

Welcome

Monday 3/10/14
Kiva Ballroom

Welcome to BiTS 2014

by
Fred Taber
General Chairman
BiTS Workshop

O pening remarks and general information by the BiTS Workshop General Chairman, Fred Taber.

COPYRIGHT NOTICE

The paper(s) in this publication comprise the Proceedings of the 2014 BiTS Workshop. The content reflects the opinion of the authors and their respective companies. They are reproduced here as they were presented at the 2014 BiTS Workshop. This version of the papers may differ from the version that was distributed in hardcopy & softcopy form at the 2014 BiTS Workshop. The inclusion of the papers in this publication does not constitute an endorsement by BiTS Workshop, LLC or the workshop's sponsors.

There is NO copyright protection claimed on the presentation content by BiTS Workshop, LLC. (Occasionally a Tutorial and/or TechTalk may be copyrighted by the author). However, each presentation is the work of the authors and their respective companies: as such, it is strongly encouraged that any use reflect proper acknowledgement to the appropriate source. Any questions regarding the use of any materials presented should be directed to the author(s) or their companies.

The BiTS logo and 'Burn-in & Test Strategies Workshop' are trademarks of BiTS Workshop, LLC. All rights reserved.



March 9 - 12, 2014
Hilton Phoenix East / Mesa Hotel
Mesa, Arizona

WELCOME

Welcome

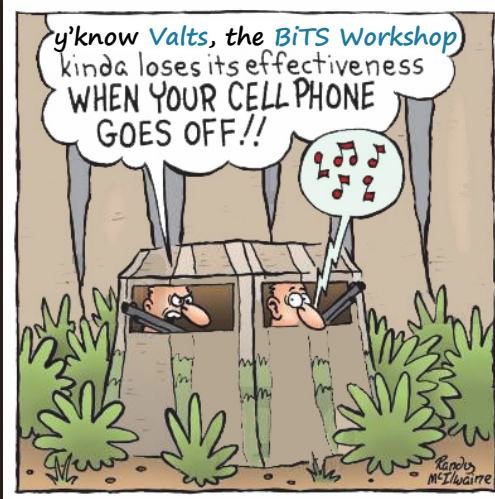
to

The World's Premier Event for What's Now & Next in
Burn-in and Test of Packaged ICs





Workshop Overview



(Please Silence Cell Phones)



In Memoriam

William (Bill) Sinclair

1929 – 2013

Founder (1972), Owner & CEO of Aries Electronics

Perennial BiTS Attendee
& Exhibitor

He lived a full life:
skiing, playing tennis and
travel all over the world.

And, founded & led
a successful business





Workshop Overview

Welcome to the 15th Annual BiTS Workshop

The World's Premier Event for What's *Now & Next* in
Burn-in and Test of Packaged ICs

Comprehensive Program

Learn...

Technical Program

Explore...

BiTS EXPO – 50 Exhibitors

...Share

Networking Opportunities



Workshop Overview

Welcome to the 15th Annual BiTS Workshop

eBiTS 2014

- Posters, Info & Ads on Flat Screen Monitors
- Proceedings on a Thumbdrive
- Tutorial 'Manual' on a Thumbdrive
- TechTalk 'Manual' on Wireless Download
- Evaluations on the Web; QR Codes for Mobile Devices
- QR Codes on Badge: Contact Info (Business Card)
- Featured Speakers & EXPO Video Interviews on the Web
- Premium Archive: Presentations with Sync'd Audio



Workshop Overview

Welcome to the 15th Annual BiTS Workshop

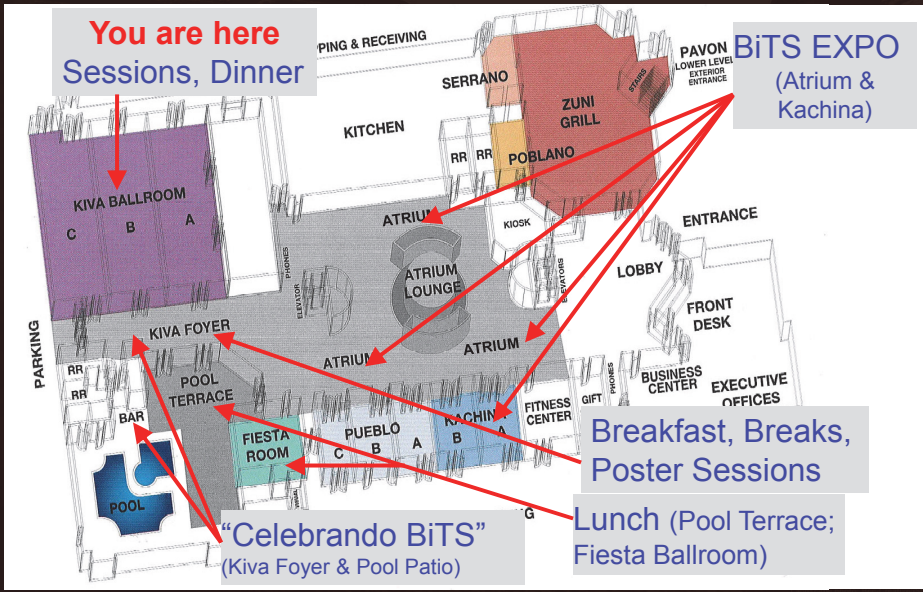
- Informal and Casual Throughout All Sessions and Activities
- Feedback & Suggestions are Encouraged & Welcome
- BiTS is pleased to again be at the Hilton Phoenix East / Mesa Hotel ...and again

ANNOUNCING

16th Anniversary!
BiTS 2015
March 15 - 18, 2015
at the Hilton



Hotel Facilities





Workshop Overview

- Professional Attendee Registration Includes

- Technical Program
 - ✓ + TechTalk (*); Tutorial (*)
- All Meals & Social Program
- BiTS EXPO

- Registration Package

- ✓ Badge w. Sponsored Lanyard
- Softcopy Proceedings (Hardcopy Optional)
- ✓ Workshop Guide & Exhibitor Directory
- ✓ Souvenir Backpack, Tote
- ✓ Sponsored Padfolio
- ✓ TechTalk (*); Tutorial Materials (*)
- ✓ Evaluations / QR Codes (*) w. addl. registration



Workshop Overview

Learn...

Learn - from a technical program that includes 22 papers in 7 Sessions, 2 Poster Sessions each with 3 posters, a Tutorial, a TechTalk and BiTS Feud. Plus renowned speakers delivering the Keynote, Distinguished & Invited addresses.

Explore - the latest products and services from 50 companies at the **BiTS EXPO**

Share - ideas with colleagues from around the world at numerous networking events



Technical Program

Learn...

7 Technical Sessions

MONDAY
 Operations Day

TUESDAY
 Performance Day

WEDNESDAY
 Design Day

A Clean Start

Show Them What We're Made Of

Interconnectology: It's What We Do

Doing the Heavy Lifting

The Market is Open

Feel the Burn-in

Sockets With Integrity

Plus a 2 Poster Sessions



Technical Program

Learn...

Early Bird Abstract Submission

Raffle Prize Drawing Candidates

Authors	Company	Session
Ashok Kabadi	Intel Corporation	6
Billy Fenton	Accutron	
Pat Mitchell	OLAS	7
Kenji Ichihara, Masaru Sato, Noriyuki Matsuoka, Jec Sangalang	Yamaichi	3
Jerry J. Broz Ph.D., Soheil Khavandi, Bret Humphrey	International Test Solutions	1
Paul Ruo	Aries Electronics, Inc.	
Erik Orwoll	NuSignal LLC	1
Gert Hohenwarter	GateWave Northern, Inc.	5
Trent Johnson	Cleversafe	Poster
Jim Brandes	Multitest	2
Ichiro Fujishiro	Yamaichi	Poster
Jon Diller	IDI	2
Jon Diller, Kevin DeFord	IDI	1

Raffle at the Closing on Wednesday



Technical Program

Learn...

- **BiTS Tutorial**
 “Test 101: A Holistic View of Test”
 Peter Ehlig—Texas Instruments
- **BiTS TechTalk**
 “The Most Common Mistakes in Test”
 Jeffrey L. Roehr—Texas Instruments
- **BiTS Feud**
 “Socket Company Face-off”
 Host: Françoise von Trapp
 Teams:
 - Sensata Technologies
 Captain: David Barnum
 - Interconnect Devices, Inc.
 Captain: Gabriel Guglielmi



Technical Program

Learn...

Featured Speakers

- | | |
|----------------------|--|
| Keynote | “Interconnectology - The Road to 3D”
Simon McElrea—Invensas Corporation |
| Distinguished | “Package And Interconnect Trends”
Brandon Prior—Prismark Partners |
| Invited | “Trends in Wafer Level Packaging: Thin is In!”
E. Jan Vardaman—TechSearch International |



BiTS EXPO

Explore...

- **50 Companies Exhibiting**
 - Explore their Latest Products & Services
 - Description & Contact Info in the Exhibitor Directory
 - Company List in the Proceedings
- **Atrium & Kachina Ballroom**
- **EXPO Schedule:**

MONDAY

5:30PM – 9:00PM

TUESDAY

3:30PM – 6:30PM



EXPO2014

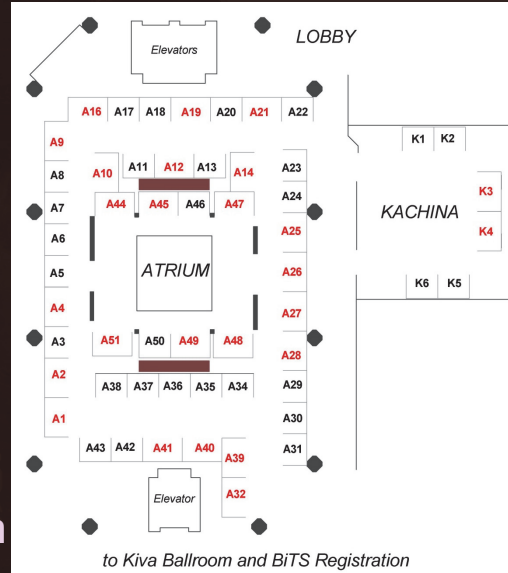
Principal Sponsors

Atrium & Kachina

A01 R&D Altanova	A20 SV TCL – An SV Probe Co.	A39 MJC Electronics Corp.
A02 Sun Electric Heater	A21 Leeno Industrial, Inc.	A40 Smiths Connectors - IDI
A03 High Speed Interconnects	A22 Robson Technologies, Inc.	A41 Smiths Connectors - IDI
A04 J2M Test Solutions, Inc.	A23 Rika Denshi America, Inc.	A42 Transcend Technologies
A05 Micro Control Company	A24 CCT Plastics	A43 ISC Co., Ltd.
A06 E-tec Interconnect, Ltd.	A25 Aries Electronics, Inc.	A44 Enplas Tech Solutions, Inc.
A07 Chip Scale Review	A26 Incal Technology, Inc.	A45 Test Tooling Solutions Grp.
A08 Micro Contact Solution	A27 Piper Plastics, Inc.	A46 Phoenix Test Arrays
A09 CMR Summit Technologies	A28 Aehr Test Systems	A47 Yamaichi Electronics USA
A10 JF Microtechnology Sdn Bhd	A29 3M Electronic Solutions	A48 Plastronics
A11 IWIN Co., Ltd.	A30 E. Jordan Brookes	A49 Materion Brush Perf. Alloys
A12 American Swiss Products	A31 Titan Semiconductor Tool	A50 Ensinger, Inc.
A13 Exatron	A32 FastPrint Technology	A51 Qualmax Testech, Inc.
A14 Network PCB, Inc.	A34 Sensata Technologies	K01 HiCon
A16 Vermont Microdrilling	A35 Sensata Technologies	K03 Johnstech International
A17 WinWay Technology	A36 DuPont	K04 TSE Co., Ltd.
A18 Kita USA, Inc.	A37 MicroConnex	K06 Contech Solutions, Inc.
A19 SP Scientific FTS Systems	A38 Abrel Products, Ltd.	



EXPO2014



Floor Plan



Networking

...Share

Meet Your Colleagues From Around the World

• **Many Opportunities to Network, Share & Discuss**

- Meals & Receptions
- Morning and Afternoon Breaks
- Networking During the 2 Poster Sessions
- **BiTS EXPO**
 - ✓ Social Activities In Conjunction With the Exhibits
- Tuesday Evening Social Event: "Celebrando BiTS"
 - ✓ Mexican Style Anniversary Party
 - Music, Food, Beverages, Games --**





Technical Program

Learn...

Evaluation / Comments Forms

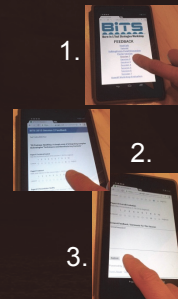
Hardcopy

&/or

Online

At Registration Desk

<http://www.bitsworkshop.org/feedback>



Main Menu

3 EASY Steps

1. Select Session
2. Pick Category
3. Choose Rating

Drop Off at the Registration Desk



Recognition

- **Award Plaques**
 - Best Poster
 - Best Data Presented
 - Most Inspirational Paper
 - Best Presentation, Tutorial in Nature
 - Attendee Choice
 - Best Presentation / Paper

**BiTS Award Archive is
in the Proceedings**



Recognition

AND.....a Special Award.....

Now “Semi-Retired”



Special Award

for the

Least Concealed Sales Pitch



*The
 (Almost) Brilliant Disguise
 Award*



BiTS Website

Your Complete Source For Information About BiTS

<http://www.bitsworkshop.org>

The screenshot shows the BiTS website interface. At the top, there's a navigation bar with 'BITS Home', 'Archive', 'Committee', 'Subscribe', and 'Links'. Below this is a '2014 Advance Program Mail' section. A central banner features the 'Fifteenth Annual BiTS' logo and a 'What's NOW & NEXT in Burn-in and Test of Packaged ICs' headline. To the right, there's a 'Premier Sponsor' section listing 'tts' and 'Honored Sponsors' including 'ADI', 'Qimonda', 'Altera', and 'ChipScale'. The main content area is titled 'BiTS 2014 Program Information' and is divided into 'Technical Program' and 'Attendee Registration' sections. The 'Technical Program' section describes the workshop's focus on burn-in and test strategies. The 'Attendee Registration' section provides details on how to register, including a registration bonus and a special February bonus. A 'Keynote Speaker' section mentions Brandon Prior, and a 'Distinguished Speaker' section mentions Steven McEwen.

Social Networking
 Join the Burn-in & Test
 Socket Workshop
 (BiTS) group on



BiTS Website

Your Complete Source For Information About BiTS

<http://www.bitsworkshop.org>

**** Current Workshop ****

- Call For Papers
- EXPO & Sponsorships
- Advance/Final Program
- Registration Information & Forms; Register On-line
- Author Information
- Hotel Information/Travel

**** Features ****

- Committee Members
- Contact BiTS - Add to Mailing List & Inquiries
- Links to Other Websites
- 'Press' About BiTS
- Search BiTS Feature

**** Prior Workshops ****

BiTS Archive: Papers, Authors, Attendees



BiTS Website

bitsworkshop.org - Visitors





BiTS Website

Your Complete Source For Information About BiTS

<http://www.bitsworkshop.org>

Coming Soon

BiTS 2014 Premium Archive (Now)

BiTS 2015 Call For Presentations (~August 2014)

Don't wait!

Sign-up now to do a paper or poster!

abstracts2015@bitsworkshop.org



BiTS Website

Your Complete Source For Information About BiTS

<http://www.bitsworkshop.org>

Premium Archive

- **Multimedia (audio w. synchronized slides)**
- **Additional content**
- **Subscription Model**
 - **BiTS 2014 Attendees – Subscription for One Year**
 - **Subscriber – Nominal Fee; Applied to BiTS 2015 Registration**



Sponsors

Premier

tts
 innovate . collaborate . deliver

Honored

idi
 INTERCONNECT DEVICES

Qinex™
 QUALITY INTERCONNECTION EXPERTS
 From Sensata Technologies

Distinguished

Publication

Chip Scale
 REVIEW

R&D Altanova.

T **TwinSolution**

Networking

FELDMAN ENGINEERING

Lanyards/Thumbdrives

PLASTRONICS
 SOCKETS & CONNECTORS

Key Card

R&D Altanova.



Resources

Other Test & Burn-in Resources

- Chip Scale Review
- Design & Test of Computers
- TAP Times
- **SWTW – Semiconductor Wafer Test Workshop**





Committee

PROGRAM: *Mike Noel—Freescale*

Ira Feldman—Feldman Eng. Corp. Rafiq Hussain—Liberty Labs
Morten Jensen—Intel Marc Moessinger—Advantest
John Moore—Texas Instruments Ila Pal—Ironwood Electronics

LOCAL
ARRANGEMENTS: *Valts Treibergs, Chair—Multitest-LTXC*

Owen Prillaman—TechConnect Sales & Distribution

MARKETING: *John Hartstein, Chair—Sensata*

REGISTRATION: *Paul Boyce, Chair—Advantage Specialist*