39th International Microelectronics and Packaging Conference

IMAPS 2015
Conference Program

September 20 - 23, 2015
Gdańsk

GDAŃSK UNIVERSITY OF TECHNOLOGY

39th International Microelectronics and Packaging IMAPS 2015 Conference

Sunday 20.09.2015

From 16.00	**Registration**
19.00 - 20.00	**Dinner**
20.00 - 21.30	**IMAPS Poland board meeting**

Monday 21.09.2015

07.30 - 08.50	**Breakfast**
08.55 - 09.00	**Conference opening**
09.00 - 10.30	**Invited lectures**
09.00 - 09.30	**Karlheinz Bock**, Technische Universität Dresden, Heterointegration - Electronics packaging for multi-functional systems
09.30 - 10.00	**Tomasz Skotnicki**, CEZAMAT, Ultra-Thin Body and Box FD-SOI from equation to fabrication
10.00 - 10.30	**Jerzy Mizeraczyk**, Gdynia Maritime University, Recent progress in direct exposure of interconnects on PCB
10.30 - 13.00	**Poster session**
13.00 - 14.00	**Lunch**
14.00 - 19.00	**Excursion**
19.00	**Bonfire dinner**

Tuesday 22.09.2015

07.30 - 09.00	**Breakfast**
09.00 - 10.30	**Invited lectures**
09.00 - 09.30	**Kenneth Peterson**, Sandia National Laboratories, Challenges in Low Temperature Cofired Ceramic
09.30 - 10.00	**Piotr Markowski**, Wroclaw University of Technology, Multilayer thick-film thermoelectric microgenerator based on LTCC technology
10.00 - 10.30	**Franz Bechtold**, VIA electronic GmbH, LTCC in the field of tension between academic research and industrial application
10.30 - 13.00	**Poster session**
13.00 - 14.00	**Lunch**
14.00 - 15.30	**Invited lectures**
14.00 - 14.30	**Martin Birkett**, University of Northumbria, Thin Film Resistive Materials; Past, Present and Future
14.30 - 15.00	**Achim Bittner**, Vienna University of Technology, Advanced AlN thin films for resonsant MEMS devices
15.00 - 15.30	**Rainer Schmidt**, Complutense University of Madrid, Microstructure and dielectric properties of CaCu3Ti4O12 (CCTO) thick film capacitors
15.30 - 16.00	**Coffee break**
16.00 - 17.30	**Invited lectures**
16.00 - 16.30	**Heike Bartsch**, Technische Universität Ilmenau, LTCC based bioreactors for cell cultivation
16.30 - 17.00	**Tomasz Zawada**, Meggitt Sensing Systems, Piezoelectric single- and multi-element ultrasonic transducers for medical applications
17.00 - 17.30	**Josef Sikula**, Brno University of Technology, Supercapacitor reliability quantification by calendar life and power cycling tests
17.45 - 19.00	**IMAPS Poland general assembly**
19.30 - 22.00	**Gala dinner**

Wednesday 23.09.2015

07.30 - 09.00	**Breakfast**
09.00 - 12.00	**Invited lectures**
09.00 - 09.30	**Ming Chen**, Technical University of Denmark, In-situ diagnosis of electrode degradation in solid oxide electrolysis cells using impedance spectroscopy
09.30 - 10.00	**Agata Skwarek**, Institute of Electron Technology, Challenges and testing methods in tin pest research
10.00 - 10.30	**Radu Ionescu**, Universitat Rovira i Virgili, Schottky-diode gas sensors based on ultra-pure gold nanoparticles
10.30 - 11.00	**Coffee break**
11.00 - 12.30	**Invited lectures**
11.00 - 11.30	**Petr Sedlak**, Brno University of Technology, Noise measurement as a diagnostic tool for electrochemical gas sensors
11.30 - 12.00	**Róbert Mingesz**, University of Szeged, Wireless sensor node for fluctuation enhanced sensing
12.00 - 12.30	**Małgorzata Jędrzejewska-Szczerska**, Gdańsk University of Technology, Optoelectronic sensors for life science
12.30 - 13.30	**Lunch**

Sponsors

Rector of Gdańsk University of Technology
prof. dr hab. inż. Henryk Krawczyk

Dean of the Faculty of Marine Electrical Engineering
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Dean of the Faculty of Electronics, Telecommunications and Informatics
Gdańsk University of Technology
prof. dr hab. inż. Krzysztof Goczyła

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Institute of Physics

Monday 21.09.2015

Poster sessions program

No.	Authors and title
1.	**Balázs Illés, Olivér Krammer, Attila Géczy, Garami Tamás,** Characterizing the conductivity of ICA joints by the mean intercept length of Ag flakes
2.	**W. Wiejak, A.Wymysłowski** Experimental validation of analytical and numerical approach to thermal analysis of a travelling wave tube
3.	**Kamil Janeczek, Aneta Araźna, Bartłomiej Salski, Krzysztof Lipiec, Małgorzata Jakubowska** Printed HF antennas for RFID on-metal transponders
4.	**S. Kluska, P. Panek** Influence of contact metallization process on the grain boundary passivation of mc-Si by SiNx:H deposited by PECVD technique
5.	**Janusz Borecki, Tomasz Serzysko** Mechanical Reliability of Electronic Packets Solder Joints Assembled in Surface Mount Technology
6.	**Attila Géczy, Bíborka Kvanduk, Balázs Illés, Tamás Garami** Comparative study on proper thermocouple attachment for vapour phase soldering profiling
7.	**Tamás Garami, Oliver Krammer, Gábor Harsányi** Method for validating CT length measurement of cracks inside solder joints
8.	**Kazimierz Drabczyk, Jarosław Domaradzki, Grażyna Kulesza-Matlak, Marek Lipiński, Danuta Kaczmarek** Influence of application of ITO layer on electrical parameters of silicon solar cells with screen printed front electrode
9.	**Kazimierz Drabczyk, Wróbel Edyta, Grażyna Kulesza-Matlak, Wojciech Filipowski, Krzysztof Waczyński, Marek Lipiński** Comparison of diffused layer prepared using dopant liquid solutions and pastes for solar cell with screen printed electrodes
10.	**Damian Nowak, Andrzej Dziedzic, Zbigniew Żaluk, Henryk Roguszczak, Mariusz Węglarski** Investigation of mechanical properties of smd interconnections on flexible and rigid substrates
11.	**Lubomir Skvarenina, Robert Macku** Noise and optical spectroscopy of single junction silicon solar cell
12.	**Jacek Piekarski, Piotr Guzdek, Krzysztof Zaraska, Beata Synkiewicz** Designing and testing energy harvesters suitable for renewable power sources
13.	**Krzysztof Górecki, Małgorzata Godlewska, Krzysztof Górski** Modeling the pulse transformer in Spice
14.	**Damian Bisewski, Ryszard Kisiel, Krzysztof Górecki, Marcin Myśliwiec, Janusz Zarębski** The investigation of thermal properties of the selected constructions of cases of silicon carbide Schottky diodes
15.	**Wojciech Grzesiak, Piotr Maćków, Tomasz Maj, Beata Synkiewicz, Krzysztof Witek, Ryszard Kisiel, Marcin Myśliwiec, Janusz Borecki, Tomasz Serzysko, Marek Żupnik** Application of Direct Bonded Copper Substrates for Prototyping of High Power Electronic Modules
16.	**Krzysztof Górecki, Przemysław Ptak** Modelling reverse characteristics of power LEDs with thermal phenomena taken into account
17.	**Zbigniew Porada** Aging processes in the electroluminescent structures of inorganic and organic – OLED
18.	**Ewa Raj, Zbigniew Lisik, Łukasz Ruta, Bartłomiej Guzowski** Integration of electronic system with electro-thermally cooled IR detector: thermal analysis

19.	**Waldemar Jendernalik, Jacek Jakusz, Grzegorz Blakiewicz, Miron Kłosowski** High-efficient low-voltage rectifier for CMOS technology
20.	**Krzysztof Górecki, Kalina Detka** The influence of losses in the core of an inductor on characteristics of the boost converter
21.	**Przemyslaw Rydygier, Michal Baszynski, Mateusz Czok, Arkadiusz Dąbrowski, Mateusz Dorczynski, Henryk Roguszczak, Leszek Golonka** 1 Watt LTCC DC/DC converter with 6 kV isolation transformer
22.	**Paweł Górecki, Krzysztof Górecki** The influence of a mounting manner of power MOS transistors on characteristics of the Totem-Pole circuit with RLC load
23.	**Kazimierz Kamuda, Dariusz Klepacki, Mariusz Skoczylas, Wiesław Sabat, Jerzy Potencki, Kazimierz Kuryło** Efficiency measurements of energy harvesting from teletramsmission systems for model autonomous semi-passive RFID identifiers
24.	**Wiesław Sabat, Dariusz Klepacki, Kazimierz Kamuda, Kazimierz Kuryło, Stanislav Slosarcik, Peter Balog** Conditioned factors of homogenous electromagnetic field distribution in semi-anechoic chamber
25.	**Marcin Myśliwiec, Arkadiusz Lewandowski, Wojciech Wiatr, Jerzy Weremczuk, Zbigniew Szczepański, Ryszard Kisiel** Challenges in packaging of IR detectors – technology of elastic electrical connections
26.	**Ewa Krac, Krzysztof Górecki** Modelling characteristics of photovoltaic panels with thermal phenomena taken into account
27.	**Kamil Bargieł, Janusz Zarębski, Damian Bisewski** SPICE-aided modelling of high-voltage silicon carbide JFETs
28.	**Joanna Patrzyk, Janusz Zarębski, Damian Bisewski** DC characteristics and parameters of silicon carbide high-voltage power BJTs
29.	**Michał Baszyński, Mikko Kohvakka, Mariusz Wójcik, Anssi Kamari, Edward Ramotowski, Dariusz Ostaszewski, Tomasz Klej** Evaluation of new technologies and materials for Printed Circuit Boards with improved heat dissipation properties
30.	**Paweł Osypiuk, Andrzej Dziedzic, Wojciech Stęplewski** Influence of mechanical exposures on electrical properties of thin- and thick-film elastic resistors and conductors
31.	**Dariusz Witek, Mariusz Wójcik, Tomasz Klej, Edward Ramotowski** Component embedding in PCB for size reduction and heat management
32.	**P. Panek, B. Swatowska** The impact of the rear Al contact metallization process on solar cells parameters
33.	**Piotr Przystup, Adam Bujnowski, Jerzy Wtorek** Multichannel Human Body Communication
34.	**Grzegorz Tomaszewski, Piotr Jankowski-Mihułowicz, Mariusz Węglarski, Wojciech Lichoń** Inkjet-Printed Flexible RFID Antenna for UHF RFID Transponder
35.	**Mateusz Dorczyński, Jacek Szarycz, Leszek Golonka** Influence of thermal vias on temperature distribution in LTCC microreactor structure
36.	**Arkadiusz Szewczyk, Josef Sikula, Vlasta Sedlakova, Jiri Majzner, Petr Sedlak, Tomas Kuparowitz** Voltage Dependence of Supercapacitor Capacitance
37.	**Piotr Markowski, Damian Nowak, Karol Malecha** The properties of photoimageable layers on different types of ceramic substrates
38.	**D. Szymczewska, S. Molin, V. Venkatachalam, M. Chen, P. Jasinski, P.V. Hendriksen** Assesment of (Mn,Co)3O4 powders for possible coating material for SOFC/SOEC interconnects
39.	**Grzegorz Jasiński, Piotr Kościński** Gas sampling system for matrix of semiconductor gas sensor

Tuesday 22.09.2015

Poster sessions program

No.	Authors and title
1.	**Iwona Karbownik, Tomasz Rybicki, Helena Teterycz** PAN fibres with nanoprecipitated Ag and Au for use in Textronic
2.	**Jan Kulawik, Dorota Szwagierczak, Beata Synkiewicz** Multilayer capacitors with bismuth copper tantalate dielectric fabricated in LTCC technology
3.	**Tibor Rovensky, Alena Pietrikova, Igor Vehec, Martin Kmec** Influence of various multilayer LTCC systems on dielectric properties' stability in GHz frequency range
4.	**Alena Pietrikova, Peter Lukacs, Dagmar Jakubeczyova, Beata Ballokova, Jerzy Potencki, Grzegorz Tomaszewski, Jan Pekarek, Katerina Prikrylova,** Methods of Surfaces' Analysis of Polymeric Substrates Used for InkJet Printing Technology
5.	**Kornel Ruman, Alena Pietrikova, Pavol Galajda, Igor Vehec, Tibor Rovensky, Martin Kmec** A New Approach to Construction of Extended Kit for M-Sequence UWB Sensor System Based on LTCC
6.	**Andrzej Łoziński** Thin perovskite-type ferromagnetic film (La,Sr)CoO3
7.	**Łukasz Ciura, Andrzej Kolek, Waldemar Gawron, Dariusz Stanaszek, Dawid Stępień** Low frequency noise spectroscopy of high operating temperature HgCdTe infrared detectors
8.	**Karol Malecha** The utilization of LTCC-PDMS bonding technology for microfluidc system applications – a simple fluorescent sensor
9.	**J. Kalenik, Konrad Kiełbasiński, E. Kowalska, M. Kozłowski, J. E. Czerwosz, P. Firek, J. Szmidt** Thermal properties of modified carbon films
10.	**Aneta Araźna, Kamil Janeczek, Konrad Futera, Andrzej Kozioł** Modification of conductive polymer PEDOT:PSS layer by SWCNT
11.	**Jaroslaw Domaradzki, Danuta Kaczmarek, Michal Mazur, Damian Wojcieszak, Marcin Calka, Jaroslaw Haralewicz, Slawomir Glodek, Piotr Domanowski** Investigations of optical thin film coatings application as fire resistant barriers
12.	**Jan Macioszczyk, Karolina Jurkiewicz, Leszek J. Golonka** The LTCC device for miniature plasma generators characterization
13.	**Bartłomiej Guzowski, Mateusz Łakomski, Marek Cywiński** Proximity sensors based on ball-lensed optical fibers
14.	**Marta Fiedot, Helena Teterycz** The kinetic of photoreactions in zinc oxide microrods
15.	**Thomas Maeder, Caroline Jacq, Maxime Blot, Jorge Zarate, Peter Ryser** Optimisation of industrial production of low-force sensors
16.	**Patrycja Suchorska-Woźniak, Witold Nawrot, Olga Rac, Marta Fiedot, Helena Teterycz** Improving the sensitivity of the ZnO gas sensor to dimethyl sulfide
17.	**Łukasz Gołunski, Piotr Płotka, Robert Bogdanowicz, Marc Bockrath, Krzysztof Zwolski** Electrical characterization of diamond/boron doped diamond nanostructures for use in harsh environment applications
18.	**Daria Milewska, Katarzyna Karpienko** The use of thin diamond films in fiber optic low-coherence interferometers
19.	**Michał Sobaszek, Katarzyna Siuzdak, Łukasz Skowroński, Robert Bogdanowicz, Jerzy Pluciński** Optically transparent boron-doped nanocrystalline films for spectrelectrochemical measurements on different substrates
20.	**Piotr Dziurdzia, Ireneusz Brzozowski, Piotr Bratek, Wojciech Gelmuda, Andrzej Kos** Estimation of Human Heat Power for Wearable Electronic Devices
21.	**G. Wroblewski, L. Dybowska-Sarapuk, M. Jakubowska, B. Swatowska, T. Stapinski** Optical and structural characterization of carbon nanomaterials

22.	**Łukasz Lentka, Janusz Smulko** Computational complexity and length of recorded data for fluctuation enhanced sensing method in resistive gas sensors
23.	**Katarzyna Dunst, Karolina Cysewska, Paweł Kalinowski, Piotr Jasiński** Polypyrrole based gas sensor for ammonia detection
24.	**Karolina Cysewska, Piotr Jasiński** In-situ and ex-situ resistance measurements of polypyrrole film using double-band electrode
25.	**Aleksander Chrzan, Simona Ovtar, Ming Chen** $LaNi_{1-x}Co_xO_{3-\delta}$ (x=0.4 to 0.7) cathodes for solid oxide fuel cells by infiltration
26.	**Mateusz Ficek, Sien Drijkoningen, Jakub Karczewski, Robert Bogdanowicz, Ken Haenen** Low temperature growth of diamond films on optical fibers using Linear Antenna CVD system
27.	**Barbara Dziurdzia, Zbigniew Magoński** Commercialisation of Solid Oxide Fuel Cells – opportunities and forecasts
28.	**Maciej Trawka, Mateusz Kotarski** Energy requirements for methods improving gas detection by modulating physical properties of resistive gas sensors
29.	**Piotr Róg, Patryk Gwiżdż, Andrzej Brudnik, Katarzyna Zakrzewska** Design and development of a Current-Voltage characteristic measurement system for resistive metal oxide gas sensors
30.	**C. Cherian Lukose, G. Zoppi, M. Birkett** Development of Novel Manganese Based Antiperovskite Thin Film Structure
31.	**M.S. Wróbel** Non-invasive blood glucose monitoring with Raman spectroscopy: prospects for device miniaturization
32.	**Konrad Futera, Aneta Araźna, Anna Młozniak, Małgorzata Jakubowska** Inkjet printed circuits on flexible substrates using heterophase graphene based inks for flexible solar cells
33.	**P. Guzdek, M. Wzorek, P. Zachariasz** Magnetostriction and magnetoelectric response of multiferroic particulate PVDF/ intermetallic composites
34.	**Helena Teterycz, Patrycja Suchorska-Woźniak, Olga Rac, Marta Fiedot** Synthesis and characterization of cerium nanoparticles
35.	**Olga Rac, Helena Teterycz** Electrical measurements of composite polymer fibers doped with silver nanoparticles
36.	**Agnieszka Gorczewska, Artur Poliński, Bart Truyen, Jerzy Wtorek** A novel concept for tissue-metal detection and differentiation using an inductive proximity sensor
37.	**Maria Rybarczyk, Milena Jabłońska, Marek Lieder** Structural and morphological characterization of carbon nanosheets and their applications for renewabl
38.	**Anna Strzelczyk, Grzegorz Jasiński, Bogdan Chachulski** Investigation of solid polymer electrolyte gas sensor with different electrochemical techniques
39.	**Grzegorz Jasiński, Anna Strzelczyk, Piotr Kościński** Low cost electrochemical sensor module for measurement of gas concentration