

## UPCOMING TECHNICAL MEETINGS

### 2010 IEEE INTERNATIONAL VACUUM ELECTRONICS CONFERENCE (IVEC)

The 11th IEEE International Vacuum Electronics Conference (IVEC 2010) is returning to the picturesque city of Monterey, California, May 18–20, 2010. The meeting will be held at the Monterey Conference Center at the Portola Hotel and Spa under the sponsorship of the IEEE Electron Devices Society (EDS).

The IVEC 2010 conference is organized by a committee made up of representatives of government, industry and university researchers. Members of the 2010 Conference Organizing Committee are listed below.

#### Conference Organizing Committee

*General Chairman:* Carol Kory, Teraphysics Corporation

*Technical Program Chair:* William Menninger, L-3 Communications ETI  
Monica Blank, Communications and Power Industries

John Booske, University of Wisconsin

James Dayton, Jr., Teraphysics Corporation

Dan Goebel, Jet Propulsion Laboratory

Yehuda Goren, Teledyne Electronic Technologies

R. Lawrence Ives, Calabazas Creek Research

Kenneth Kreischer, Northrop Grumman Corporation

Y.Y. Lau, University of Michigan  
Baruch Levush, Naval Research Laboratory

Ralph Nadell, Palisades Conference Management

Dev Palmer, Army Research Office  
Richard True, L-3 Communications EDD

David Whaley, L-3 Communications EDD

Oversight of the conference is provided by the EDS Technical Committee on Vacuum Devices; an international committee chaired by Dr. Baruch Levush of NRL.

IVEC was originally created in 2000 by merging the US Power Tubes Conferences and the European Space Agency TWTA Workshops, and has now expanded to a fully international conference, being held every other year in the US, and in Europe and Asia alternately every fourth year. After Kitakyushu, Japan in 2007, Monterey, California in 2008, and Rome, Italy in 2009, IVEC returns to Monterey in 2010. Monterey is a spectacular coastal community

in northern California with a temperate climate year-round. Visitors from around the world come to Monterey to experience its natural beauty, cultural resources and rich historic past.

Since its inception, IVEC has become the premier international venue for presentations in the field of vacuum electronics. It provides a forum for presentation and discussion of topics on vacuum devices, vacuum microelectronics, applications of vacuum devices, and the theory and technological developments of vacuum electron devices. For systems developers, IVEC provides a unique snapshot into the state of the art in vacuum electron devices. These devices continue to provide power and performance for advanced electromagnetic systems especially at higher frequency. Rapid technological advances in the vacuum electron device area, plus new and improved devices, are making possible systems having reliability and capabilities well beyond any fielded today.

The 2010 IVEC conference will open the first day with a plenary session featuring invited speakers covering several subjects of broad interest to the community. This session will be followed by two and a half days of technical presentations that include both oral and poster sessions. Papers will include presentations on a wide range of classic vacuum devices. The technical subject categories are listed below.

#### 1) Vacuum Electron Devices

- Traveling-wave tubes (all types)
- Crossed-field devices (oscillators and amplifiers)
- Klystrons
- Multiple-beam devices



Monterey Conference Center at the Portola Hotel and Spa

- Inductive output tubes
- Fast-wave devices (gyrotrons, gyro-amplifiers)
- Free electron lasers and masers
- Pulse compression devices
- Plasma filled amplifiers and oscillators
- High power microwave devices/RF directed energy
- Triodes, tetrodes and pentodes
- Power switches

2) *Vacuum Microelectronics/Nanoelectronics*

- Microwave, millimeter-wave & THz amplifiers and oscillators
- Field emitter arrays
- Flat panel displays
- Sensors and detectors

3) *Systems and Subsystems*

- Microwave and millimeter wave power modules
- Electronic power conditioners, modulators, and supplies
- Linearizers
- Amplifier/antenna coupling
- Device and system integration
- Reliability

4) *Technologies*

- Cathodes and other electron emitters
- Component parts (e.g. guns, circuits, windows, collectors)
- Analysis and computer modeling
- Novel materials (e.g. dielectrics, coatings, magnetic materials)
- Electron emission
- RF breakdown
- Linearity, intermodulation and noise
- Novel measurement techniques
- Miniaturization
- Thermal power management and control

5) *Applications of Vacuum Electron Devices*

- Defense
- Space
- Radar
- Telecommunications
- Medicine
- Particle accelerators
- RF interference
- Instruments and lithography

- Materials Processing
- Television
- Displays
- Electric Propulsion

Extended abstracts of up to two pages in length for IVEC 2010 should be submitted electronically by January 15, 2010. Information on the preparation and submission of the abstracts can be found on the conference web site at <http://ivec2010.org>.

As in past conferences, the technical meeting and social events will provide a unique opportunity to renew friendships with colleagues and friends, interact with customers, and meet students. A highlight of the meeting will be the presentation of the IVEC Award for Excellence in Vacuum Electronics, and a Best Student Paper Award. Complete details about the meeting and these awards can be found on the conference web site at <http://ivec2010.org>.

*Carol L. Kory  
2010 IVEC General Chair  
Teraphysics Corporation  
Cleveland, OH, USA*

## 2010 IEEE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM (IRPS)

The 48th IEEE International Reliability Physics Symposium (IRPS) will be held at the Hyatt Regency Orange County, Anaheim, California, May 2–6, 2010. For nearly 50 years IRPS has been the leading conference in the area of microelectronics reliability. This comprehensive meeting is an ideal opportunity for scientists and engineers to present their latest results and also to stay current with recent developments in the reliability community.

IRPS was started in the 1960s by the military and aerospace communities, and is now jointly sponsored by the IEEE Electron Devices Society and the IEEE Reliability Society. The meeting has consistently drawn at-

tendees from North America, Europe, Asia, and other parts of the world. This year, to reflect the trend towards increased activities in alternative energy sectors, IRPS is introducing a new technical topic on "Reliability of Alternative Energy Technologies" covering unique IC-based reliability phenomena and failure mechanisms in alternative energy technologies including solar, wind, transportation and power storage. Tutorials and papers which address the technical challenges in this area will be part of the program.

The highlight of the conference consists of three days of parallel technical sessions in which scientists and engineers working in the area of

microelectronics reliability present their original research. The presentations focus on areas such as identification of new failure mechanisms in emerging technologies, improvement in understanding of known failure mechanisms, and demonstration of new techniques for reliability evaluation. Technologies addressed include silicon-based integrated circuits, compound semiconductor devices, and emerging devices such as organic electronics and nanoelectronics. Specific topical areas to be addressed at IRPS 2010 are:

- Device Dielectrics
- Transistor Degradation
- Non-Volatile Memory
- Soft Error Effects