

## News bits

### Headquarters staffing

Tammy Muldoon has joined the ESDA headquarters staff as a program manager. She will have specific responsibilities in the areas of *Threshold*, the ESDA Web site, and standards, as well as other general office duties.

### Exhibit space available

Nearly 50 exhibitors have already committed to the 2003 EOS/ESD Symposium. There is good space available, but it's going fast. For information on exhibiting, contact Scien-Tech Associates, Inc., P.O. Box 2097, Banner Elk, NC 28604-2097; Tel: 828-898-6375, Fax: 828-898-6379.

### Roster available for downloading

The 2003 ESDA membership roster is now available in PDF format for downloading from the ESDA Web site, [www.esda.org](http://www.esda.org). The PDF version replaces the printed edition that had been produced in the past.

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## Association announces ESD design seminar May 5-6 in Santa Clara, CA

The ESD Association has scheduled an ESD design seminar to be held May 5-6, 2003, at the Holiday Inn-Great America in Santa Clara, CA.

Developed by the Association's International Council on Education (ICE), the technical seminar for on-chip ESD protection designers is part of the Association's effort to expand technical education beyond the annual EOS/ESD Symposium.

Created specifically to meet the needs of persons responsible for ESD protection in circuit design, the two-day seminar program includes in-depth technical education in a number of specific areas including the following:

### ESD in the Industrial Semiconductor IC Context:

What is ESD? Why is it important?  
What methods are used to control it?

**ESD Models and ESD Testing:** Description of the three models and model issues from the designer's point of view.



Charvaka Duvvury



James W. Miller

**ESD Device Operation:** Fundamentals of MOS device operation, the role of PMOS, BiCMOS and the similarity of the techniques for CMOS, bipolar devices, DENMOS and LDMOS devices and protection techniques.

**ESD Circuit Operation:** Operation of and issues with NMOS circuits, including implementation, simulation, and experimental results.

**Technology Impact on ESD Design Choices:** Review of ESD protection design options as a function of technology and process fluctuations.

**Special Circuit Requirements and Their Impact on ESD:** Mixed voltage protection, RF and analog protection, BiCMOS, high voltage protection, and new latchup effects.

**CDM ESD Protection:** Concerns and considerations; fast enough diodes, transistors, and SCRs; the on-chip CDM event.

**Design Examples and Case Studies:** Layout methods, ESD rules, new design methods, case studies of protection design problems, and class exercises.

Instructors for the seminar are Charvaka Duvvury, Ph. D., Texas Instruments, and James W. Miller, Motorola.

Detailed information on the seminar will be mailed to all ESDA members and also may be downloaded from the ESDA Web site, [www.esda.org](http://www.esda.org). For more information on the ESD Design Seminar, contact ESDA headquarters.

## Calendar of events

### March 2003

**ESD Northwest Chapter Meeting:** March 12, 2003; Integrating ESD Detection, Valdimir Kraz, Credence Technologies; Viasystems, Beaverton, OR; [www.esdnw.org](http://www.esdnw.org)

**ESD Forum:** March 13, 2003; Sheraton Chicago Northwest Hotel, Arlington Heights, IL; [www.midwestesd.org](http://www.midwestesd.org)

**Silicon Valley ESD Society Membership Meeting and Tutorial:** March 18th, 2003; ESD and EMI Challenges in Magnetic Recording: Past, Present and Future, Al Wallash, Maxtor Corporation; Ramada Inn, Sunnyvale, CA; [www.esdsiva.org](http://www.esdsiva.org)

**ANSI/ESD S20.20 Seminar for Independent Assessors, Program Managers, and Consultants:** March 26 and 27, 2003; ESD Association Headquarters, Rome, NY; [www.esda.org](http://www.esda.org)

**Texas ESD Association Chapter Meeting:** March 31, 2003; Sematech, Austin, TX; [www.centxesdassoc.homestead.com](http://www.centxesdassoc.homestead.com)

### April 2003

**Midwest ESD Chapter Meeting:** April 8, 2003; Nuclear Ionization and ESD Control, Larry Jacobson, Amstat Industries; Bimbo's Restaurant, Palatine, IL; [www.midwestesd.org](http://www.midwestesd.org)

**Silicon Valley ESD Society Membership Meeting and Tutorial:** April 22, 2003; Ramada Inn, Sunnyvale, CA; [www.esdsiva.org](http://www.esdsiva.org)

**North Central Chapter Regional ESD Tutorial:** April 30, 2003; Seagate Technology, Shakopee, MN; E-mail: [info@esda.org](mailto:info@esda.org)

### May 2003

**ESDiscovery 2003:** May 20, 2003; AMD, Sunnyvale, CA; [www.esdsiva.org](http://www.esdsiva.org)

**ESD Design Seminar:** May 5-6, 2003; Holiday Inn-Great America, Santa Clara, CA; [www.esda.org](http://www.esda.org)

**Midwest ESD Chapter Meeting:** May 14, 2003; Ionization Basics, Gary Seale, Simco; Bimbo's Restaurant, Palatine, IL; [www.midwestesd.org](http://www.midwestesd.org)

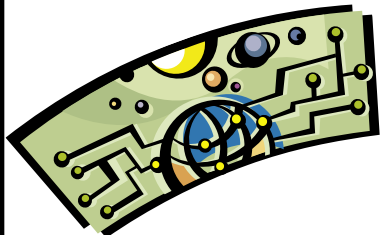
**ESD Northwest Chapter Meeting:** May 14, 2003; Modify Your ESD Training Program to be More Effective, Don Skinner, Consultant; Viasystems, Beaverton, OR; [www.esdnw.org](http://www.esdnw.org)

**Texas ESD Association Chapter Meeting:** May 19, 2003; Sematech, Austin, TX; [www.centxesdassoc.homestead.com](http://www.centxesdassoc.homestead.com)

### June 2003

**ESDA Standards and Committee Meetings:** June 12-17, 2003; ESD Association Headquarters, Rome, NY; [www.esda.org](http://www.esda.org)

## Understanding Today's ESD Issues and Tomorrow's Challenges



Now Available

ESDA White Paper on

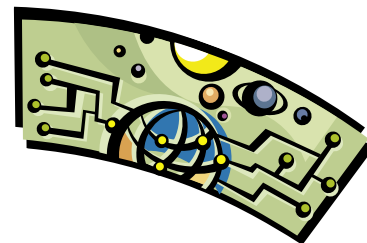
## ESD Phenomena and the Reliability for Microelectronics

An authoritative overview of the ESD threat to electronic devices covering

Effects of ESD on electronic devices  
ESD device sensitivity testing and characterization  
ESD protection design  
ESD program management, processes, and materials  
Future challenges and issues

To purchase, contact  
ESD Association

7900 Turin Road, Bldg. 3, Rome, NY 13440  
Ph: 315-339-6937, Fax: 315-339-6793  
E-mail: [info@esda.org](mailto:info@esda.org) Web: [www.esda.org](http://www.esda.org)



Symposium

## Symposium 25th anniversary program taking shape

For its 25<sup>th</sup> anniversary celebration, the EOS/ESD Symposium returns to the Riviera Hotel in Las Vegas, Nevada, where attendees will find another high quality technical program, representing the best education and the latest research and technology that the international ESD community has to offer.

Running September 21-25, this year's Symposium features 54 papers plus one invited paper to be presented in parallel sessions. The topic areas comprising the eight technical sessions are *Advanced Power Clamps, Trends in ESD Testing, CMOS Modeling, System Level ESD, RFIC and Novel Protection Devices, MR heads, Testing and Characterization, Factory and Materials.*

### Tutorials and workshops

The week's events officially open Sunday, September 21 with a full-day of ESD tutorials followed by additional tutorials on Monday and Thursday. The preliminary tutorial schedule includes 20 sessions with topics such as *ESD Basics, On-Chip Protection, ESD in Highly Sensitive*

*Devices and S20.20*, among other ESD topics. Several new tutorials have been added to the schedule that will help attendees obtain one of the new ESD certifications to be announced later this year.

Eight interactive workshops on Wednesday afternoon will cover subjects ranging from *On-Chip Protection* to *TLP, Magnetic Recording, S20.20*, and *ESD Standards*.

### 25<sup>th</sup> anniversary gala

In honor of its 25<sup>th</sup> anniversary, the Symposium will include a special evening of recognition and celebration on Tuesday, September 23. More details on this gala evening will be announced later in the year.

### Exhibits and other events

Attendees also will have the opportunity to visit the exhibits of nearly 100 companies that provide ESD control products and services. The exhibits are open to anyone interested in EOS and ESD.

Other events include authors' corners that provide opportunities to discuss the technical papers with the authors, receptions, and an opening plenary session.

The ESDC certification exams are scheduled for Friday, September 26. Special tutorials during the week will help applicants prepare for the examinations.

The detailed program will be mailed in early summer and also will be available on the Association's Web site, [www.esda.org](http://www.esda.org).

The Symposium is sponsored by the ESD Association in cooperation with the IEEE. It is technically co-sponsored by the Electron Devices Society. The general chair is Joseph Bernier, Intersil Corporation. The vice general chair is John Kinnear, IBM Corporation. The technical program chair is Christian Russ, Sarnoff Corporation.

### On the local scene

## Regional tutorial program scheduled

The ESD Association and the North Central chapter are co-sponsoring a regional ESD education program April 30 at Seagate Technology, Shakopee, MN.

The program features two in-depth tutorial sessions conducted by Stephen A. Halperin, president of Prostat Corporation and Stephen Halperin and Associates. The morning session will cover *ESD Basics and Device Failure Models*. The afternoon session will cover *ESD Auditing Using ESD S20.20 Program Technical Elements*.

For more information, contact the ESD Association, phone 315-339-6937 or E-mail [info@esda.org](mailto:info@esda.org); or the North Central Chapter, E-mail [tim.jarrett@guident.com](mailto:tim.jarrett@guident.com).

### Preliminary Schedule Symposium Week

#### Friday, September 19

Standards Meetings

#### Saturday, September 20

Standards Meetings

Registration Opens

#### Sunday, September 21

Standards Meetings

S20.20 Seminar

ESD Tutorials

#### Monday, September 22

S20.20 Seminar

ESD Tutorials

Welcome Reception

Exhibits Open (Evening)

#### Tuesday, September 23

Awards Breakfast

Plenary Session

Technical Sessions

Exhibits Open

25th Anniversary Gala

#### Wednesday, September 24

Technical Sessions

Exhibits Open

Workshops

#### Thursday, September 25

Technical Sessions

ESD Tutorials

#### Friday, September 26

ESDC Certification Exams

## Facility certification

## Updating facility certification

It's been nearly three years since the ESD Association rolled out a facility certification program based on ESD control program standard *ANSI/ESD S20.20-1999: Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)*. After all the introductory fanfare, what's happening with facility certification and with S20.20? Let's start with a quick review.

Designed to help answer the questions "How do I convince my customers my ESD control program adequately protects the products I provide them?" and "How do I demonstrate that a single ESD control program will work for all of my customers?", *ANSI/ESD S20.20-1999* outlines the basic requirements necessary to design, establish, implement, and maintain an ESD control program. The standard itself provides broad program guidance while allowing the user the flexibility to develop a specific, individualized program within the framework of S20.20.

### Facility certification announced

The mechanism for a third-party facility audit based on S20.20 was announced by the ESD Association in the fall of 2000. This S20.20 facility certification program is similar to ISO 9000 with certified registrars independently assessing a company's ESD control program and issuing a formal S20.20 certification. This assessment of a company's ESD control program can be performed as part of the company's ISO 9000 audit or as a separate audit.

Although ESD programs have been part of some ISO 9000 audits in the past, the ESD control portions of these audits often were superficial in nature and often were performed by auditors with limited ESD knowledge. The development of *ANSI/ESD S20.20* provides a formal, consistent process standard for OEMs, suppliers, and contractors that could be ISO 9000 audited.

Using S20.20 as a program guideline, a manufacturer not only has a means for

developing and implementing a program that meets its specific needs, it also has an ISO-level certifiable program that can demonstrate to their customers that they have a functioning ESD program in place. Contract manufacturers who face a myriad of differing control programs to satisfy their customers' varying requirements have the opportunity to implement a single auditable program.

### Benefits of facility certification

For companies who seek facility certification, there are a number of advantages:

- Companies who are certified early in the process can gain a competitive advantage
- In the long run, certification will be required in order to do business with some companies
- With reduced travel budgets for visiting suppliers, OEMs can gain comfort in the ESD programs of their suppliers if these suppliers are certified
- If all sites are certified to a single standard, it makes the movement of business to lower cost geographies easier and customers are more comfortable with the move

### Current status

Presently, there are 33 sites in nine countries that have been certified to *ANSI/ESD S20.20*. These facilities include OEMs, contract manufacturers, and manufacturers of ESD control products. The target by year-end is for 100 facilities to be certified.

There are now 3 registrars with offices in North America, Asia, and Europe who have been certified to conduct the S20.20 audits, and a fourth registrar is scheduled to take the training and conduct the witness audit that would qualify the firm to perform the S20.20 certification audits.

During 2002, the ESD Association conducted three seminars, including one in China, to help ESD program managers better understand the audit process and better prepare their companies for the formal audit. The popularity of these seminars has prompted the Association to schedule additional sessions in 2003. One seminar has been scheduled for March 26-27 at Association headquarters in Rome, NY. A second seminar will be held in conjunction with the September EOS/ESD Symposium in Las Vegas, NV.

Although these numbers provide some indication of the increasing interest in S20.20 certification, discussions with Ron Gibson, chair of the ESD Association Standards Committee and overseer of the S20.20 certification program, yield several additional observations. First, according to Gibson, are comments being received by the Association that an "increasing number of companies are beginning to require S20.20 certification of their suppliers." Second, "We've had reports from S20.20 certified companies indicating that normal conflicts that often arise between the companies and their customers on the matter of ESD control programs have decreased as a result of S20.20 certification. Reducing this conflict was one of the goals of developing S20.20."

### What's ahead?

With S20.20 certification entering its growing stages, what can we expect for the future? Gibson anticipates that the number of certified facilities will more than double in 2003 and continue growing at a fast rate in 2004. Additional registrars will become certified to conduct the audits. More S20.20 training and education is on the schedule for this year and next. And an ESD program manager certification program based on S20.20 is in the development stages.

Additional details on *ANSI/ESD S20.20* and the new facility certification program, including lists of certified registrars, are available from the ESD Association.

Association news

## There's still time to register for S20.20 seminar

It's filling up fast, but there's still space available in the upcoming ANSI/ESD S20.20 Seminar for Independent Assessors, Program Managers, and Consultants.

Scheduled for March 26 and 27 at ESD Association headquarters in Rome, NY, this two-day course is intended for companies or individuals who wish to help clients design and implement an ESD control program based on ANSI/ESD S20.20, as well as for those firms who are implementing their own programs.

This seminar will provide attendees with the tools and techniques to help their companies or their clients prepare for a facility audit (pre-assessment). Examples of control programs will be presented and general role-playing will be used in the assessment section. Interactive participation and case studies are integral parts of the seminar. The seminar will cover the following topics:

- Overview of ANSI/ESD S20.20
- Administrative elements
- Technical elements
- ESD program techniques for different applications
- Overview of the assessment process
- How to approach an assessment
- The audit checklist and follow-up questions

Ron Gibson, Celestica, Inc. and John Kinnear, Jr., IBM Corporation will be the presenters of this intensive seminar. Attendance is limited. Seminar fees are \$1,495. For more information or to register for this two-day program, contact ESDA headquarters.

From the president

## Getting the job done with your help

As we discussed in previous issues of *Threshold*, the Association's new five-year plan includes major growth in education, personnel certification, facility certification, member services, Symposium activities, and communications. It is indeed an aggressive plan dictated by industry's needs.



Steve Halperin

### Charting our reorganization

Based on the five-year plan, which was approved by the board of directors last June, our organizational chart and func-

tions have been modified to meet our many objectives. In December, the board of directors approved these structural and personnel changes necessary to start us down the road to our five-year goals.

Figure 1 represents our executive committee (XCOM) and business unit manager structure. XCOM is generally responsible for HQ personnel issues, long term planning, site selection, and business decisions that must be made between Board meetings. The business unit managers (affectionately referred to as BUMs) are responsible for their respective organization's operations.

Figure 2 represents the business operations of the organization, which includes headquarters, human resources, and marketing and communications. The senior

*Continued on page 6*

ESDA Organization Chart As Of December 18, 2002

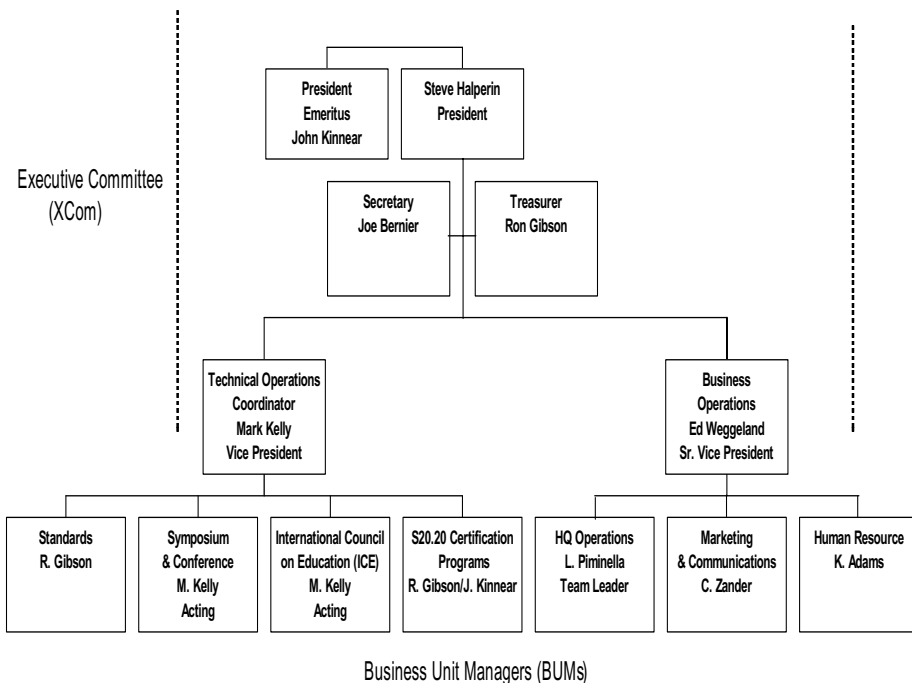


Figure 1: Executive Committee (XCom) & Business Unit Managers

## From the president

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### Getting the job done with your help

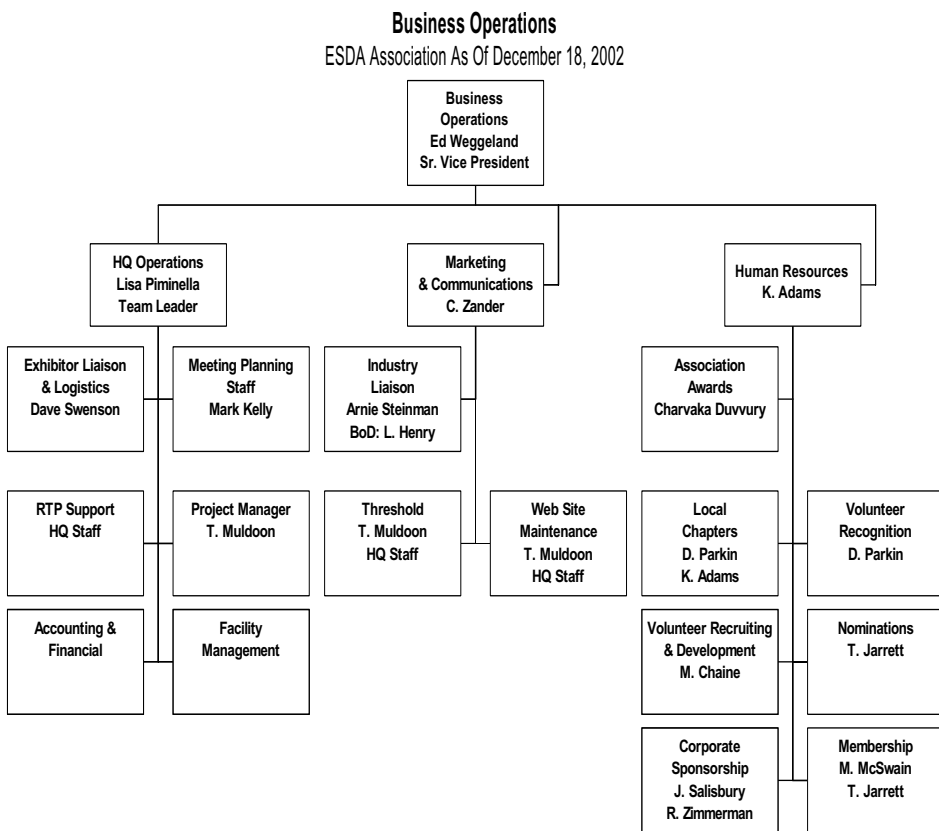


Figure 2: Business Operations

vice president oversees these business operations.

Figure 3 represents all ESDA technical activities, which are the responsibility of the vice president. These activities include standards, the Symposium, education, professional certification, and facility certification.

#### Increased personnel needs

While this reorganization takes the demands of our five-year plan into account, initially we do not have enough experienced personnel to adequately spread the work. As a result, many officers and board members are doing double duty to meet ESDA's operational demands. We are working hard to alleviate this problem.

Obviously, with the expansion of the organization's functions, the demand for experienced managers, chairs and volunteer committee members is greater than ever before. To address this major concern, human resources under Kay Adams' leadership now includes a volunteer recruiting and development team chaired by Mike Chaine. This committee is charged with encouraging member volunteers to participate in organization activities, recommending jobs commensurate with volunteers' skills and experience, and assisting them to move through the organization to gain ESDA knowledge and management insight. Subsequently, Mike's committee works with Tim Jarrett's nominations committee to select and encourage experienced volunteers to run for the board of directors and, ultimately,

become the future board members and officers of the ESDA. Based on senior vice president Ed Weggeland's concept, we encourage our volunteers to "...move up the ladder" of experience and organization management.

#### Personal growth, industry visibility

Opportunities for ESDA volunteer experience abound in every segment of the organization. Virtually every volunteer who becomes involved with ESDA committee work enjoys professional relationships, new friendships, and the opportunity to grow into new areas and responsibilities. Their work supports their companies' needs in acquiring new insights and staying abreast of technical developments covering a spectrum of ESD related topics. Those who accept leadership assignments hone their managerial and communication skills.

As volunteers progress through a variety of association activities, they become well known for their work on behalf of industry and the organization. This is a very satisfying experience because it offers new relationships, and the opportunity to work on different projects with unique attributes not ordinarily available in the workplace. Participating in various association committee meetings three or four times a year helps clear the mind and provides a refreshing new perspective to the volunteer's daily work, while enhancing their contributions to their employer and their industry.

#### What are the opportunities?

If you take a moment to review the business and technical operations organizational charts mentioned earlier, you will see considerable opportunity for volunteer participation.

- If you have an interest in local activities and know others who share your

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## From the president

*Continued from page 6*

### Getting the job done with your help

- ESD concerns, consider working with or organizing a local ESD chapter.
- Are you skilled in communication and enjoy organizational development? Consider working with the membership or corporate sponsorship committees.
  - If you are an avid reader and enjoy technical materials, volunteer to review new books for the association's press publications program. Here, new materials are reviewed and offered to our membership, often at reduced prices.
  - Are you a registered lead assessor and well experienced in facility and process auditing? Have you written and managed complex technical programs? If so, our facility certification business unit is growing fast and needs very qualified personnel for program development and training activities.
  - Do you develop advanced technology, corporate programs, or train supervisors and want an opportunity to share your experience in a tutorial format? We have a comprehensive educational program that is expanding rapidly. We are always looking for new, interesting, and experienced instructors who have expertise in specific areas.
  - Do you enjoy working with others in challenging organizational situations? Do you have project skills or audiovisual and computer capabilities? Consider working with the Symposium arrangements team.
  - Are you a skilled college instructor with advanced engineering or process development experience? Our new personnel certification programs for program management, process auditing, engineering, and technician

levels require new educational material development and personnel who are qualified to deliver and manage them.

These are just a few examples; we have plenty of jobs and opportunity for growth. If you are interested in getting involved, contact Mike Chaine (mchaine@micron.com). Provide him with an overview of your background, experience, and areas of interest. Mike and his team will help get you started and involved in an interesting position. Those who enjoy ESDA activities, deliver on their commitments, and maintain their involvement become the mainstays of our volunteer organization. They are the future. Before you know it, you will be moving through the organization like a pro, and should you desire, moving up the ladder to organization leadership.

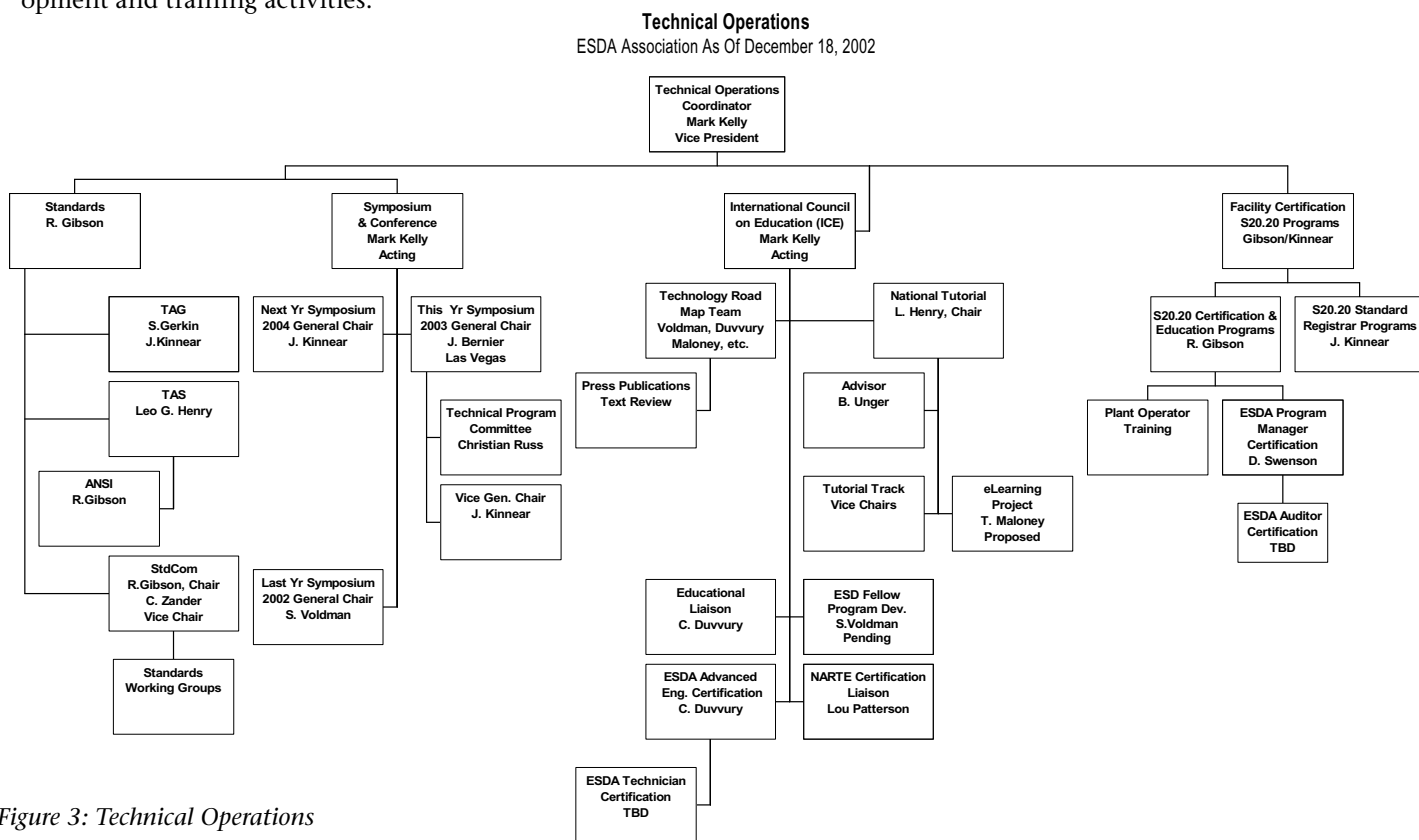


Figure 3: Technical Operations

## Standards working group activities

The ESD Association standards committee and standards working groups held their February meetings in Las Vegas, NV. Much of the activity focused on updates and revisions to existing documents.

**Ionization WG-3** reviewed test data from a new proposed charged plate monitor (CPM) test fixture as an alternative to the CPM for determining discharge time and offset voltage. The group also began a review of advisory *ESD ADV3.2-1995* covering selection and acceptance of air ionizers to determine if new material should be added to the document.

**Human Body Model Device Testing WG-5.1** is considering a new standard practice document focusing on alternative methods for ESD testing of high pin count devices rather than including these methods in an updated HBM standard *ESD STM5.1*.

**Machine Model Device Testing WG-5.2** reviewed the results of its industry survey assessing usage of machine

model testing. Based on the results of the survey, the group concluded that no changes to the existing standard were needed in the near future.

**CDM Device Testing WG-5.3.1** reviewed additional test data that indicated that an arc-free calibration procedure should be considered in the next version of the standard.

**Socket Discharge Model (SDM) Device Testing WG-5.3.2** is collecting additional data on the effects of reducing the number of pulses from three to one. The initial test data was inconclusive.

**Transient Latch-Up Device Testing WG-5.4** outlined its work plan for the next several months.

**Transmission Line Pulsing WG-5.5** reviewed and addressed comments on a draft of its standard practice document. The group also discussed very fast (VF) TLP and whether a document should be developed covering VF-TLP.

**Flooring WG-7** reviewed data from round robin testing on the use of 10 volts and 100 volts when measuring the resistance of flooring materials. The data indicated that the use of 10 volts was not suitable for materials above a resistance of  $10^7$  ohms and that the use of 100 volts was not suitable for materials less than  $10^5$  ohms. Future changes to the flooring standard will consider this information.

**Handlers WG-10** discussed areas of future work including an equipment verification or certification document, measuring discharge on parts going through the equipment, EMI measurements, and continuous monitoring processes.

**Two Point Resistance (Packaging) WG-11.13** reviewed comments to its WIP document and is targeting the next meeting series for the completion of a draft document.

**Hand Tools WG-13** is working on a document covering acceptance and verification of hand tools. Topics under discussion include the measurement of system resistance from the tool through the operator to ground, and a field induced discharge test.

**Simulators WG-14** is completing work on a draft document.

**Gloves WG-15** discussed round robin test data that included measurements made at 12% and 50% RH with different types of gloves and electrodes. The group plans to complete preparation of an initial WIP document by June.

**Workstations WG-53** is continuing to work on its initial draft of a compliance verification document covering work surfaces, flooring, chairs, packaging, wriststraps, and ionizers as used in the workstation environment.

**Cleanrooms WG-55** discussed preparation of a document addressing clean room garments.

The next **standards meeting series** will be June 13-15 at ESDA headquarters in Rome, NY. The meeting schedule has not yet been finalized.

## ESDA publishes S541 standard, foot grounders draft, technical reports

The ESDA standards committee has approved the publication of four new standards documents, including a new standard on packaging and a new draft standard covering foot grounders.

*ESD S541-2003: Packaging Materials for ESD Sensitive Items* is a new standard that defines the packaging properties needed to protect electrostatic discharge susceptible (ESDS) electronic items through all phases of production, transport, and storage. The document discusses application requirements and references the testing methods for evaluating packaging and packaging materials for those properties.

A new draft standard *ESD DS9.2-2003: Foot Grounders-Resistive Characterization* defines a test method for measuring the electrical resistance of foot grounding devices used for ESD control in the electronics environment. As a draft document, DS9.2 is released for industry

review and is subject to change before being released as a full standard.

Copies of *ESD S541* and *DS9.2* will be available for purchase from Association headquarters shortly.

The Association has also published two technical reports. *ESD TR 15-02: Survey of Static Control Worksurfaces and Grounding Mechanisms* provides guidance for understanding the attributes of work-surface materials and their grounding mechanisms. *ESD TR 16-03: Voltage and Energy Susceptible Device Concepts, Including Latency Considerations* promotes an understanding of the differences between energy and voltage susceptible types of devices and their sensitivity levels.

The two technical reports can be purchased from Association headquarters. ESDA members also may download copies from the For Members section of the Association's Web site, [www.esda.org](http://www.esda.org).

## Who is Rosetta Stone?



Leo G. Henry

Somewhere between 1999 and 2000 AD, at or before the first summer ESD standards meeting in Austin (facilitated by SEMATECH) between the ESDA and JEDEC, I was asked to prepare a Rosetta Stone for the HBM ESD component level standards documents. I was asked to use both the ESDA and the JEDEC documents.

### Who? What?

Can you imagine my next question? Yes, it was, "Who is Rosetta Stone?" This was followed by some raised eyebrows and then a few chuckles. I sought to recover by suggesting that she must be of Caribbean origin. More laughter. Several people simultaneously tried to explain. Although I did not grasp the full meaning at that time, there was enough explanation to complete and present this Rosetta Stone HBM project at the next meeting. A comparison of the two documents showed the similarities and differences between them. Over the years, the requests for copies of the document have been numerous.

### The origins

Since then, I have often wondered what is the real origin of those two words, *Rosetta Stone*. Well, there is nothing like the internet ([www.ancientegypt.co.uk](http://www.ancientegypt.co.uk)); I call it the "Mother of all encyclopedias". The information was sobering and so fas-

inating that I would like to share it with those of you who are unfamiliar with the origin of the Rosetta Stone.

The Rosetta Stone is a *what*, not a *who*. It is actually a stone tablet, part of a granitoid stela, with an intriguing shape. The Stone was discovered in 1799 by French soldiers in Napoleon's army who were building a fort in Egypt in a small northern village in the Nile Delta, called Rashid (Rosetta). The stone is a black basalt slab that measures 45x28x11 inches, weighing about 1674 pounds with three inscriptions that were written in three parallel sections on the Stone. We will assume the obvious: the three texts bore the same message.

### One message, three groups

The Rosetta Stone was recognized to be just one piece of a larger rock, because some of the inscriptions were missing and portions of the slab had broken off over the centuries. The text on the stone was carved in March 196 BC. It was written by a group of priests in Egypt to honor the Egyptian pharaoh. The text listed all of the things that the Pharaoh had done that was good for the priests and the people of Egypt. The text was in two languages (Egyptian and Greek), but the writers used three different scripts: the hieroglyphic (pictorial) language for religious documents, the demotic (cursive) language for government officials and the common man, and the Greek language for the rulers of Egypt.

It should be apparent then that there was an expectation that all three scripts on the enigmatic Rosetta Stone would present the same information to the three different groups. However, it was

not until 1822 that the Stone was totally deciphered. The inscriptions included procedures to be followed for the proper governing of Egypt at that time, a country that had become a multi-cultural society.

### Applying the theory to HBM

So how was this same concept applied to two HBM ESD documents that were developed by the two different standards groups and that were meant to present the same procedure to the same electronics community? A four-column list was prepared. The first column listed the different topics in both documents. The second and third columns showed how each standard dealt with the topic. The fourth column showed whether or not differences existed for each topic. This "HBM Rosetta Stone" actually opened our eyes to the real differences between the documents.

Oh, the real Rosetta Stone, after residing in Egypt for a few years, was ceded to the British government by the terms of the Treaty of Alexandria in 1801 and has been exhibited in the British museum since 1802.

### More research

Despite this sobering education, I still think that the village was named after a beautiful Caribbean woman. Anybody wish to do some more research? Perhaps we can dig up a grant to be an "Indiana Jones" in the Caribbean islands.

Until next time- BHappy,

LeoG

Symposium

## Behind the scenes at the Symposium

During the EOS/ESD Symposium's weekly run, attendees see the action up close: registration lines, coffee, exhibits, computer based training demonstrations, the presentation of papers, tutorials, and workshops. But, behind the scenes, there's a never ending flurry of activity that is crucial to the smooth operation of the Symposium. Hundreds of signs provide directions to attendees, authors need assistance in arranging their slides, preparing their posters for the authors' corners, becoming comfortable with the podium, microphones, and wireless mics.

Helping smooth the way are the unsung heroes, the volunteers of the arrangements and audiovisual committees who show up early and stay late to enhance the participation of the authors, moderators and panelists and assure that attendees have a rewarding and educational Symposium experience. Here's a photo look at this behind-the-scenes activity at the 2002 Symposium.

If you'd like to volunteer to help at this year's Symposium, contact ESDA headquarters.



Top left: Jeff Salisbury assists an author in arranging his slides; top right: Tim Jarrett provides instruction in the use of the podium microphone; center left: Leo G. Henry and Cheryl Checketts pack up the computer systems used for the computer based training demonstrations; left: Cheryl Checketts helps an author prepare posters for the authors' corner; above: Jeff Salisbury puts the final touches on one of the hundreds of signs that provide directions for Symposium attendees.

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## **Threshold**

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