EMPC-2011 Schedule – at a Glance

Sunday	Timing	Monday	Tuesday	Wednesday	Thursday	Friday
11th September		12th September	13th September	14th September	15th September	16th Sept
		Short Courses	Conference	Conference	Conference	
	09.00-10.40	SC1 SC3 SC5 SC6	Opening + Keynotes Poster Set-up	WA1: Joint Behaviour WA2: Physico-Chemical WA3: Rel of Micro struct Poster Set-up	ThA1: Eco Energy Tech & Rel ThA2: Embed Pack Tech	**iNEMI Workshop 'MEMS: Needs & Opportunities** http://www.inemi.org/cms/calendar/MEMS_WS_Sept11.html.
Organising Comm	10.40-11.00	Tea / Coffee	Tea / Coffee	Tea / Coffee	Tea / Coffee	
	11.00-12.40	SC1 SC3 SC5 SC6	TuA1 Medical TuA2 Substrate Posters P1 – P6	WA4: Electrical & Structural Modelling WA5: Substrate Interconnects WA6: Rel of Interconnects Posters P13 – P17	ThA3: Special Apps Tech ThA4: Advance Pack	
IMAPS-Europe, ELC	12.40-14.00	Lunch	Lunch	Lunch	Closing + Keynote	
	14.00-15.40	SC2 SC4 X SC6	TUP1 Advanced. Packaging TuP2 Manufact Tech Posters P7 – P12	WP1: Nano Technolgy WP2: Bonding Technology WP3: Rel Test & Prognostics Posters P18 – P22	**iNEMI Workshop 'MEMS: Needs & Opportunities http://www.inemi.org/cms/calendar/MEMS_WS_Sept11.html.**	
	15.40-16.00	Tea / Coffee	Tea / Coffee	Tea / Coffee		
	16.00-17.40	SC2 SC4 X SC6	IMAPS-Europe Electronics Business Council (EEBC) Posters display	WP4: PVs & LED Packaging WP5: MEMs Packaging WP6: CAD Open Forum Posters display		
		Welcome Reception		**Gala Dinner**		

EMPC-2011 Technical Programme Schedule

	Monday, 12th September 2011			
Timing	**Short Courses**			
09.00-10.40	SC1 - Introduction to LTCC Technology Prof. Marc Desmulliez, Head of Microsystems Engineering Centre, Heriot-Watt	SC3 - Progressive Advances in High Density Substrates & Packaging – to Deliver More than Moore Dr Bernd Appelt. Director, ASE-US.	SC5 - High Brightness Light Emitting Diodes - Reliability Consideration Greg Caswell, Senior. Technical Staff, DfR Solutions, USA	SC6: Continued - Wire Bonding in Microelectronics Lee Levine. Principal Consultant, Process Solutions Consulting USA
10.40-11.00	**Tea / Coffee**			
11.00-12.40	SC1 Continued- Introduction to LTCC Technology, Prof. Marc Desmulliez.	SC3 Continued - Progressive Advances in High Density Substrates & Packaging – to Deliver More than Moore Dr Bernd Appelt	SC5 Continued - High Brightness Light Emitting Diodes - Reliability Consideration Greg Caswell	SC6: Continued - Wire Bonding in Microelectronics Lee Levine
12.40-14.00	**Lunch**			
14.00-15.40	SC2 - Beyond Solder - Helping You Make Reliable Connections, Dr Chris Hunt, National Physical Laboratory	SC4 – Nano-Packaging - An Introduction to Nanotechnologies in Microelectronics Packaging Prof. James Morris, Portland State University, USA	IMAPS-Europe Webmaster Training	SC6: Continued - Advanced Wire Bonding in Microelectronics Lee Levine.
15.40-16.00	Tea / Coffee			
16.00-17.40	SC2 Continued - Beyond Solder - Helping You Make Reliable Connections, Dr Chris Hunt	SC4 Continued – Nano-Packaging – An Introduction to Nanotechnologies in Microelectronics Packaging Prof. James Morris	IMAPS-Europe Webmaster Training	SC6: Continued- Advanced Wire Bonding in Microelectronics Lee Levine.
	Welcome Reception			

Timing	Tuesday, 13th September		
09.00-10.40	Opening (Addresses by General Chair, IMAPS-Europe President, IMAPS-NA President)		Tuesday Posters - Set-up
	Chair: Nihal Sinnadurai, CEO, ATTAC		
	Keynote - **A Centre of Excellence to improve the Quality of Life and Human Health”,** Prof. Radimir Vrba, CEITEC, Central European Institute of Technology, Brno, Czech Republic Keynote - **Future challenges and trends - Highlights of iNEMI 2011 Roadmap** Bill Bader, CEO of iNEMI		
10.40-11.00	Tea / Coffee		
11.00-12.40	TuA1: Packaging for Medical Applications	TuA2: Substrate Technologies	TuA: Poster Presentations
	Chair: Giovanni Delrosso, COGO Optronics, Germany	Chair: Alan Fairbairn, Indium Corp., UK	Chair: Malgorzata Jakubowska, ITME, Warsaw, Poland
	‘Fabrication of a Novel Biochip Multi-Electrode Array Using Polyester Insulated Electrodes with Micro-Well Features for Cardiomyocyte Analysis’ Olivia Flaherty, Loughborough Univ., UK ‘Innovative Manufacturing and 3-Dimensional Packaging Methods of Ultrasonic Transducers for Medical Applications’ Jack Hoyd-Gigg Ng, Heriot Watt Univ., UK ‘Evaluation of Co-fired Platinum /Alumina High Density Feed-through for Implantable Neurostimulator Applications’ William Kinzy Jones, Florida International Univ., USA	‘‘Co-Firing of LTCC Modules with Ag-electrodes and embedded Ferrite layers’ Hamid Naghibzadeh, Federal Materials Research Inst , Germany ‘Embedded RFID TAG inside PCB board to improve supply chain management’ Julien Viret Loughborough Univ., UK ‘Advanced 3-D Package Manufacturing in Low Temperature Co-fired Ceramic’ Yves Lacrotte, Heriot Watt Univ., UK	Joining dies to RFID transponders via pre-applicable adhesives Jana Kolbe, Fraunhofer IFAM, Germany 3D Surface Modelling of Strain in Packaged Chips Patrick McNally, Dublin City Univ, Ireland Design, modelling and fabrication of novel MEMS structure utilizing carbon nanotubes Jiri Haze, Brno Univ of Tech, Czech Republic Inverse Modelling of the Button Shear Test Ilko Schmadlak, Freescale Semiconductor, USA Changes in Water Absorption and Modulus of Elasticity of Flexible PCB Materials in High RH Testing Sanna Maria Lahokallio, Tampere Univ, Finland LTCC-based capacitive pressure sensor in harsh environment Darko Belavic, HIPOT, Slovenia
12.40-14.00	Lunch		
14.00-15.40	TP1: Advanced Packaging Applications	TP2: Manufacturing Technologies	TuP: Poster Presentations
	Chair: Gilles Poupon, LETI Minatec, France	Chair: Vern Solberg, Tessera, USA	Chair: Malgorzata Jakubowska, ITME, Warsaw, Poland
	‘A Comprehensive Packaging Solution For Next Generation IC Substrates’ Stephen Kenny Atotech, Germany ‘Modular Microelectronics by System-in-Packages with Embedded Components’ Andreas Ostmann, Fraunhofer IZM, Germany ‘Packaging Challenges of Smaller Power MOSFETs & Schottky Diodes for the Automotive Sector’ Kevin J Keller, OnSemi, USA ‘Application of an Angular Exposure System to Fabricate True-Chip-Size Packages for SAW Devices’ Barbara Monika L'huillier SUSS Micro Tec, Germany	‘Silver-Palladium Pastes for Aluminium Nitride Applications’ Kathrin Reinhardt Fraunhofer IKTS, Germany ‘Miniaturization: Solder Paste Attributes for Maximizing the Print & Reflow Manufacturing Process Window’ Karthik Vijay Indium Corp., UK ‘Inkjet printing of electrical connections in electronics packaging’ Werner Zapka Xaar, Sweden ‘Copper Wire Bonding Experiences From a Manufacturing Perspective’ Bernd Appelt, ASE Group, USA	High speed bending of 2nd level interconnects on printed circuit boards for automotive electronics Marcel Kouters, TNO, The Netherlands Reliable hermetic MEMS chip-scale packaging Guido Spinola Durante, CSEM, Switzerland High res microstructural investigation of lead-free Al-Ge & Al-Ge-Cu alloys for high temp silicon die attach Sandy Klengel, Fraunhofer IWMH, Germany Reliability of ACA joined thinned chips on rigid substrates under humid conditions Laura Katriina Frisk, Tampere Univ, Finland BGA Lifetime Prediction in JEDEC Drop Tests Accounting for Copper Trace Routing Effects Frank Kraemer, Saarland Univ, Germany Electronic Packaging for Bio-Diagnostic Microfluidics Application Mark Shaw, ST Microelectronics, Italy
15.40-16.00	Tea / Coffee		
16.00-18.30	**IMAPS-Europe Electronics Business Council Session**		
	Chair: Paul Collander, Poltronic, Finland. Co-Chair: Ernst Eggelaar, Microtronic, Germany		
	‘Manufacturing business decisions: design and manufacture of new generation circuits’ Michael A Lane, President, Struthers Dunn, South Carolina, USA ‘The Challenges of Starting a High Tech Company’ Dr J Malcolm Wilkinson, Managing Director, Kirkstall Ltd, Sheffield, UK ‘A Smarter Supply Chain – End to End Quality Management’ Dr Kitty Pearsall, DE, ISC Procurement Engineering Organisation, IBM, USA ‘Cross Supply-Chain Collaboration to Address the Technical Challenges of Today’s Electronics Manufacturing Industry’ Brian Smith & Marshall Andrews, High Density Packaging User Group 'Is the Electronics Component Market – really a Global Market?’ Aubrey Dunford, Europartners		Tuesday Posters On Display

Timing	Wednesday, 14th September			
09.00-10.40	WA1: Joint Behaviour	WA2: Physico-Chemical Investigations	WA3: Reliability of Microstructures	
	Chair: David Whalley, Loughborough Univ., UKr	Chair: Andreas Ostmann, Fraunhofer IZM, Germany	Chair: Jens Müller, Ilmenau Technical University, Germany	
	'Computational Parametric Study on the Strain Hardening Effect of Lead-free Solder Joints in Board Level Mechanical Drop Tests' **Jiang Tong** Univ. of Science & Tech, Hong Kong 'Reliability Model for Assessment of Lifetime of Lead-Free Solder Joints' **Ivan Szendiuch** Brno Univ. of Technology, Czech Republic 'Multi-Joint shear modelling', Elisha Kamara Univ. Greenwich, London, UK 'Effect of heating method on microstructure of Sn-3.0Ag-0.5Cu solder on Cu substrate' Hiroshi Nishikawa Osaka Univ., Japan	'Electromigration Study of Nano Al Doped Lead- Free Sn-58Bi on Cu and Au/Ni/Cu Ball Grid Array Packages' Shafiq Ismathullakhan, City Univ., Hong Kong 'Characterisation of ion transport during electroplating of high aspect ratio microvia by megasonic agitation' Suzanne Costello Heriot Watt Univ., UK 'Electrical properties of an isotropically conductive adhesive filled with silver coated polymer spheres' Shiwani Jain Loughborough Univ., UK 'Investigation of lead free thick film resistors on some LTCC substrates – preliminary results' Marko Hrovat Josef Stefan Inst., Slovenia	'Characterization of intermetallic compounds in Cu-Al ball bonds Marcel Kouters, TNO, Netherlands 'Effects of additional Co atoms on microstructural evolution in Sn-Ag-Bi-In solder under current stressing' Katsuaki Suganuma Osaka Univ., Japan 'Influence of Ti- surface contamination on reliability of Al wire bonds' Golta Khatibi University of Vienna, Austria 'Polymer cored BGA ball reliability optimisation' David C Whalley Loughborough, Univ., UK	Wednesday Posters - Set-up
10.40-11.00	Tea / Coffee			
11.00-12.40	WA4: Electrical & Structural Modelling	WA5: Substrate Interconnections	WA6: Reliability of Interconnects	WA: Poster Presentations
	Chair: Heinz Osterwinter, Hochschule Esslingen, Germany	Chair: Delip (Doug) Bokil, Namark Process Design, USA	Chair: Chris Bailey, Univ., Greenwich, UK	Chair: Suzanne Costello, MISEC, Heriot Watt, University, UK Co-Chair Ernst Eggelaar, Microtronic, Germany
	'Power Loss due to Periodic Structures in High-Speed Packages and PCBs' Paul Huray Intel Corporation, USA 'Mechanical Stress Measurements with the microDAC Stress Chip for Material and Package Investigations' Florian Schindler-Saefkow Fraunhofer ENAS, Germany 'Advancements in Fracture and Failure Simulation for Electronic Package Applications' David Reid SIMULIA, Providence, USA	'New Improvements in Thermal Management: Thick Print Copper Thick Film as a Replacement for DBC' Sarah Elizabeth Groman Heraeus Materials Technology, USA 'Fine-line on LTCC-Substrates for 60 GHz Line Coupled Filters' Jens Müller TU Ilmenau, Germany 'Die-bonding by using thin Ag flakes' Soichi Sakamoto, Osaka Univ, Japan	'Acceleration factors of combined reliability tests of lead-free interconnections' Przemyslaw Matkowski Wroclaw Univ of Technology, Poland 'Thermo-Mechanical Fatigue Life Evaluation for SnPb and SnAg Solders' Noritake Hiyoshi Ishikawa National College of Tech, Jp 'Effects of microstructure on creep deformation of Sn-3.5Ag alloys' Jin Yu Kaist, South Korea	Advanced Thermal Materials for Heat Sinks in Microelectronics Mathias Ekpu, Univ Greenwich, UK 'Emerging Nanotechnology-based Thermal Interface Materials for Automotive Electronic Control Unit Application'. Kenny Otiaba, Univ Greenwich, UK 3D LTCC & Flexible Interconnections Based on Galvanized Layers Michal Nicák, Brno Univ, Czech Rep. Power Electronics- Solder- TIMs for Improved Thermal Management Karthik Vijay, Indium Corp. UK 'An investigation of the compressive creep behaviour of SAC305 solder joints' Zhaoting Xiong Huazhong Uni of Sci & Tech., China
12.40-14.00	Lunch			

Timing	Wednesday, 14th September			
12.40-14.00	Lunch			
14.00-15.40	WP1: Nano Technology	WP2: Bonding Technology	WP3: Reliability Testing & Prognostics	WP: Poster Presentations
	Chair: James Morris, Portland State University, USA, Co-Chair: Howard Imhof, Metalor, US	Chair: Voya Markovich, Endicott Interconnection Technologies, USA	Chair: Darko Belavic, HIPOT, Slovenia	Chair: Suzanne Costello, MISEC, Heriot Watt, University, UK Co-Chair Ernst Eggelaar, Microtronic, Germany
	'Low-Pressure Sintering of Ag Micro and Nano particles for a High Temp Stable Pick & Place Die Attach' Julian Kähler, TU Braunschweig, Germany 'Low-temp, photonic approach to sintering ink-jet printed conductive microstructures containing nano silver particles' Tomasz Falat, Wroclaw Univ of Technology, Pl 'Influence of different type protective layer on silver metallic nano-particles for Ink-Jet printing technique' Andrzej Moscicki Amepox Microelectronics, Poland 'Additive Photolithography Based Process for Metal Patterning Using Chemical Reduction on Surface Modified Polyimide' David Ewan Watson Heriot Watt Univ., UK	'Copper Makes A Lot Of Cents' Chris Flowers CSR, Cambridge, UK 'Current Industry Adoption of Fine-Pitch Cu Wire Bonding' Grace O'Malley iNEMI, Ireland 'Use of Harsh Wire Bonding to Evaluate Various Bond Pad Structures' Stevan G Hunter OnSemi, USA 'Flip-chip bonding of thin Si dies onto PET foils: possibilities and applications' Jeroen van den Brand TNO, Netherlands	'Effects of different combinations of environmental test on the reliability of UHF RFID tags' Kirsi Saarinen Tampere Univ, Finland 'A Dynamic Bending Method in CSP Package Validation for Portable Electronics' Jeffrey ChangBing Lee, Integrated Service Technology Inc., Taiwan 'Data analysis techniques for real-time prognostic and health management of semiconductor devices' Thamotharampillai Sutharssan Univ., Greenwich, London, UK 'Effect of thermal shock conditions on reliability of chip ceramic capacitors' Alexander Teverovsky NASA/GSFC, Maryland, USA	Planar Thick Film Inductor Characterization Jiri Pulec , Brno Univ, Czech Rep. Laser Patterning of Thin Films for Luminescence Applications Thomas Höche, Fraunhofer IWMH Effect of substrate surface condition on silver patterns formed by inkjet printing Zhaoting Xiong, Loughborough Univ, UK Embossed ceramic reflectors with nano-dispersive coatings for compact optoelectronic systems Wolfgang Buss, Fraunhofer IOF Dispensing process with additional ultrasonic energy Martin Bursik, Brno Univ, Czech Rep.
15.40-16.00	Tea / Coffee			
16.00-17.15	WP4: Photo-voltaics & LED Packaging	WP5: MEMs Packaging	WP6: What's New in CAD?	
	Chair: Peter Barnwell, CIL, UK	Chair: Brigitte Braux, Astrium EADS, France	Chair: Andrew Holland, CSR, UK	
	'Ultra Fine Line Print Process Development for Silicon Solar Cells' Tom Falcon DEK, UK Mechanical Problems of Manufacturing Processes for Photovoltaic Modules' Steffen Wiese Saarland Univ., Germany 'Development of an integrated intelligent LED System-in-Package' Alexander Gielen TNO, Netherlands	'Multichip Mems Sensor Packaging' Mark Shaw ST Microelectronics, Italy 'Miniaturised Integrated Hybrid Microsystem Assemblies for Harsh Environment Applications' Stephen Riches, GE Aviation Systems, UK 'Requirements for microfluidic sensors based on ceramic technologies' Samuel Hildebrandt TU Dresden, Germany	EDA provider community meet IC, MEMS and Photonics Package Designers to discuss emerging requirements and capabilities - Followed by panel Q&A	Wednesday Posters On Display
	Gala Dinner			

Timing	Thursday, 15th September	
09.00-10.40	ThA1: Eco Energy Technology & Reliability	ThA2: Embedded Packaging Technology
	Chair: Giovanni Delrosso, COGO Optronics, Germany	Chair: Paul Collander, Poltronic, Finland
	‘The multilayer technology as integration system for ceramic micro fuel cells’ Adrian Goldberg Fraunhofer IKTS, Germany ‘The i-Module Approach: Towards Improved Performance and Reliability of Photovoltaic Modules’ Jonathan Govaerts IMEC, Belgium ‘Improved Testing of Soldered Busbar Interconnects on Silicon Solar Cells’ Robert Klengel Fraunhofer IWMH, Germany ‘Solidification Processes of SnCu and SnAgCu solder alloys and interface reactions to charactise solar cell interconnections processes’ Sebastian Schindler Fraunhofer CSP, Germany Organisation	‘3D Stacking Approaches for Mould Embedded Packages’ Tanja Braun Fraunhofer IZM, Germany ‘Embedded Laminate Based 3D System-in-Package Solutions’ Tuomas Filemon Waris Imbera Electronics, Finland ‘Evolutions in chip embedding technologies for the manufacturing of advanced system-in-package modules’ Dionysios Manessis Fraunhofer IZM, Germany ‘Technology development for a low-cost, roll-to-roll chip embedding on PET foils’ Maarten Cauwe, IMEC, Belgium
10.40-11.00	Tea / Coffee	
11.00-12.40	ThA3: Special Applications Technologies	ThA4: Advanced Packaging
	Chair: TBA	Chair: Marc Desmulliez, Heriot Watt Univ.
	‘Novel Approach for Integrating Electronics into Textiles at Room Temperature using a Force-Fit Interconnection’ Erik Simon, Fraunhofer IZM, Germany Microsoldering with short-pulsed IR Laser for Textile Fabrics’ Hartmann Hieber ICR, Germany High Operating Temperature Multi-Chip Modules Bob Hunt Strategic Technology, CMAC MicroTechnology, Great Yarmouth, UK	‘Fine Pitch Flip-Chip Chip-Scale Packaging’ Bernd Appelt ASE Group, USA ‘Copper Wire Bond investigation on Multiple Surface Finishes - Enabling Wire Bond Packages without Gold’ Nigel White Atotech, Germany ‘Low Temperature Wafer Bonding Technologies’ Marco Haubold Fraunhofer ENAS, Germany ‘Novel Approaches to create low cost Through Silicon Vias’ Jan Eite Bullema TNO, Netherlands
12.40-13.30	Closing Session	
	Chair: Andrew Holland, Cambridge Silicon Radio	
	Advance information on ESTC-2012 and EMPC-2013 (Addresses by General Chair, Technical Chair, Incoming IMAPS-Europe President) Keynote -= h h Ꝏh) @ , Bernd Apelt, Advanced Semiconductor Engineering Group, Taiwan	

Thursday 15th September PM – Friday 16th September AM

iNEMI
Workshop
‘MEMS: Needs & Opportunities
http://www.inemi.org/cms/calendar/MEMS_WS_Sept11.html.