Dear Colleagues,

We are pleased to announce that the Twenty-Fourth International Vacuum Electronics Conference (IVEC 2023), organized and sponsored by the University of Electronic Science and Technology of China (UESTC) with the technical co-sponsorship of the IEEE Electron Devices Society (EDS), will be held on-site in Chengdu, Sichuan Province, China, on April 25-28, 2023. Chengdu is known as the hometown of pandas, and we sincerely expect all attendees to fully interact with each other while immersing themselves in the natural beauty of Southwest China.

IVEC 2023 aims at being an international forum of information and technical discussion among various players in the fields of vacuum electronics: designers, researchers, young and experienced engineers, scientists, device users, manufacturers, operators, government/institutions, academics and of course, our valuable students.

We invite you to submit papers with the results of your latest work and experiences in the field of vacuum electronics. Submissions from all groups are highly encouraged and appreciated. IVEC 2023 strives to provide a unique platform for exchanging scientific and technical information and foster collaboration and cooperation in the vacuum electronics domain at Asian and global levels.

IVEC 2023 will focus on the Development of Vacuum Electronics for Requirements of the 21st Century as the conference theme. A special highlight of IVEC 2023 will be the introduction of Generalized Vacuum Electronics, which will try to extend the electron radiation from traditional vacuum to solid-state materials, as well as combine vacuum technology with the semiconductor technology. IVEC 2023 is the ideal forum to present and discuss the promising research from this field with the wider vacuum electronics community.

The John R. Pierce Award for Excellence in Vacuum Electronics, the Vacuum Electronics Young Scientist Award and the Best Student Paper Award will be presented. More details about the modalities of the conference system and the Best Student Paper Award will be updated on the IVEC 2023 website in the upcoming months.

We hope to see you all at IVEC 2023!

Sincerely,

The IVEC 2023 Committees
1. Vacuum Electron Devices
   - Traveling-wave tubes
   - Backward-wave devices
   - Crossed-field devices
   - Transit-time devices
   - Fast-wave devices
   - Smith-Purcell effect devices
   - Inductive output tubes
   - Ion-focused beam-plasma devices
   - Metamaterial vacuum electron devices
   - Triodes, tetrodes and pentodes
   - Pulse compression devices
   - Power switches

2. High Power Microwave Technology
   - Relativistic vacuum electron devices
   - Free electron lasers
   - Window and RF breakdown
   - Pulse power technology
   - Measurement techniques

3. Micro- and Nano- Vacuum Electronics
   - Vacuum transistor
   - Vacuum nanoelectronics
   - Field emitters/arrays
   - Circuit primitive and applications
   - Flat panel displays
   - Metamaterial structures and designs
   - Sensors and detectors

4. Vacuum Electronics Combined with Semiconductor Technologies
   - 2D electron gas devices
   - On-chip vacuum electron devices
   - Graphene-based vacuum electron devices
   - Device and system integration
   - 3D semiconductor device technology
   - Compound semiconductor physics and devices
   - Electro-optical phenomena of semiconductors

5. Modeling, Theories and Methods
   - Numerical simulation and modeling
   - Particle-in-cell method
   - Multi-physics simulation
   - Electronic design automation
   - Advanced theories on vacuum electronics
   - Design tools

6. Electron Emission Sources, Materials and Physics
   - Thermionic emitters
   - Non-thermionic emitters
   - Novel emitter materials and technologies
   - Electron emission physics
   - Novel cathode design, fabrication, and characterization
   - Beam optics

7. Components, Structures and Mechanisms
   - Novel Materials
   - Key components
   - Thermal power management and control
   - Linearizers & noise controllers
   - Linearity, intermodulation, and noise
   - Electronic power conditioners, modulators, and supplies
   - Miniaturization of devices and components
   - Power modules
   - In-depth reliability study and aging mechanism

8. Advanced Fabrication Technologies
   - Materials processing
   - Instruments and lithography
   - Micro-fabrication techniques
   - Advanced manufacturing technologies
   - Novel measurement techniques and diagnostics
   - Metamaterials design and processing

9. Systems and Applications
   - Wireless communication
   - Radar technologies and systems
   - Imaging and microscopy
   - Microwave energy applications
   - THz biological effects
   - Medicine
   - Industry
   - Controlled nuclear fusion
   - Plasma discharge
   - Particle accelerators
   - Electric propulsion
   - RF interference

ABSTRACT SUBMISSION
Authors are invited to submit an initial 2-page abstract of the work to be reported including as many details as possible. The inclusion of figures, tables and especially numerical data is strongly recommended. In addition to the standard 2-page abstract, authors will be requested to submit a 150-word (or less) summary of their abstract which will be printed in the programme booklet which will be distributed at the conference.

The deadline for the initial abstract submission is 20 December 2022. Abstracts must be submitted as instructed at www.ivec2023.org.

CALENDAR OF EVENTS
Abstract submission deadline 20 December 2022
Notification of acceptance 28 January 2023
Revised IEEE-compliant abstract due 21 February 2023

Authors will be notified by 28 January 2022 and accepted abstracts presented at the conference will be published by IEEE. Accepted papers for oral and poster presentation will be published on electronic media and distributed during the conference.

For accepted papers, Final Paper Submission guidelines will be provided in your paper acceptance notification and will also provide details to aid authors in making their abstracts IEEE Xplore compliant.

However, only the accepted papers that are presented (oral and/or poster) at the conference by one of the abstract authors will also be published by IEEE via IEEE Xplore.

Authors of accepted papers will be required to submit their final papers, in IEEE compliant format by 21 February 2023.

ORAL PRESENTATION
Each paper selected for oral presentation will be allotted a total of 20 minutes, including 15 minutes for presentation and 5 minutes for questions and discussion. To maintain the session schedule, authors are asked to ensure that their presentations conform to these time constraints.

ADDITIONAL INFORMATION
Further information, including instructions for the submission of abstracts and information for exhibitors is available on the IVEC website: www.ivec2023.org

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