

Conference Program – EUROSENSORS XXXVI

1-4 September, Debrecen, Hungary

Sunday, 1 September

EUROSENSORS SCHOOL (ÉTK / Life Science Bldg)

9:00	SB1	Prószéky	Gábor	Hungarian Research Centre for Linguistics Pázmány Péter Catholic University Co-founder of MorphoLogic	Artificial Intelligence and Human Language Technologies Today	
10:30	Coffee break					
11:00	SB2	Horváth	András	Pázmány Péter Catholic University	Robust Sensing and Super-Resolution with Employment Neural Networks	
12:30	Lunch break					
13:30	SB3	Puglisi	Donatella	Division of Sensor and Actuator Systems Department of Physics, Chemistry and Biology Linköping University, Sweden	Utilization of AI/machine-learning in gas sensing and environmental applications	REGISTRATION 14:00-18:00 (ÉTK / Life Science Bldg)
15:00	Coffee break					
15:30- 17:00	SB4	Zámborszky Podder Grimm	Judit Itilekha Dániel	Big Data and Artificial Intelligence Bosch	ML/AI in MEMS sensor development and production	
18:45- 21:30	Welcome reception <i>(Nagyerdei Water Tower)</i> Sponsored by 77 Elektronika					

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Monday, 2 September

Time	Room	Code	#	Family name	First name	Title
9:00	Main Bldg, Assembly Hall	Opening remarks				
9:30	T5 - Chemical Sensors Session Chair: István Bársony (Main Bldg, Assembly Hall)	PleA1	-	Detre	Örs Hunor	Sensing over space and time
10:20		T5A1	8	Mizsei	János	The Pitfalls of Researching and Developing Semiconductor Gas Sensors
10:40		T5A2	251	Khan	Madiha	CuO-loaded NiO based gas sensor with dual selectivity to NO2 and H2.
11:00		T5A19	75	López Aparicio	Yohana	Advanced Room Temperature Hydrogen Sensor based on Interdigitated Electrodes and Polycarbazole Membranes
10:20	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Peter Lieberzeit (ÉTK / Life Science Bldg, Room 1)	T6B1	229	Brachfeld	Ambre	Electrochemical assay for metal traces in marine environment by the Peaks Shift Analysis during catalysis
10:40		T6B2	195	Clement	Pierrick	Aptamer-based Electrochemical Sensor for the Monitoring of Carbamazepine in Freshwater Systems
11:00		T6B3	236	Martinez-Estrada	Marc	A Textile Electrochemical Sensor based on Ag Coated Fibers
10:20	T4 - Physical Sensors and Actuators Session Chair: Christos Tsamis (ÉTK / Life Science Bldg, Room 2)	T4C1	62	Murase	Hideaki	Development of a 0.01-dph mode-matched MEMS gyroscope toward realizing a module-level gyrocompass with 1-mil accuracy
10:40		T4C2	133	García	Inês Sofia	Exploring multi-mass system for multi-functional MEMS accelerometer with enhanced bandwidth and sensitivity
11:00		T3A1	138	Mecca	Giulia	Inkjet Printed Flexible Piezoelectric Sensor for Large Strain Applications
10:20	T1 - Theory, Modelling, Design and Testing Session Chair: János Volk (ÉTK / Life Science Bldg, Room 3)	T1D1	5	Salman	Eliya	The Optimal Planform of a Cantilever Unimorph Piezoelectric Vibrating Energy Harvester (PVEH), which has a Device-Layer Edge Block
10:40		T1D2	173	Schiller	Ferdinand	High-Fidelity Modeling of Harmonic Distortions in Piezoelectric MEMS Microphones with a Corrugated Membrane
11:00		T1D3	216	Raschdorf	Paul F.	Automatic Imaging Based Wafer-Level In-Line Measurement for Piezoelectric MEMS Mirrors
11:20	ÉTK Life Science Bldg	Coffee Break				
11:50	T5 - Chemical Sensors Session Chair: Anton Köck (Main Bldg, Assembly Hall)	T5A4	40	Liu	Kewei	Allovalent-Doping-Strengthened Ethylene Sensor
12:10		T5A5	44	Duc	Caroline	Alternative solvents containing phenyls and isoprenic units to fabricate polyaniline-based layers sensitive to ammonia
12:30		T5A6	189	Schönauer-Kamin	Daniela	Are Powder Aerosol-Deposited Films Appropriate for Chemiresistive NOx Gas Dosimeters?
11:50	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Tamás Pardy (ÉTK / Life Science Bldg, Room 1)	T6B4	79	Guerreiro Rodrigues	Rodolfo	Development and Characterization of Microfluidic Channels for Chromatography-on-a-Chip Applications
12:10		T6B5	217	Szomor	Zsombor	3D Modelling of droplet formation in two-phase microfluidics for single-cell manipulation
12:30		T6B6	15	Rosa	Rafaela R	Microfluidic Rolling Circle Amplification Device for Pathogen Detection in Food Products
11:50	T4 - Physical Sensors and Actuators Session Chair: Emmanuel Scorsone (ÉTK / Life Science Bldg, Room 2)	T4C4	86	El-Ahmar	Semir	Hall-effect sensors for extreme temperature applications
12:10		T4C5	90	Reddig	Wiktorja	Neutron Radiation Effects on Thin-Film and Two-Dimensional Magnetic Field Sensors
12:30		T4C6	197	Marbough	Othmane	Metrology of magnetic losses in electrical steel sheets using shear acoustic waveguide magnetic field sensor
11:50	T1 - Theory, Modelling, Design and Testing Session Chair: Ulrich Schmid (ÉTK / Life Science Bldg, Room 3)	T1D4	36	Mollard	Laurent	KNN Lead-free biaxial piezoelectric MEMS Mirror on 200 mm Si wafer
12:10		T1D5	135	Özin	Mithat C	Design Study of a Y-shaped Six-Axis Force/Moment Sensor Through Pareto Front and Novel Analytical Model
12:30		T1D6	20	Becker	Dennis	Acoustic Transmission Measurements of Folded MEMS Membranes for Mechanical Characterization
12:50	Main Bldg, Ceremonial Hall	Lunch Break				
14:00	Main Bldg, in front of the entrance	Group Photo				
14:20	T5 - Chemical Sensors Session Chair: Donatella Puglisi (Main Bldg, Assembly Hall)	PleA2	-	Domènech-Gil	Guillem	AI sniffs out a solution to gas sensor selectivity afflictions?
15:10		T5A7	107	Teulle	Alexandre	Silicon-Based Thermal Conductivity Detector for Gas Sensing
15:30		T5A8	202	Brieger	Oliver	Characterization of a thick film MOS gas sensor as detector of short trace gas pulses
15:50		T5A9	147	González Gómez	María	Cost-effective Indoor Colorimetry CO2 sensor.
15:10	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Conor O'Mahony (ÉTK / Life Science Bldg, Room 1)	T6B7	89	Hintz	Nicole	Fabrication of Nanochannels with Funnel-like Inlet Structures for the Analysis of Single DNA Molecules
15:30		T6B8	248	Janisz	Tymon	3D-Printed Mouthguard with Integrated Microfluidic Drug Dispenser for Oral Cavity Applications
15:50		T6B9	196	Lefèvre	Xavier	MIP-based sensors for fast nicotine monitoring in aerosol
15:10	T4 - Physical Sensors and Actuators Session Chair: Jean-Paul Viricelle (ÉTK / Life Science Bldg, Room 2)	T4C7	235	Qin	Jiabin	A High-Performance Mode-Localized Vacuum Gauge Based on T-Typed Piezoresistive Pickup
15:30		T4C8	42	Le Bihan	France	Creep Detection in Composites with Silicon Strain Gauge
15:50		T4C9	169	Lukács	Ferenc	A Novel Barometric Pressure Sensor with a Capacitive Transducer and with Improved Mechanical Robustness in a Media Robust Packaging
15:10	T1 - Theory, Modelling, Design and Testing Session Chair: Jürgen Wöllenstein (ÉTK / Life Science Bldg, Room 3)	T1D7	175	Jafarsadeghipournaki	Ilgar	Design of a MEMS Pitch Tunable Grating for Enhanced Scanning LIDAR
15:30		T1D8	281	Tischer	Ana Maria	Preliminary Comparative Study of Different Materials to Reduce Humidity of Gas Samples
15:50		T1D9	159	Mógor-Györfy	Róbert	Non-Destructive Evaluation of Crack Propagation in Solder Joints of Pressure Sensors Under Thermal Cycling Using Computed Tomography and Finite Element Analysis
16:10	Main Bldg, Ceremonial Hall	Coffee Break				
16:30–18:15	Main Bldg, 3rd floor	Poster Session I				
17:30–18:15	Main Bldg, Assembly Hall	Meet the Editor - JSSS				
19:00–20:30	Great Reformed Church in Debrecen	Organ Concert				

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Tuesday, 3 September

Time	Room	Code	#	Family name	First name	Title
9:00	T5 - Chemical Sensors Session Chair: Christofer Hierold (Main Bldg, Assembly Hall)	Ple3	-	O'Mahony	Conor	Precision Healthcare using Micro Transdermal Interface Platforms (MicroTIPs)
9:50		TSA10	99	Moos	Ralf	Ammonia Sensor to Effectively Dose the Reducing Agent for NOx SCR Systems in Biomass Combustion Systems
10:10		TSA11	119	Ratti	Christian	Environmental Odour Monitoring at Receptors by means of an IOMS: Assessment of the Odour of a Paper Mill
10:30		TSA12	190	Masi	Luigi	Monitoring of VOC Emissions in Berries During the Spoiling Process
10:50		TSA13	71	Spagnoli	Elena	Chemoresistive Sensors: A New Approach to Understand the Detection Mechanism of Biogenic Gases
9:50	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Ruchi Gupta (ÉTK / Life Science Bldg, Room 1)	T6B10	85	Izaddoust	Sepideh	Plant on a Chip: Paper Fluidics for Spatio-Temporal Root Exudate Analysis
10:10		T6B11	97	Antonelli	Gianni	Electroporation Monitoring by Machine Learning and Single Cell Morphodynamic on Lab-on-Chip
10:30		T6B12	160	Bató	Lília	Microfluidic device with integrated microelectrodes for enhanced EIS sensitivity
10:50		T6B13	214	Alhasan	Seba Nur	Micromachined SU-8/PMMA Sandwich Electrodes with Functional Graphene Coatings for Biopotential Monitoring
9:50	T4 - Physical Sensors and Actuators Session Chair: Toshihiro Itoh (ÉTK / Life Science Bldg, Room 2)	T4C10	209	Volk	János	Ultra-Sensitive Force Gauge Accessory for Microscope Micromanipulators
10:10		T4C11	215	Sayar Irani	Farid	Scalable Microfabrication of Graphene Polymeric Strain Gauge
10:30		T4C13	72	Kwon	MinHee	Design Considerations for GHz SAW Resonators in High Strain Sensing
10:50		T3A5	213	Saikawa	Keita	Microfluidic-Assisted Assembly of Fluorescent Nanodiamonds for Precise Temperature Measurement
9:50	T5 - Chemical Sensors Session Chair: Laura Capelli (ÉTK / Life Science Bldg, Room 3)	T5D29	273	Jurdit	Murielle	Investigating the Variation of Thermal Conductivity with Temperature to Improve a Portable GC System Specificity
10:10		T5D31	156	Köck	Anton	Novel chemical sensor device enabled by simultaneous thermal-optical excitation
10:30		T5D32	10	Fabrega Gallego	Cristian	Colorimetric Inks: A new approach to low cost and disposable gas sensors
10:50		T5C25	267	Vardhan	Vaishali	NO2 Sensor on Ambipolar Si-Junctionless Nanowire Transistor
11:10	<i>ÉTK Life Science Bldg</i>					
Coffee Break						
11:40	T5 - Chemical Sensors Session Chair: Udo Weimar (Main Bldg, Assembly Hall)	T5A14	67	Paolucci	Valentina	Chemoresistive Humidity, NO2 and H2 Sensor Based on 2D- CrCl3 Layered Trihalides Nanoflakes
12:00		T5A15	163	Fdhila	Aladine	Facile synthesis of SnS2 nanosheets via the combination of AACVD and APCVD methods for ppb-level NO2 detection.
12:20		T5A16	154	Maier	Christian	Gas Sensing Performance of CuO Sensors Functionalized with Different Stabilized Au-NP
12:40		T5A17	53	Rajab Pacha	Salma	Conductimetric Gas Sensors for Hydrogen Leakage Detection Based on Copper Phthalocyanine Decorated by Palladium Nanoparticles
11:40	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Mark Fretz (ÉTK / Life Science Bldg, Room 1)	T6B14	228	Füredi	András	Simple Microfluidic System for Point-of-Care Therapeutic Drug Monitoring of Anticancer Drugs
12:00		T6B15	111	Oliveira	Léony S	Development of an ISFET-based system for genetic detection of leukemia oncogene
12:20		T6B16	231	Lieberzeit	Peter A	Towards Mass-Sensitive Assay Formats for Medical Drugs Using MIP Nanobodies
12:40		T6B17	137	Shtepliuk	Ivan	Insights into Graphene-Based Sensors for VOC biomarkers of lung cancer: A DFT Perspective
11:40	T7 - Photonics and Optical Microsystems Session Chair: Péter Petrik (ÉTK / Life Science Bldg, Room 2)	T7C1	37	van Klinken	Anne	Optical Sensing with Picometer-level Precision using an Integrated Multispectral Chip
12:00		T7C2	43	van Elst	Don M.J.	Tailoring Spectral Sensors for Specific Applications
12:20		T7C3	31	Arthur L.	Hendriks	A Nanophotonic Fiber-Tip Sensor for the Detection of Single Nanoparticles
12:40		T4C12	78	Pernau	Hans-Fridtjof	Detection of SF6 in soundproof windows
11:40	T2 - Smart Systems and Artificial Intelligence in Sensing Session Chair: Guillem Domènech-Gil (ÉTK / Life Science Bldg, Room 3)	T2D1	25	Mizsei	János	Should we be afraid of artificial intelligence integrated with sensors and actuators, and if so, why not?
12:00		T2D2	30	Sanchez-Rojas	Jose L	Deep Learning-Enhanced Density and Viscosity Sensing with Piezoelectric MEMS Resonators for Edible Oil Monitoring
12:20		T2D4	93	Mulloni	Viviana	Multiparameter chipless RFID sensor tag for humidity and NO2 determination
12:40		T3A8	157	Soler-Fernández	Juan Luis	A Full-Custom Interface for Ultra-Low Power IoT Sensing Nodes
13:00	<i>Main Bldg, Ceremonial Hall</i>					
Lunch Break						
14:30	Round Table Discussion 1 (Main Bldg, Assembly Hall)	Central-Eastern-European SemiCon Perspectives Moderator: Eszter Holczer (Bosch) Discussion on the status / environment / future of the semiconductor industry in Central-Europe within the context of European Chips Act Participants from the industry: Robert Bosch, Infineon, Semilab Participants from the RTO / universities: BME, Debrecen University				
14:30	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: Rafal Walczak (ÉTK / Life Science Bldg, Room 1)	T6B26	80	Yamamoto	Michitaka	Molecular weight measurement of cattle-emitted gases using whistle acoustic signals
14:50		T6B28	265	Papkovsky	Dmitri	Photoluminescence Lifetime Based pH and O2 Sensors for the Analysis of Cell Metabolism
15:10		T6B27	266	Biswas	Subhajit	Electrochemically Exfoliated 2D MoS2 for ppb-level NO2 Sensing
14:30	T5 - Chemical Sensors Session Chair: Alexey Vasiliev (ÉTK / Life Science Bldg, Room 2)	T5A18	256	Di Zazzo	Lorena	Conductometric sensor array based on electropolymerized porphyrinoids
14:50		T5A20	118	Aina	Oluwatoyin E	Development of 2D-Borophene conductometric sensor for ammonia detection
15:10		T5D30	187	Moussa	Mohand Salah	Development of a Photoacoustic Cell for Volatile Organic Compounds (VOCs) Detection
15:30	<i>Main Bldg, Ceremonial Hall</i>					
Coffee Break						
16:00–18:00	<i>Main Bldg, 3rd floor</i>					
Poster Session II						
19:00–22:00	<i>Main Bldg, Ceremonial Hall</i>					
Conference Dinner						

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Wednesday, 4 September

Time	Room	Code	#	Family name	First name	Title
9:00	T3 - Advanced Materials and Technologies Session Chair: (Main Bldg, Assembly Hall)	Ple4		Tsamis	Christos	Exploring the triboelectric phenomena: From energy harvesting and sensing to triboelectric devices
9:50		T3A2	298	Malik	Shuja Bashir	Pd Decorated WS2 Synthesized via Facile APCVD Tech-nique for Highly Selective Room Temperature H2 sensing
10:10		T3A3	11	Ganesh Moorthy	Sujithkumar	New insights in ambipolar sensors through fine tuning in phthalocyanine complexes
10:30		T3A4	181	Neuber	Markus	Effect of Annealing on Pyroelectric Response and Aging Behavior of Al-doped HfO2 Thin-films
10:50		T3A6	269	Maini	Lucrezia	In-Vitro Ultrasound Evaluation of an Acoustic Metamaterial Sensor in Presence of Tissue Mimicking Material
9:50	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: J. Daniel Prades (ÉTK / Life Science Bldg, Room 1)	T6B18	246	Fretz	Mark	Industrialized microfluidic cartridges with photonic chips
10:10		T6B19	243	Malafatti	João Otávio Donizette	Potential use of meso-tetra (N-methyl-4-pyridyl) porphyrin to chlorogenic acid fluorescence detection
10:30		T6B20	7	Gupta	Ruchi	Hydrogel-based Sensing Technology for Quantitative Measurements of Low Concentrations of Proteins in the Presence of Interferents
10:50		T6B21	165	Garrido García	Eva M.	Nanosensor for GHB detection in urine samples
9:50	T5 - Chemical Sensors Session Chair: Ralf Moos (ÉTK / Life Science Bldg, Room 2)	T5C21	239	Bonyár	Attila	Benchmarking the Gas Sensitivity of LSPR Sensors With a New Parameter
10:10		T5C22	232	Kraiem	Ines	Raman Spectroscopy-based Detection of Suspended Carbon Nanotubes for Integration into Sensors
10:30		T5C24	129	Pakarzadeh	Hassan	Designing a Helically Twisted Photonic Crystal Fiber for Gas Sensing in the Terahertz Region
10:50		T5C23	180	Escobar	Vanessa	Development and Optimization of SPRI-based Electronic Nose for Highly Selective Detection of Volatile Organic Compounds
9:50	T10 - System Integration, ... Energy Harvesting Session Chair: Jean-Philippe Polizzi (ÉTK / Life Science Bldg, Room 3)	T10D1	125	Curry	Joshua	Harvesting body temperature to power wearable systems using sputtered flexible thermoelectrics
10:10		T10D2	264	Psoma	Sotiria D.	A Hybrid Piezoelectric - Electrostatic Energy Harvester for Wearable Biosensors
10:30		T10D3	184	Bankwitz	Madeleine	Advanced Sensor Systems for Sustainable Building Modernization: A Technological Approach to Enhance CO2 Savings
10:50		T9D4	253	Lo	Chengyao	Miniaturized Wireless Wearable Force Measurement System for Sports Science and Beyond
11:10	ÉTK Life Science Bldg	Coffee Break				
11:40	T6 - Biochemical sensors, Microfluidics, Lab-on-a-Chip Session Chair: János Mizsei (ÉTK / Life Science Bldg, Room 1)	T6B22	260	Hinz	Alexander	Characterization of an Integrated Pt Counter Electrode on GaN/AlGaIn-ISFET Wheatstone Bridge pH-sensors
12:00		T6B23	132	Pushparaj	Kishore	Electropolymerization of porphyrinoids on LIG as EGFET-based sensor array for ascorbic acid detection
12:20		T6B24	263	Huang	Sheng Hsun	Design and Verification of An Automated Non-contact Di-electric Sensor System
12:40		T6B25	116	Techakasikornpanich	Mongkol	Ion-Sensitive Field Effect Transistor (ISFET)-Based DNA Detection for Enterotoxigenic E. coli (ETEC)
11:40	T5 - Chemical Sensors Session Chair: Murielle Jurdit (ÉTK / Life Science Bldg, Room 2)	T5C26	252	Sacco	Leandro	Printing Nanoporous Layers (NPL) Generated by Spark Ab-lation for Gas Sensing Applications
12:00		T5C27	73	Capelli	Laura	Continuous Monitoring of Odour Concentration at the Inlet of a Scrubber with an E-Nose: Focus on the Management of Interferences
12:20		T5C28	81	Rosenwaks	Yossi	CMOS Compatible Electrostatically Formed Silicon Nanowire for Selective Ppb Level Sensing Platform
12:40		T5A3	201	Cáceres	Albert Vidal	Odour Classification and Concentration Estimation with a Chemical Sensor Array on a Drone
13:00	Main Bldg, Ceremonial Hall	Lunch				
14:30	Main Bldg, Assembly Hall	Closing Remarks				