

**ADVANCE PROGRAM & REGISTRATION**

# **Components for Military & Space Electronics Conference & Exhibition**

**NEW FINDINGS  
ON CLONED DIE**

18<sup>th</sup> Annual Conference

# **CMSE 2014**



**February 18 - 20, 2014    LAX Radisson Hotel    Los Angeles, CA**

*CMSE is the premier conference on the use of  
components in military & space electronics*

**Organized by**  
Components Technology Institute, Inc.  
[www.cti-us.com](http://www.cti-us.com)

**Co-Sponsored by**  
Electronic Products Magazine  
How2Power.com  
Military Embedded Systems  
Webcom Communications

# Invitation to CMSE 2014

**Dear Military and Space Electronics Professionals,**

The CMSE Conference promotes new technology and advancements in electronic components for military and space electronics.

The DoD emphasis to use commercial components soon discovered that many of these components were not suitable for military and space systems without costly testing, uprating, upscreaming and protection from temperature extremes and radiation levels. The low prices of commercial components as compared to those available to military specifications did not prove this to be a lower cost approach. The major issue is that many newer technology components are only available as COTS and have to be used to satisfy the design requirements. Special effort should be expended to provide the necessary reliable performance required for military and space applications.

There are many examples of where circuit boards and subsystems built with commercial components have been successfully used as embedded electronics in military systems. The road to success is a function of the OEM design, application rules, procurement controls, quality practices and testing to detect deficiencies.

CMSE is the biggest and most comprehensive conference addressing successful practices for the use of both military and COTS components in military and space systems, when they meet project requirements. Personnel working in this field are encouraged to attend CMSE 2014 to learn about the latest information and visit the exhibits which promote current equipment, information and services concerning components for military and space applications.

**Highly informative presentations this year include:**

**BME Technology  
Copper Wire Bonding  
PEMs & COTS Testing  
Connector Issues  
Tantalum Capacitor Reliability  
Other Valuable Topics**

I look forward to seeing you in Los Angeles at CMSE 2014, mark your calendar, Feb. 18-20

Leon Hamiter  
Program Chairman

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## Highlights of 2014 CMSE Conference

### Two Keynotes:

- 1. Market Trends & Funding Cut Backs Drive Commonality in Electronics*
- 2. DoD Requirements on Prevention & Mitigation of Counterfeit Parts*

### Tutorials:

- 1. Advanced Component Testing Practices*
  - Part 1. PEMs Screening & Qualification*
  - Part 2. Test Methods for Polymer Capacitors*
  - Part 3. IC Interconnection Techniques*
  - Part 4. Improving ESD Protection*
- 2. CANCELLED*

### Technical Sessions:

- Construction and Application  
Reliability, Testing and Analysis  
Supply Chain Issues - Counterfeits and Obsolete Components  
Rad Hard and Space Components*

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### Program Committee

Leon Hamiter, Chair  
Andrew Kostic, Co-Chair

Shri Agarwal  
Dr. Bill Cardoso  
Aaron DerMarderosian  
Ron Demcko

Trevor Devaney  
Jon Fishback  
Larry Harzstark  
Anthony Lai

Sultan Lilani  
Robert Lowry  
John Maxwell  
John McHale

# CMSE Schedule & Information

Organized by engineers for engineers and project management, this is the premier conference for military and space electronics issues. This 18th Annual Conference addresses electronic components, testing, reliability and supply chain while also emphasizing new technology and design practices.



## Venue

### Accommodations:

**LAX Radisson Hotel**  
6225 W. Century Blvd.  
Los Angeles, CA 90045  
Tel: +1 800 395-7046  
Fax: 310 337-6555

Room reservations should be made directly with LAX Radisson Hotel. Mention CMSE Conference.

### Registration:

**Tuesday, February 18**  
7:00 am - 5:00 pm  
**Wednesday, February 19**  
7:00 am - 5:00 pm  
**Thursday, February 20**  
7:30 am - 11 am

### Tutorial Schedule (see details herein)

**Tuesday, February 18**  
8:30 am - 5:00 pm

### Conference Schedule

**Wednesday, February 19**  
8:00 am - 5:00 pm

**Thursday, February 20**  
8:00 am - 5:30 pm

### Get Acquainted Reception

**Wednesday, February 19**  
5:30 pm - 7:00 pm

### Exhibit Hours

**Wednesday, February 19**  
12:00 noon - 7:30 pm

**Thursday, February 20**  
10:00 am - 2:00 pm

### For technical questions contact:

Leon Hamiter: +1 256 536-1304  
Leon.Hamiter34@cti-us.com

## General Information

### REGISTRATION

The Full Registration Fee includes one of the Tutorials and all Sessions. The Tutorials may be registered for individually. Advance registration is strongly recommended and the selected Tutorial must be identified when registering. At the door changing of Tutorials will only be allowed if space permits.

Full Registration Fee includes One Tutorial, the Technical Sessions (1-4), Conference Notes CD, Conference Guide, refreshment breaks, buffet lunches, reception on Wednesday and the Exhibits. Fees are shown on the Registration Form. Advance Registration is recommended and provides a discount and reduced valet parking. See the Registration Form for fees. Payment must be submitted with the Registration.

The Advance Registration cutoff date is January 17th and refunds will not be given after this date for cancellations. Cancellations before January 17th will be charged a \$100 administration fee. Substitutions can be made at any time.

### HOTEL ACCOMMODATIONS

Special rates of \$110 single or double (\$10 additional person), excluding taxes, have been arranged with the LAX Radisson Hotel. This rate is less than government per diem. Rates will be honored 3 days prior and following the Conference. The cut off for these rates is January 10, 2014. To book these rates call +1 800 395-7046, mention CMSE Conference and ask for on-site reservations. Check in time is 3:00 pm and check out is 12:00 pm. Any guest departing prior to their checkout date will pay early departure fee. Reservations must be canceled more than 24 hours before arrival date to avoid a charge.

### PARKING

Valet parking is available to CMSE/Conference Attendees for \$10/day, obtain a permit from CMSE Registration Desk.

### TRANSPORTATION TO HOTEL

The Hotel provides 24 hours complimentary shuttle service every 20 minutes between the airport and hotel. Go to the transportation island outside baggage claim for pickup at the hotel shuttle sign.



## February 19

## CMSE Conference Sessions

**Welcome and Introduction** **8:00 - 8:15**  
*Leon Hamiter, CTI Inc.*

**Keynote** **8:15 - 8:45**  
**DoD Market Trends: Funding Cut Backs Drive Commonality in Electronics**  
*John McHale, Editor, Military Embedded Systems*

**Session 1 Construction and Application** **8:45 - 12:00**  
**Chair:** *John Maxwell, Flextronics*

1.1 **Large Diameter Copper Wire Bonding in Power and Military Applications**  
*Michael McKeown, Hesse Mechatronics; Michael Broekelmann, Hesse GmbH*

1.2 **Multi Layer Organic Components – An Alternate to LTCC and MultiLayer Ceramic Devices**  
*Ron Demcko, Edgardo Menendez, George White, AVX Corp.*

1.3 **High Reliability Principles and Verifications in Solid Tantalum Capacitors**  
**Part 1 - Manufacturing Processes, Yuri Freeman, Phil Lessner, KEMET Electronics,**  
**Part 2 - Users Processes, Bill Winkel, Ed Rich, Northrop Grumman**

1.4 **Thin Film NiP Embedded Resistors in Military/Aerospace Applications**  
*Bruce Mahler, Ohmega Technologies Inc.*

1.5 **Soldering Issues in Electrical Harness Connectors**  
*Leah Hurwich, Aaron DerMarderosian Jr., Raytheon*

1.6 **Force Control: The Key to Hermetically Reliable Ceramic Seals**  
*Richard Share, Share Consulting LLC*

1.7 **COTS Processors for VITA Technologies**  
*Jerry Gipper, VITA Technology*

**Session 2 Reliability, Testing and Analysis** **1:30 - 5:00**  
**Chair:** *Erik Reed, KEMET Electronics*

2.1 **Issues with Microcircuits Burn-in Screening**  
*Shri Agarwal, Jet Propulsion Lab*

2.2 **Failure Modes in Wire bonded and Flip Chip Packages**  
*Mumtaz Bora, Peregrine Semiconductor*

2.3 **Electrical Testing - What is Enough or Too Much?**  
*Sultan Ali Lilani, Integra Technologies LLC*

2.4 **NIST Traceable Standard for Performing Prohibited Materials Analysis (PMA)**  
*Trevor Devaney, Adam Mortensen, Hi-Rel Labs, John Siebert, NIST*

2.5 **Moisture, Monolayers, and Mayhem**  
*Robert Lowry, Consultant, Electronic Materials Characterization*

2.6 **Considerations for Base-Metal Electrode (BME) Ceramic Capacitors & Stacks for High Reliability Applications**  
*Abhijit Gurav, Craig Scruggs, Richard Turner, Travis Ashburn, KEMET Electronics*

2.7 **Reaching Highest Reliability for Tantalum capacitors**  
*Brian Brunette, AVX Corp.*

2.8 **Experience & Issues from Solvent Testing**  
*Joseph Federico, NJ Met.*

**Networking Reception**

**5:30 - 7:00**



## February 20

## CMSE Conference Sessions

**Keynote** **8:00 - 8:30**

**DoD Requirements for Prevention and Mitigation of Counterfeit Parts**

*Dave Meshal, The Aerospace Corp.*

**Session 3     Supply Chain - Counterfeits and Obsolete** **8:30 - 12:00**

**Chair:**     *Alan Rae, Nano Materials Innovation Center*

3.1     **Export Control Reform (ECR) and its Effects on the Military/Space Component Industry**

*Chuck Tabbert, Ultra Communications*

3.2     **Clones: The Final Frontier of Counterfeit Components**

*Thomas Sharpe, SMT Corp.*

3.3     **Design Camouflage to Protect from Cloning**

*Ron Cocchi, SypherMedia.*

3.4     **Low Inductance MLCC Evolution, Advantages, and Applications**

*Ron Demcko, Andy Ritter, P. Hollenbeck, AVX Corp*

3.5     **Current Status of DNA Marking and the Need for an Authenticity Marking Standard**

*Janice Meraglia, Applied DNA Sciences*

3.6     **Ceramic Taggants for Authentication or Provenance Marking of Electronic Components**

*Robert K. Lowry, Arthur Jonath, Arthur Jonath Associates*

3.7     **Secure Hardware & Data Destruction-Assured Electronics Recycling**

*Aaron DerMarderosian Jr., Raytheon, Morgan Deptola, TCG*

3.8     **Reviving Legacy Radar Design Containing Obsolete Components**

*Tom Lee, CTI Inc.*

**Session 4     Rad Hard and Space Components** **1:30 - 4:30**

**Chair:**     *Ron Demcko, AVX Corp.*

4.1     **The NASA/NEPP Parts and Packaging for FY14**

*Kenneth LaBel, Michael Sampson, NASA GSFC*

4.2     **Radiation Hardened By Design Bipolar Junction Transistors**

*Brian P. Triggs, SEMICOA Corporation*

4.3     **Radiation Tolerant Intelligent Memory Stack**

*Timothee Dargnies, 3D Plus USA Inc.*

4.4     **Solving FPGA Availability Issues Cost Effectively Through Die Harvesting & Packaging**

*Erick Spory, Global Circuit Innovations*

4.5     **Base Metal Electrode (BME) Technology for Space Applications**

*Pat Hollenbeck, AVX Corporation*

4.6     **PME Capacitors - Extended Range for Space Applications**

*Fred Lagrange, Christine Pollock, Presidio Components Inc*

4.7     **How Clean is That Surface? How do You Know?**

*Robert Lowry, Consultant*

# CMSE 2014 Exhibition Information

Wednesday, February 19

11:00am to 7:00pm

Thursday, February 20

10:00am to 1:30pm

This Conference provides a major opportunity for direct marketing, advertising and technical interchange with decision makers:

**Component Engineers - Design Engineers - Engineering Managers  
Project Managers - Quality Assurance Personnel - Procurement Executives**

## The delegates and visitors

The event is targeted to a variety of high-level professionals working as:

- Design Engineers
- Manufacturing Engineers
- Engineering Managers
- System Integrators
- Consultants
- Program Managers
- Project Leaders
- Government Managers
- DOD Procurement

## Services

CTI staff will be present to take care of all arrangements, to answer any questions and to cater to special needs that you and your visitors may have. As an exhibitor staff only have to look after promoting your products and meeting your customers.

## Included in your participation

- Exhibition Space (6' x 10') or
- Exhibition table (3' x 6')
- Standard electric connection 110V/500W max.
- Copy of attendee/visitor details
- Refreshments for exhibitor & visitors
- Complimentary visitor admission to Exhibits
- Lunch buffet for exhibitors & visitors +
- Invite your customers to attend
- + Limited to space availability

## CMSE Past Exhibitors



## Space & Availability

**A few exhibit spaces remain,  
register now for availability.**

Exhibiting Booth - \$2000 (6'x 10')

Exhibiting Table Top - \$1600 (3' x 6')

## Advertising

**Advertising is available:**

Conference CD Notes color ad - \$300

Conference Guide color ad full page - \$600

(1 spot left)

## Registration & Information

CMSE 14 Exhibition Registration Form is posted on the web:

<http://www.cti-us.com/cmsemain.htm>

**For exhibition information and space availability contact**

**Elena: +1 256 536-1304, [cmse-ccaw<info8@cti-us.com>](mailto:cmse-ccaw@cti-us.com)**



# CMSE 2014 Conference Registration Form

## Registration Information (please type or print clearly)

Name \_\_\_\_\_  
Title \_\_\_\_\_ Company \_\_\_\_\_  
Address \_\_\_\_\_ M/S or Suite # \_\_\_\_\_  
City \_\_\_\_\_ State/Prov \_\_\_\_\_ Postal Code \_\_\_\_\_  
Country \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_  
E-mail \_\_\_\_\_

*(Email address must be provided for confirmation & receipt)*

## Registration Fees

### Before Jan 17

Conference & Tutorial (Feb. 18-20) (* 1, * 3)	\$1350ea _____	\$1575ea _____
Conference Technical Sessions (1 - 4) (* 1, * 2)	\$700 _____	\$800 _____
Tutorial 1 (Feb. 18) (* 1, * 3)	\$700 _____	\$800 _____
Tutorial 2 - <b>CANCELLED</b>	NA _____	NA _____
Speakers and Session Chairmen	\$460 _____	\$560 _____
Exhibition Visitor Only (Feb. 19 - 20)	\$0 _____	\$50 _____

Group Discount (3 or more only) **\$100.00** \*1

Fees not refundable after Jan. 10, 2014, substitutions any time

**Total** \_\_\_\_\_

\*1 Groups of 3 or more, from the same company and registering at the same time for same event get \$100 discount off the total price.

\*2 Includes Conference Notes CD, Guide, continental breakfast, breaks, lunches, and reception.

\*3 Please check Tutorial 1 for Feb. 18

## For Information on the Counterfeit Avoidance Workshop See Next Page

### Payment

Payment must accompany registration. Registrations without payment will not be processed. Company checks must be made out to Components Technology Institute, Inc. and payable in US dollars drawn on a US bank. Credit card payment requires card number, expiration date, and signature. Please note confirmation and cancellation policy listed inside.

Payment Method:  AMEX  VISA  MC  Check

Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_

Name on Card \_\_\_\_\_

Signature \_\_\_\_\_

[Interactive Registration Form](#)

Fill out, save as pdf and send to Email: [info8@cti-us.com](mailto:info8@cti-us.com)  
OR fax this form to: +1 256-536-1308

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