11th International Symposium on Mechatronics and its Applications (ISMA'18)

Sunday, March 4, 2018

13:30–14:00	Reception/Registration (Auditorium EB1-030)
14:00–17:00	ROS Tutorial (Auditorium EB1-030)
17:00–17:45	**Invited Talk (Auditorium EB1-030)** Advances in High Performance Computing *Professor Houssain Kettani* Department of Computer Science, Florida Polytechnic University, FL, USA

Monday, March 5, 2018

8:30–9:30	Registration
9:30–10:00	**Opening Ceremony (Main Building, Hall A)** Professor Björn Kjerfve, Chancellor, American University of Sharjah Professor Richard Schoephoerster, Dean of Engineering, American University of Sharjah Professor Lotfi Romdhane, Professor Mamoun Abdel-Hafez General Conference Chairs, American University of Sharjah
10:00–11:00	**Keynote Address 1 (Main Building, Hall A)** Smart Living: The Next Frontier *Professor Sajal K. Das* Daniel St. Clair Endowed Chair Department of Computer Science, Missouri University of Science and Technology, USA
11:00–11:30	Coffee Break and Student Poster Competition
11:30–12:45	**Morning Technical Sessions A**
12:45–14:15	Lunch
14:15–15:15	**Afternoon Technical Sessions B**
15:15–15:45	Coffee Break and Student Poster Competition
15:45–17:15	**Afternoon Technical Sessions C**
18:30	Gala Dinner

Tuesday, March 6, 2018

9:30–10:30	**Keynote Address 2 (Main Building, Hall A)** Distributed Algorithms for Multi-Robot Systems *Professor Jeff S. Shamma* King Abdullah University of Science and Technology, Saudi Arabia
10:30–11:00	Coffee Break
11:00–12:15	**Morning Technical Sessions D**
12:15–13:15	**Morning Technical Sessions E**
13:15–14:45	Lunch
14:45–16:15	**Afternoon Technical Sessions F**

11th International Symposium on Mechatronics and its Applications (ISMA'18)

Monday, March 5, 2018
Technical Session A
11:30–12:45, Room: Hall B | Session Chairs: *Khaled Hatamleh/Mohammad Jaradat*

Time	Paper ID	Paper Title and Author(s)
11:30–11:45	-	Autonomous Robots, Drones, IoT; Technology and Methods for Modern Mechatronics Murtaza Bohra (R & D Specialist, Quanser)
11:45–12:00	1570409546	Highly Sensitive Piezo-Based Touch Sensor for Robotics Applications Areen Allataifeh (UAEU Engineering College, United Arab Emirates); Mahmoud Al Ahmad (United Arab Emirates University, United Arab Emirates); Kshiti Deolalkar (Research Assistant, United Arab Emirates)
12:00–12:15	1570418745	Development of a Target Tracking Upper-limb Therapeutic Robot with Circulating Force Field Sami Algrary and Kengo Ohnishi (Tokyo Denki University, Japan); Yukio Saito (Shibaura Institute of Technology, Japan)
12:15–12:30	1570418830	Gravity Compensation of Parallel Kinematics Mechanism Using Torsional Springs Based on Potential Energy Optimization Abdur Rosyid, Bashar El-Khasawneh and Anas Alazzam (Khalifa University, United Arab Emirates)
12:30–12:45	1570425629	Examining the Benefits of Multi-GNSS Constellation for the Positioning of High Dynamics Air Platforms Under Jamming Conditions Omar El Masry (Arab Academy for Science, Technology and Maritime Transport, Egypt); Mohamed Tamazin (Queen's University, Canada); Haidy Elghamrawy (Queen's University, Canada); Malek Karaim (Queen's University, Canada); Aboelmagd Noureldin (RMC Canada, Canada); Mohamed Khedr (Arab Academy for Science and Technology, Egypt)

Monday, March 5, 2018
Technical Session B
14:15–15:15, Room: Hall B | Session Chairs: *Maen Takruri/Abdulrahman Al-Ali*

Time	Paper ID	Paper Title and Author(s)
14:15–14:30	1570429981	Real-time Poultry Disease Identification using IoT Arun Gnana Raj Alex (Bharathiyar University, India); Gnana Jayanthi Joseph (J. J. College of Engineering and Technology, India)
14:30–14:45	1570430782	Support Vector Regression Based Electricity Peak Load Forecasting Maen Takruri, Sihab Uddin and Mohammad Azad (American University of Ras Al Khaimah, United Arab Emirates)
14:45–15:00	1570425247	The Design Techniques and Applications of Gas Measurement Systems Based on MOX Sensor Array Luay Shahin (Palestine Polytechnic University, Palestine)
15:00–15:15	1570418892	Design, Implementation and Performance Analysis of Miniature Wind Turbine Ehab Basta (American University of Sharjah, United Arab Emirates); Mehdi Ghommem (American University of Sharjah, United Arab Emirates); Lotfi Romdhane (American University of Sharjah, United Arab Emirates); Samir Emam (American University of Sharjah, United Arab Emirates); Abdessattar Abdelkefi (New Mexico State University, USA)

11th International Symposium on Mechatronics and its Applications (ISMA'18)

Monday, March 5, 2018
Technical Session C
15:45–17:15, Room: Hall B | Session Chairs: *Naseem Daher/Mamoun Abdel-Hafez*

Time	Paper ID	Paper Title and Author(s)
15:45–16:00	1570425612	Combined Fuzzy and Nonlinear Dynamic Observer for Vehicle Longitudinal Velocity and Sideslip Angle Carine Bardawil and Naseem Daher (American University of Beirut, Lebanon)
16:00–16:15	1570428795	Fast Correction of Voltage Unbalance Factor in Three-Phase Power System Using Neural Network Jasim Ghaeb (Philadelphia University, Jordan)
16:15–16:30	1570430180	Experimental Verification of UAS Based Battery Terminal Voltage Collapse Detection on a Simple Embedded Platform Fares Alkhawaja, Koshish Koirala, Mirghani Daffalla, Mohamad Kassem, Muhammad Tily, Ghaith Al-Rousan and Shayok Mukhopadhyay (American University of Sharjah, United Arab Emirates)
16:30–16:45	1570424833	A Two Stage, Adaptive-Optimized Li-ion Battery Parameters Estimation Strategy Hafiz Muhammad Usman Butt (American University of Sharjah, United Arab Emirates); Shayok Mukhopadhyay and Habib-ur Rehman (American University of Sharjah, United Arab Emirates)
16:45–17:00	1570425578	Nonlinear Sliding Mode Control of the Furuta Pendulum Ali Wadi and Jin-Hyuk Lee (American University of Sharjah, United Arab Emirates); Lotfi Romdhane (American University of Sharjah, United Arab Emirates)
17:00–17:15	1570425867	Supervisor and Control Investigation in Smart/Autonomous Vehicles: Environment Recognition and Objects Detection ADAS Application Case Study Ben Senouci (ECE Paris, France); Omar Abid (Ecole Polytechnique de Tunisie, Tunisia); Quentin Cabanes (ECE-Paris, France)

Tuesday, March 6, 2018
Technical Session D
11:00–12:15, Room: Hall B |Session Chair: *Suleiman Banihani/Rached Dhaouadi*

Time	Paper ID	Paper Title and Author(s)
11:00–11:15	-	The Present and Future of Control: Research Directions and Techniques Murtaza Bohra (R & D Specialist, Quanser)
11:15–11:30	1570418819	Identification of Lonely Barycentric Parameters of Parallel Kinematics Mechanism with Rank-Deficient Observation Matrix Abdur Rosyid, Bashar El-Khasawneh and Anas Alazzam (Khalifa University, United Arab Emirates)
11:30–11:45	1570418839	Adaptive Sliding Mode Control of a System with Bouc-Wen Model Saba Mansourfar and Mehdi Baradaran-nia (University of Tabriz, Iran)
11:45–12:00	1570428895	A Genetic Based Reinforcement Neurocontroller for Dual Arm Planar Robot

		Suleiman M. Banihani (The Hashemite University, Jordan); Ahmad Al-Jarrah (The Hashemite University, Mechatronics Engineering Department, Jordan); Samer Mutawe and Mohammad Hayajneh (The Hashemite University, Jordan)
12:00–12:15	1570419121	Friction Estimation of a Linear Voice Coil Motor using Robust State Space Sinusoidal Reference Tracking Hafiz Muhammad Usman Butt (American University of Sharjah, United Arab Emirates); Danial W. Amin and Rached Dhaouadi (American University of Sharjah, United Arab Emirates)

Tuesday, March 6, 2018
Technical Session E
12:15–13:15, Room: Hall B | Session Chairs: *Calvin Coopmans/Lotfi Romdhane*

Time	Paper ID	Paper Title and Author(s)
12:15–12:30	1570425535	Modeling Biomechanical Legs with Toe-Joint using Simscape Omer Eldirdiry and Riadh Zaier (Sultan Qaboos University, Oman)
12:30–12:45	1570429996	Fractional-Order Complementary Filters for Small Unmanned Aerial System Attitude Estimation Calvin Coopmans (Utah State University, USA); Michal Podhradsky (Portland State University, USA); Nathan Hoffer (Utah State University AggieAir, USA)
12:45–13:00	1570425817	Motion Model of Fish-like Underwater Vehicle and Its Effect on Hydrodynamic Performance Gang Xue, Yanjun Liu, Zhi Chen and Shizhen Li (Shandong University, P.R. China)
13:00–13:15	1570417364	Prediction of Leakage Current Peak Value Nameer Al Khafaf (RMIT University, Australia); Ayman El-Hag (American University of Sharjah, United Arab Emirates)

Tuesday, March 6, 2018
Technical Session F
14:45–16:00 , Room: Hall B |Session Chair: *Klementyna Szwaykowska/ Shayok Mukhopadhyay*

Time	Paper ID	Paper Title and Author(s)
14:45–15:00	1570429777	State Transitions in Generic Systems with Asymmetric Noise and Communication Delay Klementyna Szwaykowska (Naval Research Lab, Syntek Technologies, USA); Ira Schwartz (US Naval Research Laboratory, USA); Thomas Carr (Southern Methodist University, USA)
15:00–15:15	1570419045	Dynamic Modeling and Numerical Simulations of a Passive Robotic Walker Using Euler-Lagrange Method Irfan Hussain and Mohammad Awad (Khalifa University of Science, Technology and Research, United Arab Emirates); Federico Renda (Khalifa University, United Arab Emirates); Dongming Gan (Khalifa University of Science, Technology and Research, United Arab Emirates); Lakmal Seneviratne (KURI, United Arab Emirates)
15:15–15:30	1570419637	RRT*N: An Improved Rapidly-Exploring Random Tree Approach for Reduced Processing Times

		Hussein Mohammed and Mohammad A. Jaradat (American University of Sharjah, United Arab Emirates); Lotfi Romdhane (American University of Sharjah, AUS, United Arab Emirates)
15:30–15:45	1570430170	A Reduced Cascaded Fuzzy Logic Approach for Dynamic Window Weights Optimization Omer Abubakr, Mohammad A. Jaradat and Mamoun Abdel-Hafez (American University of Sharjah, United Arab Emirates)
15:45–16:00	1570425572	Modeling and System Identification of an Autonomous Underwater Vehicle Ali Wadi, Jin-Hyuk Lee and Shayok Mukhopadhyay (American University of Sharjah, United Arab Emirates)
16:00-16:15	1570403175	Accuracy Analysis of 3-RSS Delta Parallel Manipulator Mansoor Ghazi, Qasim Nazir, Sajid U. Butt and Aamer A. Baqai (National University of Sciences and Technology, Pakistan)