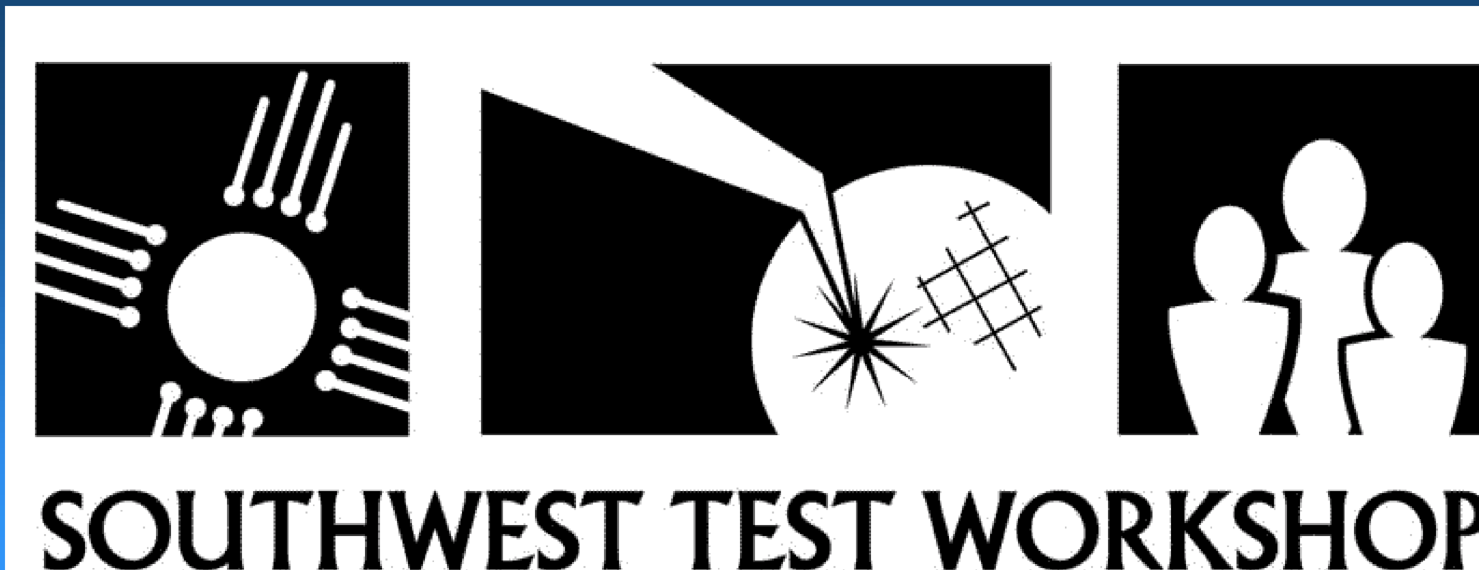
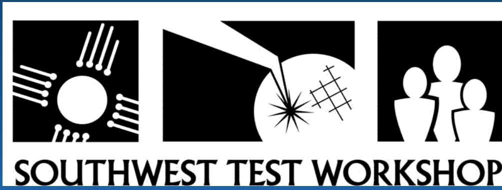


- To Advance Wafer Test Technology
- To Serve and Inform the Wafer Test Professional
- To Boldly Go Where No Workshop Has Gone Before

San Diego, CA, June 11-14, 2000



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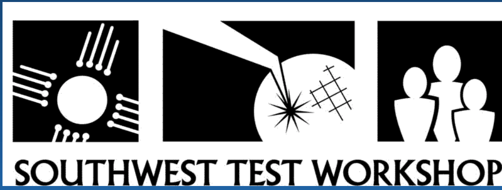
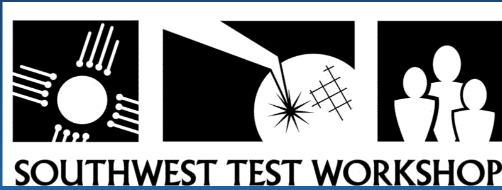


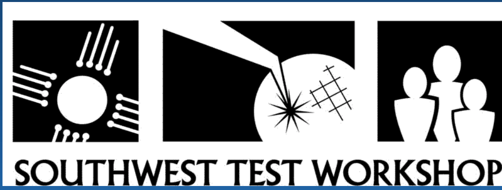
PROGRAM COMMITTEE

- Bill Mann - General Program Chair
- Rey Rincon - Texas Instruments, Technical Program Chair
- Jerry Broz - Texas Instruments
- Mike Bonham- Cerprobe
- Phil Seitzer - Lucent Technologies
- Tom Foerster - Conexant
- January Kister - Probe Technology
- Fred Taber - IBM Microelectronics
- Dale Gleason - Agilent Technologies
- Jeanette Roberts - Intel
- Kathy Kontur - Conexant
- Scott Williams – Cerprobe
- Todd Schnack - Probe Technology



WHAT IS SWTW - 2000?

- Not a theoretical or academic conference
- Informal and relaxed atmosphere
- Provides practical solutions to real problems
- Mixture of vendor and user presentations
- Open discussions and networking



INFORMAL DISCUSSIONS

- Long breaks for discussion with “colleagues”
- Barefoot Bar cocktail party and social hour
- Comedic Jugglers on Monday night
- Recreational activities
  - Sea World visit
  - SWTW - 2000 Sailing Regatta
  - Miniature Golf Tournament
  - San Diego Harbor and Naval Yards Cruise

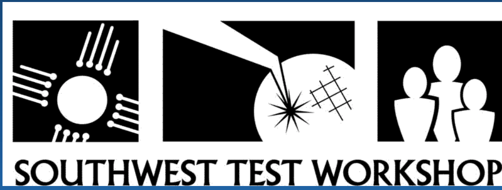
RECOGNITION & AWARDS

- Best Presentation
- Best Data Presented
- “Early Bird” Presentation Submitted
- Most “Inspirational” Presentation
- “Dead Ass Last” Presentation Submitted
- Other “Special Awards”

SOUTHWEST TEST WORKSHOP

"You go to San Diego and have a lot of fun……

……..all I get is this crummy toy!"

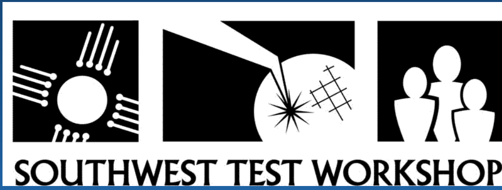


PROGRAM CHALLENGES

- Numerous excellent presentations were submitted
- Program agenda expanded to include another session and three additional presentations
- 75% of the submissions were accepted
- 90% of the Backup presentations were included

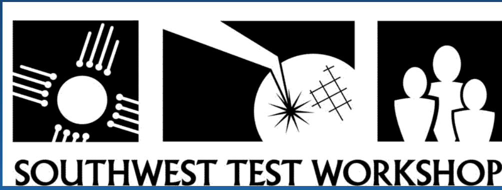
FYI - ITC accepts only 33% of the manuscripts submitted!!

- First Priority: select the best presentations in the most important areas
- Committee member consensus on **ALL** selections



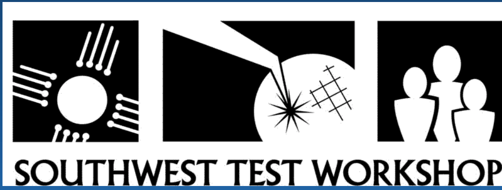
TECHNICAL PROGRAM

- Sunday, June 11, 2000
  - Yield and Reliability Improvement Tutorial
  - Lessons Learned on Fine Pitch Probing (Panel)
- Monday, June 12, 2000
  - Probe Card Cleaning
  - Area Array and Vertical Probing
  - Probe Mark Inspection
  - Probe Potpourri



TECHNICAL PROGRAM

- Tuesday, June 12, 2000
  - Controlling Probe Pad Damage
  - Impact of Probe Pad Damage on Assembly
  - Lessons Learned on Area Array Probing (Panel)
- Wednesday June 14, 2000
  - Probe Contact Resistance
  - Multi-Site Probing



www.swtest.org

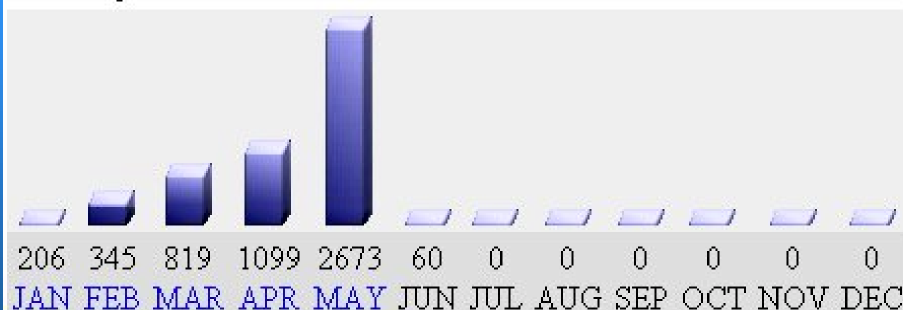
- Central Online Repository
  - Past presentations
  - Committee members
  - Online registration
  - With more features to come……..
- Tremendous success !!
  - Thousands have visited our site
  - Webmaster: Jerry Broz
  - CD-master: Rey Rincon

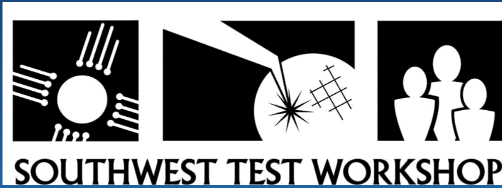
SOUTHWEST TEST WORKSHOP

www.swtest.org

As of June 1, 2000

- Website activated in May 1999
- Useful Industry Resource
  - SWTW Archives available
  - First time visitors increasing!!
    - Jan 2000 = 122
    - Feb 2000 = 188
    - Mar 2000 = 412
    - Apr 2000 = 532
    - May 2000 = 1270
    - June 2000 = ????
- Secure registration activated in February 2000
- Majority of registrations made online!!!





Test Technology Periodicals

International Test Conference
2000 L Street, N.W., Suite 710
Washington, DC 20036,
itc@courtesyassoc.com

Test Technology Technical Council
1474 Freeman Dr.
Amissville, VA 20106
tttc@computer.org

Journal Of Electronic Testing
Kiuwer Academic Publishers
101 Philip Drive
Assinippi Park, Norwell, MA 02061
va@research.bell-labs.com

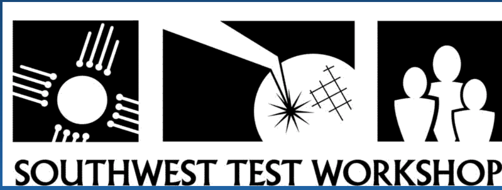
Design And Test Of Computers,
10662 Los Vagueros Circle,
PO Box 3014,
Los Alamitos, CA 90720-1314,
zorian@lvision.com

EE - Evaluation Engineering
Nelson Publishing
2504 N. Tamiami Trail
Nokomis, FL 34275-3428
pmilo@evaluationengiring.com

Solid State Technology
PO Box 3284, Northbrook
IL 60065-9595
bobh@pennwell.c0m

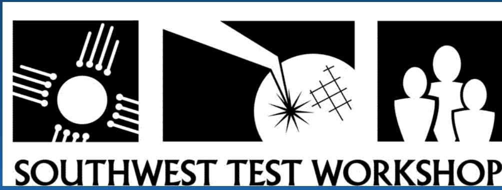
Final Test Report
Ikonix Corporation
PO Box 1938, Lafayette
CA 94549, ftr@ikonix.com

IEEE Journals, Transactions, and Letters
Contact your local IEEE Chapter or Technical Library



THOUGHTS FOR NEXT YEAR

- Exhibits?
- Parallel sessions?
- Extend workshop by a full or half day?
- Provide for electronic presentations?
- Keep it the same?



Monday - June 12, 8:30 to 10:00am

Probe Card Cleaning

"New Solution for Online Probe Needle Cleaning"

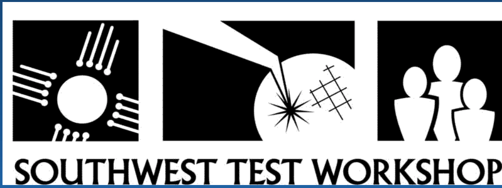
Peter Binkhoff - ELMOS Semiconductor AG

"Probe Card Online Cleaning"

Gene Humphrey - International Test Solutions

"Cleaning Economics"

John Goulding - Electroglas, Inc.



Monday - June 12, 10:30am to 12:30pm

Area Array and Vertical Probing

"C4 Probe Card Space Transformer Technology Overview"

Grace Chan and **Justin Leung, Ph.D.** - Intel Corp

"Improvements in Vertical Probing"

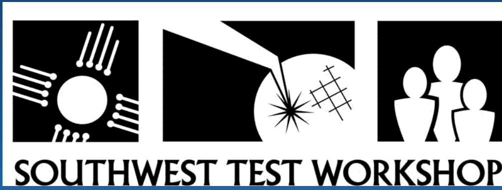
Isabelle George, Ph.D. - UPSYS/Probe Technology SAS

"Alternatives to Vertical Probing"

Phil Seitzer - Lucent Technologies

"Development of a Scalable Spring Contact for Probe Cards"

Robert Martin - Form Factor Inc.



Monday - June 12, 1:30pm to 3:00pm

Probe Mark Inspection

"Using AVI for PMI and Implementing AVI into the Test Floor Production Process"

Mamo Matsushime - Texas Instruments (Hiji)

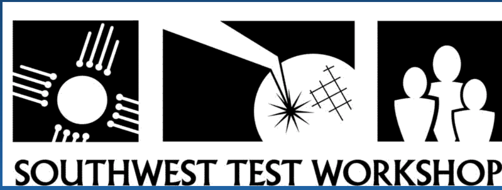
Mike Clay - STI, Inc.

"Implementing of AOI in a High-Volume Manufacturing Environment"

Robert Backie - August Technology, Inc.

"Probing Process Analysis and Continuous Improvement"

John Strom - Applied Precision, Inc.



Monday - June 12, 3:30 to 5:30pm

Probe Potpourri

"Thermal Characterization at Wafer Test: Experiments and Numerical Modeling"

Rahima Mohammed, Ph.D, and **Jeanette Roberts, Ph.D.** - Intel Corp.

"Impact of DFT Techniques on Wafer Probe"

Ron Leckie - Wipnet, Inc. (d.b.a. Infrastructure)

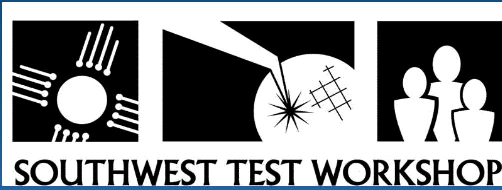
"New Probing Technology Evaluation - Fine Pitch and Small Pads"

Y.K. Choong - Lucent Technology

Jim Jaquette - CerProbe

"Silicon Micro-Cantilever Probe Card"

Dong-il Kim, Ph.D. - AMST Co., Ltd.



Tuesday - June 13, 8:00 to 10:00am

Controlling Probe Pad Damage

"Contact Mechanics for Cantilever Probe Tip"

January Kister and **Krzysztof Dabrowiecki** - Probe Technology

"Vertical Pad Deformation during Probe"

Samual McKnight - IBM Microelectronics

"Assessing Pad Damage and Bond Integrity for Fine Pitch Probing"

Dean Gahagan - Cascade MicroTech

Lee Levine - Kulicke & Soffa

"Improving your Probing Process through Probe Mark Analysis"

Tony Angelo and **Bill Williams** - Motorola (Chandler)

Impact of Pad Damage on Assembly

"Improving Yield for High Pin Count Wafer Probing Applications"

John Goulding, Martin Elzingre, and **Larry Hendler** - ElectroGlas

"Controlling Pad Damage"

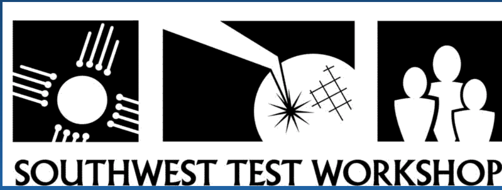
Maverick Brown - TEL USA

"Pad Damage due to Probing: Solutions for the Future"

Michael Huebner, Frank Pietzschmann, Uwe Bode - Infineon Technologies
Kristy Drew - White Oaks Semiconductors

"Fine Pitch Probing, Wirebonding, and Reliability of Aluminum Capped Copper Bond Pads"

Tu-Anh Tran, Lois Yong, and **Robert Radke** - Motorola (Austin)



Tuesday - June 13, 10:30am to 12:30pm

Probe Contact Resistance

"Inline Probing of Bare Copper"

Chrissie Manion - Intel Corp.
Rey Rincon and **Jerry Broz, Ph.D.,** - Texas Instruments (Dallas)

"Understanding Contact Resistance between Different Probe Tips and Contact Surfaces"

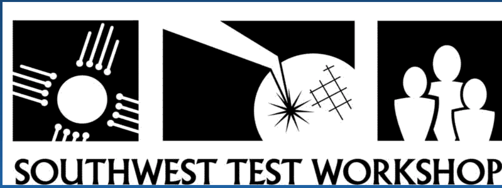
Brett Crump and **Sam Waggoner** - Applied Precision, Inc.

"Contact Resistance Mechanisms"

Dale Gleason - Agilent Technologies

"Electrohydrodynamic Cleaning for CRES Reduction in a High Volume Production Environment - An Engineering Evaluation"

Jerry Broz, Ph.D. - Texas Instruments (Dallas)
Jim Andersen - Applied Precision, Inc.
Rey Rincon - Texas Instruments (Dallas)



Multi-Site Probing

"Let's Skip and Win"

Dominique Langlois and **Patrick Buffel** - Altis Semiconductor Corbeil-Essonnes

"Multi-Square Probe Card
(for Multi-DUT Testing of Peripheral Pad Layout Devices)"

Kouichi Eguchi - Micronics Japan, Co., Ltd.

Mark Godfrey - Everett Charles Technologies

"A Method for Probing… Multiple Four Sided, Fine Pitch,
Small Pad Devices… using Cantilevered Probes"

Lou Molinari - CerProbe