jordan" accepted for publication in The Journal of Energy and Development, volume 48, joint issues number 1 and 2. This issue will be physically published in November 2023.

2. 2023 **Ghassan M. Tashtoush**, Mohammad A. Alzoubi, 'An analysis of the performance and economic feasibility of a hybrid solar cooling system that combines an ejector with vapor compression cycles, powered by a photovoltaic thermal (PV/T) unit'. Jordan Journal of Mechanical and Industrial Engineering, Volume 17 no1: expected March. 2023.

3. 2023 Ahmed A. Freewan, **Ghassan Tashtoush**, Eyad Al Rawashdeh "Evaluation of Daylight Performance and Human Interaction of Different Innovative Shading Systems in School Classrooms" submitted for publication in Ain Shams Engineering Journal.

4. 2022 **Ghassan M. Tashtoush,** Ahmed A. Freewan, Iyab A. Al Dallu. Retrofit Measures Evaluation Considering Thermal Comfort and Energy Efficiency in School Buildings Using Design of Experiments. Sch J Eng Tech, **2022 Jun 10(6): 91-101.**, DOI: 10.36347/sjet. 2022. v10i06.001.

5. 2021 Makableh, Y.F.; Alzubi, H.; **Tashtoush, G**. Design and Optimization of the Antireflective Coating Properties of Silicon Solar Cells by Using Response Surface Methodology. Coatings 2021, 11, 721. https://doi.org/10.3390/coatings11060721

6. 2020 Saadeh O., **Tashtoush G,** Maghrabi E. "**PV Plant Connection and Sizing Design Methodology**" Journal of Engineering and Applied Sciences, Volume:15, Issue:15, Page No.2950 – 2958**.** DOI: 10.36478/jeasci.2020.2950.2958

7. 2016 Najjar Y., **Tashtoush G.**, 'Performance analysis of green engine-driven systems for space cooling, International Journal of Ambient Energy Taylor & Francis; DOI:10.1080/01430750.2014.882865.

8. 2015 Tyfour W. R., **Tashtoush G.,** and Al-Khayyat A., 'Design and testing of a ready-to-use standalone hot air space heating system' Energy Procedia 74, 1228 – 1238 Science Direct 1876-6102 ©

9. 2013 Darwish F., **Tashtoush G**., Gharaibeh M., 'Stress concentration analysis for countersunk rivet holes in orthotropic plates' European Journal of Mechanics A/Solids*, Vol.* 37, 69-78

10. 2012 **Tashtoush G**., Tashtoush B. and Jaradat M. Experimental Study of a Solar Adsorption Refrigeration Unit, Factorial Analysis' Smart Grid and Renewable Energy, Vol. 3, pp. **126-132**.

11. 2012 **Tashtoush G**. 'A Statistical Approach to Study and Optimize the Solar Adsorption Refrigeration System' Energy Science and Technology, Canadian Research & Development Center of Sciences and Cultures. Vol. 3, No. 2, pp. 1-11.

12. 2012 **Tashtoush G.,** Hassan M., Saito K. 'Experimental Study on $NO_x$ Reduction Using Reburning System Accompanied by Acoustic Wave' Journal of International Environmental Application & Science (JIEAS), Issue 2, Vol. 7.

13. 2012 Darwish F., Gharaibeh M. and **Tashtoush G.** 'A modified Equation for the Stress Concentration Factor in Countersunk Holes' European Journal of Mechanics A/Solids 36, 94-103.
14. 2011 **Tashtoush** G**.,** Al-Ata M., and Al-Khazali A. Solar Adsorption Refrigeration (SAR) System Modeling. Energy Efficiency, Springer, Vol. 4: 247-256.
15. 2011 **Tashtoush G.,** Harb A., Al-Atawneh, 'Assessing Energy-Saving in JUST Facilities: A Case Study' Int. J. of Thermal & Environmental Engineering, Vol. 2, No. 2: 117-128.

16. 2010 **Tashtoush G.**, Jaradat Mohd., and Al-Bader S. 'Thermal Design of Parabolic Solar Concentrator Adsorption Refrigeration System' Applied Solar Energy, Vol. 46 No. 3, 212-203.

17. 2010 Tashtoush G. Tashtoush K., Al-Muhtaseb M., Mayyas A., 'Reliability Analysis of Car Maintenance Scheduling and Performance'. Jordan Journal of Mechanical and Industrial Engineering JJMIE, Vol. 4, Number 3, page 388-393, ISSN 1995-6665.
18. 2007 **Hassan A., Tashtoush G., Al-Khalil J., '**The Effect of Graphite and/or Silicon Carbide Particles Addition on the Hardness and Surface Roughness of Al- 4wt% Mg Alloy' Journal of Composite Materials, Vol 41, No. 4/2007.
19. 2006 **Tashtoush G.,** Al-Widyan M., Bataineh M.,' Factorial Analysis of Diesel Engine Performance Using Different Types of Biofuels' Journal of Environmental Management, (2006), doi:10.1016/j.jenvman.2006.06.017. **Cited 8 times**

20. 2006 Al-Widyan M., **Tashtoush G.,** Hamasha A., 'Combustion and Emissions of Pulverized Olive Cake in a Tube Furnace', Energy Conversion and Management, 47, 1588-1596. **Cited 9 times**

21. 2004 **Tashtoush G.,** Al-Widyan M., Al-Jarrah M., 'Experimental Study on Evaluation and Optimization of Conversion of Waste Animal Fat into Biodiesel'. Energy Conversion & Management, 45, 2697-2711. **Cited 112 times**

22. 2003 **Tashtoush G.**, Effect of Acoustics on $NO_x$ Emission in Premixed Flame: Experimental Study, Energy & Environment Vol. 14 No. 4, pp451-460

23. 2002 **Tashtoush G.**, Al-Widyan M., Al-Shyouck A. 'Combustion performance and emissions of ethyl ester of a waste vegetable oil in a water-cooled furnace'. Applied Thermal Engineering 23,285–93. **Cited 64 times**

24. 2002 Al- Widyan M., **Tashtoush G.** and Khdair A., 'Briquettes of olive cake as a potential source of thermal energy. Journal of Solid Waste Technology and Management.. 28 (2).

25. 2001 Al-Widyan M., **Tashtoush G.,** and Abu-Qudais M., 'Utilization of Ethyl Ester of Waste Vegetable Oils as Fuel in Diesel Engines' Fuel Process Technology, V76, pp.91103. **Cited 82 times**

26. 2000, Konishi T., **Tashtoush G.,** Ito A., Narumi A., and Saito K., 'The Effect of a Cold Temperature Valley on Pulsating Flame Spread Over propanol', Proceeding of the Combustion Institute, Vol. 28, pp.2819-2826.

27. 1999 Ito A., Narumi A., Konishi A., **Tashtoush G.,** Saito K., and Cremers C.J., 'The measurement of Transient Two-Dimensional profile of Velocity and Fuel Concentration over liquids', ASME Journal of Heat Transfer, Vol. 121: 413-419. **Cited 20 times**

28. 1998 **Tashtoush G.,** Saito K. Cremers C., and Gritzo L., 'Study of Flame Spread over JP8 Using 2-D Holographic Interferometry' Journal of Fire Science, pp437 Vol. 6.

29. 1997 Abu-Qudais M., Ebied A., and **Tashtoush G.** 'Exhaust Gas Recirculation for Reducing the Oxides of Nitrogen in Spark Ignition Engines' Arab Gulf Journal of Scientific Research, Vol. 15 (3), pp. 613-631.

30. 1996 G. Tashtoush, A. Narumi, A. Ito, K. Saito, and C. Cremers, 'Combined Techniques of Holographic Interferometry and Particl Track Laser Sheet to Study Flame Spread over Liquid' Eighth International Symposium on Application of Laser Techniques to Fluid mechanics, Lisbon, Portugal.

## INTERNATIONAL CONFERENCES PRESENTATIONS

1. 2019 **Saadeh O., Tashtoush G,** Maghrabi E. "The effect of System Design Parameters on Energy Yield in Medium Voltage PV Power Plants", to be submitted as a conference paper for the IEEE IAS annual meeting.
2. 2017 **Tashtoush** G., Al-Dafaie A., Qasaimeh M., Dardour E., Gibreel M. '**$2^k$ Factorial analysis for PV module operation and performance at Different Conditions** "International Conference On Energy And Thermal Engineering: ISTANBUL" 25 – 28 April 2017, Istanbul-Turkey.
3. 2015 V Dhanalakshmi1, A M Saravanan2, Syed Thoufeeq Ahmed1, Shariefa Sulieman Said Al-Yahyaei1, C V Sudhir2, Anna Jesil2 & **Ghassan M. Tashtoush, '**Concepts and Linkages to Enhance Academic Practice in Educating Engineers' *OQNHE Conference,* Quality Management & Enhancement in Higher Education*, Muscat, 24-25 February,*
4. 2013 Jaradat A., **Tashtoush** G., Alademy M., 'Experimental investigation of tracking 2-D compound parabolic concentrator (CPC) with flat plate absorber' Accepted as an ORAL presentation at International Conference on Renewable Energy Research and Applications (**ICRERA**), 20-23 Oct. Madrid Spain.
5. 2012 Najjar Y. **Tashtoush G.**, 'Performance analysis of green engine- driven systems for space cooling.' International Conference on Energy, Water, and Environment (ICEWE), at the Hashemite University, Zarqa, Jordan, November 27-30.
6. 2010 **Tashtoush G**., Harb A., Al-Atawneh, 'Assessing Energy-Saving in JUST Facilities: A Case Study 'International Conference on Energy, Water & Environment (ICEWE) 12-15- December 2010, Amman, JORDAN.

7. 2008 **Tashtoush G.** Najjar Y**,'** Engine –Driven Systems For Space Cooling Feasibility Study And Economic Analysis 'Industrial Applications of Energy Systems (IAES 2008) proceedings, Sohar University, Sultanate of Oman.

8. 2006 **Tashtoush G**., Al-Ata M., ALkhazali A. ' Fuzzy Logic Modeling for A Solar Adsorption Refrigeration (Sar) System' Proceeding of the Third AUS International Symposium on Mechatronics, ICMSAO/05-American University of Sharjah, AUS-ISM06 U.A.E. April 18-20, 2006

9. 2004 **Tashtoush G**., Najar Y. "Feasibility of Engine –Driven Systems For Space Heating' IASTED International Conference on Power and Energy Systems (EuroPES 2004), Re: 442-054 June 28-30, 2004, Rhodes, Greece.

10. 2001**Tashtoush G.,** Gharaibeh B., and Massarweh W. 'Converting from mass to lean production, a future look for Jordanian industries. First International Industrial Engineering Conference, Amman, Jordan, Sept. 23rd-27th.

11. 1999, **Tashtoush G.**, Saito K., Cremers C.J., Konishi T., and Ito A., 'Measurement of a 3-D (Gas and liquid) Flow Structures Generated by a Spreading Flame over N-Butanol' Proceeding of the Sixth International Symposium on Fire safety science, Poitiers, France.

12. 1999 **Tashtoush G.,** Narumi A., Ito A., Saito K., and Cremers C., 'Simulation of the Convective Flow in Liquids Induced by a Spreading Flame', AJTE99-6143 Fifth ASME/JSME Joint Thermal Engineering Conference, San Diego, California USA.

13. 1997, Ito A., Konishi, T., Narumi, A., **Tashtoush, G**., Saito, K., and Cremers, C., 'The measurement of Transient Two-Dimensional profile of Velocity and Fuel Concentration over liquids', ASME International Mechanical Engineering Congress and Exposition, HTD- Vol. 325, Proceeding of the ASME Heat Transfer Division, Vol. 2, Dallas, TX, pp.141-148, Also submitted to ASME Journal of Heat Transfer.

14. 1997 **Tashtoush, G**., Narumi, A., Ito, A., Saito, K., and Cremers, C., 'The Effect of Ambient Conditions and Test section width on the flame Spread Over Liquid Surface' The Combustion Institute Technical Meeting, Central State Section, Alabama, USA.

15. 1997 **Tashtoush, G.,** Narumi, A., Ito, A., Saito, K., and Cremers, C.,' Effect of Tray Width on the Phenomenology and the Mechanism of the Flame Spread Over Liquid Fuel' 2nd International Symposium on Scale Modeling (ISSM-II), Paper No. ISSM-12, Lexington, Kentucky, USA.

16. 1996 **Tashtoush G.,** Narumi A., Ito A., Saito K., and Cremers C., 'A New Combined Techniques of Holographic Interferometry and Particle Track Laser Sheet to Study Flame Spread over Liquid' 8th International Symposium on Application of Laser Techniques to Fluid Mechanics, Lisbon, Portugal, 1996.

17. 1995 Ito, A., Narumi, A., Saito, K., Cremers, C., Majidi, V., and **Tashtoush, G**., 'Temperature Measurement by Holographic Interferometry in Liquids', 8th International Symposium on Transport Phenomena in Combustion, San Francisco, CA, Edited by S.H. Chan, Vol. 2, Taylor and Francis Pub., pp. 1657-1669.

## REFERENCES

Available upon request