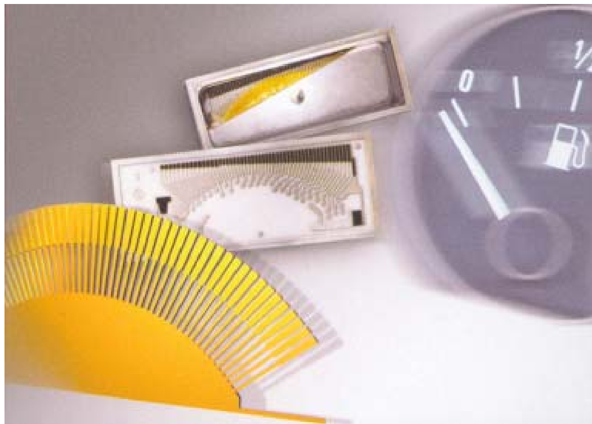
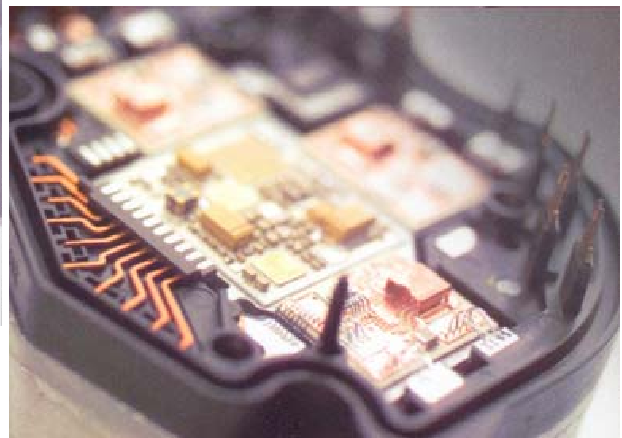
ADVANCE PROGRAM AND REGISTRATION ON-LINE AT WWW.IMAPS.ORG/AUTOMOTIVE

IMAPS Advanced Technology Workshop on

Automotive Microelectronics and Packaging

Doubletree Hotel
Dearborn, Michigan - USA
April 27 - 28, 2010





All photos courtesy of Heraeus

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Corporate Sponsor:

Organized by: The International Microelectronics And Packaging Society (IMAPS)
Bringing Together the Entire Microelectronics Supply Chain!

Hotel Cut-off: March 26, 2010

Early Registration Deadline: April 9, 2010

Workshop Overview

Automotive electronic content continues to rise in vehicles every year. As content rises, microelectronic packaging will continue to play a larger role, as the automobile industry drives for electronics that are smaller in size, lower in cost, higher in content, and more reliable in harsh environments. This Advanced Technology Workshop (ATW) is focused, solely, on advanced developments in automotive electronic packaging.

Tuesday, April 27th

Registration: 7:00 am - 4:45 pm
Continental Breakfast: 7:00 am - 8:00 am

Opening Remarks: 8:00 am - 8:15 am
Workshop Chairs

Keynote Presentation: 8:15 am - 9:00 am

Title: Power Electronics Application and Requirements for Hybrid Vehicle Traction Inverter - An Overview
Speaker: Shahram Zarei, Ford Motor Company

Mr. Zarei joined the automotive industry and specifically GM Research Lab in 1985 after graduating with his MSEE from Purdue. He joined Ford Research lab in 1993, and transferred to SMT which is responsible for Ford global hybrid programs in 2004. Since then, my team has been responsible for D&R of E-Drive and Traction Inverter systems for our hybrid programs.

Keynote Presentation: 9:00 am - 9:45 am

Title: Power Electronics within the FreedomCAR Partnership
Speaker: Laura Marlino, Deputy Director, Power Electronics and Electric Power Systems Research Center, Oak Ridge National Laboratory

Session 1A: Thermal Management
9:45 am - Noon

Thermal Management of Power Semiconductor Packages - Matching Cooling Technologies with Packaging Technologies
Kevin Bennion, Gilbert Moreno, Jason Lustbader, National Renewable Energy Laboratory

Vaporizable Dielectric Fluid Cooling for IGBT Power Semiconductors
Dave Saums, DS&A LLC

Break: 10:45 am - 11:00 am

Micro-Channel Variation within Liquid Cold Plate Design and Impact on Thermal Performance
Matt Reeves, Sy-Jenq Loong, Peter Beucher, Wolverine Tube Inc.

Thermal Interface Material for Automotive Applications: Basics and Selected Examples
Sanjay Misra, John Timmerman, Bergquist Company

Lunch: Noon - 1:00 pm

Keynote Presentation: 1:15 pm - 2:00 pm

Title: AlSiC Pin Fin Power Module Coolers and IGBT Baseplates for Hybrid Electric Vehicles (HEV)
Speaker: Bo Sullivan, Senior Account Manager, CPS Technologies

Session 1B: Thermal Management
2:00 pm - 4:45 pm

Effect of Compression Behavior of Thermal Interface Materials on Component Operating Temperature
Chris Severance, Parker Chomerics

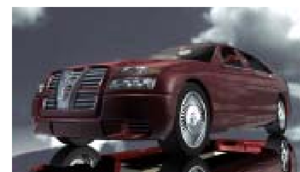
Development of Double-Side Cooled Power Modules Joined by Low-Temperature Sintering of Nanosilver Paste for Electric Vehicles
Guo-Quan Lu, Xiao Cao, Tao Wang, Zheyuan Tan, Khai Ngo, Susan Luo, Virginia Tech.

Anisotropic Conductive Adhesives (ACA) Technology
William Chappell, Purdue University

Break: 3:30 pm - 3:45 pm

Silver Sintering
Frank Murch, Heraeus Circuit Materials Division

SOI Based Voltage Regulator for High-Temperature Applications
Benjamin McCue, B. J. Blalock, S. K. Islam, L. M. Tolbert, University of Tennessee



Wednesday, April 28th

Registration: 7:00 am - 5:00 pm
Continental Breakfast: 7:00 am - 8:00 am

Keynote Presentation: 8:00 am - 8:45 am

Title: Concept to Component Fabrication Challenges with Innovative Materials
Speaker: Professor Pravansu S. Mohanty, University of Michigan

Session 2: Power Substrate Packaging / Packaging Materials
8:45 am - Noon

High Brightness LED Assembly using DPC Substrate and SuperMCPCB
Charles Lin, Nick Wang, Allen Hsu, Andy Lim, Jerry Tan, Bridge Semiconductor Corporation and Tong Hsing Electronic Industries Ltd.; Heinz Ru, Thompson Jiang, David Liao, Tong Hsing Electronic Industries Ltd.

Evaluation of an Electrically Insulating Glaze on Aluminum for Thermal Substrates in High Power LEDs
Michael Creamer, Mark Challingsworth, Samson Shahbazi, Heraeus Materials Technology LLC

Alumina Multilayer Substrate for Small Module Unit
Kouichi Hirayama, Hiroshi Matsumoto, Adam Schubring, Kyocera Corporation

Break: 10:15 am - 10:30 am

Development of a Fatigue Resistant Lead-Free Alloy For High Reliability Under Hood Applications
Mitch Holtzer, Anna Lifton, Paul Koep, Cookson Electronics Assembly Materials

Lead Free Thick Film Pastes for Fuel Level Sender Application
Christina Modes, Stefan Flick, Annette Kipka, W. C. Heraeus GmbH, TFD-TH

LCP Properties Ideal for Miniaturization Trend in Electronic Industry
Edson Ito, Ticona Engineering Polymers

Lunch: Noon - 1:00 pm

Keynote Presentation: 1:15 pm - 2:00 pm

Title: Electronic Packaging Challenges for Safe, Green and Connected Vehicles
Speaker: D.H.R. Sarma, Delphi Electronics and Safety

Dr. D.H. R. Sarma is a Principal Technical Fellow and Engineering Group Manager in Advanced Engineering and Business Development at Delphi Electronics and Safety, Kokomo, Indiana. Prior to joining Delphi, his work experience included a one and a half-year stint at CTS Microelectronics in West Lafayette, Indiana. He has over 30 years of experience in electronic materials technologies. He received his B.S. degree from the Indian Institute of Science, Bangalore, India and his M.S. and Ph.D. degree from Purdue University. Currently, he supervises the development of key technologies for future Delphi product portfolio.

Keynote Presentation: 2:00 pm - 2:45 pm

Title: Establishing a Microelectronics Packaging Facility in Western Michigan
Speaker: Matt McInnis, Gentex

Matt McInnis began working in the automotive microelectronics industry with Gentex Corporation in 2005, upon graduating from Michigan Technological University with a B.S. in Electrical Engineering. Matt currently works as a Process Engineer in the Microelectronics Assembly Department at Gentex, where his primary focus is on developing and refining the production processes for the assembly of automotive vision systems.

Session 3: Assembly, Material Processing
2:45 pm - 5:00 pm

Faster Computed Tomography for Advanced Failure Analysis
Sheri Martin, Andres Lechner, Jens Peter Steffan, YXLON FeinFocus

Surface Wettability Improvement for High Volume Automotive Manufacturing by Atmospheric Plasma Treatment
Gene Dunn, Panasonic Factory Solutions of America

Break: 3:45 pm - 4:00 pm

Dispensing Solutions for Advanced Automotive Electronics
Dan Ashley, Asymtek

Adapting Press-Fit Connection Technology for Automotive Modular Electronic Units
Joseph J. Lynch, Jeff Parrish, Interplex Industries

Closing Remarks: 5:00 pm

All photos courtesy of Heraeus

Registration Form

Register On-Line at www.imaps.org/automotive

Automotive Workshop: April 27 - 28, 2010

❑ Dr. ❑ Mr. ❑ Ms. Member ID# _______________

First Name_______________________________ M.I.____________ Last Name______________________________

Company/Affiliation____ Job Position___________________________

Address____

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Payment

AUTO10PROG

Workshop Fee: $_________________________

Additional Purchases: $_________________________

Total Payment Due: $_________________________

For Wire Transfer information call 202-548-4001

❑ Enclosed is a check payable in US funds to IMAPS

❑ Charge my fees to:

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Mail this form with payment to: IMAPS * 611 2nd Street, NE * Washington, DC 20002-4909. For credit card transactions, register on-line: www.imaps.org; or register by phone with your credit card by calling 202-548-4001; Fax: 202-548-6115. Additional information? E-mail: IMAPS@imaps.org, or visit our web site: http://www.imaps.org. Workshop Cancellations will be refunded (less a $50 processing fee) only if written notice is postmarked on or before **Friday, April 16, 2010**. No refunds will be issued after that date.

Registration Fees: Early Registration Ends 4/9/10

Workshop Fees

	(On or before **4/9**)	(After **4/9**)
❑ Member (IMAPS)	$550	$650
❑ Non-member*	$650	$750
❑ Speaker ❑ Chair ❑ Chapter Officer	$400	$500
❑ Student	$200	$300

**Includes one-year IMAPS individual membership/renewal. Does not apply to corporate or affiliate memberships. Workshop Fee includes: abstract book; meals listed and a CD of Presentations. CD of Presentations will be mailed 15 business days after the event.*

How did you hear about this event?

❑ Direct Mail ❑ Website ❑ E-Mail
❑ Advancing Microelectronics ❑ Colleague
❑ IMAPS Weekly Bulletin ❑ Personal Call
❑ Industry/Trade Magazine ❑ Other __________

Additional Purchases

❑ Guest/Family Member *(meals only)*	$160	$160
❑ CD of Presentations *(Member Rate)*	$200	$200
❑ CD of Presentations *(Non-Member Rate)*	$300	$300
❑ Add to Ship in the US	$7	$7
❑ Add to Ship Overseas	$25	$25

Hotel Reservation *(Hotel Cut-off is March 26, 2010)*

Reservation **must** be made directly with:

Doubletree Hotel
5801 Southfield Expressway
Dearborn, MI 48228
P: 313-336-3340

Single/Double: $128

Please reference IMAPS when making reservations.

IMAPS Registration
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