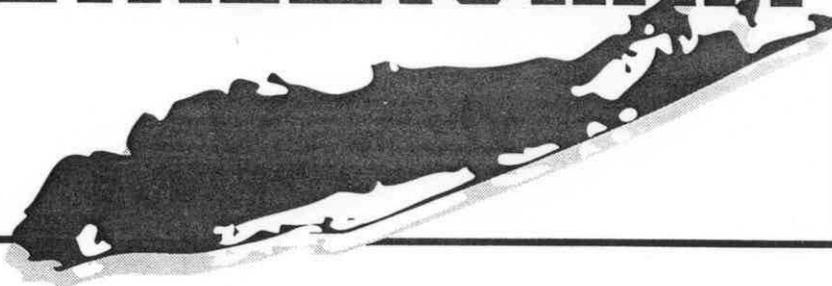




METALLAGRAM

LONG ISLAND CHAPTER



Volume 52 Issue 6

Chapter website: <http://www.matscieng.sunysb.edu/asm/>

Past Chairs Night

When Wednesday, February 16, 2011

Where Copper Wok, Hicksville, NY

Topic: Wire Bonding

Speaker: Lee Levine, Process Solutions Consulting, Inc.

Social Hour ... 6 pm Dinner ... 7:00 pm Meeting ... 8:00 pm

Members ...\$22 Guests ...\$25 ASM 25 years ...\$20 Students ...\$12

(New and recently transferred-in members free)

Reservations appreciated - call Peter Indrigo (631-589-6666)

DIRECTIONS TO THE COPPER WOK (formerly Imperial Wok) RESTAURANT

From the Long Island Expressway - take Exit 41 and go south on Route 106/107 (N. Broadway). After about 1.5 miles, stay to the left to keep on Route 107 (Route 106 forks off to the right at this point). Cross John St. and Barclay St., pass under the railroad, and after about 0.1 mile, make a right onto W. Marie Street. The restaurant will be on your right, at 1615 West Marie Street, about 100 feet after the turn. The telephone number at the restaurant is (516) 681-1947.

From the Northern State Parkway – instructions similar to those above, except that you should take Exit 35.

The Topic

In 2008 more than 10 trillion semiconductor interconnects were produced. Of this quantity, more than 90% were wire bonds. Wire bonding is a high speed, ultrasonic welding process. In the most commonly used process, ball bonding, fine diameter (average diameter is now $< 25\mu\text{m}$) gold or copper wire is welded to a thin ($1\mu\text{m}$) Al-1%Si-0.5%Cu bond pad on the semiconductor device. Typical bond pads are now $< 75\mu\text{m}$ square and devices like graphic processors may have more than 1000 on a single device. State-of-the-art bonders operate at rates > 16 wires/second (32 welds with high speed motions between the two welds that define the ends of each wire). Placement accuracy for each weld must be better than $\pm 2.5\mu\text{m}$. Even though bonding wire is a small fraction of the diameter of a hair (a hair is approximately $100\mu\text{m}$), it is a welding process and must be understood from a metallurgical perspective.

Our Speaker

Lee Levine is a consultant for Process Solutions Consulting, Inc. where he provides process engineering consultation, SEM/EDS failure analysis, and wire bonding training. Lee received his BS degree in Metallurgy and Materials Science Engineering from Lehigh University, Bethlehem, Pa in 1972. His subsequent experience includes 20 years as Principal and Staff Metallurgical Process Engineer at Kulicke & Soffa, and Distinguished Member of the Technical Staff at Agere Systems. He has been awarded 4 patents, has published more than 50 technical papers, and in 1999 won the John A. Wagon Technical Achievement award from the International Microelectronics and Packaging Society (IMAPs). Major innovations include copper ball bonding, loop shapes for thin, small outline packages (TSOP and TSSOP, and CSPs) and introduction of DOE and statistical techniques for understanding semiconductor assembly processes. He is an IMAPs Fellow and a senior member of IEEE. Process Solutions Consulting, Inc is a sustaining member of the Lehigh Valley Chapter of ASM.



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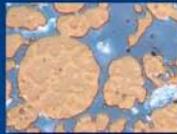
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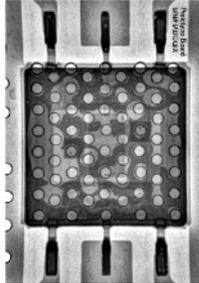
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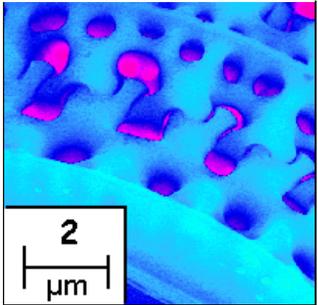
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<i>Anthony Herbert, Sulzer Metco</i>	<i>Ghazal Hirmiz – Univ. of Baghdad</i>
<i>Robert Houser, Wah Chang</i>	<i>Kenneth Lawrence, Bremco Inc.</i>
<i>Sridhar Madishetty, Sulzer Metco</i>	<i>Wade Marshall, Baker Hughes Inc.</i>
<i>Patricia Monette, General Dynamics</i>	<i>MSN Raju, Global Weld Coat Engineers</i>
<i>Jake Ranneklev, Lindenhurst</i>	<i>Rick Smith, Goodrich Universal</i>
<i>Ross Soltanian, Microvention Terumo</i>	<i>Alison Sutherland, James Bennett Pty. Ltd.</i>
<i>Bonny Thompson, Standard Microsystems Corp.</i>	<i>Julio Trujillo, WHPR</i>
<i>Alfredo Valarezo, SBU</i>	<i>Mae Wang, Sulzer Metco</i>

All new members, including those who have transferred in from another Chapter, are invited to dine free at a regular meeting of their choice. Please take us up on this offer - come along to the meeting and introduce yourself. This is an excellent way to meet with other Chapter members and to establish new business and social relationships in the area.

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Luca A. Servino
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New England

Long Island Chapter Meeting Schedule

Mar. 16, 2011 Place: Mauricio's, St. James
Speaker: Jason Trelewicz, Mesoscibe
Topic: Thermal Spray Materials

Apr. 22, 2011 Place: Stony Brook University
Speakers: tba (students)
Topic: Review Senior Students Designs and Results

Metro NY-NJ Chapter
(website <http://www.asm.nynj.org/>)
(contact: Rich Lynch @ 201-891-8399)

Feb. 17, 2011 Place: Rutgers University, NJ
Student Night & Trustee Visit
Speaker: Ron Parrington, IMR Test Labs.

Mar. 24, 2011 Place: IBM Watson Research Center, Yorktown Heights, NY
Speaker: Terence Kane, IBM

Long Island Metal Workers Society
(website <http://www.limws.org>)
(contact: Jamie Swan @ 631-754-1457)

Feb. ??, 2011 Tour (tba)

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[() – term expires]

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