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WEDNESDAY, October 5

Nordic Hotel Forum,
Viru väljak 3, 10111 Tallinn, ESTONIA

[Capella] SENSORS AND COGNITIVE SYSTEMS

Session Chair – Yannick Le Moullec

- 10:00–10:20 Nafisat Gyimah, Rauno Jõemaa, Kaiser Pärnamets, Ott Scheler, Toomas Rang, Tamas Pardy, “PID Controller Tuning Optimization Using Genetic Algorithm for Droplet Size Control in Microfluidics” ...1
- 10:20–10:40 Nicky André Prabatama, Rauno Jõemaa, Kristóf Hegedús, Tamás Pardy, “Low-cost open-source flow velocity sensor for droplet generators” ...7
- 10:40–11:00 Hameed Iqbal, Rizwan Ahmad, Waqas Ahmed, Shams Qazi, Muhammad Mahtab Alam, “Analyzing and Investigating encrypted traffic for social media application Instagram” ...11

[VEGA] OPTICAL AND ACOUSTIC IDENTIFICATION OF SYSTEMS

Session Chair – Olev Märtens

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- 10:20–10:40 Lukas Zabulis, Arūnas Lipnickas, Rytis Augustauskas, “Application of computer vision methods for automated wooden planks length measurement” ...22
- 10:40–11:00 Peter Koch, Jan Østergaard, “Error Reduced Carry Prediction in Approximate Addition for Low-Frequency Sound Zones” ...28

11:00-11:20 COFFEE BREAK

[CAPELLA] COMMUNICATION SYSTEMS

Session Chair – Muhammad Mahtab Alam

- 11:20–11:40 Muhammad Naveed Anjum, Rizwan Ahmad, Ali Hassan, Waqas Ahmed, Muhammad Mahtab Alam, “Power Aware ON/OFF Switching Schemes for Energy Efficient Phantom Cellular Networks” ...33
- 11:40–12:00 Sikandar Zulqarnain Khan, Haigo Hein, Muhammad Mahtab Alam, Yannick Le Moullec, Sven Parand, “NB-IoT based Visual Smart Waste Management System” ...39
- 12:00–12:20 Osama Elgarhy, Onur Yener, Muhammad Mahtab Alam, “Performance evaluation of 5G NR sidelink for V2X scenarios” ...45
- 12:20–12:40 Aleksei Fjodorov, Ali Masood, Muhammad Mahtab Alam, Sven Päränd, “5G Testbed Implementation and Measurement Campaign for Ground and Aerial Coverage” ...50

[VEGA] NONDESTRUCTIVE TESTING

Session Chair – Margus Metshein

- 11:20–11:40 Parnian Hemmati, Jean-Christophe Pittet, Serge Dos Santos, “Statistical Identification of Skin Nonlinear Multiscale Characteristics in the Time Domain” ...56
- 11:40–12:00 Serge Dos Santos, Parnian Hemmati, Sadataka Furui, “Memristor based ultrasonic optimized excitations for mesoscopic nonlinear characterization of biomedical tissues” ...62
- 12:00–12:20 Chengxiang Peng, Madis Ratassepp, Paul Annus, “Investigation of Signal Separation for Ultrasonic Nondestructive Evaluation” ...68
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12:40-13:40 LUNCH

[CAPELLA] POWER CONVERSION TECHNOLOGIES

Session Chair – Andrii Chub

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- 14:00–14:20 Karolina Kudelina, Hadi Ashraf Raja, Siarhei Autsou, Bilal Asad, Toomas Vaimann, Anton Rassõlkin, Ants Kallaste, Noman Shabbir, “The Impact of Load on Global Parameters of Electrical Machines in Case of Healthy and Broken Rotor Bars” ...85
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Session Chair – Paul Annus

- 13:40–14:00 Anar Abdullayev, Olev Martens, Marek Rist, Margus Metshein, Mart Min, Paul Annus, “A DSP-based impedance measurement device” ...96
- 14:00–14:20 Olev Märtens, Margus Metshein, Gert Tamberg, Anar Abdullayev, “Impedance Cardiography Signal Processing with Savitzky-Golay and Frequency Sampling Kernels” ...101
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Session Chair – Andrii Chub

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- 15:40–16:00 Róbert Ondica, Martin Kováč, David Maljar, Viera Stopjaková, “Fully Integrated Multi-layer Stacked Structure of Integrated Inductor with Patterned Ground Shield” ...115
- 16:00–16:20 Kristof Hegedus, Ferenc Ender, Balazs Plesz, “Controlled Deposition of Perovskite Thin Layer with Electrospraying for Solar Cells” ...121

[VEGA] SPONSOR PRESENTATION

Session Chair – Gatis Tillers

- 15:20-16:20 Saving the costs by EMI debugging of prototypes in R&D stage by using modern oscilloscopes...N/A

[CAPELLA] 5G TIMBER DISSEMINATION AND COMMUNICATION PANEL

Session Chair – Prof. Muhammad Mahtab Alam

16:20-17.30 Panel discussions: Title: “5G-TIMBER: Twin Green & Digital Transition in SMEs” ...N/A

Moderator: Yannick Le Moullec (Professor of Cognitive Electronics) at Tallinn University of Technology, Estonia

Speakers:

Helen Sooväli-Sepping (Vice Rector for Green Transformation) at Tallinn University of Technology, Estonia

Jari Halme (Senior Scientist) at VTT Technical Research Centre of Finland Ltd., Finland

Colin Keogh (Innovation Consultant Engineer) at Inlecom, Ireland

Iftikhar Ahmad (Head of R&D Central Function) at Tietoevry Group Finland

Alar Kuusik, (Senior Researcher) at Tallinn University of Technology, Estonia

Annika Kadaja, (Head of Wooden houses association), Estonia

Stephen Parker, (Director of Software Engineering) at Accelleran, Belgium

18:00 BANQUET DINNER

THURSDAY, October 6

Nordic Hotel Forum,

Viru väljak 3, 10111 Tallinn, ESTONIA

CYBERPHYSICAL AND EMBEDDED SYSTEMS

Session Chair – Serge Dos Santos

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11:00–11:20 Natalia Cherezova, Dmitri Mihhailov, Sergei Devadze, Artur Jutman, “HLS-based Optimization of Tau Triggering Algorithm for LHC: a case study” ...144

11:20-11:40 COFFEE BREAK

11:40-12:40 Keynote speaker: Prof. Mariusz Malinowski - Warsaw University of Technology
“Title” ...N/A

12:40-13:00 CLOSING THE CONFERENCE