

Mohammad Kilani

Professor, Engineering Technology and Science, Higher Colleges of Technology, UAE
Professor, Department of Mechatronics, University of Jordan, Amman, Jordan
Mobile: + 971 567 391 397
Email: mkilani@hct.ac.ae

SYNOPSIS

Professor in mechanical and mechatronics engineering with over 27 years of teaching, research, consultation and administration experience. Served as the Engineering Division Chair in Sharjah Men's Campus of the Higher Colleges of Technology and as an Associate Dean of the School of Engineering in the University of Jordan. Authored or co-authored above 60 first-class international journal articles and conference proceedings, with above 600 citations, h-index of 11 and i10 index of 13. Lead over 35 professional engineering training courses in the UAE, Saudi Arabia, Kuwait, Jordan and Malaysia. Professional memberships include the American Society of Mechanical Engineers (ASME), the Engineering Society of Detroit (ESD), and the Jordan Engineering Association (JEA).

EDUCATION

- **Ph.D.** Mechanical Engineering, Florida State University, USA, 2002
- **M.Eng.** Mechanical Engineering, Carnegie Mellon University, USA, 1991
- **M.Sc.** Mechanical Engineering, George Washington University, USA, 1988
- **B.Sc.** Mechanical Engineering, University of Jordan, Amman, Jordan, 1986.

ACADEMIC POSITIONS

- **Professor**, Faculty of Engineering Technology and Sciences, Higher Colleges of Technology, Sharjah Men's Campus, Sharjah, UAE, August 2016 – present.
- **Professor**, Department of Mechatronics Engineering, The University of Jordan, Amman, Jordan, December 2013 – present (on unpaid leave since August 2016)
- **Associate Professor**, Department of Mechatronics Engineering, The University of Jordan, Amman, Jordan, September 2011 - December 2013.
- **Associate Professor**, Department of Mechanical Engineering, King Faisal University, Al-Ahsa, Saudi Arabia, August 2008 – September 2011
- **Assistant Professor**, Department of Mechanical Engineering, The University of Jordan, Amman, Jordan, September 2002 – August 2008.
- **Visiting Research Scholar**, Institute of Microtechnology, Braunschweig, Germany, through DFG research scholarship, June, 2005 – August, 2005
- **Teaching and Research Assistant**, Department of Mechanical Engineering, Florida State University, Tallahassee, Florida, USA, September 1998, June 2002
- **Lecturer**, Department of Mechanical Engineering, The University of Jordan, Amman Jordan, September, 1991 – August, 1998
- **Research Assistant**, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA, September 1988 – August 1991.

ADMINISTRATIVE DUTIES

- **Division Chair – Engineering Technology and Sciences:** Sharjah Men’s Campus, Higher Colleges of Technology, August 2017 - Present
- **Program Chair – Mechanical Engineering:** Sharjah Men’s Campus, Higher Colleges of Technology, August 2016 – August 2017
- **Associate Dean:** School of Engineering, University of Jordan, September 2015 – August 2016
- **Department Chair:** Mechatronics Engineering Department, The University of Jordan, September 2012 – August 2014
- **Chair of Faculty Promotion Committee,** Engineering Technology and Science Division, Higher Colleges of Technology, 2019
- **Chair of Faculty Excellence Awards Committee,** Engineering Technology and Science Division, Higher Colleges of Technology, 2020
- **Member of HCT Central Promotion Committee,** Higher Colleges of Technology, 2020 – 21.
- **Member of Industrial Relations Committee,** Engineering Technology and Science Division, Higher Colleges of Technology, 2020
- **Member of Program Quality Control Committee,** Engineering Technology and Science Division, Higher Colleges of Technology, 2020
- **System-Wide Course Leader,** Geometric Dimensioning and Tolerancing, Higher Colleges of Technology, 2018 - present
- **System-Wide Course Leader,** Advanced Geometric Dimensioning and Tolerancing, Higher Colleges of Technology, 2018 - present
- **College Council Member:** School of Engineering, The University of Jordan, September 2008 – August 2011 and September 2012
- **Faculty Promotion Committee Director:** School of Engineering, The University of Jordan, September 2015 – August 2016
- **Member, Energy Research Fund, Jordanian Ministry of Higher Education and Scientific Research Scientific Research,** June 2015 – August 2016
- **Faculty Appointment Committee Member:** College of Engineering, King Faisal University, Saudi Arabia, 2010
- **Central Tenders Committee Member:** The University of Jordan, Amman, Jordan, 2006 – 2007.
- **Public Committee Coordinator:** College of Engineering, King Faisal University, Al-Ahsa, Saudi Arabia, 2009 – 2010
- **Organizing Committee Member:** The International Symposium of Mechatronics and its Applications (ISMA), Amman, Jordan, 2013
- **Organizing Committee Member:** The International Engineering Conference on Hot Arid Regions, (IECHAR), Al-Ahsa, Saudi Arabia, 2010

HONORS, AWARDS, GRANTS AND SCHOLARSHIPS:

- HCT Applied research excellence award, August, 2019
- IASTEM-ICMAE best conference paper award, Los Angeles, USA, July 2019
- Research Grant, Higher Colleges of Technology, 2018 – 2020
- Research Grant, King Faisal University, Al Ahsa, Saudi Arabia, 2009 – 2011
- Research Grant, German Research Foundation (DFG), 2007-2011
- Research Grant, Arab Science and Technology Foundation, 2006 – 2007
- Research Grant, Deanship of Scientific Research, University of Jordan, 2003-2004
- Jordan Engineering Association Graduation Project Award, 2004
- Faculty for Factory Fund, Jordan Higher Council for Science and Technology, 2004
- Research and Teaching Assistantship, Florida State University, 1998 – 2002.
- Research Grant, Jordanian Higher Council for Science and Technology, 1995 – 1996.
- Research Assistantship, Carnegie Mellon University, 1988 – 1991.
- Fulbright Scholarship, 1986 – 1988.
- Dean's Honor List, University of Jordan, 1982 – 1985

DISSERTATION AND THESIS SUPERVISION

- **Ph.D. Dissertation Supervisor:** Ala'aldeen Al Halhouli, " Numerical Simulation of the Flow Field in a Spiral Micropump', 2007
- **M.Sc. Thesis Co-Supervisor:** Malik Amayreh, "Numerical Prediction of a Bidirectional Miro Hot Wire Anemometer using Three Parallel Wires," 2006
- **M.Sc. Thesis Co-Supervisor:** Amjad Sakarneh, "Development of an Electromagnetic Gentle Pump for Fluids with Stress-Sensitiv Mircoparticles", 2006

UNDERGRADUATE TEACHING

- **Higher Colleges of Technology, Sharjah Men's College:** Statics and Dynamics, Applied Statics, Applied Dynamics, Process Control - Mechanical.
- **Mechatronics Engineering Department, The University of Jordan:** Dynamics and vibrations, systems dynamics, hydraulic and pneumatic systems, micro-electro-mechanical systems, measurements and instrumentation, control systems.
- **Mechanical Engineering Department, King Faisal University:** Introduction to Engineering, engineering mechanics - dynamics, engineering computation with Matlab, physical and chemical science for preparatory year students.
- **Mechanical Engineering Department, The University of Jordan:** Engineering graphics, statics, dynamics, mechanics of materials, dynamics and vibrations lab, theory of machines, design of machine elements, computer aided design.
- **Mechanical Engineering Department, Florida State University (Teaching Assistant):** Fluid mechanics, engineering graphics using Pro/Engineer.

PATENTS:

Kilani, M. I. and Abbadi, "Pump for fluids with stress sensitive microparticles," Patent No.: GB 2477276 A, United Kingdom, 2011

Chen C., Galambos P., Haik Y. and Kilani M. I. " Surface micromachined mechanical micropumps and fluid shear mixing, lysing, and separation microsystems," Patent No.: 10/697,412, USA, 2003

PROVISIONAL PATENT:

M Kilani and A Khan, "A positive-drive double-piston synchronous gentle pump," U.S. Provisional Pat. App. No. 35001677, April 2019.

PROFESSIONAL SOCIETIES:

- Member, American Society of Mechanical Engineers (ASME), 2002 - present
- Member, Engineering Society of Detroit (ESD), 1992 – present
- Member, Jordan Engineering Association (JEA), 1992 – present

INDUSTRIAL CONSULTANCY

- **Jordan Arab Company for Chemical Industries (JACI), Zerqa, Jordan, 2007**, assisted in setting the technical specifications for an automated hydrochloric acid production unit and identifying suppliers for the main components.
- **Middle East Complex for Engineering, Electronics and Heavy Industries PLC, 2003**, helped establishing facilities layout for the compressed air system and foam injection system.
- **Petra Engineering Industries Co., Amman, Jordan, 2004-2005**, reviewed design procedure, suggested and implemented a number of product design automation schemes.
- **King Abdullah Design and Development Bureau (KADDB), 2003-2005**, worked with a team on designing a gravimetric filling machine for powdered material.
- **Johnson and Johnson, 1998-2002**, worked on the development of gentle pumps for blood flow and extracorporeal circulation.
- **Nayzak Dies and Moulds Manufacturing Company, 1994-1996**, helped selecting the CAD system for Nayzak and integrating it with CNC machines
- **Boeing Helicopters**, worked on a project titled 'Representation of Aircraft Design for Supportability, Operability, and Producibility Evaluations,' to produce a design representations in computer-based engineering environments for Boeing's Automated Design Decision Support System (ADDSS).

FUNDED RESEARCH

Project Title	Sponsor	Funds
Development of a Positive Drive Synchronous Gentle Pump	Higher Colleges of Technology, UAE, 2019 - present	AED 200,000
Analytical Investigation of the applicability of the ferrofluidic magnetic micropump in biomedical applications	Deanship of Scientific Research, King Faisal University, 2010 - 2011	SR 20,000
Development of an integrated electromagnetic micropump for biomedical applications	German Research Foundation (Deutsche Forschungsgemeinschaft, DFG), 2008 - 2011	€ 80,000
Development of a gentle pump for fluids with stress sensitive microparticles	Arab Science and Technology Foundation, UAE, 2005 - 2007	\$ 50,000
Product design modernization and order management in Petra Engineering Industries	Higher Education Development Project through National Center for Human Resource Development, 2004 - 2005	JD 240,000
Numerical simulation of fluid flow in a spiral-channel micropump	Deanship for Scientific Research, The University of Jordan	JD 3,500
Development of a CNC sheet metal cutting machine	Higher Council for Science and Technology	JD 5,000
Development of an automated filling machine for bulk material	Center for Consultation and Training in the University of Jordan	JD 6,000
Layout alternatives for a refrigeration plant foam injection unit	Faculty for Factory (FFF) project, Outreach Center for Industrial Consultancy, University of Jordan	JD 3,500
Parametric design of the sheet metal parts of the air handling unit at Petra Engineering	Faculty for Factory (FFF) project, Outreach Center for Industrial Consultancy, University of Jordan	JD 3,500
CFD simulation of a butterfly valve for vibration analysis and reduction	Center for Consultation and Strategic Studies, University of Jordan	JD 5,300
Development of a multimedia toolkit for engineering graphics education	Deanship for Scientific Research in the University of Jordan	JD 6,500

PROFESSIONAL ENGINEERING WORKSHOP TRAINING FACILITATION:

Lead and coordinated over 45 public and in-house professional training courses in Saudi Arabia, Kuwait, United Arab Emirates and Malaysia. Workshop participants included engineers, technicians and managers from Abu Dhabi Gas Liquefaction Company (ADGAS), Abu Dhabi Gas Industries Limited (GASCO), Saudi ARAMCO, Saudi Basic Industries Company (SABIC), Saudi Aramco – Shell Refinery (SASREF), Saudi Arabian Chevron - Kuwait Gulf Oil Joint Operations Company (Joint Operation), Kuwait Oil Company (KOC), Kuwait National Petroleum Company (KNPC), and Dubai Electricity and Water Authority (DEWA). Training workshops organized by the following organizations:

- TUV Akademie – Middle East, Abu Dhabi, United Arab Emirates
- Tadreeb Training and Consultation – Dubai, United Arab Emirates
- Specialized Overseas Services (S.O.S), Abu Dhabi, United Arab Emirates
- MESK Management Science Institute, Abu Dhabi, United Arab Emirates
- Global Franchise Training Group (GFTG), Kuwait City, Kuwait
- International Center for Management Development, Al-Khobar, Saudi Arabia
- Universal Network Intelligence (Unistrategic), Kuala Lumpur, Malaysia.

Training workshops conducted under the following titles:

Training Course	Latest Time Delivered
Operation of Process Equipment	12/2015
Process Reactor Operation and Troubleshooting	12/2014
Hydrocarbon Process Plant Operation and Troubleshooting	2/2015
Crude separation, Desalting and Treating	9/2015
Compressors, Steam Turbines and Pumps	9/2014
Centrifugal Gas Compressors	10/2014
Reciprocating and Screw Compressors	11/2014
Practical Valves Technology	2/2013
Safety Relief Valves	3/2014
Practical Pump Technology	6/2014
Predictive Maintenance of Rotary Equipment	9/2014
Valve Testing and Maintenance	12/2014
Inspection of Pressure Relieving Devices	4/2013
Control Valves and Actuators	3/2013

JOURNAL PUBLICATIONS:

- Kilani M. I, Al Sharif A, Rawadiah M, Fayyad J., Khan A, "Design and Analysis of a Positive Drive, Double Piston Synchronous Pump," *International Journal of Mechanical and Production Engineering*, Vol 7, No 10, (2019)
- E. Dacruz ,A. Alzarouni ,H. Aljasmi ,A. Aljasmi ,A. Hani ,M. Kilani " Customizable Automated Snack Vending Machine " , *International Journal of Mechanical and Production Engineering (IJMPE)* , pp. 40-42, Volume-7, Issue-10, (2019)
- Kilani M. I., Khasawneh H, Badran A and Awidi, A, "Further development on a gentle electromagnetic pump for fluids with stress-sensitive microparticles," *Sensors and Actuators – A: Physical*, vol. 247 pp 440-447, (2016)
- Al-Amayreh, M., Kilani, M. I. and Salaymeh, A., "Numerical Study of a Butterfly Valve for Vibration Analysis and Reduction," *International Journal of Mechanical, Aerospace, Industrial and Mechatronics Engineering*, 8(12) pp. 1813-1817 (2014)
- Kilani MI, Al-Widyan MI, Al Halhouli, A., "Analytical and computational fluid dynamics (CFD) investigation of the applicability of a ferrofluidic magnetic micropump for fluids with stress-sensitive microparticles," *Scientific Research and Essays* 8 (19), 754-766, (2013)
- Kilani MI, Taifour, S., and Al Sharif, L., "Effect of Design Geometry on the Performance Characteristics of Linear Variable Differential Transformers" *Sensors & Transducers*, 150 (3) (2013)
- Al-Halhouli A.T., Kilani, M. I., Waldschick A., Phataralaoha A., and Büttgenbach, S., "Development and testing of a synchronous micropump based on electroplated coils and microfabricated polymer magnets," *J. Micromech. Microeng.* 22 (2012)
- Kilani M. I., Al-Halhouli A. T. and Büttgenbach, S., "Shear Stress Analysis in a Ferrofluidic Magnetic Micropump," *Nanoscale Microscale Thermophysical Engineering*. 15 (1), (2011)
- Kilani, M.I. "Computer Aided Design Tools in the Development of Surface Micromachined Mechanisms," *Jordan Journal of Mechanical and Industrial Engineering*, (2011)
- Al-Amayrah M, Al-Salaymeh A, Kilani M, Delgado A, "Numerical Prediction of a Bi-Directional Micro Thermal Flow Sensors," *Sensors & Transducers* 132 (9), (2011)
- Kilani, M.I. "Performance Characterization of a Long-Stroke Direct-Drive Electromagnetic Linear Actuator," 120 (9), (2010)
- Al-Halhouli A.T., M.I. Kilani , S. Büttgenbach, "Development of a novel electromagnetic pump for biomedical applications," *Sensors and Actuators A*, 162 (2010)
- Al-Sharif, L., Taifour, S., and Kilani, M. I., "Simulation and Verification of the Axial Force of a Linear Permanent Magnet Synchronous Actuator," *International Journal of Applied Electromagnetics and Mechanics* Volume 32, Number 4 (2010)
- Al-Halhouli A. T., Kilani M. I. and Büttgenbach S. (2009). Development of a Novel Meso-Scale Electromagnetic Pump for Bio-medical Applications. *Procedia Chemistry*, 1(1), 349-352
- Kilani M. I., Al-Halhouli A. T., Galambos P. C., Haik Y. S., Al-Salaymeh A. and. Büttgenbach S, "Development of a Surface Micromachined On-Chip Flat Disk Micropump," *Sensors & Transducers Journal*, Vol. 107, Issue 8, August 2009, pp. 64-76
- Al-Halhouli, A. T., Kilani, M. I., Al-Salaymeh, A., and Büttgenbach, S. (2008). The Spiral Channel Viscous Micropump. *Dirasat*, 35(2), 120-128
- Kilani, M. I., Al Salaymeh, A., "Simple analytical expressions for the flow performance of a spiral channel viscous micropump ," *Fluid Dyn. Res.* 39 No 8 (August 2007) 632-646

Kilani, M. I., "Triangulation approximation modeling of developable transitions," *Dirasat*, Vol. 34, No. 1, April 2007.

Haik Y, Kilani M, Hendrix J, Al Rifai O and Galambos P, "Flow field analysis in a spiral viscous micropump," *Microfluidics and Nanofluidics*, Volume 3, Number 5 / October, 2007

Kilani, M. I., Al Salaymeh, A. and Halhouli, A. T., "Effect of channel aspect ratio on the flow performance of a spiral channel viscous micropump," *ASME Journal of Fluid Engineering*, Vol. 128, May 2006. pp. 618 - 627

Kilani, M.I. Haik, Y.S., Jaw, Y. and Chen C.J., "Numerical simulation of flow in a screw-type Blood Pump," *Journal of Visualization*, Vol. 8, no. 1, 2005. pp. 33-40.

Al-Halhouli S. Demming, M. Feldmann, S. Büttgenbach, M.I. Kilani, A. Al-Salaymeh, "Performance characterization of a miniature spiral-channel viscous pump," *Sens. Actuators, A. Physical* (2007)

Al-Halhouli, M. I. Kilani & A. Al-Salaymeh, S. Buttgenbach, "Investigation of the influence of design parameters on the flow performance of single and double disk viscous micropumps," *Microsyst Technol* (2007) 13:677–687

Al-Halhouli, A. T., Al-Salaymeh, A., Kilani, M. I., and Büttgenbach, S., (2006). Numerical investigation of the effect of spiral curvature on the flow field in a spiral-channel viscous micropump," *Microfluidics Nanofluidics*, online first, Jan. 2007, www.springerlink.com

Al-Halhouli, A., Kilani, M. I., Al-Salaymeh, A. and Büttgenbach, S. "Influence of geometrical design parameters on the flow performance of a spiral channel viscous micropump," *WSEAS Transactions on Fluid Mechanics*, Issue 6, Volume 1, 2006, pp. 601 – 606.

Kilani M.I, Galambos PC, Haik YS, and Chen CJ, "Design and analysis of a surface micromachined spiral-channel viscous pump," *ASME Journal of Fluid Engineering*, Vol. 125, March 2003. pp. 339-344.

Zheng P., Haik Y., Kilani M.I. and Chen C.J. "Force and torque characteristics for magnetically driven blood pumps," *Journal of Magnetism and Magnetic Materials* 241 (2002)292 –302

Sturges R. H, O'Shaughnessy, K., Kilani, M.I., "Computational model for conceptual design based on extended function logic," *AIEDAM*, v10, n4, Sep, 1996, p 255-274

Sturges R.H and Kilani M.I., "Towards and integrated design for an assembly evaluation and reasoning system," *Journal of Computer Aided Design*, Vol. 24, No. 2, Feb. 1992.

Kilani M. I. and Sturges R. H. "Detection and evaluation of engineering features for computer aided design part models," *Journal of Engineering Design*, Volume 2, Issue 3, 1991, Pages 231-245

CONFERENCE PROCEEDINGS

S. Shaker, A. Khan and M. Kilani, "Effect of Inlet Angle and Outlet Angle on the Performance of Double-Piston Synchronous Pumps," 2020 Advances in Science and Engineering Technology International Conferences (ASET), 2020, pp. 1-4, doi: 10.1109/ASET48392.2020.9118363

Kilani M. I, Al Sharif A, Rawadiah M, Fayyad J, and Khan A, "Design and Analysis of a Positive-Drive Double-Piston Synchronous Gentle Pump," IASTEM, IMCAE Conference, Los Angeles, USA, July 2019

Dcruz E, Al Zarouni A, Aljasmii H, Aljasmii A, Hani A, Kilani M, "Customizable Automated Snack Vending Machine," IASTEM, IMCAE Conference, Los Angeles, USA, July 2019

Khasawneh H and Kilani M. I., "PLC automation of a hydrochloric acid production unit on a Mannheim-process," 2018 Advances in Science and Engineering Technology International Conferences (ASET), Dubai, UAE 2018

Kilani M. I., Khasawneh H, Badran A and Awidi, A, "Design and testing of a gentle pump with rotating magnetic field for fluids with stress-sensitive microparticles," 11th International Conference on Mechatronics and its Applications (ISMA), 2015

Abuzayyad MA and Kilani MI, "A volume and inertia estimating 3D scanner for solids," 9th International Symposium for Mechatronics and its Applications (ISMA), 2013

Y. Haik, J. Hendrix, P Galambos and M. Kilani, "Surface Micromachined Crescent Micropump," Proceedings of the 7th International Symposium on Mechatronics and its Applications, ISMA '10, April 20-22, 2010 Sharjah, United Arab Emirates

Al-Halhouli A.T., Waldschik A., Kilani M. I., and Büttgenbach S. Microfabricated Electromagnetic Actuator For Gentle Fluid Handling Applications, Nanotech 2010, California, USA.

Al-Halhouli, M. Kilani, S. Büttgenbach, "Development of a Novel Meso-Scale Electromagnetic Pump for Biomedical Applications, Eurosensors '09, September 6-9, 2009, Lausanne, Switzerland

M. I. Kilani, A. T. Al Halhouli, S. Büttgenbach "Analytical and Numerical Simulations of the Flow Performance of a Ferrofluidic Magnetic Micropump for Particle-Laden Applications", Proceedings of the Fourth International Conference on Thermal Engineering: Theory and Applications January 12-14, 2009, Abu Dhabi, UAE

L. Al-Sharif, S. Taifour, , M. Kilani, "Simulation and Experimental Verification of the axial force of a Tubular Electromagnet on a Concentric Cylindrical Permanent Magnet," Proceeding 3rd International Conference on Modeling, Simulation, and Applied Optimization (ICMSAO'09), January 20-22, 2009, Sharjah, U.A.E.

S. Taifour, L. Al-Sharif, M. Kilani, "Modeling & Design of a Linear Variable Differential Transformer," Proceedings of The International Conference on Modeling and Simulation (MS'08 JORDAN), November 18-20, 2008, Petra, Jordan

Al-Halhouli A.T., Kilani M. I., Al-Salaymeh A., and Büttgenbach S (2008) The Spiral Channel Viscous Micropump. Graduate Studies Research Conference 2008. Jordan.

Al-Halhouli A.T., Kilani M. I., and Büttgenbach S (2008). CFD Simulations of Viscous Heating in a Spiral-Channel Micropump. Micro/Nanoscale Heat Transfer International Conference. Tainan, Taiwan.

Kilani M. I., Al-Halhouli A.T., Galambos P. C., Al-Salaymeh A (2007). Design and Testing of a Surface Micromachined On-Chip Flat Disk Micropump. The Sixth Jordanian International Mechanical Engineering Conference, Jordan.

Al-Halhouli A.T., Kilani M. I., and Büttgenbach S (2007) Development and Testing of a Flat Disk Micropump. 18th Workshop on Micromachining, Micromechanics, and Microsystems. Portugal, 155-158.

Amayreh M. I., Al-Salaymeh A., Kilani M. I., and Al-Halhouli A.T. (2007). Numerical Prediction of a Bi-Directional Micro Hot Wire Anemometer Using Three Parallel Wires. The Third International Conference on Thermal Engineering: Theory and Applications, Jordan.

Al-Halhouli A.T., Demming S., Feldmann M., Büttgenbach S., Kilani M. I., and Al-Salaymeh A (2006). Spiral-Channel Viscous Micropump- Experimental and Numerical Investigations. Eurosensors XX - 2006, Sweden 38-39.

Al-Halhouli A.T., Kilani M. I., Amayreh M., Al-Salaymeh A., and Büttgenbach S (2006). Parametric study of Single Disk Viscous Micropump. International Conference on Bio-Nanotechnology: Future Prospects in the Emirates, UAE, 193-197.

Kilani M. I., Al-Halhouli A., Al-Salaymeh A. and Büttgenbach S. "Viscous Micropumps – A Review," International Conference on Bio-Nano Technology, Nov. 18 - 21, 2006, Al Ain, UAE.

Al-Halhouli, A.T., Kilani, M. I., Amayreh, M., Al-Salaymeh A., and Büttgenbach S., Parametric Study of Single Disk Viscous Micropump," International Conference on Bio-Nano Technology, November 18 - 21, 2006, Al Ain, UAE.

Kilani M.I, Galambos PC, Haik YS, and Chen CJ, "The Von Karman Viscous Effect in Surface Micromachined Pumps," 2nd International Conference on Thermal Engineering and its Applications, (ICTEA 2006), January 3-6, 2006, Al-Ain, UAE.

Al-Halhouli, A., Kilani, M. I., Al-Salaymeh, A. and Büttgenbach, "Numerical Simulations of the Flow Field in a Spiral-Channel Micropump," 2nd International Conference on Thermal Engineering and its Applications, (ICTEA 2006), January 3-6, 2006, Al-Ain, UAE.

Kilani, M. I., Al Salaymeh, A. and Halhouli, A. T., M. Gad-el-Hak, "Effect of aspect ratio on the performance of spiral-channel viscous micropump," 58th Annual APS Meeting of Fluid Dynamics, DFD05, November 20–22, 2005; Chicago, IL.

Dado, M.H, Abdalla, M.H., and Kilani, M.I., "An Automatic Continuous Filling Machine for Dry Bulk Material: A Case Study in Mechatronics System Design," The 2nd International Conference on Mechatronics (ICOM'05) 10 to 12 May 2005 , Kuala Lumpur, Malaysia

Kilani, M. I., "CAD in surface micromachined mechanisms design," Proc. 11th Int. Conf. Machine Des. and Prod. (UMTIK 2004) 13-15 October 2004, Antalya, Turkey.

Haik Y, Hendrix J, Kilani M., Galambos P. and Ching- Jen Chen, "Characterization of Micropumps for Biomedical Applications," Proc. Of the 2004 Nanotechnology Conference and Trade Show, Boston, MA, Volume 1. pp 199 – 200

Kilani M.I., Galambos PC, Haik Y.S., and Chen CJ, "A surface micromachined Von-Karman pump," Proc. Of the 2003 ASME IMECE, November 2003, Washington, D.C., USA.

Chen, C.J., Haik Y.S., Jaw S.Y., Kanuri S., Chatterjee, J, and Kilani, M. I. "Fluid and particle motion in micro systems and biomedical applications," Proceedings of 3ICCHMT3 International Conference on Computational Heat and Mass Transfer, May 26–30, 2003, Banff, Canada

Kilani M.I., Galambos P.C., Haik Y.S., and Chen CJ, "Surface micromachined spiral-channel viscous pump," in The Nanotechnology Conference and Trade Show, San Francisco, Feb 23-27, 2003 Vol. 1, pp. 210-214

Kilani M.I., Galambos PC, Haik YS, and Chen CJ, "A surface micromachined spiral-channel viscous pump," in 2002 ASME IMECE, November 2002, New Orleans, LA. USA

Kilani M.I., Galambos PC, Haik YS, and Chen CJ, "Electrostatically Actuated Surface Micromachined Offset Planetary Gear Pump Design," Proceedings of the 2001 ASME IMECE, November 2001, New York, NY.

Kilani M.I., Galambos PC, Haik YS, and Chen CJ, "University – National Laboratory Collaboration on MEMS Design Education," Proceedings of the 2001 ASME IMECE, November 2001, New York, NY.

Kilani M.I., Haik YS, Jaw S.Y. and Chen CJ, "Investigation of magnetically driven screw pumps for blood flow applications," Proc. of the 14th ASCE (EM2000), May 2000.

Kilani M.I., Haik Y.S., Jaw S.Y. and Chen C.J., "Numerical simulation of flow in a screw pump," Proc. of the 14th ASCE Engineering Mechanics Conference (EM2000), May 2000.

Kilani M.I., Haik YS, Pai V and Chen CJ, "Rectilinear dynamics of magnetically driven microsystems," *Proc. of the 2nd International Conference on Modeling and Simulation of Microsystems. (MSM 99)*, April 1999.

Kilani M.I. and Dado M.H, "Application of CAD/CAM system in the representation and flat generation of developable surfaces," *Proc. of the 1st Jordanian Mechanical Engineering Conference, June 1997.*

Dado M.H. and Kilani, M. I. "Design and construction of an automated sheet metal cutting machine, *Proc. of the 1st Jordanian Mechanical Engineering Conference, June 1997.*

Talhouni, B and Kilani, M.I., "Integrated CAD/Dbase environment for interactive structural design," *Civil-Comp'93, Part 1: Information Technology for Civil and*, p 131. 1993

Sturges, R.H., and Kilani, M.I., "Detection and Evaluation of Orientation Features for CAD Part Models," *Proceedings of the 1992 NSF Design and Manufacturing Systems Conference*. GIT. Jan. 8-10, 1992, NSF Design and Manufacturing Systems Division, Washington DC 20550. pp. 1035-1041

Sturges R.H and Kilani M.I., "A function logic and allocation design environment, " *in Proceedings of the ESD DAC, 1990.*

REFERENCES:

1. Professor Saud Al-Dajah, Dean, Faculty of Engineering and Applied Sciences, Higher Colleges of Technology, UAE, email: saldajah@hct.ac.ae
2. Dr Nuraj Rajapakse, Associate Dean, Faculty of Engineering and Applied Sciences, Higher Colleges of Technology, UAE, email: nrajapakse@hct.ac.ae
3. Professor Lufti Al Sharif, Department of Mechatronics, The University of Jordan, Amman, Jordan, email: lal-sharif@theiet.org