Dear IMAPS colleagues and electronic industry friends,

The Third European Microelectronic and Packaging Symposium (3rd EMPS) took place at Hotel Diplomat, Prague, Czech Republic, from 16th to 18th June 2004, being the second event of this kind to be held in this country. On behalf of IMAPS Czech and Slovak Chapter we would like to invite you to the 3rd EMPS IMAPS symposium in Prague.

This bi-annual symposium was decided by European Liaison Committee to be held in every even-numbered year in order to bridge the gap between European Microelectronic and Packaging Conferences.

The first symposium was held in Prague June 2000, the second one in Cracow 2002 and the present symposium is intended to make the continuation of this new series of international bi-annual events.

The aim of 3rd EMPS is to offer all specialists an almost complete insight into the present state-of-the art in technology and the research status of the microelectronics, packaging and interconnection technologies. The motto of the symposium, "Drive the Future", encourages all participants to play an active role in building the future of electronic industry and, like the fast growing demand for automotive electronics, to be the ones to drive the future in their hands.

The Czech Republic and Prague have been traditional meeting points of Western and Eastern cultures and the present symposium will provide a great opportunity to share experience in microelectronics and packaging between specialists from Europe and worldwide. Particularly, this year's event will become an impetus to establishing new contacts between experts from the new EU country members. Beside the symposium, the participants will get an excellent opportunity to savour the charm of Old Prague in a lot of small streets with traditional local pubs.

We also support young students to attend the conference and gain experience from contacts with industry specialists. The European international TPC team have selected the best technical papers for the program. There will be 6 plenary sessions and 66 scientific papers and 36 additional posters will be presented in special poster session. In addition to the oral and poster presentations you will have the opportunity to visit tabletop exhibition to see new equipments, materials and technology.

Do not hesitate to join us in EMPS and enjoy the talks with your friends and colleagues in the beautiful scenery of Prague with good beer, food and history spirit.

We are looking forward to see you in Prague,

Josef Šikula
Symposium Chairman

Tomáš Zedníček
TPC Chairman

Organizing Committee

Josef Sikula, Symposium Chairman	Czech Republic
Vojtech Hermansky, Vice Chairman	Czech Republic
Vlasta Sedlakova, Secretary General	Czech Republic
Milada Bartlova	Czech Republic
Jitka Brustlova	Czech Republic
Pavel Dobis	Czech Republic
Lubomir Grmela	Czech Republic
Pavel Koktavy	Czech Republic
Josef Bursa	Czech Republic
Jiri Majzner	Czech Republic
Ivan Szendiuch	Czech Republic

Technical Programme Committee – TPC

Tomas Zednicek, Chairman	Czech Republic & Slovakia
Jens Müller	Germany
Soeren Noerlyng	Nordic
Jean-Claude Rames	France
Gilbert de Mey	Benelux
Leszek Golonka	Poland
Darko Belavič	Slovenia
Nihal Sinnadurai	United Kingdom
Pal Nemeth	Hungary
Jacob Hormadely	Israel
Norocel-Dragos Codreanu	Romania
Valery I. Rudakov	Russia

European Liaison Committee – ELC

Heinz Osterwinter, President	Germany
Paul Collander, Secretary	Nordic
Francis Gys, Treasurer	Benelux
Vojtech Hermansky	Czech Republic & Slovakia
Karel Kurzweil	France
Zsolt Illyefalvi-Vitez	Hungary
Uri Barneah	Israel
Flavio Cereda	Italy
Soren Norlyng	Nordic
Andrzej Dziedzic	Poland
Paul Maugur Svasta	Romania
Sergej Valev	Russia
Marija Kosec	Slovenia
Steve Muckett	United Kingdom

WEDNESDAY, 16th June 2004

11:00 - 18:00 **REGISTRATION**

13:00 - 13:30 **SYMPOSIUM OPENING**

Josef Sikula, IMAPS CZ&SK president

Heinz Ostervinter, IMAPS European Liaison Committee president

Peter Barnwell, IMAPS North America past president

Francisco Ibanez, European Union - Brussels

13:30 - 15:00 **Plenary session I.**

Chairmen: Tomas Zednicek, *AVX Czech Republic s.r.o.*

POSTERS AND TABLE TOP EXHIBITION PREPARATION

Investment opporunities in the Czech electronics industry
M. Jahn, *CzechInvest*, *Czech Republic*

Trends in passive components industry
J. Skala, *AVX Czech Republic s.r.o.*

Next generation thick film for tomorrow's microelectronics industry
J. Cocker, A. Craig, *DuPont (UK) Ltd., United Kingdom*

15:00 - 16:00 **COFFE BREAK in EXHIBITION**

16:00 - 18:00 **Plenary session II.**

Chairmen: Tomas Zednicek, *AVX Czech Republic s.r.o.*

POSTER SESSION

TABLE TOP EXHIBITION

Sub-micron MOSFETS technology characterization by low-frequency noise
M. Toita, *Asahi Kasei Microsystems*, S. Sugawa, A. Teramoto and T. Ohmi, *Tohoku University, Japan*

Micromachining of silicon microstructures
S. Amon, D. *Resnik*, D. Vrtacnik, *University of Ljubljana, Slovenia*

Microelectronics packaging oriented research and education in the virtual world
Z. Illyefalvi-Vitez, *Budapest University of Technology and Economics, Hungary*

From microelectronics to nanoelectronics: Considerations Beyond Moore's Law
V. Musil, *Brno University of Technology, Czech Republic,* V. Ac, *Alexander Dubcek University of Trencin, Slovak Republic*

19:00 - 22:00 WELCOME RECEPTION in POSTER and **EXHIBION HALL**

THURSDAY, 17th June 2004

08:30 - 18:00 **REGISTRATION**

08:30 - 10:20 **Parallel Session**

POSTER SESSION

TABLE TOP EXHIBITION

Session 1: Design & Processing

Chairman: Gilbert de Mey
Univeristy of Ghent, Belgium

Application of thermo-mechanical measurements of plastic packages for reliability evaluation of PEMS - *invited*
A. Teverovsky, *QSS Group, Inc.*, A. K. Sharma, *NASA GSFC, USA*

Influence of printed circuit board properties on solder joint fatigue life of assembled IC packages
B. Vandevelde, M. Gonzalez, E. Beyne *IMEC, Belgium,* D. Vandepitte, M. Baelmans, *Catholic University of Leuven, Belgium*

Reliability testing of some ceramic components and evaluation of the results by using a novel test interpretation tool
O. Salmela, J. Sarkka, K. Andersson*, and M. Tammenmaa, *Nokia Corporation, Nokia Networks and Nokia Research Center**

Diagnostics of adhesive bonds
P.Mach, A. Duraj, D. Busek, J. Jes, T. Orth *CTU Prague, Czech Republic*

Bridging the gap between nanometer and meter
T. Fries, *Fries Research & Technology GmbH, Germany*

Session 2: SMT Technology & PCB

Chairman: Soeren Noerlyng
MICRONSULT, Denmark

Low cost manufacturing of double-sided polyimide flexible substrates using unique plating technology and laser ablation - *invited*
R. Berenyi, J. Deak, *Budapest University of Technoloty and Economics, Hungary*

The adhesion of sputter-deposited copper on some organic substrates
T.Uusluoto, H. Laaksonen and A. Tuominen, *Tampere University of Technology, Finland*

LIDCAT: Graded build-up technology for printed circuit boards
A. Gielen, M. Vereeken, J. de Baets, *IMEC, Belgium,* M.Morrell, M. Beadel, *DDI Marlow, United Kingdom*, J. Vaudolon, P. Allard, *Flextronics, France*, E. Blansaer, P. Colson, *AMI Semiconductor, Belgium*, Z. Illyefalvi-Vitez, P. Gordon, *Budapest University of Technology and Economics, Hungary*

Inkjet Printing of Embedded Passive Components
E. Moderegger, A. Klamminger, G. Leising, *AT&S AG*, H. Plank, S. Gamerith, G. Mauthner, T. Piok, M. Gaal, C. Gadermaier, O. Werzer, E.J.W. List, *Christian Doppler Laboratory for Advanced Functional Materials, Austria*

10:20 - 10:50 **COFFE BREAK in EXHIBITION**

THURSDAY, 17th June 2004

10:50 - 12:50 Parallel Session

Invited Session 3: "Blue Whale"	Session 4: Active devices		
Chairman: Soeren Noerlyn *MICRONSULT, Denmark*	**Chairman:** Nihal Sinnadurai *EMPS'04 TPC – IMAPS United Kingdom*	POSTER SESSION	TABLE TOP EXHIBITION
Shellcase packaging: a novel approach of cross-talk suppression for system-on-chip **C. van Veen,** H. J. Bergveld, T. van den Ackerveken, *Nederlands Philips Bedrijven B.V., The Netherlands,* G. Zilber, D. Teomim, *Shellcase Ltd., Israel*	**The usage of CO_2 laser in through hole plating on PET substrates** - *invited* **F. Kolesar**, P. Rajec, M. Somora, *Molex Slovakia a.s., Slovakia*		
Substrate thinning and trenching as crosstalk suppression techniques **S.M. Sinaga**, A.Polyakov, M.Bartek, J.N.Burghartz, *Delft University of Technology, The Niederlands*	**Thermo-compression flip chip bonding using gold ball bumps for RF and MEMS applications** **S.Stoukatch**, T. Webers, C. Winters, K. Baert, E. Beyne, *IMEC, Belgium*		
Through wafer vias for power transistors **M. de Samber**, E. van Grunsven, C. Rutjes, T. Grob, H. Kettelarij and C. van Veen, *Philips Centre for Industrial Technology, The Netherlands*	**Organic field-effect transistors** **G. Wang**, S. Nespurek, *Academy of Sciences of the Czech Republic*, I. Zhivkov, *Central Laboratory of Photoprocesses, Bulgaria*		
Thermo-mechanical design analysis of wafer level packages **O. Wittler**, D. Manessis, *Technical University Berlin,* J.- P. Sommer, B. Michel *Fraunhofer IZM Berlin, Germany*	**Low profile packaging solution for RF-MEMS suitable for mass production** **A. Meckes**, R. Aigner, F. Daeche, G. Ehrler, H.-J. Timme, M. Weber, *Infineon Technologies AG, Germany*		
The bumping of wafer level chip scale packages **M.A. Whitmore**, M.A. Staddon, *DEK Printing Machines Ltd., United Kingdom,* D. Manessis, *Fraunhofer IZM & TU Berlin, Germany*	**GaAs flip chip evaluation in the 3 to 110 GHz range** **C. Karnfelt**, J. Rudnicki, J. P. Starski, H. Zirath *Chalmers University of Technology,* K. Boustedt, *Örebro University, and Ericsson AB, Sweden*		

12:50 - 14:20 LUNCH

THURSDAY, 17th June 2004

14:20 - 15:50 Parallel Session

SESSION 5: Modelling & Simulation I.	SESSION 6: New Materials I.		
Chairman: Norocel-Dragos Codreanu *University of Bucharest, Romania*	**Chairman:** Leszek Golonka *Wroclaw University of Technology, Poland*	POSTER SESSION	TABLE TOP EXHIBITION
Electrical design and simulation of 3-D stacked module - *invited* **M. Mantysalo**, J. Tanskanen, E. O. Ristolainen, *Tampere University of Technology, Finland*	**Switching in molecular systems** – *invited* **S. Nespurek**, G. Wang, *Academy of Sciences of Czech Republic,* J. Sworakowski, *Wroclaw University of Technology, Poland*		
Optimizing of solder joint reliability by 3D modeling **J. Bulva**, I. Szendiuch, *Brno University of Technology, Czech Republic*	**Quantum effects in molecular nanodevices based on tungsten polyoxometalates** D. Velessiotis, G. Chaidogiannos, **N. Glezos**, P. Argitis, *NCSR "Demokritos",* D. Tsamakis, *NTUA, Greece*		
Demonstration of increased power densities through advanced 3D power packaging **M. Tuttle**, P. Byrne, N. Cordero, S.C. O' Mathuna, P. McCloskey, P. Cheasty, D. O' Sullivan, *NMRC, University College Cork, Ireland*	**One way to look at nano technology for circuits** **E. R. Egloff**, *The Egloff Associates, U.S.A.*		
Analytical thermal modeling of flip-chip mounted semiconductor optical amplifiers **F.M. De Paola**, V. D'Alessandro, F. Tamigi and N. Rinaldi, *University of Naples, Italy*	**Active polymers for solar cells application** **J. Pfleger**, M. Pavlík, *Academy of Sciences of the Czech Republic*, N. Hebestreit, W. Plieth, *Dresden Technical University, Germany, and Ericsson AB, Sweden*		

15:50 - 16:50 POSTER SESSION, COFFE BREAK in EXHIBITION

THURSDAY, 17th June 2004

16:50 - 18:10 **Parallel Session**

SESSION 7: Modelling & Simulation II.
Chairman: Norocel-Dragos Codreanu
University of Bucharest, Romania

Thermal conductivity of molten lead free solders
J. Bilek, J. Atkinson, W. Wakeham, *University of Southampton, United Kingdom*

Thermo-mechanical analysis of a chip scale package (CSP) using lead free and lead containing solder materials
M. Gonzalez, B. Vandevelde and E. Beyne, *IMEC, Leuven, Belgium*

An experimental and numerical study on heat spreading enhancement in high power amplifier heat sinks
L. Maguire, **M. Behnia**, G. Morrison, *University of New South Wales, Sydney, Australia*

Creation and evaluation of dynamic compact thermal model for system-in-package
K. Kaija, P. Heino, and E. Ristolainen, *Tampere University of Technology, Finland*

SESSION 8: New Materials II.
Chairman: Jean-Claude Rames
MBDA, France

Integrated thick-film hybrid microelectronics on aluminium substrates
C. Jacq, S. Vionnet, T. Maeder, P. Ryser, *École Polytechnique Fédérale de Lausanne, Switzerland*

Strength of ceramic substrates for piezoresistive thick-film sensor applications
T. Maeder, C. Jacq, H. Birol, P. Ryser, *École Polytechnique Federale de Lausanne, Switzerland*

Perovskite ruthenate-based lead-free thick film resistors
S. Rane, **M. Prudenziati**, and B. Morten, *University of Modena, Italy*

POSTER SESSION

TABLE TOP EXHIBITION

19:30 - 23:30 **SYMPOSIUM DINNER IN “KAISERSTEJN PALACE”**

FRIDAY, 18th June 2004

08:30 - 13:00 **REGISTRATION**

08:30 - 10:30 **Parallel Session**

Session 9: Lead-free & Environmental
Chairman: Tomas Zednicek
AVX Czech Republic s.r.o.

Electrically conductive adhesives as solder alternative : A feasible challenge ! *- invited*
G. Dreezen, **G. Luyckx**, *Emerson & Cuming, ICI Belgium N.V., Belgium*

Lead-free soldering at inert atmosphere
S. Moravec, M. Valenta, *Air Products spol. s r.o, Czezh Republic*, G. K. Arslanian, *Air Products and Chemicals, Inc., USA*

Influence of repair process on near eutectic SnAgCu solder joint properties
R. Kisiel, Warsaw *University of Technology,* J.Sitek, K. Bukat, *Tele and Radio Research Institute,* W.Gasior, Z.Moser, J. Pstrus, *Polish Academy of Sciences, Poland*

Cleaning of electronic assemblies - a modular approach in optimizing process configuration
V. Sitko, *Pbt Roznov Ltd.*, **I. Szendiuch**, *Brno University of Technology, Czech Republic*

Session 10: Automotive & Space
Chairman: Jens Muller
Micro Systems Engineering, Germany

Dual channel receiver for nerve stimulation implant *- invited*
S.O'Reilly, O. Chevalerias and J. Alderman, *NMRC, Cork, Ireland*

Advanced techniques for the production of high precision X-band power distribution / combination networks
D. Köther, A. Lauer, A. Wien, **P. Uhlig**, G. Pautz, G. Möllenbeck, J. Berben, *IMST GmbH, Germany*

Important considerations when applying plasma to advanced packaging
J. D. Getty, U. Meyer, *March Plasma Systems, The Netherlands*

Die-attach to ceramic substrates for high temperature applications
F. Oldervoll, F. Strisland, *SINTEF Information and communication technology, Norway*

Electronics packaging for extreme spacecraft environments
P.J. Zulueta, *Jet Propulsion Laboratory, California Institute of Technology, USA*

POSTER SESSION

TABLE TOP EXHIBITION

10:30 - 11:00 **COFFE BREAK in EXHIBITION**

FRIDAY, 18th June 2004

11:00 - 13:00 **Parallel Session**

Session 11: Passive Components I.
Chairman: Darko Belavic
HIPOT-R&D, Slovenia

Some remarks about relations between processing conditions and microstructural, electrical as well as stability properties of LTCC resistors - *invited*
A. Dziedzic, L. Golonka, *Wroclaw University of Technology, Poland*, M. Hrovat, J. Kita, M. Kosec, *Jozef Stefan Institute, Ljubljana, Slovenia*, D. Belavic, *HIPOT R&D, Slovenia*

Embedded passives in LTCC for RF & microwave applications
G. Wang, M. Folk, **A. Elshabini**, F. Barlow, *University of Arkansas, USA*

3-D structuration of LTCC for sensor micro-fluidic applications
H. Birol, T. Maeder, C. Jacq, P. Ryser, *École Polytechnique Fédérale de Lausanne, Switzerland*

Investigation of La_2O_3/B_2O_3 based glass-ceramics for low temperature co-firing ceramics (LTCC) applications
Wen-Cheng J. Wei, Chih-Lung Chen, Allen Lee, *National Taiwan University, Taiwan 106*, Andreas Roosen, *University of Erlangen-Nurnberg, Germany*

Tantalum capacitors technology for extended operating temperature range
Z.Sita, S. Pala, T. Zednicek, *AVX Czech Republic s.r.o., Czech Republic*

Session 12: Packaging & Interconnections I.
Chairman: Valery I. Rudakov
Institute of Microelectronics, Russia

Jet Dispense for Electronic and Optoelectronic Packaging - *invited*
H. Quinones, *Asymtec, USA*

Novel bumpless flip chip bonding
R. Lahtinen, M. Lyyra, *VTI Technologies Oy*, **J.- P. Rautiainen,** *Ahltronix Rauma O*, T. Uusluoto, A. Tuominen, *Tampere University of Technology, Finland*

Study of immersion tin PCB finish – some aspects of surface and through holes wettability using lead-free solders
J. Sitek, K. Bukat, G. Koziol, J. Borecki, H. Hackiewicz, *Tele and Radio Research Institute, Poland*, H. Merkle, S. Schröder, *Ormecon Chemie GmbH&Co.KG, Germany*, A. Girulska, K. Gardela, *Eldos Sp. z o.o., Poland*

PBGA reliability under various manufacturing and multiple environmental loading conditions
H. Qi, **M. Pecht**, *CALCE Electronic Products and Systems Center, University of Maryland, USA*

Wedge bonding on ENIG PCB – an SMT integrated process
F. Fontana, E. Perego, E. Balen, D. Casati, *CELESTICA, Italy*

POSTER SESSION

TABLE TOP EXHIBITION

13:00 - 14:30 **LUNCH**

FRIDAY, 18th June 2004

14:30 - 16:30 **Parallel Session**

SESSION 13: Passive Components II.
Chairman: Darko Belavic
HIPOT-R&D, Slovenia

Non-linearity and noise characterization of thick film resistors after high voltage stress
K. Hajek, *University of Defence***,** *Czech Republic*, J. Majzner, S. Hefner, V. Sedlakova, J. Sikula, *Brno University of Technology, Czech Republic*

Three dimensional thick film technology
J. Krejci, *Krejci Engineering, Czech Republic*

Temperature characteristics of thick-film strain gauges
D. Belavic, M. Santo Zarnik, M. Pavlin, *HIPOT-R&D, d.o.o., Slovenia*, M. Hrovat, S. Macek, *Jozef Stefan Institute, Slovenia*, J. Kita, *Wroclaw University of Technology, Poland*

Packaging aspects of miniature smart sensors with an embedded internet server
M. Pavlin, J. Gramc, D. Belavic, *HIPOT-R&D, d.o.o., Slovenia*, M. Mozek, *University of Ljubljana, Slovenia*

Screen-printed voltammetric genosensors for the detection of *listeria monocytogenes* in food
T. Oczkowski, M. Filipiak, *Poznan University of Economy*, **S. Achmatowicz**, *Institute of Electronic Materials Technology, Poland*

SESSION 14: Packaging & Interconnections II.
Chairman: Pal Nemeth
BUTE, Hungary

Silicon ball grid array package
V. Rudakov, B. Mochalov, *Russian Academy of Sciences, Russia*, N. Plis, A. Muzhychenka, *ICJ "Angstrem", Russia*

Development of an advanced three-dimensional MCM-D substrate level patterning technique
T. Nellissen, M. Botermans, M. Burghoorn, J. van Delft, E. van Grunsven, J. Scheer, M. de Samber, *Philips Centre for Industrial Technology, The Netherlands*

Correlations between composition of erbium doped lithium niobate annealed proton exchanged waveguides and their optical properties
L. Salavcova, J. Spirkova, M. Novotna, *Institute of Chemical Technology Prague*, P. Capek, J. Cakl, J. Schrofel, *Czech Technical University in Prague*, A. Mackova, J. Vacik, *Czech Academy of Sciences, Czech Republic*

Development and thermo-mechanical characterisation of 3D folded flex module used as a technological platform for the realisation of the I-SEED
B.Majeed, K. Delaney, J. Barton, C. O'Mathuna, *University College Cork, Ireland*

Investigation of laser-polymer interaction for controllable window opening
B. Balogh, P. Gordon, R. Berényi, Z.Illyefalvi-Vitéz *Budapest University of Technology and Economics, Hungary*

POSTER SESSION

TABLE TOP EXHIBITION

16:30 - 16:45 **CLOSING SESSION**

POSTER SESSION

The poster hall will be opened for setting the posters on Wednesday, 16th June, 2004 from 12:00 to 15:00. The posters should be available for visitors from Wednesday, 16th June, 15:00 to Friday, 18th June, 14:30.

Authors are expected to be next to her/his poster on

Thursday, 17th June, 2004, from 15:50 to 16:50

The poster boards are 160 cm high and 95 cm wide.

P01	**Noise in 2D macroporous silicon structures** **L.A. Karachevceva**, O.I. Danduryants, V. F. Onischenko, F.F. Sizov, *National Academy of Sciences of Ukraine, Ukraine*, A. Kolek, *Rzeszow University of Technology, Poland*, L. Pyziak, I.S.Virt, *University of Rzeszow, Poland*, I.S. Bilyk, *Drogobych State Pedagogical University, Ukraine*
P02	**Infrared measurements for reflow soldering process** P. Svasta, **D. Simion-Zanescu**, *„Politehnica" University of Bucharest, Romania*
P03	**Nonlithographic nanostructured film fabrication** **J. Hubalek**, *Brno University of Technology, Czech Republic*
P04	**Multicriterial characterisation and prototyping of special planar transformers** P. Svasta, C. Ionescu, **N. D. Codreanu**, V. Golumbeanu, *„Politehnica" University of Bucharest, Romania,* D. Belavič, M. Santo Zarnik, *HIPOT-R&D and „Josef Stefan" Institute, Slovenia*
P05	**New solid electrolyte capacitor based on NbO and its applications** **T. Zednicek**, Z. Sita, J. Pelcak, *AVX Czech Republic s.r.o.*
P06	**Electrically conductive adhesives for inner connections in PCB** **R. Kisiel**, *Warsaw University of Technology, Poland,* J. Borecki, *Tele and Radio Research Institute, Poland*
P07	**The activation of field electron emission from printable cold cathodes** **Z. Znamirowski**, A. Dziedzic, Z. Kowalski, J. Wilk, P. Jedrzejewski, *Wroclaw University of Technology, Poland*
P08	**Photoeffect in doped cadmium sulfide powder and the preparation of polymer thick layers** **J. Franc**, *Tesla Blatná, Co., Czech Republic*
P09	**Amorphization by ion beam – a new way for development of silicon nanostructures lumeniscent at room temperature** **D.I. Tetelbaum**, A.A. Ezhevskii, A.N. Mikhaylov, M.YU. Lebedev, YU.A. Mendeleva, R.G. Ershov, S.V. Morozov, *Physico-Technical Research Institute of Nizhnii Novgorod State University, Russia*
P10	**Electrically conductive adhesives versus lead-free solders** **A.Duraj**, P. Mach, R.Vavra, *Czech Technical University in Prague, Czech Republic*
P11	**Triangle voltage reference source applied on special sensor measurement** **L. Fujcik**, R. Prokop, M. Skocdopole, R. Vrba, *Brno University of Technology, Czech Republic*
P12	**Study of acetylcholinesterase (ACHE) kinetics in biosensor** **S. Khatib**, Brno University of Technology, Czech Republic
P13	**Flicker noise spectroscopy as a diagnostic tool for defect-impurity engineering in implanted silicon** **M.I. Makoviychuk**, E.O. Parshin, S.A. Krivelevich, *Russian Academy of Sciences, Russia*, A.L. Chapkevich, *Moscow Committee of Science and Technologies, Russia*
P14	**Losses of planar glass optical wavequides: correlations with technological approach** **K. Busek**, J. Schrofel, *Czech Technical University*, P. Tresnakova, L. Salavcova, J. Spirkova, *Institute of Chemical Technology Prague, Czech Republic*
P15	**UV laser microvias formation in build-up glass fiber PREPREG** **J. Borecki**, H. Hackiewicz, G. Koziol, W. Falinski, *Tele and Radio Research Institute, Poland*
P16	**Raman spectra of erbium doped gallium nitride layers fabricated by magnetron sputtering** **V. Prajzler**, J. Schröfel, *Prague Czech Technical University*, I. Hüttel, J. Spirkova, V. Machovic, J. Hamacek, *Prague Institute of Chemical Technology*, V. Perina, *Nuclear Physics Institute, Czech Academy of Science, Czech Republic*
P17	**Erbium doped waveguide amplifiers: modelling associated to fabrication process in dielectric materials** **P. Capek**, J. Schröfel, V. Drahos, *Czech Technical University*, L. Salavcova, M. Mika, *Institute of Chemical Technology Prague, Czech Republic*
P18	**Wetting characteristics study of soldering process in Nitrogen and Nitrogen/Hydrogen atmosphere** **J. Stary**, J. Kazelle, *Brno University of Technology, Czech Republic*
P19	**Modeling and verification of control paths using PETRI nets** **E. Idzikowska**, *Poznan University of Technology, Poland*
P20	**A numerical analysis of the piezoresistive properties of thick-film resistors in pressure-sensor applications** **M. Santo Zarnik**, D. Belavic, *HIPOT-R&D and Jozef Stefan Institute, Slovenia*, A. Wymyslowski, K.P. Friedel, *Wroclaw University of Technology, Poland*
P21	**Development of 1.5 µm single mode channel annealed proton exchanged optical waveguides in lithium niobate using non-toxic ADIPIC acid** **J. Cakl**, P. Capek, J. Schrofel, *Czech Technical University, Czech Republic*, L. Salavcova, J. Spirkova, *Institute of Chemical Technology Prague, Czech Republic*
P22	**Power losses phenomena in CMOS inverter** **A. Golda**, P. Bratek, A. Kos, *AGH University of Science and Technology, Poland*
P23	**Copper (I) – containing optical waveguides fabricated in novel silicate glasses** **P. Tresnakova**, J. Spirkova, M. Mika, *Institute of Chemical Technology Prague, Czech Republic*

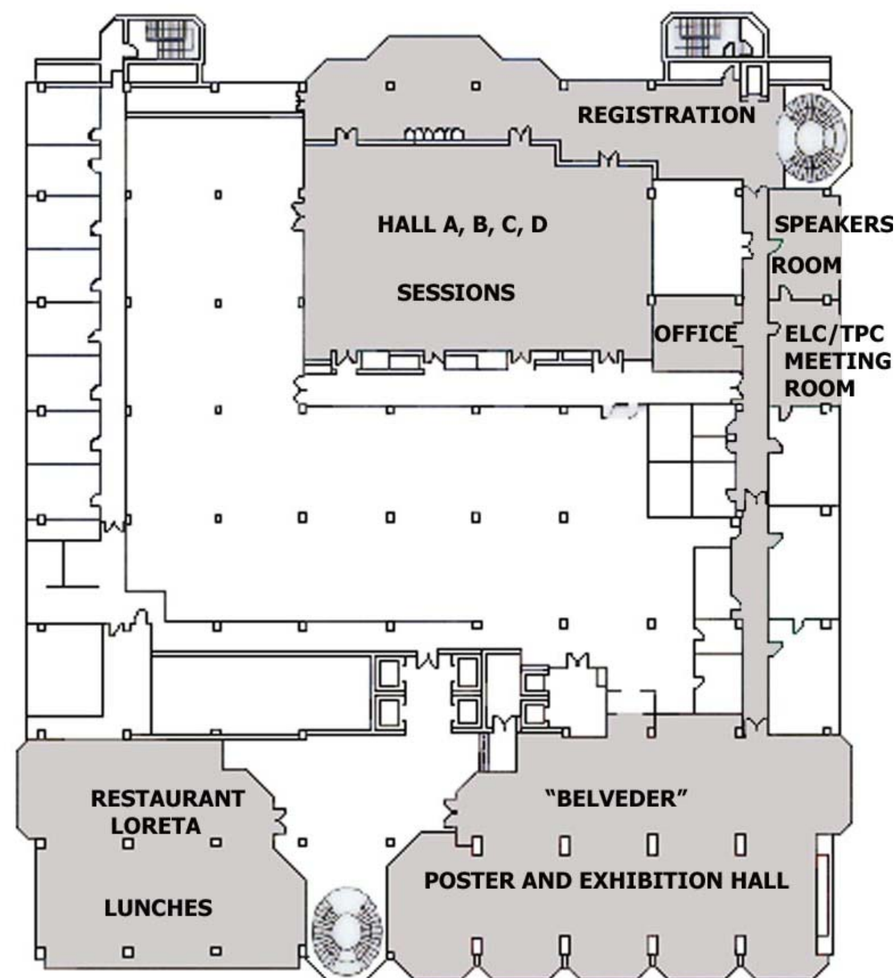
P24	**Molecular sputtering of LIF monocrystals under polyatomic SF_N^+(N=1-5) ions bombardment** **M.Kh. Akhmadjanova**, Sh.S. Radzhabov, B.G. Atabaev, M.K. Kurbanov , *Arifov Institute of Electronics Uzbek Academy of Sciences, Uzbekistan*
P25	**Noise analysis in electrical circuits** **A. Khateb**, V. Musil, *Brno University of Technology, Czech Republic*
P26	**Radiation influence on durability of thin – film SiO_2** **L. S. Podvalniy**, *Institute of Microelectronics and Informatics of Russian Academy of Sciences, Russia*
P27	**LTCC integrated inductors with Ni-Cu-Zn-ferrites** **E. Mueller**, F. Bechtold, *VIA electronic GmbH,* J. Toepfer , J. Muerbe, *Fachhochschule Jena*, S. Barth, *Hermsdorfer Institut für Technische Keramik e.V. HITK, Germany*
P28	**Conductive poly[(ethylenedioxy)thiophene] films** **M. Biler**, H. Vrbova, *AVX Czech Republic s.r.o.,* S. Nespurek, *Institute of Macromolecular Chemistry, Academy of Sciences of Czech Republic*
P29	**Magnetron sputtered refractory metal silicides as materials for construction of thermal converters** **G. Beensh-Marchwicka**, E. Prociow, S. Osadnik, K. Nitsch, *Wroclaw University of Technology, Poland*
P30	**Thin-film silicon and silicon-germanium alloys application for manufacturing of thermal transducer with seebeck effect** **E. Prociow**, G. Beensh-Marchwicka, T. Berlicki, S. Osadnik, *Wroclaw University of Technology, Poland*
P31	**Analysis of silver diffusion into thick film resistor layers** **V. Sedlakova**, J. Sikula, F Melkes, *Brno University of Technology*, *Czech Republic,* D. Rocak, M. Hrovat and M. Santo-Zarnik, *Jozef Stefan Institute, Slovenia*, D. Belavic, *HIPOT R&D, Slovenia*
P32	**Signal to noise ratio of piezoelectric sensors** **P. Sedlak**, J. Majzner, S. Hefner, *Brno University of Technology, Czech Republic*
P33	**Atomic Force Acoustical Microscopy for industrial use** M. Meyer, J. Koglin, **T. Fries**, *Fries Research & Technology GmbH, Germany*
P34	**Optical technologies in optometry** **D. Barbu,** *Transilvania University of Brasov, Romania*
P35	**Optometry as an electro-bio-medical application** **D. Barbu, I. Barbu,** *Transilvania University of Brasov, Romania*
P36	**FR4 – ceramic “ Z ” axis solder joint reliability** **J. Šandera,** I. Szendiuch, *Brno University of Technology, Czech Republic*

Symposium Venue

HOTEL DIPLOMAT ****
Evropska 15
CZ - 160 41 PRAGUE
Tel.: +420 296 559 111
Fax: +420 296 559 215
Email: hotel@diplomatpraha.cz

Symposium Secretariat

IMAPS CZ&SK
c/o Czech Noise Research Laboratory
Technicka 8
CZ - 616 00 BRNO
Tel./Fax: +420 542 243 398
Email: imaps@imaps.cz



Registration

To attend the Symposium please complete electronic registration form available on the symposium homepage www.imaps.cz/emps. For any problem with electronic registration please contact Symposium Secretariat.
Please complete one form for each person participating on the Symposium.

Registration Fee

	Before April 15, 2004	After April 15, 2004
Students*	**200**	**220**
Speakers, IMAPS members	**390**	**440**
Non-IMAPS members	**470**	**520**
Table Top	**600**	**600****
Table-Top additional person	**160**	**160**
Accompanying person	**90**	**90**

All prices are in EUR, without value added tax (VAT). VAT is 19% for participants from Czech Republic only, for the others the prices are VAT free.

*Students and PhD Students - Certificate from the University required. Send the Certificate together with payment confirmation by fax to No: +420 5 4114 3398

**Table -Top Conference Fee is required to be paid before May 20, 2004.

Conference Fee includes:

- Conference bag
- Final Programme
- Conference Proceedings and CD
- Coffees breaks and Lunches
- Welcome Reception on Wednesday, June 16, 2004
- Symposium dinner on Thursday, June 17, 2004

Table Top Conference Fee includes:

- Table 160x80 cm
- Poster board 180x100 cm
- 2 chairs
- Power supply up to 2 kW (if requested)
- Catering for one person (Coffee breaks, lunches, Welcome Reception and Symposium Diner)
- Conference proceedings

Accompanying Person Conference Fee includes:

- Welcome Reception on Wednesday, June 16, 2004
- Symposium dinner on Thursday, June 17, 2004

Payment

Symposium registration fees should be paid by:

1. Bank transfer:

For the bank transfer payment fill the enclosed FORM B.
If you are remitting fees by bank transfer, ensure that the full amount in Euro funds, is remitted *free of charge* to:
Bank name: Ceskoslovenska obchodni banka - CSOB
Bank address: Sumavska 33, Brno, Czech Republic
Account name: IMAPS – International Microelectronics and Packaging Society
Account number: 178022143/0300
SWIFT: CEKO CZ PP BRN
IBAN: CZ 22 0300 0000 0001 7802 2143
Send a copy of the bank transfer by fax or by post to Symposium Secretariat.

2. Credit card:

For the credit card payment fill the enclosed FORM A, and return the signed form by fax to: +420 541 143 398. We will confirm the acceptance of the payment form by E-mail or by fax.
Please note, that the rates for credit card payment are obligatory given in Czech Crowns. VISA and Eurocard/Mastercard embossed cards are accepted.

3. Cash or credit card at the Symposium desk

If you intend to pay registration fee at the Symposium desk, please inform Symposium Secretariat by separate E-mail. Electronic pre-registration recommended.

Confirmation

Upon receipt of the full registration fee, each participant will receive a confirmation of registration and payment. Please present this confirmation at the registration desk as proof of your advance registration.

Cancellations

For cancellation of registration your written request must be received by May 14, 2004, at the EMPS 2004 Conference Secretariat, c/o CNRL, Technicka 8, 616 00 Brno, Czech Republic, to receive a refund, less 50 EUR handling charge. No refund can be made for cancellations after May 14, 2004. In case of cancellation after May 14, 2004, the copy of Conference Proceedings will be sent to the participant by post.

Table – Top Exhibition

The exhibition area in Hall Belvedere will be available to the exhibitors for setting their stands on Wednesday, June 16, from 11:00.
The Exhibition should be available for visitors from Wednesday, 16th June, 15:00 to Friday, 18th June, 14:30.

A stand on the exhibition consists of:

- Table 180x90 cm
- Poster board 180x100 cm
- 2 chairs

Power supply up to 2 kW (if requested)

Paper presentation

Presentation Methods:	Data Projector – Beamer (preferred), recommended resolution 1024x768 pixels Overhead Projector (exceptionally)
Presentation Software:	Microsoft Power Point 2000
Technical Support:	PC – Notebook, P4, with CD&DVD ROM and wireless mouse, laser pointer
Timing:	15 min presentation + 5 min questions (for contributed papers) 25 min presentation + 5 min questions (for invited papers)

Send the ppt file with your presentation as an attachment by e-mail to address imaps@imaps.cz, please. If your ppt file is larger than 2MB, please, send compressed zip-file.

The deadline for submitting a Power Point presentation is June 1, 2004.

No last time changes in the presentation are allowed. Please, bring an extra copy of your presentation file on CD ROM (from safety reason).

Speakers are requested to take part in the speakers/session-chair meeting, to receive the latest instructions, information and further advises from their session chair. The meeting stars 30 minutes ahead of scheduled session.

Note: Plug-in of your own PC is not allowed to avoid incompatibility issues and to save time between presentations

Accommodation

HOTEL	Address	single room	double room
DIPLOMAT****	Evropska 15, P 6	130 €	130 €
ADALBERT***	Markétská 1, P 6	72 €	95 €
KRYSTAL***	J. Martího 407/2, P 6	39 €	56 €
CENTRÁL***	Rybná 8, P 1	85 €	108 €
RESIDENCE TRINIDAD****	U železné lávky, P 1	104 €	124 €

All prices are in EUR, value added tax (VAT) and breakfast included

More information you can find on the conference homepage.

Social Events

There are two social events scheduled for Symposium participants, exhibitors and accompanying persons:

- ***Welcome Reception***

Venue: Hotel Diplomat, Poster and Exhibition Hall "BELVEDER"
Date: Wednesday, June 16, 2004, 19:00 – 22:00

- ***Symposium Dinner***

Venue: "*KAJSERSTEJN PALACE*", Representative facility of the Economic Camber of Czech Republic, Malostranske namesti 23/37, Prague 1
Date: Thursday, June 17, 2004, 19:30 – 23:30
Formal dress requested.

KAISERSTEJN PALACE

Kaiserstejn Palace - the jewel of the lower part of Malostranske Square. It has been there even since before St. Nicholas' Cathedral was erected and is a pride of Prague's baroque, protected as a cultural heritage by UNESCO. The oldest references to the palace date back to the year 1400.

Kaisersein Palace inherited its name from Frantisek Helfrid, the Lord of Kaiserstejn (1699), who was the first to carry out extensive building reconstructions.

The palace has served as home to many notable celebrities, e.g. Melantrich – a book printer (1541), Radecky – commander of the Austrian army (1729), Petzold – a hotelier (1866), and Destinova – an opera singer (1904). It also has offered shelter to the Czech Savings Bank (1844), the Economic Chamber of the Czech Republic (1977), Price Waterhouse (1990), and the World Trade Center Prague (1994).

Since the end of 19th century, the edifice has been owned by descendents of the honorable Sir Viktor Marek. The legal relationships were definitely settled after a restitution process (1997).

The main part of Kaisersein Palace serves as representative facility of the Economic Camber of Czech Republic