

3rd Design Methodologies for Power Electronics 2023 (IEEE, DMC 2023) September 24th-26th, 2023 Miami, Florida, USA

Conference Call for Papers

Important Dates:

Digest Submission:July 15, 2023Author Notification:August 15, 2023Final Manuscripts Submission:September 4, 2023



The beautiful city of Miami, FL will host the 3rd IEEE Design Methodologies Conference – DMC 2023 on September 24-26, 2023. DMC is the flagship conference of the IEEE PELS Technical Committee 10, and its main goal is to promote new techniques and design methodologies in power electronics. It will give us a possibility to identify the challenges that are awaiting us and to discuss the potential of these new design and analysis paradigms in Power Electronics. The IEEE DMC will bring together the professionals from industry and research institutions with experience in Power Electronics, Design Automation, Artificial Intelligence, Machine Learning, Data-Driven Techniques, Measurement, Test & Verification, and Cyber Security to present and discuss their opinion, experience, needs and vision of future, with emphasis across the fields of Research, Education & Applications.

The Conference will be held on the campus of Florida International University which is equipped with state of the art Facilities.

The Graham Center Ballroom will host the conference sessions and the exhibit as well as the Social Functions.







The Conference topics of interest include, but are not limited to:

DESIGN AUTOMATION CYBERSECURITY TECHNIQUES

- Automated Design of power electronics devices and systems
- Automated Circuit and Layout Synthesis
- Optimization Techniques
- Design Space Exploration
- Digital Twin and Virtual Prototyping
- Magnetics design optimization
- Device Models and Characterization
- Model Order Reduction
- Thermal & Packaging Design Techniques

AI / ML and DATA-DRIVEN TECHNIQUES

- Artificial Intelligence in power electronics control
- Estimation and maintenance of power electronics systems
- Condition monitoring
- Fault Diagnostics and Prediction
- Classification and Characterization Methods



GENERAL CHAIR Osama Mohammed Florida International University, Miami, FL, USA

TREASURER

Juan Farah Florida International University, Miami, FL, USA

CONTACT EMAIL: Ms Luisa Ruiz luruiz@fiu.edu TECHNICAL CHAIR João Onofre Pereira Pinto Oak Ridge National Laboratory, Oak Ridge, TN, USA

PUBLICATIONS CHAIR Subham Sahoo AAU Energy, Denmark

- Firmware compromise detection and integrity verification
- Cyber-physical attacks and approaches for hardware hardening
- Integration of hardware- and software-based hardening solutions
- Device-level and system-level cybersecurity challenges and solutions
- Resilient power electronic control
- Investigation of cyber-security incidents and mitigation schemes

MEASUREMENT, VERIFICATION & TEST METHODS

- Automated testing & verification Techniques
- Considerations of lifetime prediction
- Advanced Measurements & Techniques
- Multi-Physical Systems Analysis including Thermal and Mechanical Methods
- Hardware and Power in the Loop
- EMC and EMI

Digest Submission: Prospective authors are requested to

submit a single column, single spaced digest no longer than five (5) pages summarizing the proposed paper. The digest will address the problem, the major results and its contribution in comparison with previous research works. It should include key equations, figures, tables, and references as appropriate, but no author names or affiliations. Digests not conforming to these requirements will be rejected without review. All digests will go through a double-blind peer review process to ensure a confidential and fair review. The papers presented at the conference will be included in the IEEE Xplore Digital Library. Please refer to the conference website for a detailed list of technical topics and the digest submission method.







