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Poster session 2. Physical sensors, MIRROR CORRIDOR (16.30-18.15)

Presentation code	Paper Title	Authors list	Affiliations
TP.ACC-1-8022	Developing Biometric Passive Recognition Sensor Applicable to Wearable Devices: Part I - A Novel Structural Design for Achieving Three Dimensional Images	Wenlou Yuan (a), Yuanhang Xu (a,c), Huan Liu (a), Dong F. Wang (a,b,*)	(a) Micro Engineering and Micro Systems Laboratory, Jilin University, Changchun 130025, CHINA (b) Research Center for Ubiquitous MEMS and Micro Engineering, AIST, Tsukuba 305-8564, JAPAN (c) School of Mechanical Engineering and Automation, Beihang University, Beijing 100191, CHINA
TP.ACC-2-8066	Analysis of Sensor Installation Methods in Impedance-Based SHM Applications	Ricardo Z. M. da Silveira (a), Leandro M. Campeiro (a), Fabricio G. Baptista (a,*)	(a) Faculdade de Engenharia, UNESP—Univ Estadual Paulista, Bauru, Departamento de Engenharia Elétrica, 17033-360, Bauru - SP, Brazil
TP.ACC-3-8281	Sensitivity Recalibration of MEMS Microphones to Compensate Drift and Environmental Influences	S. Walser (a,*), M. Loibl (a), M. Winter (b), C. Siegel (b), G. Feiertag (a)	(a) Munich University of Applied Sciences, Munich, Germany (b) EPCOS AG a TDK group company, Munich, Germany
TP.ACC-4-8606	Reliability of anisotropic conductive adhesive flip chip attached humidity sensors in prolonged hygrothermal exposure	Laura Frisk (*), Sanna Lahokallio, Milad Mostofizadeh, Anniina Parviainen and Janne Kiilunen	Department of Electrical Engineering, Tampere University of Technology P.O.Box 692, 33101 Tampere, Finland
TP.ACT-1-8070	PZT Actuated MEMS Membrane Characterization and Post Simulation for Digital Loudspeaker Array Application	F. Casset (a,*), B. Laroche (c), S. Bouchet (c), B. Desloges (a), Q. Leclere (b), R. Morisson (d), Y. Bohard (d), JP. Goglio (d), S. Fanget (a)	(a) CEA, LETI, MINATEC Campus, Grenoble, France, Univ. Grenoble Alpes, F-38000 Grenoble, France (b) LVA-INSA, Lyon, France, (c) FOCAL, St Etienne, France (d) Easii-IC, Grenoble, France
TP.ACT-2-8081	Bulk PZT Actuator for Parallel Out-of-Plane Motion: the Superiority of Torsion Deformation Over Bending Deformation	Nadav Maccabi, Inbar (Hotzen) Grinberg, Adne Kassie, Shai Shmulevich, David Elata (*)	Technion-Israel Institute of Technology, Haifa 32000, Israel
TP.ACT-3-8086	Tunability of Piezoelectric MEMS Ring Resonator Based Filter	Boris Sviličić (a,b,*), Graham S. Wood (a), Enrico Mastropaolo (a), Rebecca Cheung (a)	(a) Scottish Microelectronics Centre, School of Engineering, University of Edinburgh, Edinburgh EH9 3JF, United Kingdom (b) Faculty of Maritime Studies Rijeka, University of Rijeka, Rijeka HR-51000, Croatia
TP.ACT-4-8142	A Silicon-Based MEMS Vibrating Mesh Nebulizer for Inhaled Drug Delivery	Oskar Z. Olszewski (a,*), Ronan MacLoughlin (b), Alan Blake (a), Mike O'Neill (c), Alan Mathewson (a), Nathan Jackson (a)	(a) Tyndall National Institute, University College Cork, Lee Maltings Complex, Dyke Parade, T12R5CP, Cork, Ireland (b) Aerogen Ltd. Galway Business Park, Dangan, Galway, Ireland (c) Analog Devices International, Raheen, Limerick, Ireland
TP.ACT-5-8173	Ball Viscometer using Active Magnetic Levitation	F. Feichtinger (*), S. Clara, A. O. Niedermayer, T. Voglhuber-Brunnmaier, B. Jakoby	Institute for Microelectronics and Microsensors, Johannes Kepler University Linz, Austria

TP.ACT-6-8189	Hydrogel-Based Actuation for Modiolar Hugging Cochlear Implant Electrode Arrays	J. Stieghorst (a,b,*), B. N. Tran (a,b), S. Hadelers (a,b), D. Beckmann (a,b,†), T. Doll (a,b)	(a) Hannover Medica School, Stadtfeldamm 34, 30625 Hannover, Germany (b) Cluster of Excellence Hearing4all, Carl-Neuberg-Str. 1, 30625 Hannover, Germany (†) Deceased 18 April 2016
TP.ACT-7-8251	A Novel Electrostatic Actuator Class	H. Conrad (a,*), B. Kaiser (a), M. Gaudet (a), S. Langa (a), M. Stolz (a), S. Uhlig (a), K. Schimmanz (a,b), H. Schenk (a,b)	(a) Fraunhofer Institute for Photonic Microsystems IPMS, Maria-Reiche-Str. 2, 01109 Dresden, Germany (b) Brandenburg University of Technology BTU, Chair of Micro and Nano Systems, Konrad-Zuse-Straße 1, 03046 Cottbus, Germany
TP.ACT-8-8337	Dielectric electroactive Polymer Membrane Actuator with Ring-Type Electrode As Driving Component of a Tactile Actuator	Rui Zhu (a,b,*), Ulrike Wallrabe (b), Matthias C Wapler (b), Peter Woias (b), Ulrich Mescheder (a)	(a) Department of Mechanical & Medical Engineering and Institute Microsystem Technology (iMST), Robert-Gerwig-Platz 1, Furtwangen 78120, Germany (b) Institut für Mikrosystemtechnik (IMTEK), Georges-Köhler-Allee 102, Freiburg 79110, Germany
TP.ACT-9-8388	Simple synthetic jet actuators for cooling applications using soft or rigid magnets	Gerda Buchberger(a,c,*), Bernhard Jakoby(a), Jürgen Schöffner(b), Andreas Schützenberger(a), Bianca Wiesmayr(a), Werner Baumgartner(c), Stefan Puttinger(d), Andreas Brandl(b), Wolfgang Hilber(a)	(a)Institute for Microelectronics and Microsensors, Johannes Kepler University Linz, Altenberger Str. 69, 4040 Linz, Austria (b)Institute of Technical Mechanics, Johannes Kepler University Linz, Altenberger Str. 69, 4040 Linz, Austria (c)Institute of Biomedical Mechatronics, Johannes Kepler University Linz, Altenberger Str. 69, 4040 Linz, Austria (d)Department of Particulate Flow Modelling, Johannes Kepler University Linz, Altenberger Str. 69, 4040 Linz, Austria
TP.ACT-10-8463	A Miniature Multimodal Actuator for Effective Tactile Feedback: Design and Characterization	Tao Li (a,*), Huaiqi Huang (a,b), Jörn Justiz (a), Volker M. Koch(a)	(a) Institute of Human-Centered Engineering, Bern University of Applied Sciences, Quellgasse 21 CH-2502 Biel, Switzerland (b) Integrated Circuits Lab, EPFL Lausanne, Rue de la Maladiere 71, CH-2000 Neuchatel, Switzerland
TP.ACT-11-8611	Low-voltage, high-tuning range MEMS variable capacitor using closed-loop control	E.E.Moreira (a,b,*), J. Cabral (b), J. Gaspar (c), L. A. Rocha (a,b)	(a) CMEMS-UM, Univeristy of Minho, 4800-058 Guimarães, Portugal (b) ALGORITMI CENTER, University of Minho, Campus Azurém, 4800-058 Guimarães, Portugal © International Iberian Nanotechnology Laboratory (INL), 4715-330 Braga, Portugal
TP.AUTO-1-8117	Comparing OBD and Can Sampling on the Go with the SensorHUB Framework	David Sik (a,*), Tamas Balogh (b), Peter Ekler (a), Laszlo Lengyel (a)	(a) Budapest University of Technology and Economics, Magyar tudósok körútja 2., Budapest 1111, Hungary (b) AutSoft Ltd., Neumann János u. 1. Infopark A épület, Budapest 1117, Hungary
TP.AUTO-2-8175	Calibration and Performance of a Novel In-situ Soot Sensor for Production Engines	Zhen Zhang (*), Richiard Fuehrhapter, Harald Waschl, Luigi Del Re	Johannes Kepler University Linz, Institute for Design and Control of Mechatronical Systems, Austria
TP.AUTO-3-8326	Io-Link-Sensors in the Internet of Things	Zoltan Kasa(a), Zoltan Kantor(a), Markus Rentschler(b,*)	(a) Balluff Elektronika Kft, Veszprem, Hungary (b) Balluff GmbH, Neuhausen, Germany

TP.AUTO-4-8393	Visual Traffic Load Sensor for Emission Estimation	Kristóf Csorba(*), Lilla Barancsuk, László Blázovics	Budapest University of Technology and Economics, Department of Automation and Applied Informatics, Magyar Tudósok krt. 2/Q, 1117 Budapest, Hungary
TP.AUTO-5-8482	Non-Reactive Working Fluids for Reliably Sensing Nanoparticles in Automotive Exhaust Gases	M. Kraft (a,*), T. Reinisch (b), A. Bergmann (b,c)	(a) CTR Carinthian Tech Research AG, Europastraße 12, 9524 Villach, Austria (b) AVL List GmbH, Hans-List-Platz 1, 8020 Graz, Austria (c) Institute of Electronic Sensor Systems, Graz University of Technology, Inffeldgasse 10/II, 8010 Graz, Austria
TP.AUTO-6-8531	Optical Spectroscopy for Biofuel Composition Sensing	L.M. Middelburg (a,*), G. de Graaf (a), M. Ghaderi (a), A. Bossche (a), J. Bastemeijer (a), J.H. Visser (b), R.E. Soltis (b), R.F. Wolffenbuttel (a)	(a) Delft University of Technology, Mekelweg 4, Delft 2628CD, The Netherlands (b) Ford Motor Company, Village Rd, Dearborn MI, USA
TP.AUTO-7-8544	A PCB based engine air intake sensor – Application to a typical low power engine	Dimitrios N. Pagonis (a), Anastasios Moschos (b), Grigoris Kaltsas (b,*)	(a) Department of Naval Architecture, TEI of Athens, Athens 12243, Greece (b) Department of Electronics, TEI of Athens, Athens 12243, Greece
TP.AUTO-8-8576	Design of a Thermoelectric Energy Harvesting Module for a Wireless Pressure Measurement in Vehicles	Bilsay Sümer (a,*), Enis Kadir San (a,b), Kaan Sancakdar (a)	(a) Mechanical Engineering Department, Hacettepe University, Beytepe, Ankara 06800, Turkey (b) AVL Research and Engineering, Sancaktepe, İstanbul 34885, Turkey
TP.EMB-1-1016	Flora Health Wireless Monitoring with Plant-Microbial Fuel Cell	Davide Brunelli (*), Pietro Tosato, Maurizio Rossi	Department of Industrial Engineering, University of Trento, via Sommarive 9, 38123 Trento, Italy
TP.EMB-2-8082	A General Purpose Lock-In Amplifier Enabling Sub-ppm Resolution	G. Gervasoni, M. Carminati, G. Ferrari	Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Piazza Leonardo da Vinci, 32, Milano 20133, Italy
TP.EMB-3-8222	A Fully-Integrated CMOS LDO Regulator for Battery-Operated on-Chip Measurement Systems	J. Pérez-Bailón (a,*), A. Márquez (a), B. Calvo (a), N. Medrano (a), P.A. Martínez (a), M.T. Sanz-Pascual (b)	(a) Group of Electronic Design – I3A University of Zaragoza, Zaragoza 50009, Spain (b) Instituto Nacional de Astrofísica, Óptica y Electrónica INAOE, Tonantzintla, Puebla, México
TP.EMB-4-8246	Wireless Sensor Nodes for Acceleration, Strain and Temperature Measurements	Z.Herrasti (*), I.Gabilondo, J.Berganzo, I.Val, F. Martínez	IK4-Ikerlan Technology Research Centre, Arrasate-Mondragón, Spain
TP.EMB-5-8286	Sensor-Based Seeds for a Chaotic Stream Cipher	M. Garcia-Bosque (*), C. Sánchez-Azqueta, S. Celma	Group of Electronic Design, Aragón Institute of Engineering Research, Universidad de Zaragoza C/Pedro Cerbuna 12, Zaragoza, 50009, Spain
TP.EMB-6-8299	Electromechanical Coupling Between Comb-Drive Actuators and Charge Pump Converters	B. Verdin (*), P. Le Moal, G. Bourbon, V. Walter	FEMTO-ST Institute – UMR 6174 – Applied Mechanics Department – Besançon – France
TP.EMB-7-8335	Embedded Control of a PMSM Servo Drive Without Current Measurements	Dino Hüllmann (*), Harald Kohlhoff, Patrick Neumann	Bundesanstalt für Materialforschung und -prüfung, Unter den Eichen 87, 12205 Berlin, Germany

TP.EMB-8-8413	A New Optical UWB Modulation Technique for 250Mbps Wireless Link in Implantable Biotelemetry Systems	Andrea De Marcellis (a,*), Elia Palange(a), Marco Faccio(a), Luca Nubile(a), Guido Di Patrizio Stanchieri(a), Stefano Petrucci(a), Timothy Constandinou(b)	(a)University of L'Aquila, Dept. of Industrial and Information Engineering and Economics, 67100 - L'Aquila, Italy (b)Imperial College London, Centre for Bio-Inspired Technology, SW7 2AZ - London, United Kingdom
TP.EMB-9-8459	Low-cost Embedded Spirometer Based on commercial Micro machined Platinum Thin Film	M. Laghrouche(*) , R.Saddaoui , I.Mellal, M.Nachef and S. Ameur	Mouloud MAMMERI University, L.A.M.P.A. Laboratory , Tizi Ouzou, Algeria
TP.EMB-10-8460	Dynamic multi-sensor operation and read-out for highly selective gas sensor systems	M. Bastuck (a,c*), W. Reimringer (b), T. Conrad (b), A. Schütze (a)	(a) Lab for Measurement Technology, Saarland University, 66123 Saarbrücken, Germany (b) 3S GmbH, 66123 Saarbrücken, Germany (c) Div. of Applied Sensor Science, Linköping University, 58183 Linköping, Sweden
TP.EMB-11-8480	A CMOS Mixed Mode Non-Linear Processing Unit for Adaptive Sensor Conditioning in Portable Smart Systems	A. Martínez-Nieto (a), M.T. Sanz-Pascual (a), A. Márquez (b), J. Pérez-Bailón (b), B. Calvo (b), N. Medrano (b,*)	(a) Instituto Nacional de Astrofísica, Óptica y Electrónica INAOE, Tonantzintla, Puebla, México (b) Group of Electronic Design – I3A University of Zaragoza, Zaragoza, Spain
TP.EMB-12-8515	A 100nW Power Overhead Load Interface for Electrostatic Vibrational Energy Harvester with a High Biasing Voltage	Mohammed Bedier (*), Dimitri Galayko	Universite Paris-Sorbonne, UPMC, Paris 6, Paris 75005, France
TP.EMB-13-8517	Embedded OMTDR Sensor for Small Soft Fault Location on Aging Aircraft Wiring Systems	W. Ben Hassen (a,*), M. Gallego Roman (a), B. Charnier (a), N. Ravot (a), A. Dupret (a), A. Zanchetta (b), F. Morel(b)	(a) CEA, LIST, Laboratoire Fiabilité et Intégration Capteurs, 91191 Gif-sur-Yvette, France (b) Nicomatic - 173, rue des Fougères - Zone industrielle les Bracots 74890, Bons-En-Chablais, France
TP.EMB-14-8540	A portable control and measurement system for thermal sensors interfacing	Anastasios Moschos, Grigoris Kaltsas (*)	Department of Electronic Engineering, TEI of Athens, Athens, Greece
TP.EMB-15-8573	Temperature-aware time synchronization with an accuracyefficiency trade-off in wireless sensor networks	Wasan Lasoi and Sataporn Pornpromlikit (*)	Khon Kaen University, Department of Electrical Engineering, Khon Kaen, 40002, Thailand
TP.EMB-16-8584	Circuits for the Charge Push-Through Electronics: Power Efficient Signal Processing Inside the Artificial Cochlear Implant	Jaromir Žak (a,*), Jaromir Hubalek (a), Jan Prasek (a), Jan Pekarek (a), Vojtech Svatos (a), Zdenek Hadas (b), Daniel Dusek (b)	(a) Faculty of Electrical Engineering and Communications, Brno University of Technology, Technicka 10, CZ-61600 Brno, Czech Republic (b) Faculty of Mechanical Engineering, Brno University of Technology, Technicka 2, CZ-61600 Brno, Czech Republic
TP.EMB-17-8621	Low-Cost Discrete Off-The-Shelf Components 1MHz Analogue Lock-In Amplifier for Fast Detection of Organic Compounds Through Pulsed Lasers	Andrea De Marcellis (a,*), Elia Palange (a), Nicola Liberatore(b), Sandro Mengali(b)	(a) University of L'Aquila, Department of Industrial and Information Engineering and Economics, 67100 - L'Aquila, Italy (b) Electro-Optics Research Centre, CREO Consortium, 67100 - L'Aquila, Italy
TP.EMB-18-8625	Strain Energy Harvesting Powered Wireless Sensor Node for Aircraft Structural Health Monitoring	Zheng Jun Chew, Tingwen Ruan, Meiling Zhu(*)	College of Engineering, Mathematics and Physical Sciences, University of Exeter, North Park Road, EX4 4QF, Exeter, UK

TP.EMB-19-8626	VLF Sensors for Lightnings Research	V.Mochalov (a), D. Sannikov (a), R.Karimov (b), B.Shevtsov (a), G. Drugin (a), N. Cherneva (a), A. Mochalova (a), J. Lichtenberger (c), Argunov V (b).	(a) Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS, 684034 Kamchatka region, Elizovskiy district, Paratunka, Mirnaya str., 7, Russia (b) Institute of Space Physics Research and Aeronomy, 677960 Yakutsk, pr. Lenina,,31, Russia (c) Eötvös Lorand University, Budapest, Egyetem tér 1-3, 1053 , Hungary
TP.EMB-20-8647	Performance optimization of ZnO nanostructure-based flexible energy harvesters	G. Skoufias(a), V. Tsouti(a), E. Makarona(a), G. Niarchos(b), M.A. Botzakaki(c), S. Georga(c), C. A. Krontiras(c), V. Crnojevic-Bengin(b), C. Tsamis(a)	(a)Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece (b) Nano and Microelectronics Group, BioSense Institute, Novi Sad, Serbia (c) Department. of Physics, University of Patras, Patras, Greece
TP.OPT-1-8045	Fiber Optic Sensors for Static and Fatigue Test of a Composite Winglet	M.C. Noviello(a), M. Ciminello(b,*), F. Amoroso(a)	(a) Department of Industrial Engineering – Aerospace Section, University of Naples "Federico II", Italy (b) Italian Aerospace Research Centre, Capua (CE), Italy
TP.OPT-2-8067	Highly Sensitive Surface Plasmon Resonance-Based Optical Fiber Multi-Parameter Sensor	J.S. Velázquez-González(a,b), D. Monzón-Hernández(a,*), F. Martínez-Piñón(b), and I. Hernández-Romano(c)	(a) Centro de Investigaciones en Óptica A.C., Lomas del Bosque 115 C.P. 37150, León, Guanajuato. México. (b) Instituto Politécnico Nacional, Centro de Investigación e Innovación Tecnológica (CIITEC), Cerrada Cecati S/N. Col. Santa Catarina, C.P. 02250, Azcapotzalco, Ciudad de México, México. (c) CONACyT-Electronic Department, Sede Palo Blanco, University of Guanajuato, Carr. Salamanca-Valle de Santiago Km 3.5+1.8, C.P. 36885, Salamanca, Guanajuato, México.
TP.OPT-3-8073	MOEMS Vibration Sensor with Organic Semiconductor Readout	A. Kainz (a,*), W. Hortschitz (b), H. Steiner (b), Yi-Hong Hong (c), Chao-Hsuan Chen (d), Hsiao-Wen Zan (d), Hsin-Fei Meng (e), T. Sauter (b), F. Keplinger (a)	(a) Institute of Sensor and Actuator Systems, TU Wien, Vienna, Austria (b) Center for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria (c) Institute of Electronics Engineering, National Tsing Hua University, Hsinchu, Taiwan (d) Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan (e) Institute of Physics, National Chiao Tung University, Taiwan
TP.OPT-4-8088	Microwave Position Sensor for Hydraulic Drives	Albert Dorneich (*), Markus Fritton	Balluff GmbH, Schurwaldstraße 9, 73765 Neuhausen a.d.F, Germany
TP.OPT-5-8089	Boosting the Quality Factor of Low Impedance VHF Piezoelectric-on-Silicon Lateral Mode Resonators Using Etch Holes	C. Tu (a,*), J. E.-Y Lee (a,b)	(a) Department of Electronic Engineering, City University of Hong Kong, Kowloon, Hong Kong (b) State Key Laboratory of Millimeter Waves, City University of Hong Kong, Kowloon, Hong Kong

TP.OPT-6-8095	Spectroscopic Gas Sensing Using a Silicon Slab Waveguide	Christian Ranacher (a,*), Cristina Consani (a), Franz Josef Maier (a), Ursula Hedenig (b), Reyhaneh Jannesari (c), Ventsislav Lavchiev (c), Andreas Tortschanoff (a), Thomas Grille (b), Bernhard Jakoby (c)	(a) Carinthian Tech Research AG, 9524 Villach, Austria (b) Infineon Technologies Austria AG, 9500 Villach, Austria (c) Johannes Kepler University Institute for Microelectronics and Microsensors, 4040 Linz, Austria
TP.OPT-7-8120	Magnetic Field Detection with an Advanced FBG-Based Sensor Device	Vivien Schukar (*), Enrico Köppe, Detlef Hofmann, Anja Westphal, Mario Sahre, Xin Gong, Matthias Bartholmai, Uwe Beck	Bundesanstalt für Materialforschung und –prüfung, Unter den Eichen 87, 12205 Berlin, Germany
TP.OPT-8-8122	PSPPG: Polarization Sensitive Photo-Plethysmography	Supriya Chakraborty (*), Deepak Mishra, Mukul Sarkar	Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi-110016, India
TP.OPT-9-8129	Cation Distribution in Ni-Mn-O Spinel System for the Application of IR Sensors	Sunggap Lee, Dongjin Lee, Kyeongmin Kim, Miri Park	Dept. of Materials Engineering and Convergence Technology, ERI, Gyeongsang Nat'l Univ. Jinju, South Korea
TP.OPT-10-8139	Electrostatic Feedback Actuation for Enhancing the Dynamic Range of MOEMS Displacement Sensors	W. Hortschitz (a,*), A. Kainz (b), H. Steiner (a), F. Kohl (a), S. Zemann (b), J. Schalko (b), F. Keplinger (b)	(a) Center for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, 2700, Austria (b) Institute of Sensor and Actuator Systems, TU Wien, Vienna, 1040, Austria
TP.OPT-11-8157	RF Characterization of Intracellular microalgae Lipids	A. El Fellahi (a), T. Bore (a,d), P. Bodenes (a,b), S. Bensalem (a,b), B. Le Pioufle (a), F. Lopes (b), E. Martincic (c), O. Français (a,*)	(a) SATIE, UMR CNRS 8029, ENS Cachan, Univ. Paris-Saclay, Cachan, France (b) LGPM, EA 4038, CentraleSupélec, Univ. Paris-Saclay, Chatenay-Malabry, France (c) Centre de Nanosciences et de Nanotechnologies, UMR CNRS 9001, Univ. Paris-Sud, Université Paris-Saclay – Orsay, 91405 Orsay, France (d) School of Civil Engineering, University of Queensland, St Lucia, Australia
TP.OPT-12-8161	Synchronous OEIC Integrating Receiver for ORGA Applications	Carlos Sánchez-Azqueta (a,b,*), Bernhard Goll (a), Santiago Celma (b), Horst Zimmermann (a)	(a) Institute of Electrodynamics, Microwave and Circuit Engineering, Vienna University of Technology Gußhausstraße 25/234, Vienna 1040, Austria (b) Group of Electronic Design, Aragón Institute of Engineering Research, Universidad de Zaragoza C/ Pedro Cerbuna 12, Zaragoza 50009, Spain
TP.OPT-13-8197	UV-Vis Photocurrent in SiOx films with Silicon Nanocrystals obtained by HFCVD	J. A. Luna López (a,*), D. E. Vazquez Valerdi, G. Garcia Salgado, A. D. Hernandez de la Luz, G. Mendoza Conde, Z. Hernandez Simon, F. J. Flores Gracia, A. Morales Sanchez (2), M. A. Dominguez	(a) IC-CIDS BUAP, Ed. 103 C o D, C. U., Col. San Manuel, C.P. 72570 Puebla, Pue., México (b) Centro Centro de Investigación en Materiales Avanzados-Unidad Monterrey-PIIT Apodaca, Nuevo León, México

TP.OPT-14-8232	Current-Based High-Sensitivity Differential Detection of Light Power Using Si Photodiodes in Bridge Configuration for Chemical/Biological Optical Sensing	Andrea De Marcellis (*), Elia Palange	University of L'Aquila, Department of Industrial and Information Engineering and Economics, 67100 - L'Aquila, Italy
TP.OPT-15-8249	Inductively Coupled Passive Resonance Sensor for Monitoring Biodegradable Polymers in vitro	T. Salpavaara (*), A. Antniemi, A. Hänninen, J. Leikkala, M. Kellomäki	BioMediTech, Tampere University of Technology, Korkeakoulunkatu 10, Tampere 33100, Finland
TP.OPT-16-8254	Fiber Bragg Grating for Temperature Monitoring During Medical Radiofrequency Treatments	G. Palumbo (a), A. Iadicicco (a,*), D. Tosi (b), P. Verze (c), N. Carlomagno (c), V. Tammaro (c), J. Ippolito (c) and S. Campopiano (a,*)	(a) University of Naples "Parthenope", Department of Engineering, Centro Direzionale Isola C4, Naples 80143, Italy (b) Nazarbayev University, School of Engineering, 53 Kabanbay Batyz Ave, Astana 010000, Republic of Kazakhstan (c) University of Naples "Federico II", Dept. of Urology and Dept. of General Surgery, Via S. Pansini, Naples 80131, Italy
TP.OPT-17-8287	Synthesizing Graphene Quantum Dots for Gas Sensing Applications	D. Raeyani (a), S. Shojaei (a,*), S. Ahmadi Kandjani (a), and W. Wlodarski (b)	(a) Department of Photonics, Research Institute for Applied Physics&Astronomy(RIAPA), University of Tabriz, Tabriz, Iran (b) School of Electrical and Computer Engineering, RMIT University, Melbourne, Victoria 3001, Australia
TP.OPT-18-8339	Fibre Grating Based Sensor Design for Humidity Measurement in Chemically Harsh Environment	Lourdes S. M. Alwis (a,*), Tong Sun (b) and Kenneth T. V. Grattan (b)	(a) School of Engineering and Built Environment, Edinburgh Napier University, Edinburgh, UK (b) School of Mathematics, Computer Science and Engineering, City University London, London, UK
TP.OPT-19-8365	Pixel-Level APS Sensor Integration and Sensitivity Scaling for Vision Based Speed Measurement	M. Németh (a,b,*), Á. Zarándy (a,b), P. Földesy (b,c)	(a) Computational Optical Sensing and Processing Laboratory, Computer and Research Automation Institute, Hungarian Academy of Sciences, MTA-SZTAKI, Budapest, Hungary (b) Faculty of Information Technology, Péter Pázmány Catholic University, PPKE-ITK, Budapest, Hungary (c) Institute of Technical Physics and Materials Science, Centre for Energy Research – HAS, Budapest, Hungary
TP.OPT-20-8377	Resonant photoacoustic CO2 spectroscopy with LED light source	H.-F. Pernau(a,*), K. Schmitt(a), J. Huber(a), S. Rademacher(a), A. Eberhardt(b), J. Wöllenstein(a,b)	(a) Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg, Germany (b) Department of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany
TP.OPT-21-8410	Double Channel UV Fluorescence Sensor for Detection of Petrol and Gasoline Contamination in Water	V. Rakovics (a,*), Cs. Dűcső (a) S. Kulinyi (b), J. Szuchács (b)	(a) Institute of Technical Physics and Materials Science- MFA, Centre for Energy Research, Budapest, Hungary (b) Wesztá-T Ltd, Budakalász, Hungary
TP.OPT-22-8440	Bandwidth Optimisation and Frequency Tuning of Plasmonic Functionalised Metasurfaces for Optical Sensing of Chemical and Biological Substances	M. Janneh, A. De Marcellis (*), E. Palange	University of L'Aquila, Department of Industrial and Information Engineering and Economics, Via G. Gronchi 18, L'Aquila 67100, Italy

TP.OPT-23-8452	Novel Antenna Structure for Early Breast Cancer Detection	A. Afyf (a), L. Bellarbi(a), N. Yaakoubi(b), E. Gaviot(b), L. Camberlein(b), M.Latrach(c), M.A. Sennouni(d)	(a) LRGE/ENSET Mohammed V University, Rabat, Morocco (b) LAUM - CNRS UMR 6613, Le Mans, France (c) RF&Microwave Group,ESEO, Angers, France (d) LITEN/ FST Hassan 1th University, Settat, Morocco
TP.OPT-24-8497	Strain measuring 3D printed structure with embedded fibre Bragg grating	Richard Zelený, Jan Včelák (*)	University Centre for Energy Efficient Buildings, Czech Technical University in Prague, Trinecka 1024, 273 43 Buzehrad, Czech Republic
TP.OPT-25-8581	Fabrication of ultrathin large-area dielectric membrane stacks for use as interference filters	M. Ghaderi (*), G. de Graaf, R. F. Wol enbuttel	Electronic Instrumentation Laboratory, Microelectronics Department, Faculty of EEMCS, Delft University of Technology, Delft, the Netherlands
TP.OPT-26-8612	Complex Permittivity Measurement by Fano-resonance	Z. Szalay (*), L. Nagy	Budapest University of Technology and Economics, Egrý József street 18, Budapest, H-1111, Hungary
TP.OPT-27-8628	A prism-based polymeric surface plasmon resonance biochip for angular and spectral modes	L.C. Oliveira (a,b), C. S. Moreira (c,*), A. M. N. Lima (b), H. Neff(b)	(a)Federal Rural University of SemiArid Region (UFERSA), Angicos-RN, Brasil (b) Biosensor Laboratory, Federal University at Campina Grande (UFCG) - Departament of Electrical Engineering, Campina Grande-PB, Brasil (c) Federal Institute of Education, Science and Technology of Paraíba (IFPB), João Pessoa-PB, Brasil
TP.OPT-28-8640	Spread Spectrum based RFID Position Estimation for Sensor Applications	Martin Brandl*, Karlheinz Kellner, Thomas Posniecek	Center for Integrated Sensor Systems, Danube University Krems, Austria
TP.OPT-29-8641	Photoelastic torque sensor development for measurement of starting torque of a DC micromotor	Attila Bojtos*, Norbert Szakály	Budapest University of Technology and Economics, Department of Mechatronics, Optics and Mechanical Engineering Informatics, Budapest, 1111, Hungary
TP.PCK-1-1010	Design and Fabrication of Smart Band Module for Measurement of Temperature and GSR (Galvanic Skin Response) from Human Body	Dong-Sun Kim (a), Tae-Ho Hwang (a), Jae Yong Song (b), Sun Hwa Park (b), Jeanho Park (c), Eui-Sang Yoo (c), Nak-Kyu Lee (c), Joon-Shik Park (a,*)	(a) Korea Electronics Technology Institute (KETI), 25 Saenari-ro, Bundang, Seongnam, Kyunggi, 13509, Rep. of Korea (b) Korea Research institute of Standards and Science (KRISS),267 Gajeong-ro, Yuseong, Daejeon, 34113, Rep. of Korea (c) Korea Institute of Industrial Technology(KITECH), 143, Hanggaul-ro, Sangnok, Ansan, Kyunggi, 15588, Rep. of Korea
TP.PCK-2-1018	Specific Polymers - Functional Polymers and Materials for Optoelectronic Devices and Sensors	A. Graillet, A. Bouvet-Marchand, C. Loubat	SPECIFIC POLYMERS, Castries, France
TP.PCK-3-8027	Automatic Bridge-Based Interface for Differential Capacitive Full Sensing	G. Ferri (*), F. R. Parente, V. Stornelli, G. Barile, L. Pantoli	Department of Industrial and Information Engineering and Economics, University of L'Aquila, 67100, L'Aquila, Italy
TP.PCK-4-8211	Wireless Energy-Data Transmission and Packaging Solution for Smart Systems to Monitor Industrial Components	M. Tijero (a,*), E. Arroyo-Leceta (a), Z. Herrasti (a), I. Gabilondo (a), I. Reinares (b), J. Anduaga (a), J. Berganzo (a)	(a) IK4-Ikerlan Technology Research Centre, Microsystems Area, 20500 Arrasate-Mondragón, Spain (b) Lulagun Bearings S.A, Harizti Industrialdea, 20.20212 Olaberria, Spain

TP.PCK-5-8213	Low Vacuum MEMS Ion-Sorption Micropump	Tomasz Grzebyk (*), Anna Górecka-Drzazga, Jan A. Dziuban	Faculty of Microsystem Electronics and Photonics, Wrocław University of Science and Technology, 11/17 Janiszewskiego Street, 50-372 Wrocław, Poland
TP.PCK-6-8242	Combined Optical Sensor and Capacitor Voltage Divider Arrangement for Voltage Control in Medium Voltage Switchboard Fiber	Letizia De Maria (a,*), Daniele Bartalesi (a), Natale Claudio Pistoni (b)	(a) Department of Technologies for Transmission and Distribution - RSE Research on Energetic System S.p.A, Milan, Italy (b) Optoelectronics and Fibre Optics Consultant, 20090 Assago, Milan, Italy
TP.PCK-7-8360	A Microchip Integrated Sensor for the Monitoring of High Concentration Photo-Voltaic Solar Modules	F.G. Della Corte (a,*), G. Cocorullo (b), P. Corsonello (b), C. Felini (a), M. Merenda (a), S. Perri (b), G. Borelli (c), M. Carpanelli (c), D. Verdilio (c)	(a) Università Mediterranea, DIIES, Via Graziella, Reggio Calabria I-89122, Italy (b) Università della Calabria, DIMES, Via P. Bucci 42/c, Rende (CS) I-87036, Italy (c) Becar srl – Gruppo Beghelli, Via della Pace 1 - Monteveglio (BO) I-40050, Italy
TP.PCK-8-8396	Developing a Personal Exposure Kit (PEK) for Individual Exposure Assessment of Metropolitan Residents	Zhi Ning(a), Chui Fong Lau(b), Fenhuan Yang(a), Viki Tong(a), Kiwi Kai Zhang(a), Dane Westerdahl(a), Simon Ng(c), Xiang Yang(d)	(a) School of Energy and Environment, City University of Hong Kong (b) Department of Applied Science, Hong Kong Institute of Vocational Education (Chai Wan), Hong Kong (c) Civic Exchange, Hong Kong (d) The Environmental IoT Research Center, Shenzhen Tsinghua University Research Institute
TP.PCK-9-8442	Multisensory Smart Glove for Tactile Feedback in Prosthetic Hand	Anton Polishchuk, William Taube Navaraj, Hadi Heidari, Ravinder Dahiya (*)	Bendable Electronics and Sensing Technology (BEST) group, School of Engineering, University of Glasgow, G12 8QQ, United Kingdom
TP.PCK-10-8556	Development of a new integrated easy to use micro-electrochemical platform for food analysis and staphylococcal enterotoxin B detection	Zeineb Ben Abdallah (a,b,c), Ibtissem Gammoudi (a,d), Manel Ben Ismail (c), Marion Mathéli-Guinlet (a), Fabien Morote(a), Sébastien Cassagnere (a), Rodolphe Boigard (a), Ali Othmane (c), Halim Sghaier (b), Touria Cohen-Bouhacina (a,d,*)	(a) LOMA, Université de Bordeaux, UMR CNRS 5798, 351 cours de la Libération, Talence, France (b) University of Monastir, 5000, Tunisia (c) LIMA, LR11ES55, Faculty of Sciences, Biophysics Laboratory, Faculty of Medicine, Monastir 5019, Tunisia (d) Cellule de transfert NanoPhyNov, LOMA, 351 cours de la Libération, Talence, France
TP.PCK-11-8592	The effect of reflow process on the physical properties of die attach adhesives	M.A. Fard Sanei (*), L. Frisk	Department of Electrical Engineering, Tampere University of Technology, P.O.Box 692, 33101 Tampere, Finland
TP.PCK-12-8598	A PTAT-based heat-flux sensor for the measurement of power losses through a calorimetric apparatus	Demetrio Iero (*), Francesco G. Della Corte, Massimo Merenda, Corrado Felini	University "Mediterranea" of Reggio Calabria, Via Graziella Feo di Vito, 89122 Reggio Calabria, Italy
TP.PHY-1-1007	Integrated-Optic Current Transducers Incorporating Photonic Crystal Fiber for Reduced Temperature Dependence	Woo-Sung Chu, Sung-Moon Kim, Sang-Guk Kim, and Min-Cheol Oh (*)	Dept. of Electronics Engineering, Pusan National University, 2, Busandaehak-ro 63beon-gil, Geumjeong-gu, Busan (Pusan) 609-735, South Korea
TP.PHY-2-8004	Acceleration Sensor with Self-Sufficient Energy Supply	D. Zielke, R. Schindler, T. Göstenkors	University of Applied Sciences Bielefeld, Institute BIFAM, Interaktion 1, 33619 Bielefeld, Germany

TP.PHY-3-8015	2D Silicon Magnetometer	S. V. Lozanova, S. A. Noykov, Ch. S. Roumenin (*)	Institute of Systems Engineering and Robotics at Bulgarian Academy of Sciences, Block 2, Acad. G.Bonchev St. 1113 Sofia, BULGARIA
TP.PHY-4-8020	Developing MEMS DC Electric Current Sensor for End-use Monitoring of DC Power Supply: Part VI - A Position Free Passive Piezoelectric Cantilever Device	Weikang Xian (a), Xiaodong Li (a), Huan Liu (a), Xin Liu (a), Dong F. Wang (a,b,*)	(a) Micro Engineering and Micro Systems Laboratory, Jilin University, Changchun 130025, CHINA (b) Research Centre for Ubiquitous MEMS and Micro Engineering, AIST, Tsukuba 305-8564, JAPAN
TP.PHY-5-8021	A Novel Miniaturised Sensor for Combined Static and Dynamic Pressure Measurements in Harsh Environments	C. Zarfl (*), P. Schmid, U. Schmid	Institute of Sensor and Actuator Systems, TU Wien, Gusshausstrasse 27-29, 1040 Vienna, Austria
TP.PHY-6-8024	Wall Shear Stress Measurement Based on a Carbon Nanotube Sensor	Wu Z (a,b), Bai H L (b), Li W J (c) & Zhou Y (b,*)	(a) State Key Laboratory of Aerodynamics, Mianyang 621000, China. (b) Institute for Turbulence-Noise-Vibration Interactions and Control, Shenzhen Graduate School, Harbin Institute of Technology, Shenzhen 518055, China (c) Department of Mechanical & Biomedical Engineering, The City University of Hong Kong, Hong Kong
TP.PHY-7-8047	Printed Piezoelectric Materials for Vibration-Based Damage Detection	H. Debéda (a), C. Lucat (a), V. Pommier-Budinger (b)	(a) Université de Bordeaux, IMS, F-33405 Talence, France (b) Toulouse University, ISAE, F-31055 Toulouse, France
TP.PHY-8-8055	A Resonant Rolling Sphere Viscometer Using Magnetic Actuation and Readout	S. Clara (*), B. Antensteiner, W. Hilber, B. Jakoby	Institute for Microelectronics and Microsensors, Johannes Kepler University Linz, Austria
TP.PHY-9-8076	Influence of Holes on the Damping of Lateral MEMS/MOEMS Oscillators	A. Kainz (a,*), W. Hortschitz (b), H. Steiner (b), F. Keplinger (a)	(a) Institute of Sensor and Actuator Systems, TU Wien, Vienna, Austria (b) Center for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria
TP.PHY-10-8085	A CMOS Smart Temperature Sensor with One Homogeneous Delay Line and Curvature Compensation	Chun-Chi Chen (*) and Zong-Yi Guo	Department of Electronic Engineering, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan 811.
TP.PHY-11-8092	Characterization of 0.18- μ m CMOS MEMS Capacitive Ultrasonic Sensors for Fast Photoacoustic Imaging	Yi-Chia Shih and Michael S.-C. Lu	Department of Electrical Engineering, National Tsing Hua University, 101 Sec. 2 Kuang-Fu Rd., Hsinchu 30013, Taiwan, R.O.C.
TP.PHY-12-8118	A Hydrogen Pressure Sensor Based on Bulk-Micromachined Silicon Strain Gauges	Jinwoong Kim (a), Kibeom Kim (a), Seung Woo Ham (b), Nam-Ho Bae (c), Myung Kyun Park (d), Nam Ki Min (a,*)	(a) Department of Control and Instrumentation Engineering, Korea University, Jochiwon-eup, Sejong 339-700, Republic of Korea (b) Department of Sensor Device Team, Sensor Lab, LG Electronics, Seocho-gu, Seoul 06763, Republic of Korea (c) Department of Nano Bio Research, National Nanofab Center, Yuseong-gu, Daejeon 305-701, Republic of Korea (d) Department Mechanical Engineering, Myongji University, Yongin-si, Gyeonggi-do 449-728, Republic of Korea

TP.PHY-13-8127	A Very High Voltage Withstanding Silicon Strain Gauge Fabricated Using Si on Glass Wafers	Kibeom Kim (a), Jinwoong Kim (a), Jonghyun Kim (a), Chan Won Park (b), Nam Ho Bae (c), Nam Ki Min (a,*)	(a) Department of Control and Instrumentation Engineering, Korea University, Jochiwon-eup, Sejong339-700, Republic of Korea (b) Department of Electrical and Electronics Engineering, Kangwon National University, Hyoja 2-dong, Chuncheon 200-701, Republic of Korea (c) National Nanofab Center Department of Nano Bio Research, Daejeon 305-701, Republic of Korea
TP.PHY-14-8135	Flexible Flow Sensors for Air Conditioning Systems Based on Printed Thermopiles	H. Steiner (a,*), S. Cerimovic (a), T. Glatzl (a), F. Kohl (a), M. Schlauf (b), T. Schalkhammer (b), F. Keplinger (c), T. Sauter (a,d)	(a) Center for Integrated Sensor Systems, Danube University Krems, Wr. Neustadt, Austria (b) Attophotonics Life Sciences GmbH, Wiener Neustadt, Austria (c) Institute of Sensor and Actuator Systems, TU Wien, Vienna, Austria (d) Institute of Computer Technologys, TU Wien, Vienna, Austria
TP.PHY-15-8146	Optoelectronic Hydrogen Sensor Based on Pd-Oxide-InP Structure	E.Grebenshchikova, A.Imenkov, V.Shutaev, A.Kapralov, Yu.Yakovlev	Ioffe Institute, St.Petersburg, Russia
TP.PHY-16-8153	Piezoresistive Position Microsensors with ppm Accuracy	V. Stavrov (a,*), G. Stavreva (a), A. Shulev (b)	(a) AMG Technology Ltd., Microelectronica Industrial Zone, 2140 Botevgrad, Bulgaria (b) Institute of Mechanics, Bulgarian Academy of Sciences, Sofia, 1113, Bulgaria
TP.PHY-17-8171	Contact Position Microsensors with Travel Ranges Between 50µm and 2mm	V. Stavrov (a,*), G. Stavreva (a), A. Shulev (b)	(a) AMG Technology Ltd., Microelectronica Industrial Zone, 2140 Botevgrad, Bulgaria (b) Institute of Mechanics, Bulgarian Academy of Sciences, Sofia, 1113, Bulgaria
TP.PHY-18-8172	High Resolution Nano-Gap Pirani Sensor for Pressure Measurement in Wide Dynamic Range Operation Around Atmospheric Pressure	Julien Claudel (a), Cecile Ghouila-Houri (a,b), Jean-Claude Gerbedoen(a), Quentin Gallas (b), Eric Garnier (b), Alain Merlen (a,b), Omar Elmazria (c) , Romain Viard(d), Abdelkrim Talbi (a,*), Philippe Pernod(a)	(a) Univ. Lille, Centrale Lille, LIA LICs/LEMACE - IEMN UMR CNRS 8520, 59000 Lille, France (b) ONERA, Chemin de la Hunière 91123 Palaiseau, France (c) Institut Jean Lamour, UMR 7198, Université de Lorraine-CNRS, Vandoeuvre les Nancy, France (d) Fluiditech, Thurmelec, 68840 Pulversheim, France
TP.PHY-19-8192	Soft Elastomeric Capacitive Sensor for Structural Health Monitoring	Zoltán Rácz (*), Eleanor M. Hackney, and David Wood	School of Engineering & Computing Sciences, Durham University, Durham, DH1 3LE, United Kingdom
TP.PHY-20-8195	High Sensitivity Surface Micromachined Absolute Pressure Sensor	Chang Han Je (*), Sung Q Lee, Woo Seok Yang	Electronics and Telecommunications Research Institute, Daejeon, Korea
TP.PHY-21-8223	Wind Speed and Direction Detection by Means of Solid-State Anemometers Embedded on Small Quadcopters	P. Bruschi (a,*), M. Piotto (b), F. Dell'Agnello (a), J. Ware (c), N. Roy (c)	(a) Dipartimento di Ingegneria dell'Informazione, University of Pisa, 56122 Pisa, Italy (b) IEIT-PISA, CNR , 56122 Pisa, Italy (c) Department of Aeronautics and Astronautics, MIT, Cambridge, MA 02139 USA

TP.PHY-22-8247	An Experimental Study on the Performances of Two Temperature Sensors Based on 4H-SiC Diodes	S. Rao (*), G. Pangallo, F.G. Della Corte	Università degli Studi "Mediterranea", Dipartimento di Ingegneria dell'Informazione, delle Infrastrutture e dell'Energia Sostenibile (DIIES), Via Graziella Feo di Vito, 89122 Reggio Calabria, Italy
TP.PHY-23-8280	Current Sensor based on Nanocrystalline NiFe/Cu/NiFe Thin Film	Vijay V. Kondalkar, Xiang Li, Sangsik Yang, Keekeun Lee (*)	Department of Electrical and Computer Engineering, Ajou University, Woncheon-dong, Yeongtong-gu, Suwon 443-749, Republic of Korea
TP.PHY-24-8296	Thermo-Mechanical Analysis of Uncooled La _{0.67} Sr _{0.33} MnO ₃ Microbolometer Made on Circular SOI Membrane	T. Lalinský (a) , G. Vanko (a), J. Dzuba (a,*), V. Kutiš (b), G. Gálik (b), J. Paulech (b), M. Držík (c), Š. Chromík (a), P. Lobotka (a)	(a) Institute of Electrical Engineering, Slovak Academy of Sciences, Dúbravská cesta 9, Bratislava 84104, Slovakia (b) Institute of Automotive Mechatronics, FEI STU, Ilkovičova 3, Bratislava 81219, Slovakia (c) International Laser Centre, Ilkovičova 3, Bratislava 84104, Slovakia
TP.PHY-25-8305	Capacitance Measurement System for Touchless Interaction	L. Haslinger (*), S. Hehenberger, B. G. Zagar	Johannes Kepler University Linz, Altenberger Straße 69, A-4040 Linz, Austria
TP.PHY-26-8336	Novel MOEMS Lorentz Force Transducer for Magnetic Fields	W. Hortschitz (a, *), H. Steiner (a), M. Stifter (a), A. Kainz (b), F. Kohl (a), C. Siedler (a), J. Schalko (b), F. Keplinger (b)	(a) Center for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, 2700, Austria (b) Institute of Sensor and Actuator Systems, TU Wien, Vienna, 1040, Austria
TP.PHY-27-8351	A MEMS Based Electrochemical Seismometer with Low Cost and Wide Working Bandwidth	Zhenyuan Sun (a,b), Deyong Chen (a,*), Jian Chen (a), Tao Deng (a,b), Guanglei Li (a,b), Chao Xu (c) and Junbo Wang (a,†)	(a) University of Chinese Academy of Sciences, Beijing, 100190, P. R. China (b) Institute of Electronics, Chinese Academy of Sciences, Beijing, 100190, P. R. China (c) Anhui University, Anhui, 230601, P. R. China
TP.PHY-28-8404	Influence of electrical modes on sensitivity of MISFET ionizing radiation dose sensors	B. Podlepetsky, Yu. Sukhoroslova(*)	National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), 115409, Moscow, Russia
TP.PHY-29-8407	Optimization of an evanescent field sensor based on D-shaped plastic optical fiber for chemical and biochemical sensing	F. Sequeira (a,b,*), L. Bilro (a,c), A. Rudnitskaya (b,d), M. Pesavento(e), L. Zeni(f), N. Cennamo(f)	(a) Instituto de Telecomunicações, Aveiro, Portugal (b) CESAM, University of Aveiro, Aveiro, Portugal (c) I3N/FSCOSD, Department of Physics, University of Aveiro, Aveiro, Portugal (d) Department of Chemistry, University of Aveiro, Aveiro, Portugal (e) Department of Chemistry, University of Pavia, Pavia, Italy (f) Department of Industrial and Information Engineering, Second University of Naples, Aversa, Italy
TP.PHY-30-8424	Autonomous system for in situ assay of antibiotic activity on bacterial biofilms using viscosity and density sensing quartz tuning forks	Tomasz Piasecki(a,*), Grzegorz Guła(b), Paweł Markwicz(b), Karol Waszczuk(a), Anna Gosiewska(a), Zuzanna Drulis-Kawa(b), Teodor Gotszalk(a)	(a) Faculty of Microsystem Electronics and Photonics, Wrocław University of Technology, Z. Janiszewskiego 11/17, 50-372 Wrocław, Poland (b) Department of Pathogen Biology and Immunology, Institute of Genetics and Microbiology, University of Wrocław, S. Przybyszewskiego 63/77, 50-148 Wrocław, Poland

TP.PHY-31-8447	Performance comparison of sigma-delta modulator architectures for MEMS accelerometers using a fully-digital approach	V. Lima (a,*), N. Brito (b), F. S. Alves(b), J. Cabral(b), J. Gaspar(c), L. A. Rocha(a,c)	(a) CMEMS-UM, Universidade do Minho, Campus de Azurém, Guimarães, Portugal (b) ALGORITMI CENTER, Universidade do Minho, Campus de Azurém, Guimarães, Portugal (c) INL, International Iberian Nanotechnology Laboratory, Braga, Portugal
TP.PHY-32-8453	Towards Micromechanical Sensors with (La,Sr)MnO3 Epitaxial Films	F. Remaggi (a,b,*), L. Pellegrino(b), N. Manca (a,b), C. Bernini(b) and D. Marrè(a,b)	(a) University of Genoa-Physics Department, Genova, Italy (b) CNR-SPIN, Genova, Italy
TP.PHY-33-8478	Printed strain gauges embedded in organic coatings	Herbert Enser (a,*), Pavel Kulha (a,b), Johannes K. Sell (a), Bernhard Jakoby (a), Wolfgang Hilber (a), Bernhard Strauß (c), Michaela Schatzl-Linder (c)	(a) Institute for Microelectronics and Microsensors, Johannes Kepler University, Linz, Austria (b) Department of Microelectronics, Faculty of Electrical Engineering, Czech Technical University Prague, Czech Republic (c) R&D organic coatings, voestalpine Stahl GmbH Linz, Austria
TP.PHY-34-8495	Detection of Ethylene using Gas Chromatographic System	Nayyer Abbas Zaidi (a,b,*), M.W. Tahir (a,b), P. P. Vinayaka (a), F. Lucklum (a), M. Vellekoop (a), W. Lang (a,b)	(a) Institute for Microsensors, -actuators and -systems (IMSAS), University of Bremen, Germany and Microsystems Center Bremen (MCB) (b) International Graduate School of Dynamics in Logistics (IGS) Bremen
TP.PHY-35-8496	Fabrication and characterization of PECVD Si3N4 diaphragm-based capacitive-type acoustic sensor for IoT application	Jaewoo Lee (a,b,*), W.S. Yang (a), S.E. Moon (a), S.-G. Lee (b)	(a) 3D New Devices Research Section, ETRI, 218, Gajeong-ro, Yuseong-gu, Daejeon, 305-700, Korea (b) Department of Electrical Engineering, KAIST, 291 Daehak-ro, Yuseong-gu, Daejeon, 305-701, Korea
TP.PHY-36-8524	Inkjet printed single use humidity threshold monitoring sensor solution employing a mixed nanoparticle and salt region	Sebastian Sauer (*), Wolf-Joachim Fischer	Institute of Semiconductors and Microsystems (IHM), Technische Universität Dresden, 01062 Dresden, Germany
TP.PHY-37-8554	A Comparative Study of Increasing Sensitivity Based on MoS2 Gas Sensor	Shifur Rahman Shakil, Md. Khalilur Rhaman	Robotics Lab of BRAC University, BRAC University, Bangladesh
TP.PHY-38-8563	Assessment of explosion risks in the presence of hydrocarbon mixtures	Alexander M. Baranov (a), Andrey Somov (b,*), Alexey Karelin (c), Evgeny E. Karpov (c), Sergey Mironov (c), Elena Karpova (d)	(a) Moscow Aviation Institute (National Research University), Russia (b) College of Engineering, Mathematics and Physical Sciences - University of Exeter, UK (c) NTC-IGD Research Center, Russia (d) STANKIN – Moscow State Technological University, Russia
TP.PHY-39-8565	Improved version of the tactile/force sensor based on optoelectronic technology	A. Cirillo, P. Cirillo, G. De Maria, C. Natale, S. Pirozzi (*)	Dipartimento di Ingegneria Industriale e dell'Informazione, Seconda Università degli Studi di Napoli, via Roma 29, Aversa, 81031, Italy
TP.PHY-40-8577	Novel Screen Printed Flexible Magnetolectric Thin Film Sensor	A. A. Chlaihawi(*), S. Emamian, B. B. Narakathu, M. M. Ali, D. Maddipatla, B. J. Bazuin, M. Z. Atashbar	Department of Electrical and Computer Engineering, Western Michigan University, 4601 Campus Dr. B-236, Kalamazoo, 49009, USA

TP.PHY-41-8585	Dosimetric probe based on small-thickness GaN transducer	Pierrick Guiral (a), Guo-Neng Lu (a), Patrick Pittet (a,*), Jean-Marc Galvan (a), Vincent Gelly (b), Patrice Jalade (c)	(a) Institut des Nanotechnologies de Lyon, CNRS UMR5270, Université Lyon 1, 69622 Villeurbanne, France (b) Saint Gobain Lumilog, 06220 Vallauris, France (c) Centre Hospitalier Lyon Sud, Service de radiophysique et Radiovigilance, 69495 Pierre Bénite, France
TP.THE-1-1017	Fluid Impedance Model for Resonator Viscosity Sensors	Erwin K. Reichel (a,*), Thomas Voglhuber-Brunnmaier (a,b), Bernhard Jakoby (a)	(a) Institute for Microelectronics and Microsensors, Johannes Kepler University Linz, Austria (b) Center for Integrated Sensor Systems, Danube University Krems, Austria
TP.THE-2-8039	Dynamic Simulations of a Piezoelectric Driven MEMS Micropump	S. Fournier, E. Chappel (*)	Debiotech SA, Microsystems Department, 28 Avenue de Sévelin, Lausanne 1004, Switzerland
TP.THE-3-8043	Design of a Passive Flow Regulator Using a Genetic Algorithm	D. Dumont-Fillon (a,*), M. Hannebelle (b), H. Van Lintel (b), E. Chappel (a)	(a) Debiotech SA, 28 avenue Sévelin, Lausanne 1004, Switzerland (b) LMIS4, Swiss Federal Institute of Technology, Lausanne 1015, Switzerland
TP.THE-4-8050	Chemical Sensor Array Modeling Using Multivariable Partial Differential Equations: Comparison Between Conducting Polymer and Metal Oxide Based Resistive Sensors	Abdelaziz Abbas	Research Center in Industrial Technologies (CRTI), route de Dely Brahim BP 64, 311704 Cheraga, Algeria
TP.THE-5-8071	Characterization and Performance Estimation of a MEMS Spirometer	Sahar Habibiabad (a), Yeşim Serinağaoğlu Doğrusöz (a,b), Mustafa İlker Beyaz (c,*)	(a) Graduate School of Natural and Applied Sciences – Biomedical Engineering Program, Middle East Technical University, Ankara 06800, TURKEY (b) Department of Electrical and Electronics Engineering, Middle East Technical University, Ankara 06800, TURKEY (c) Department of Electrical and Electronics Engineering, Antalya International University, Antalya 07190, TURKEY
TP.THE-6-8094	Simulation and Modelling of the Drive Mode Nonlinearity in MEMS-Gyroscopes	Martin Putnik (a,*), Stefano Cardanobile (a), Cristian Nagel (b), Peter Degenfeld-Schonburg (b), Jan Mehner (c)	(a) Robert Bosch GmbH, Automotive Electronics, Tuebingerstrasse 123, Reutlingen 72762, Germany (b) Robert Bosch GmbH, Corporate Research, Robert-Bosch-Campus 1, Renningen 71272, Germany (c) Chemnitz University of Technology, Microsystems and Biomedical Engineering, Reichenhainer Strasse 70, Chemnitz 09107, Germany
TP.THE-7-8160	AMR Yokeless Current Sensor with Improved Accuracy	Pavel Mlejnek (*), Pavel Ripka	Dept of Measurement, Faculty of Electrical Engineering, Czech Technical University in Prague, Technicka 2, Prague 6, 166 27, Czech Republic
TP.THE-8-8167	High Temperature Gallium Orthophosphate Transducers for NDT	M. Kostan (a), A. Mohimi (b), C. Nageswaran (b), A. Dhutti (a), T.-H. Gan (a,b,*), L. Wrobel (a) and C. Selcuk (a)	(a) Brunel University London, Kingston Lane, Uxbridge, Middlesex, UB8 3PH, UK (b) TWI Ltd, Granta Park, Great Abington, Cambridge, CB21 6AL, UK

TP.THE-9-8174	Sensing Movable Receiving Coils by Detection of AC Current Changes on the Primary Side of a Multi-Coil System	B. Kallel (a,b,*), O. Kanoun (a), H. Trabelsi (b), M. Roes (c)	(a) Chair for Measurement and Sensor Technology, Technische Universität Chemnitz, Reichenhainer Straße 70, 09126 Chemnitz, Germany (b) Computer, Electronic & Smart Engineering systems design, National Engineering School of Sfax, Road of Soukra km 3, 3038 Sfax, Tunisia (c) Electromechanics and Power Electronics, Eindhoven University of Technology, Postbus 513, 5600 MB Eindhoven, The Netherlands
TP.THE-10-8180	Geometric Effect on Nonlinearity of Awl-Shaped Serpentine Springs	Hui-Min Chou (a), Meng-Ju Lin (b,*), Rongshun Chen (a)	(a) Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan (b) Department of Mechanical and Computer-Aided Engineering, Feng Chia University, Taichung, Taiwan
TP.THE-11-8208	A Low Cost Fully Integrable in a Standard CMOS Technology Portable System for the Assessment of Wind Conditions	P. Fusacchia, M. Muffillo, A. Leoni, L. Pantoli (*), F.R. Parente, V. Stornelli, G. Ferri	Department of Industrial and Information Engineering and Economics, University of L'Aquila, 67100, L'Aquila, Italy
TP.THE-12-8220	Plasticisation of Epoxy Resin Transfer Molding Substrate for Fabrication of Interdigital Capacitive Sensors	M. Kahali Moghaddam (a,*), J. Hellmann (a), W. Lang (a)	(a) Institute for Microsensors, –actuators and –systems (IMSAS), Otto-Hahn-Allee, NW1, Bremen, 28359, Germany
TP.THE-13-8228	Development of Low Frequency High Temperature Ultrasonic Transducers for in-Service Monitoring of Pipework in Power Plants	A. Dhutti (a), S. A. Tumin (a), A. Mohimi (b), M. Kostan (a), T. H. Gan (a,b,*), W. Balachandran (a), C. Selcuk (a)	(a) Brunel University London, Kingston Ln, Uxbridge, Middlesex, UB8 3PH, United Kingdom (b) TWI Ltd, Granta Park, Cambridge, CB21 6AL, United Kingdom
TP.THE-14-8266	New Architecture and Configuration of Microelectromechanical Acceleration Measuring Gyro with Intermediate Bodies	E. V. Zorina, T. G. Nesterenko (*), P. F. Baranov, A. N. Koleda, E. S. Barbin	National Research Tomsk Polytechnic University, Lenina avenue, 30, 634050, Tomsk, Russia
TP.THE-15-8270	High-Quality-Factor Photonic Crystal Ring Resonator with Applications for Gas Sensing	R. Jannesari (a,*), C. Ranacher (b), C. Consani (b), V. Lavchiev (a), T. Grille (c), B. Jakoby (a)	(a) Institute for Microelectronics and Microsensors, Johannes Kepler University, Linz, Austria (b) Carinthian Tech Research AG, Villach, Austria (c) Infineon Technologies Austria AG, Villach, Austria
TP.THE-16-8300	Dielectric Permittivity Measurement of Paper Substrates Using Commercial Inkjet Printers	Christoph Beisteiner, Bernhard G. Zagar	Institute for Measurement Technology, Johannes Kepler University, Altenbergerstraße 69, 4040 Linz, Austria
TP.THE-17-8309	A Study of Higher Modes of Buckled SiC Beams for Stress Based Sensing Applications	Amruta Ranjan Behera (*), Rudra Pratap	Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India

TP.THE-18-8327	Modelling and Simulation of a Thermal Flow Sensor for Determining the Flow Speed and Thermal Properties of Binary Gas Mixtures	Y. Q. Zhu (a,b,*), C. J. Hepp (c), G. A. Urban (b)	(a) Key Laboratory of MEMS of Ministry of Education, Southeast University, Nanjing, 210096, China (b) Laboratory for Sensors, Departement of Microsystems Engineering (IMTEK), University of Freiburg, Georges-Koehler-Allee 103, Freiburg 79100, Germany (c) Innovative Sensor Technology IST AG, Stegruetistrasse 14, Ebnat-Kappel 9642, Switzerland
TP.THE-19-8329	Mode Interaction in a Micromechanical Clamped-Clamped Beam Resonator	T. Zhang(a), X. Wei(a,*), J. Ren(a), Z. Jiang(a) and R. Huan(b)	(a) State Key Laboratory for Manufacturing Systems Engineering, Xi'an Jiaotong University, Xi'an, China (b) Department of Mechanics, Zhejiang University, Hangzhou, China
TP.THE-20-8354	Finite Element Analysis of Polymer-Encapsulated ZnO Nanowire-Based Sensor Array Intended for Pressure Sensing in Biometric Applications	Rolanas Dauksevicius (a,*), Rimvydas Gaidys (a), Eoin P. O'Reilly (b), Masoud Seifikar (b)	(a) Kaunas University of Technology, Institute of Mechatronics, Studentu str. 56, Kaunas 51424, Lithuania (b) Tyndall National Institute, Dyke Parade, Prospect Row, Cork, Ireland, Department of Physics, University College Cork, Cork, Ireland
TP.THE-21-8381	Evaluation algorithms for linear position sensors assisted by artificial neural network	Zoltán Kántor, Attila Szabó	Balluff Elektronika Kft., Pápai út 55., 8200 Veszprém, Hungary
TP.THE-22-8384	Embedded platform for generic high-order sigma-delta accelerometers testing	N.Brito (a,*), V.Lima(b), F.S.Alves(a), J.Cabral(a), J.Gaspar(c), J.Monteiro(a), L.A.Rocha(b,c)	(a) ALGORITMI CENTER, Universidade do Minho, Campus de Azurém, Guimarães, Portugal (b) CMEMS-UM Universidade do Minho, Campus de Azurém, Guimarães, Portugal (c) INL, International Iberian Nanotechnology Laboratory, Braga, Portugal
TP.THE-23-8389	Towards Feasibility of an Inkjet-Printed Capacitive Sensor for Position Tracking of a MOEMS-Mirror in a Michelson Interferometer Setup	Lisa-Marie Faller(*) and Hubert Zangl	Alpen Adria Universitaet Klagenfurt, 9020 Klagenfurt, Austria
TP.THE-24-8403	Studies on the Characterization of Novel Piezoelectric Sensor Elements, Integrated in Glass Fibre-Reinforced Polyurethane Composites	S. Geller, T. Tyczynski, M. Gude (*)	Technische Universität Dresden, Institute of Lightweight Engineering and Polymer Technology, Holbeinstr. 3., 01307 Dresden, Germany
TP.THE-25-8441	Analysis and Characterization of Thermal-Piezoresistive MEMS Resonators	C. Coelho (a,b,*), J. Gaspar(b), L. Rocha (a,b)	(a) CMEMS-UM University of Minho, Campus de Azurém, 4800-058 Guimarães, Portugal (b) INL - International Iberian Nanotechnology Laboratory, Av. Mestre José Veiga, 4715-330 Braga, Portugal
TP.THE-26-8450	Influence of excitation waveform on the frequency stability of an electrostatic MEMS oscillator	Jérôme Juillard (a,*), Alexis Brenes (a,b), Filipe Vinci dos Santos (c)	(a) GEEPS, UMR 8507, CNRS, UPMC, U. Paris Sud, CentraleSupélec, Gif-sur-Yvette, France (b) THALES Avionics, Valence, France (c) Advanced Analog Design Group, CentraleSupélec, Gif-sur-Yvette, France

TP.THE-27-8483	Influence of period on surrounding refractive index sensitivity of arc-induced Long Period Gratings	Flavio Esposito, Rajeev Ranjan, Stefania Campopiano (*), and Agostino Iadicicco (*)	Department of Engineering, University of Naples "Parthenope", Centro Direzionale di Napoli Isola C4, Naples 80143, Italy
TP.THE-28-8488	Precise Determination of d33 and d31 from Piezoelectric Deflection Measurements and 2D FEM Simulations Applied to ScxAl1-xN Thin Films	P. M. Mayrhofer (*), E. Wistrela, M. Schneider, A. Bittner, U. Schmid	Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria
TP.THE-29-8536	Divanadium pentoxide/4H-silicon carbide: a Schottky contact for highly linear temperature sensors	S. Rao (a,*), G. Pangallo (a), L. Di Benedetto (b), A. Rubino (b), G. D. Licciardo (b), F.G. Della Corte (a)	(a) Università degli Studi "Mediterranea", Dipartimento di Ingegneria dell'Informazione, delle Infrastrutture e dell'Energia Sostenibile (DIIES), Reggio Calabria, Italy. (b) Department of Industrial Engineering Università di Salerno, Fisciano (SA), Italy
TP.THE-30-8552	Switch-matrix-based Monolithic CMOS Platform Featuring a Large Array of Carbon Nanotube Sensor Elements and a 96-channel Readout Circuitry	Alexandra Dudina (a, b, *), Florent Seichepine (b), Yihui Chen (a), Alexander Stettler (a), Andreas Hierlemann (a), Urs Freya, (b, †)	(a) ETH Zurich, Department of Biosystems Science and Engineering, Basel, Switzerland (b) RIKEN QBiC, Kobe, Japan
TP.THE-31-8566	A self-compensating system for fixed pattern noise reduction of focal plane arrays of infrared bolometer detectors	Pavel Neuzil (a,b,*), Jan Pekarek (a), Vojtech Svatoš(a), Roman Prokop (a), Imrich Gablech (a), Michal Pavlik (a), Lukas Fucik (a), Jaromir Hubalek (a)	(a) Centre of Sensor, Information and Communication Systems, Brno University of Technology, Brno 616 00, Czech Republic (b) Department of Microsystems, Northwestern Polytechnical University, Xi'an, P.R. China
TP.THE-32-8579	Finite element modeling and synthesis of c-axis tilted AlN TFBAR for liquid sensing applications	C. Caliendo, M. Hamidullah (*), F. Mattioli	Institute of Photonics and Nanotechnology, IFN-CNR, Via Cineto Romano 42, 00156 Rome, Italy
TP.THE-33-8580	Simulation of the Refractive Index Sensitivity of Coupled plasmonic Nanostructures	A. Bonyár	Department of Electronics Technology, Budapest University of Technology and Economics, Budapest, Hungary
TP.THE-34-8586	Optical properties and instrumental performance of thin noble metal (Cu, Au, Ag) films near the surface plasmon resonance	L. C. Oliveira (a,b), C. S. Moreira (c), H. Ne (a), A. M. N. Lima (a, *)	(a) Federal University at Campina Grande, Department of Electrical Engineering, 58429-900 Campina Grande-PB, Brazil (b) Federal Rural University of Semiarid Region, Angicos-RN, Brazil (c) Federal Institute of Education, Science and Technology of Paraíba, Joo Pessoa-PB, Brazil
TP.THE-35-8599	Dynamic Circuit Model for Spintronic Devices	Meshal Alawein (*), Hossein Fariborzi	Computer, Electrical and Mathematical Sciences and Engineering Division, King Abdullah University of Science and Technology, 4700 Thuwal, Saudi Arabia
TP.THE-36-8605	Experimental and numerical assessment of the multi-physics dynamic response for a MEMS accelerometer at various gaps	Raffaele Ardito (a,*), Biagio De Masi (a), Fabrizio Cerini (b), Marco Ferrari (b), Vittorio Ferrari (b), Alfio Russo (c), Mikel Azpeitia Urquia (c), René I.P. Sedmik (d)	(a) Politecnico di Milano, Piazza Leonardo da Vinci 32, Milan 20133, Italy (b) Università di Brescia, Via Branze 38, Brescia 25123, Italy (c) STMicroelectronics, Via Olivetti 2, Agrate Brianza 20864, Italy (d) Vrije Universiteit Amsterdam, De Boelelaan 1105, Amsterdam 1081, The Netherlands

TP.THE-37-8619	Primary side circuit design of a multi-coil inductive system for powering wireless sensors	G. Bouattour (a,b*), B. Kallel (a,b), O. Kanoun (a), N. Derbel (b)	(a) Chair for Measurement and Sensor Technology, Technische Universität Chemnitz, Reichenhainer Straße 70, 09126 Chemnitz, Germany (b) National Engineering School of Sfax, Road of Soukra km 3, 3038 Sfax, Tunisia
TP.THE-38-8630	Modelling, Simulation and Experimental Analysis of a Metal-Polymer Hybrid Fibre based Microstrip Resonator for High Frequency Characterisation	Manuel Schimmack (a,*), Wolfgang Taute (b), Michael Hoefft (b)	(a) Leuphana University of Lueneburg, Institute of Product and Process Innovation, Volgershall 1, D-21339 Lueneburg, Germany (b) Kiel University, Institute for Electrical Engineering and Information Technology, Kaiserstraße 2, D-24143 Kiel, Germany