

# Program of the on-line COE'2020 (AGH-UST Kraków)

Monday, 27<sup>th</sup> September

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9:00–9:30	<b>OPENING CEREMONY</b>	
<b>SESSION 1, Chair: Katarzyna Zakrzewska</b>		
9:30–9:45	<i>Short history of COE conferences</i>	<b>Ryszard Jachowicz</b>
9:45–10:30	<b>Plenary lecture #1</b> <i>Metal oxides and composites: application in chemical sensing</i>	<b>Elisabetta Comini</b>
10:30–11:00	<b>Invited talk #1</b> <i>UV-light modulated gas sensing</i>	<b>Janusz M. Smulko</b>
11:00–11:30	<b>Coffee break</b>	
<b>SESSION 2, Chair: Elisabetta Comini</b>		
11:30–12:15	<b>Plenary lecture #2</b> <i>Miniaturized sensor and actuator elements based on the heat transport in gases or the ionization of gas particles</i>	<b>Rupert Schreiner</b>
12:15–13:00	<b>Plenary lecture #3</b> <i>Hybrid solid state chemoresistive and fluctuation-enhanced gas sensors by advanced gas deposition methods: exhaled breath and indoor air analysis</i>	<b>Lars Österlund</b>
13:00–14:00	<b>Lunch break</b>	
<b>SESSION 3, Chair: Ruppert Schreiner</b>		
14:00–14:30	<b>Invited talk #2</b> <i>Ultra-sensitive magnetometer for space exploration</i>	<b>Claire Baraduc</b>
14:30–15:00	<b>Invited talk #3</b> <i>Company presentation EV Group (EVG), Gold Sponsor</i>	<b>Harald Wiesbauer</b>

15:00–15:30	<b>Invited talk #4</b> <i>Functional optical materials for applications in new sensors constructions</i>	<b>Piotr Miluski</b>
15:30–16:00	<b>Invited talk #5</b> <i>Surface engineering as a powerful tool to improve the mechanism of sensing</i>	<b>Anna Kusior</b>
16:00–16:15	<b>Coffee break</b>	
<b>SESSION 4, Chair: Lars Österlund</b>		
16:15–16:45	<b>Invited talk #6</b> <i>Lab-on-chip platforms for culturing and investigation of cells biological potential</i>	<b>Agnieszka Podwin</b> Laureate of PTTS Stolarski Prize
16:45–17:00	<b>Regular presentation #1</b> <i>Analysis of sound generated by curling stones</i>	<b>Bartosz Dzikowski</b>
17:00–17:15	<b>Regular presentation #2</b> <i>Novel approach to build three-dimension supercapacitor using the suspensions and 3D printing technique</i>	<b>Karolina Laszczyk</b>
17:15–17:30	<b>Regular presentation #3</b> <i>Microfluidic chip for cultivation of lymphocytes in space conditions – preliminary results</i>	<b>Wojciech Kubicki</b>
17:30–17:45	<b>Regular presentation #4</b> <i>MEMS based natural gas meter for home applications</i>	<b>Paweł Knapkiewicz</b>
17:45–18:00	<b>Regular presentation #5</b> <i>Design and optimization of piezo-stack based micro-actuator with motion amplifier</i>	<b>Bartosz Kawa</b>
18:00–18:15	<b>Regular presentation #6</b> <i>Chemical vapor transport route toward black phosphorus nanobelts and nanoribbons</i>	<b>Łukasz Macewicz</b>

## Tuesday, 28<sup>th</sup> September

<b>SESSION 5, Chair: Rafał Walczak, Don N. Futaba</b>		
8:45–9:30	<b>Plenary lecture #4</b> <i>Moving carbon nanotubes to industry</i>	<b>Don N. Futaba</b>
9:30–10:15	<b>Plenary lecture #5</b> <i>Magnetoresistive sensors as a precision tool in biomedical applications</i>	<b>Susana Cardoso de Freitas</b>
10:15–10:45	<b>Invited talk #7</b> <i>Magnetic sensors with nanocrystalline and wire cores</i>	<b>Pavel Ripka</b>
10:45–11:15	<b>Coffee break</b>	
<b>SESSION 6, Chair: Susana Cardoso de Freitas</b>		
11:15–12:00	<b>Plenary lecture #6</b> <i>Influence of semiconductor metal oxide properties on high-temperature gas sensing characteristics</i>	<b>Bilge Saruhan-Brings</b>
12:00–12:30	<b>Invited talk #8</b> <i>MEMS transmission electron microscope</i>	<b>Michał Krysztof</b>
12:30–13:00	<b>Invited talk #9</b> <i>Voltametric sensors based on boron-doped diamond and boron-doped diamond/graphene nanowall electrodes</i>	<b>Anna Dettlaff</b>
13:00–14:00	<b>Lunch break</b>	
<b>SESSION 7, Chair: Bilge Saruhan-Brings</b>		
14:00–14:30	<b>Invited talk #10</b> <i>Nanolayers-new possibilities in fiber-optic sensors</i>	<b>Małgorzata Szczerska</b>
14:30–15:00	<b>Invited talk #11</b> <i>Surface characterization to improve biomolecules immobilization in the aspect of biosensor applications</i>	<b>Kamil Awskiuk</b>
15:00–15:30	<b>Invited talk #12</b> <i>Review of six-port reflectometers intended for sensor application</i>	<b>Kamil Staszek</b>

15:30–16:00	<b>Invited talk #13,</b> <i>Boosted research of nanomaterials by XPS and HPXPS, Platinum Sponsor PREVAC</i>	<b>Łukasz Walczak</b>
16:00–16:15	<b>Coffee break</b>	
<b>SESSION 8, Chair: Paweł Pasierb</b>		
16:15–16:30	<b>Regular presentation #7</b> <i>Microfluidic Lab-on-chip platform for bio-nanosatellite (Lab-payload)</i>	<b>Patrycja Śniadek</b>
16:30–16:45	<b>Regular presentation #8</b> <i>MEMS ion sources developed for chip-scale mass spectrometer</i>	<b>Piotr Szyszka</b>
16:45–17:00	<b>Regular presentation #9</b> <i>Steam sterilization surveillance – development and thermodynamic modelling of an IoT steam sterilization procedure counter</i>	<b>Lucas Böhler</b>
17:00–17:15	<b>Regular presentation #10</b> <i>Evaluation of energy harvesting for IoT sensor nodes in surgical instrument lifecycle – industrial perspective</i>	<b>Mateusz Daniol</b>
17:15–17:20	<b>Short presentation #1</b> <i>A single-axis accelerometer with differential capacitances made by inkjet printing technology</i>	<b>Grzegorz Tarapata</b>
17:20–17:25	<b>Short presentation #2</b> <i>Demonstration of two design strategies for highly sensitive integrated photonic transducers for SiO<sub>2</sub>:TiO<sub>2</sub> sol-gel derived waveguide films</i>	<b>Andrzej Kaźmierczak</b>
17:25–17:30	<b>Short presentation #3</b> <i>Displacement detection and measurements for human activity recognition using magnetic field sensor</i>	<b>Patryk Łaś</b>
17:30–17:35	<b>Short presentation #4</b> <i>The impact of relative humidity for nitrogen dioxide measurements in automotive application</i>	<b>Dominik Grochala</b>
17:35–17:40	<b>Short presentation #5</b> <i>Magnetron sputtered thin films as gas sensors activated by UV-VIS light</i>	<b>Dagmara Michoń</b>
17:40–17:45	<b>Short presentation #6</b> <i>Air particle counter for powder bed fusion and power metallurgy process</i>	<b>Stanisław Karcz</b>

## Wednesday, 29<sup>th</sup> September

<b>SESSION 9, Chair: Piotr Jasiński</b>		
9:00–9:45	<b>Plenary lecture #7</b> <i>Metal oxide nano-heterostructures for gas sensing</i>	<b>Eduard Llobet</b>
9:45–10:30	<b>Plenary lecture #8</b> <i>Molecular material - based heterojunctions as gas sensors</i>	<b>Marcel Bouvet</b>
10:30–11:00	<b>Invited talk #14</b> <i>Micromachined silicon-glass Mirau microinterferometers as key components for miniature MOEMS-based optical instruments</i>	<b>Sylwester Bargiel</b>
11:00–11:30	<b>Coffee break</b>	
<b>SESSION 10, Chair: Eduard Llobet</b>		
11:30–12:00	<b>Invited talk #15</b> <i>Application of optical atomic magnetometers in exotic incarnation of Nuclear Magnetic Resonance</i>	<b>Szymon Pustelny</b>
12:00–12:30	<b>Invited talk #16</b> <i>Effect of morphology and doping on the sensing properties of SnO<sub>2</sub></i>	<b>Svitlana Nahirniak</b>
12:30–13:00	<b>Invited talk #17</b> <i>Functional conductive nanocarbons and diamond thin films for ultra-sensitive biosensing applications</i>	<b>Robert Bogdanowicz</b>
13:00–14:00	<b>Lunch break</b>	
<b>SESSION 11, Chair: Marcel Bouvet</b>		
14:00–14:30	<b>Invited talk #18</b> <i>Active sensor structures with Surface Acoustic Waves for chemical warfare agent simulant (DMMP) detection</i>	<b>Wiesław Jakubik</b>
14:30–15:00	<b>Invited talk #19</b> <i>Towards multi-parameter sensing by means of geometrically and structurally modified fiber Bragg gratings</i>	<b>Tomasz Osuch</b>
15:00–15:30	<b>Invited talk #20</b> <i>Transition metal dichalcogenides (TMDs) materials for gas sensing application</i>	<b>Fatima Ezahra Annanouch</b>

15:30–15:45	<b>Regular presentation #11</b> <i>Screen-printed copper oxide based films for pH sensing applications</i>	<b>Kiranmai Uppuluri</b>
15:45–16:00	<b>Regular presentation #12</b> <i>Sensing mechanism in semiconducting hybrid structures for DMMP detection</i>	<b>Paulina Powroźnik</b>
16:00–16:15	<b>Regular presentation #13</b> <i>Non-enzymatic glucose sensors: effect of binder-particles interactions in drop-casted suspensions on electrodes performance</i>	<b>Julia Mazurków</b>
16:15–16:30	<b>Coffee break</b>	
<b>SESSION 12, Chair: Jerzy Weremczuk</b>		
16:30–17:00	<b>Invited talk #21</b> <i>Grating couplers as highly sensitive transducers for refractive index measurements</i>	<b>Cuma Tyszkiewicz</b>
17:00–17:15	<b>Regular presentation #14</b> <i>Low loss, sol-gel derived optical waveguide films for applications in evanescent wave sensors technology</i>	<b>Magdalena Zięba</b>
17:15–17:30	<b>Regular presentation #15</b> <i>Interactions of optical fiber probes with proteins tuned by fluorescent nanodiamonds</i>	<b>Mateusz Ficek</b>
17:30–17:45	<b>Regular presentation #16</b> <i>Detection of damaged sensors in the matrix of amperometric gas sensors</i>	<b>Grzegorz Jasiński</b>
<b>17:45–18:00</b>	<b>CLOSING CEREMONY</b>	