

2018 IEEE Nuclear and Space Radiation Effects Conference Awards Comments by the Chairman

IT IS a long-standing tradition of the IEEE Nuclear and Space Radiation Effects Conference (NSREC) to recognize the Outstanding Conference Paper, the Outstanding Data Workshop Presentation, and the best paper presented and first-authored by an IEEE Student Member. In addition to recognizing authors for particularly high-quality and relevant work, the awards process also encourages all authors to produce presentations and manuscripts of high technical quality, clarity of presentation, and significance to the community.

As in previous years, this difficult selection process began at the conference, where the Awards Committee selected the candidate papers based on the conference presentations (both oral and poster). At least five committee members judged each conference session and scored each presentation on the basis of technical quality, originality, clarity, and significance to the community. In addition, each member of the committee also evaluated all the Radiation Effects Data Workshop presentations. At the conclusion of the conference, the committee met to discuss the results of the scoring process. This year, 11 presentations were selected as candidates for the Outstanding Conference Paper Award. In addition, the evaluations for the Data Workshop papers were discussed and the scores tallied. One paper stood out and was selected as the Outstanding Data Workshop Presentation. Following the conference, the manuscripts of the 11 nominated papers were reviewed and scored using the criteria mentioned earlier. This was a time-consuming process, requiring each committee member to read and compare the 11 candidate papers during late July and August. Although there were several strong candidates, one paper clearly stood out due to its consistently high scores across all the committee members, and a second paper received scores well above those of the remaining papers evaluated. Accordingly, it was decided to award a best paper and a meritorious paper for NSREC 2018. The Outstanding Conference Paper was first-authored and presented by a student, so it also receives the Best Student Paper Award.

On behalf of the committee, I am pleased to announce that the 2018 NSREC Outstanding Conference Paper and Best Student Paper is: Optimizing Optical Parameters to Facilitate Correlation of Laser- and Heavy-Ion-Induced Single-Event Transients in SiGe HBTs, *A. Ildefonso, Z. E. Fleetwood, G. N. Tzintzarov, J. M. Hales, D. Nergui, M. Frounchi, A. Khachatryan, S. P. Buchner, D. McMorrow, J. H. Warner,*

J. Harms, A. Erickson, K. Voss, V. Ferlet-Cavrois, and J. D. Cressler.

The 2018 Meritorious Paper is: Directional Dependence of Co-60 Irradiation on the Total Dose Response of Flash Memories, *M. J. Gatlage, D. I. Bruce, J. D. Ingalls, D. P. Bossev, M. McKinney and M. J. Kay.*

The winner of the 2018 Outstanding Data Workshop Presentation Award is: NASA Goddard Space Flight Center's Compendium of Recent Single Event Effects Results, *M. V. O'Bryan, E. P. Wilcox, C. M. Szabo, M. D. Berg, K. A. LaBel, M. J. Campola, M. C. Casey, J.-M. Lauenstein, J. A. Pellish, D. Chen, and E. J. Wyrwas.*

In addition to the two papers that received the awards, the following nine papers were selected by the Awards Committee for consideration for the Outstanding Paper Award and, where appropriate, the Outstanding Student Paper Award.

Using the Galileo Solid-State Imaging Instrument as a Sensor of Jovian Energetic Electrons, *A. Carlton, M. de Soria-Santacruz Pich, K. Wousik, I. Jun, and C. Kerri (Student paper).*

Total Ionizing Dose Effects in 3D NAND Flash Memories, *M. Bagatin, S. Gerardin, A. Paccagnella, A. Costantino, M. Muschitiello, A. Mohammadzadeh, and V. Ferlet-Cavrois.*

Strategies for Removing Common Mode Failures from TMR Designs Deployed Ion SRM FPGAs, *M. J. Cannon, A. M. Keller, H. C. Rowberry, C. A. Thurlow, A. Perez-Celis, and M. J. Wirthlin (Student paper).*

Total Dose Testing Methodology for Bipolar Circuits Operating in the Jovian Radiation Environment, *P. Adell, S. McClure, B. Rax, D. Thorbourn, A. Kenna, I. Jun, K Wousik, and L. Scheick.*

Temperature-Switching During Irradiation as a Test for ELDRS in Linear Bipolar Devices, *X. Li, W. Lu, Q. Guo, D. M. Fleetwood, C. He, X. Wang, X. Yu, J. Sun, M. Liu, and S. Yao.*

Exploiting SEU Data Analysis to Extract Fast SET Pulses, *R. C. Harrington, J. S. Kauppila, J. A. Maharrey, T. D. Haeffner, E. X. Zhang, D. R. Ball, P. Nsengiyumva, M. L. Alles, B. L. Bhuva, and L. W. Massengill (Student paper).*

Single-Event Response of 22 nm Fully-Depleted Silicon-on-Insulator Static Random Access Memory, *M. C. Casey, S. D. Stansberry, C. M. Seidleck, J. A. Maharrey, D. Gamboa, J. A. Pellish, and K. A. LaBel.*

Mechanisms of Electron-Induced Single Event Latchup, *M. Tali, R. Garcia Alia, M. Brugger, V. Ferlet-Cavrois,*

R. Corsini, W. Farabolini, A. Javanainen, G. Santin, C. Boatella Polo, and A. Virtanen (Student paper).

Radiation Induced Leakage Current and Electric Field Enhancement in CMOS Image Sensor Floating Diffusions, *A. Le Roch, V. Goiffon, C. Virmontois, P. Paillet, J.-M. Belloir, S. Rizzolo, F. Pace, C. Durnez, and P. Magnan (Student paper).*

Awards Committee Members

Gregory Allen, NASA/JPL
 Laurent Artola, ONERA
 Elizabeth Auden, Sandia National Laboratories
 Ewart Blackmore, TRIUMF
 Ethan Cannon, Boeing
 Dakai Chen, Analog Devices
 Daniel Clymer, Lockheed Martin
 Lewis Cohn, National Reconnaissance Office
 Zachary Fleetwood, SpaceX
 Brian Fodness, Harris Corporation
 Matthew Gadlage, NSWC/Crane
 Jeffrey George, The Aerospace Corporation

Ani Khachatrian, The Naval Research Laboratory
 Kenneth LaBel, NASA/GSFC
 Nelson Lourenco, Georgia Tech
 Scott Messenger, Northrop Grumman
 Timothy Oldham, Ball Aerospace
 Philippe Paillet, CEA/DIF
 Vincent Pouget, IES University of Montpellier
 Heather Quinn, Los Alamos National Laboratory
 Nadia Rezzak, Microsemi
 Norbert Seifert, Intel Corporation
 Thomas Turflinger, The Aerospace Corporation
 Enxia Zhang, Vanderbilt University

On behalf of the NSREC 2018 Awards Committee, I would like to congratulate all the winning authors as well as all the authors of the nominated finalist papers. In addition, I would like to thank all of the members of this year's Awards Committee for agreeing to be on the committee and for their hard work in evaluating the candidate papers.

STEPHEN P. BUCHNER, *Chairman*
 Naval Research Laboratory