

# ANNOUNCEMENT and FINAL CALL FOR PAPERS



## 2019 IEEE NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE Short Course and Radiation Effects Data Workshop

July 8-12, 2019  
Marriott Rivercenter Hotel,  
San Antonio, Texas

[www.nsrec.com](http://www.nsrec.com)

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You are cordially invited to attend the 2019 IEEE Nuclear and Space Radiation Effects Conference to be held July 8-12, 2019 at the Marriott Rivercenter Hotel, in San Antonio, Texas. The conference features a technical program consisting of eight to ten technical sessions of contributed papers describing the latest observations in radiation effects, a Short course on a radiation effects issue with current relevance offered on July 8, a Radiation Effects Data Workshop, and an Industrial Exhibit. The technical program includes oral and poster sessions.

Papers on nuclear and space radiation effects on electronic and photonic materials, devices, circuits, sensors, and systems, as well as semiconductor processing technology and design techniques for producing radiation-tolerant (hardened) devices and integrated circuits, will be presented at this meeting of engineers, scientists, and managers. International participation is strongly encouraged.

We are soliciting papers describing significant new findings in the following or related areas:

Basic Mechanisms of Radiation Effects in Electronic Materials and Devices

- Single Event Charge Collection Phenomena and Mechanisms
- Radiation Transport, Energy Deposition and Dosimetry
- Ionizing Radiation Effects
- Materials and Device Effects
- Displacement Damage
- Processing-Induced Radiation Effects

Radiation Effects on Electronic and Photonic Devices, Circuits and Systems

- Single Event Effects
- MOS, Bipolar and Advanced Technologies
- Systems on Chip, GPUs, FPGAs, Microprocessors
- Isolation Technologies, such as SOI and SOS
- Methods for Hardened Design and Manufacturing
- Modeling of Devices, Circuits and Systems
- Cryogenic or High Temperature Effects
- Novel Device Structures, such as MEMS and Nanotechnologies
- Techniques for Hardening Circuits and Systems

Space, Atmospheric, and Terrestrial Radiation Effects

- Characterization and Modeling of Radiation Environments
- Space Weather Events and Effects
- Spacecraft Charging
- Predicting and Verifying Soft Error Rates (SER)

Hardness Assurance Technology and Testing

- New Testing Techniques, Guidelines and Hardness Assurance Methodology
- Unique Radiation Exposure Facilities or Novel Instrumentation Methods
- Dosimetry

New Developments of Interest to the Radiation Effects Community

**PAPER SUMMARY DEADLINE: FEBRUARY 1, 2019**

## PROCEDURE FOR SUBMITTING SUMMARIES

Authors must conform to the following requirements:

1. Prepare a single Adobe Acrobat file consisting of a cover page and an informative two to four page summary describing results appropriate for 12-minute oral or a poster presentation. The cover page must provide an abstract no longer than 35 words, the title, name and company affiliation of the authors, and company address (city, state, country). Identify the author presenting the paper and provide telephone, fax, and email address. The summary must include sufficient detail about the work to permit a meaningful technical review. In the summary, clearly indicate (a) the purpose of your work, (b) significant new results with supporting technical material, and (c) how your work advances the state of the art. Show key references to other related work. The summary must be no less than two and no more than four pages in length, including figures and tables. All figures and tables must be large enough to be clearly read. Note that this is more than an abstract, but do not exceed four pages.
2. Prepare your summary in single-column or IEEE TNS standard two-column format, using 11 point or greater font size, formatted for either U.S. Standard (8.5 x 11 inch) or A4 (21 x 29.7 cm) page layout, with 1 inch (2.5 cm) margins on all four sides.
3. Obtain all corporate, sponsor, and government approvals and releases necessary for presenting your paper at an open attendance international meeting.
4. Summary submission is electronic only, through [www.nsrec.com](http://www.nsrec.com). The submission process consists of entering the paper title, author(s) and affiliation(s), an abstract no longer than 35 words, and uploading the summary. Authors are prompted to state their preference for presentation (oral, poster, or data workshop poster) and for session. Details of the submission process may be found at [www.nsrec.com](http://www.nsrec.com). The final category of all papers will be determined by the Technical Program Committee, which is responsible for selecting final papers from initial submissions.

**Summaries must be received by  
February 1, 2019**

**Detailed submission and  
formatting instructions  
will be available after  
December 1, 2018  
at [www.nsrec.com](http://www.nsrec.com)**

**Papers accepted for oral or poster presentation at the technical program are *expected* to be submitted for publication in the *IEEE Transactions on Nuclear Science* (January 2020).** Selection for this issue will be based on a separate submission of a complete paper. These papers will be subject to the standard full peer review given all papers submitted to the *IEEE Transactions on Nuclear Science*. Further information will be sent to prospective authors upon acceptance of their NSREC summary. It is not necessary to be an IEEE member to present a paper or attend the NSREC. However, we encourage IEEE and Nuclear and Plasma Sciences Society (NPSS) membership of all NSREC participants.

## RADIATION EFFECTS DATA WORKSHOP

The Radiation Effects Data Workshop is a forum for papers on radiation effects data on electronic devices and systems. Workshop papers are intended to provide radiation response data to scientists and engineers who use electronic devices in a radiation environment, and for designers of radiation-hardened systems. Papers describing new simulation or radiation facilities are also welcomed. **The procedure for submitting a summary to the Workshop is identical to the procedure for submitting NSREC summaries.** Radiation Effects Data Workshop papers will be published in a Workshop Record and are not candidates for publication in the Conference issue of the *IEEE Transactions on Nuclear Science*.

## SAN ANTONIO, TEXAS

Deep in the heart of Texas, San Antonio's bold spirit and historic legacies make it an ideal gateway to the region's culture, scenic beauty and restful retreats. San Antonio has been part of colonial Spain, the Republic of Mexico, the Republic of Texas, and since 1845, the United States. Relics and tales from this iconic past linger along the city streets. Originally colonized by Spain, San Antonio has five beautifully preserved Spanish colonial missions including The Alamo, the location of a famed battle for Texas independence. La Villita Historic Arts Village, a small village that housed Spanish soldiers stationed at The Alamo, is full of life and commerce. Commerce also thrives a few blocks away at Market Square. Known as the largest Mexican market north of the Rio Grande, Market Square is filled with local and imported pieces of art, pottery, jewelry and textiles.

One distinct locale that houses many of San Antonio's unique offerings is the River Walk. Here you will find miles of meandering paths along the banks of the San Antonio River connecting a Texas-sized sampling of hotels, restaurants, shops, historic landmarks, museums and more. Visitors and locals dine aboard river cruisers and the sounds of mariachis echo from the stone bridges above. This is the river that originally inspired the settlement of San Antonio, and it still flourishes today as the city's center.



Photo courtesy of [visitsanantonio.com](http://visitsanantonio.com), Stuart Dee

From the Marriott Rivercenter, step out onto the River Walk, visit the Alamo, and enjoy one of America's most authentic destinations. It is a city alive: a city of poets and lyricists, painters and sculptors, a city rich and humble. Please join us for NSREC 2019 in San Antonio.