



ELECTRICAL ENGINEERING AND MECHATRONICS CONFERENCE EEMC'18

Thursday, 22th of March 2018

***Location: Faculty of Engineering, 4028 Debrecen, Ótemető u. 2-4.
Lecture hall U 003***

Conference Chairman: Dr. Géza HUSI

PROGRAM:

09:00 – Opening

PLENARY SESSION (Lecture hall U 003)

Chairman: Dr. Géza HUSI (University of Debrecen, Hungary)

09:00 - 09:30: Dr. Sahin YILDIRIM (Turkey): Design of Neural Predictor for Performance Analysis of Mountain Bicycles.

09:30 - 10:00: Dr. Csaba SZÁSZ (Romania): Last Generation Mechatronics: a Two-level Platform-based Reconfigurable Technology Approach.

10:00 - 10:20: COFFEE BREAK

I. LAST GENERATION OF MECHATRONIC SESSION (Lecture hall U 003)

Chairman: Dr. Géza HUSI (University of Debrecen, Hungary)

10:20 - 10:40: Ammar ALSABBAGH (Syria), Abdulkader BAKI (Syria): Brushless DC Motor Modeling Using Bond Graph Method and Control using LabVIEW.

10:40 - 11:00: Syeda Adila Afghan (Pakistan): Modelling and Simulating Photovoltaic Energy Harvesting Circuit: An Analysis based on Trial and Error Approximation for Optimal Output Power of a Harvester.

11:00 - 11:20: Florin Avram, Flaviu Birouas, Vlad Mihalca, Arnold Nilgesz (Romania): Issues regarding management of machining tools, parts and sub-assemblies in flexible manufacturing cells.

11:20 – 11:40: Dan Potrovita (Romania): Magnetron Sputtering System. Some considerations on mechatronics applications.

11:40 – 13:00: Lunch Break

II. REVIEW ABOUT RESEARCH WORK IN ORADEA SESSION (Lecture hall U 003)

Chairman: Dr. Tibor VESSELÉNYI (University of Oradea, Romania)

13:00 – 13:20: Mihalca Vlad, Flaviu Birouas, Florin AVRAM, Nilgesz Arnold (Romania): A review regarding deep learning technology in mobile robots.

13:20 – 13:40: Flaviu Birouas, Florin Avram, Arnold Nilgesz, Vlad Mihalca (Romania): A review regarding hand exoskeleton technologies for rehabilitation.

13:40 – 14:00: Arnold Nilgesz, Flaviu Birouas, Florin Avram, Vlad Mihalca (Romania): A review regarding vegetation indices and their validation process.

14:00 – 14:20: Florin Avram, Flaviu Birouas, Vlad Mihalca, Arnold Nilgesz (Romania): Issues regarding management of machining tools, parts and sub-assemblies in flexible manufacturing cells.

14:20 – 14:40: COFFEE BREAK

POSTER SESSION (Lecture hall U 003)

Chairman: Timotei István ERDEI (University of Debrecen, Hungary)

14:40 – 15:40:

- **Bence KOVÁCS (Hungary):** Intelligent Houses.
- **Ammar ALSABBAGH (Syria):** Integral LQR-Based 6DoFs Autonomous Quadrocopter Balancing System Control.
- **Abdulkader BAKI (Syria):** Developing a laboratory Robot Arm using Optimal control.
- **Gyula KORSOVECZKI (Hungary):** The maintenance, commissioning of FANUC M-11A 0.5A type selecting robot and implementation of iRVision picture-recognizing procedure.
- **Aram NASSER (Syria):** The goal following robot.
- **Hani Waleed Mahmoud SHA'BAN (Jordan):** Recovering Waste Heat from Automobile Engine Using Thermoelectric Power Generators.
- **Bence VADNAI (Hungary):** Raspberry PI Cloud service.
- **Andor NAGY (Hungary):** Data analysis of modern electronic underground railroad vehicle event recorders.



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Friday, 23rd of March 2018

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PROGRAM:

PLENARY SESSION (Lecture hall U 003)

Chairman: Dr. Péter Tamás SZEMES (University of Debrecen, Hungary)

09:00 - 09:20: Syeda Adila AFGHAN (Pakistan): Lightweight multi-agent framework for a cluster-based wireless sensor network.

III. MECHATRONICS TODAY SESSION (Lecture hall U 003)

Chairman: Emese SARVAJCZ-BÁNÓCZY (University of Debrecen, Hungary)

09:20 – 09:40: Hassan Muhammad SHAIKH (Pakistan), Syeda Adila AFGHAN (Pakistan): Reviewing the Power Management IC (PMIC) based on Energy Harvesting.

09:40 – 10:00: Dániel SALÁNKI (Hungary): Development of Gait Recognition in NI LabVIEW.

10:00 – 10:20: Dávid DEZSŐ (Hungary): Measuring Drone flight stability using computer vision.

10:20 – 10:40: COFFEE BREAK

IV. MODELLING AND SIMULATION SESSION (Lecture hall U 003)

Chairman: Almusawi Husam ABDULKAREEM (University of Debrecen, Hungary)

10:40 – 11:00: Ahmet Mehmet KARADENIZ (Turkey): Modelling and Simulation of Stepper Motor Using Labview.

11:00 – 11:20: Syeda Adila AFGHAN (Pakistan): Secure multi-level Cluster based wireless sensor network.

11:20 – 11:40: István KOVÁCS (Hungary): Modelling and simulation of a series wound DC motor.

11:40 – 12:00: Bence KOVÁCS (Hungary): Smart Home.

12:00 – 12:20: Zsolt TYUKODI (Hungary): Creating GUI for building energy simulation.

12:20 – 12:40: Oseni Adewale ORIYOMI (Nigeria): Simulation of Inverted Pendulum System in LabVIEW.

12:40 – 13:00: Miklós KUCZMANN (Hungary): Analysis of an induction machine by the finite element method.

13:00 - LUNCH