

Advanced Program and Registration on-line: [www.imaps.org/wirebonding](http://www.imaps.org/wirebonding)

# IMAPS and SEMI Advanced Technology Workshop on **Wire Bonding**

**July 14, 2008**

InterContinental San Francisco Hotel  
San Francisco, California - USA

**General Chair:**

**Joseph S. Bubel**, Hesse & Knipps, Inc.

P: 484-665-0219

[bubel@hesse-knipps.us](mailto:bubel@hesse-knipps.us)

**Workshop Organizing Committee**

Bob Chylak

Kulicke and Soffa Industries, Inc.

Mike McKeown

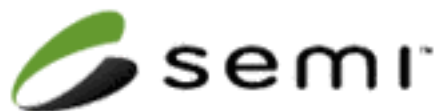
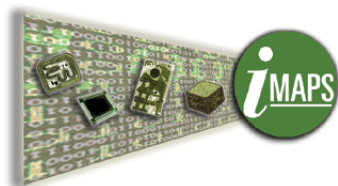
Orthodyne Electronics Corporation

Joe Lippincott

Oerlikon ESEC USA Inc.

Daniel Evans, Jr.

Palomar Technologies, Inc.



**Early Registration Ends: June 20, 2008**

**Hotel Cut-off: June 27, 2008**

## Wire Bonding Workshop Focus

The objective of the Wire Bonding Workshop is to provide a unique forum that brings together scientists, engineers, manufacturing, academia, and business people from around the world who work in the area of wire bond interconnections. This workshop enables discussion and presentation of the latest wire bonding technology.

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**Monday, July 14, 2008**

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Registration: 7:00 am - 5:00 pm

Continental Breakfast: 7:15 am - 8:00 am

### **SESSION 1: APPLICATIONS AND ULTRASONICS**

Chairs: Lee Levine, Process Solutions Consulting  
& Daniel Evans, Palomar Technologies, Inc.

**8:00 AM - 12:00 PM**

[Wire Bonding of a RF-SOE Package using a Gold Ball Bonder](#)  
Daniel D. Evans, Jr., Alberto Perez, Palomar Technologies, Inc.

[Overview of Fine Pitch Wire Bonding Development on Low k/ Cu Wafers for High Reliability Performance](#)

Chu-Chung (Stephen) Lee, TuAnh Tran, Freescale Semiconductor, Inc.

[High Resolution Failure Analysis Comparing Au Wire Thermosonic Bonding and Ultrasonic Bonding using an Al-Coated Au Wire for IC Interconnection](#)

Robert Klengel, L. Berthold, M. Petzold, E. Milke, T. Müller, Fraunhofer Institute for Mechanics of Materials

**Break: 9:30 am - 10:00 am**

[Frequency Interactions with Semiconductor Packaging using Thermosonic Wire Bond Interconnects](#)

Jon W. Brunner, Gary Schulze, Dominic DeAngelis, Bob Chylak, Kulicke and Soffa Industries, Inc.

[The Effects of 120KHz Ultrasonic Frequency on the Reliability of Fine Pitch Gold Wire Bonding](#)

Minh-Nhat Le, Jianbiao (John) Pan, Cuong Van (C.V.) Pham, California Polytechnic State University

[Process Integrated Quality Control for Wire Bonding](#)

Roberto Gilardoni, Hesse & Knipps GmbH

[The Characteristics of Copper Bonding Wire for Standard IC Package](#)

Marcus Goh, Senior Engineer, Tanaka Electronics Singapore Pte.Ltd.

### **SESSION 2: HEAVY WIRE WEDGE & RIBBON BONDING**

Chairs: Mike McKeown, Orthodyne Electronics Corporation  
& Jovy Michael G. Sena, Oerlikon ESEC USA Inc.

**8:00 AM - 11:00 AM**

[Argon Plasma Cleaning of Fluorine, Organic and Oxide Contamination to Improve Wire Bonding](#)

Scott D. Szymanski, March Plasma Systems

[Ribbon Bonding for High Frequency Applications](#)

Roberto Gilardoni, Hesse & Knipps GmbH

[PowerRibbon - An Alternative Power Interconnect for Hybrid DC-DC Converter Multi-Chip Packages](#)

Christoph Luechinger, Orthodyne Electronics Corporation

**Break: 9:30 am - 10:00 am**

[Wire Bond Comparison of Different Aluminum Alloys and Thicknesses](#)

Barry Njoes, Technical Materials Inc.; Mike McKeown, Orthodyne Electronics Corporation; Alex Marralaw, Jason Hibbert, Farmingdale State University

[Large Diameter Wedge & PowerRibbon™ Bumping Technology](#)

Mike McKeown, Orthodyne Electronics Corporation

**Lunch: 12:00 pm - 1:00 pm**

## SESSION 3: STACKED DIE, COPPER, RELIABILITY

Chairs: Jianbiao (John) Pan, California Polytechnic State University  
& Chu-Chung (Stephen) Lee, Freescale Semiconductor, Inc.  
**1:00 PM - 5:00 PM**

**Die-Breakage and Ultra-Low-Loop Wire Bond Mechanisms for Very Thin Overhang Stacked Die**  
Jovy Michael G. Sena, Marcelino Buenaflor, Ireneo Villavert, Oerlikon ESEC USA Inc.

**Addressing Challenges of Stacked Die Wire Bonding**  
Shinichi Nishiura, Shinkawa Ltd.

**Wire Bond Challenges of Stacked Dice Devices**  
Charles J. Vath, III, J. Premkumar, M. Sivakumar, M. Kumar, ASM Tech Singapore, Pte. Ltd.

**Break: 2:30 pm - 3:00 pm**

**Copper Wire Bonding for Mid to High I/O Count Packages**  
Bob Chylak, Kulicke and Soffa Industries Inc.

**Investigation on Copper Wire Bonding Reliability on TQFP Package**  
Hong Meng Ho, Sutiono Sylvia, Jamin Ling, Kulicke & Soffa (S.E.A.) Pte., Ltd.; Spencer Chew, Andrea Soriano, Alvin Seah, Cookson Semiconductor Packaging Materials

**Bondability and Reliability of X-Wire™ Insulated Wire for Advanced Packaging Applications**  
William Crockett, Y. K. Song, Microbonds Inc.; H. T. Lee, G. S. Yun, STATSChipPAC Ltd.

**Converting Au Stud Bumps to a Non-Embrittling Surface for Sn Based Solders**  
Terence Q. Collier, CV Inc.

**Closing Remarks: 5:05 pm**

# THANK YOU

## A SPECIAL *THANK YOU*

TO ALL OF THE MEMBERS OF THE ORGANIZING COMMITTEE,  
THE CHAIRS AND SPEAKERS.

## YOUR PARTICIPATION IS GREATLY APPRECIATED!

## Wire Bonding Speaker Information

Extended Abstract or Presentation Material due: **June 13, 2008.**

Send your extended abstract or presentation material via email to [jmorris@imaps.org](mailto:jmorris@imaps.org), in PDF format only (PDF can be in color).

Powerpoint/Presentation file used during session: **Speaker's responsibility to bring to session on USB and/or CD** (recommended to have back-up on personal laptop, CD-ROM, or memory stick). Laptops will be provided by IMAPS in the session room.

Speakers must register for the workshop at the reduced speaker rate. Early registration deadline is June 20, 2008. Visit [www.imaps.org/wirebonding](http://www.imaps.org/wirebonding) for more information.

# REGISTRATION FORM

REGISTER ON-LINE AT [WWW.IMAPS.ORG/WIREBONDING](http://WWW.IMAPS.ORG/WIREBONDING)  
WIRE BONDING WORKSHOP - JULY 14, 2008

Dr.  Mr.  Ms. IMAPS Member ID# \_\_\_\_\_  
First Name \_\_\_\_\_ M.I. \_\_\_\_\_ Last Name \_\_\_\_\_  
Company/Affiliation \_\_\_\_\_ Job Position \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

## REGISTRATION FEES: EARLY REGISTRATION ENDS 6/20/08

### WORKSHOP FEES

Member (IMAPS)\* \$350  
 Non-Member\* \$450  
 Speaker\*  Chair\*  Chapter Officer\* \$250  
 Student\* \$150

*\*Includes one-year IMAPS individual membership or membership renewal at no additional charge. Does not apply to corporate or affiliate memberships. Workshop Fee includes an Abstract book, all meals listed and a CD-ROM of presentations. CD will be mailed 15 business days after the event.*

### ADDITIONAL PURCHASES

CD of Presentations Member \$200  
 CD of Presentations Non-Member \$300  
 Add to Ship in the US \$7  
 Add to Ship Overseas \$25

### HOUSING

The IMAPS ATW is being run at the Intercontinental San Francisco Hotel, in conjunction with SEMICON West.

To book online, Please visit the official housing site:

[https://www.cmrhousing.com/SEMI\\_S4/Welcome.aspx](https://www.cmrhousing.com/SEMI_S4/Welcome.aspx)

**Or call the SEMICON West Housing Office**

Monday - Friday, 9am - 9pm (Eastern Time)

1.800.421.2499 (US & Canada)

1.415.979.2287 (International)

### Hotel Cut-off is June 27, 2008

InterContinental San Francisco Hotel

888 Howard Street

San Francisco, CA 94103

**Single/Double: \$245/night**

Please reference **SEMICON West** when making reservations by phone.

## PAYMENT

**WB08**

Workshop Fee: \$ \_\_\_\_\_  
Additional Purchases: \$ \_\_\_\_\_  
Total Payment Due: \$ \_\_\_\_\_

Enclosed is a check payable in US funds to IMAPS

Charge my fees to:

AMEX  VISA  MC  Diners  Discover

Card# \_\_\_\_\_ Exp. \_\_\_\_\_

Signature \_\_\_\_\_

Card billing address, if different from above: (required)

\_\_\_\_\_

**Email address required to receive confirmation of registration.**

**For Wire Transfer information call 202-548-4001.**

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](http://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](mailto:IMAPS@imaps.org), or visit our web site: <http://www.imaps.org>. Cancellations will be refunded (less a \$50 processing fee) only if written notice is postmarked on or before **Monday, June 30, 2008**. No refunds will be issued after that date.

IMAPS Registration  
611 2nd Street, NE  
Washington, DC 20002-4909

"Return Service Requested"

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First-Class Mail  
U.S. Postage  
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