ISGT NA 2023: Moving to a Self-Driving Grid

Call for Papers and Panels

The fourteenth Conference on **Innovative Smart Grid Technologies, North America (ISGT NA 2023)**, sponsored by the IEEE Power & Energy Society (PES), will be held in Washington, D.C, on January 16 – 19, 2023 with the theme "**Moving to a Self-Driving Grid**".

The electric power system is undergoing a fundamental transformation due to dramatic increase in deployments of Distributed Energy Resources (DERs), increase in adoption of smart loads, regulatory changes and the emergence of new business models and grid services. These are driven primarily by the need for decarbonization, evolving customer needs, and need for flexible and resilient operation of the larger system. The changes are resulting in an enormous increase in the system complexity where the number of active control points in the grid is too high to be managed manually. Therefore, there is need for innovation in design, integration, operation, testing and evaluation of newer technologies and processes in order to enable and accelerate progress towards increased levels of automation. Additionally new structural and architectural constructs will be critical for allowing local decision-making which is a steppingstone in the transition to a "self-driving" grid.

It is important to discuss the different drivers, key enablers, new structures and advanced technologies that will help us move the needle on grid automation. ISGT NA 2023 is a forum to discuss the latest issues, trends, and innovative technologies for the self-driving grid of the future. The Conference will feature keynote and plenary sessions, panel sessions, and technical papers presented in poster sessions, as well as pre-conference tutorials.

The Conference Organizing Committee invites practitioners and researchers worldwide to submit papers and panel proposals on conference topics outlined by the following three tracks:

1. **Track 1: Key Drivers and Enablers of Change**
   - 1.1. Sustainable, responsive and flexible technologies and processes
   - 1.2. Reliability and resilience
   - 1.3. Security
   - 1.4. Economic efficiency
   - 1.5. Environmental and energy justice issues
   - 1.6. Regulations
   - 1.7. Customer participation

2. **Track 2: Structures and Architectures**
   - 2.1. Innovative grid architectures for monitoring and control
   - 2.2. Advanced structures or new business models (e.g. microgrids, community aggregation etc.)
   - 2.3. New coordination schemes between devices or entities
   - 2.4. Platforms enabling agile integration and controls

3. **Track 3: Innovative Technologies and Processes Supporting Automation**
   - 3.1. Innovative technologies for sensing, computation or controls
   - 3.2. Power electronics and inverter-based resources
   - 3.3. Substation and distribution automation technologies (advanced FLISR, Volt-VAR Optimization, outage management, restoration, etc.)
   - 3.4. Emerging technologies (Machine Learning, Artificial Intelligence, 5G, Internet of Things-IoT, Blockchain, augmented reality etc.) and their applications
   - 3.5. Transactive Energy Systems and other incentive-compatible market design
   - 3.6. Processes and tools for verification and validation
   - 3.7. Metrics for performance evaluation

Call for Papers

The Conference Organizing Committee invites to submit papers for review and presentation in poster format (if accepted). Complete manuscripts (maximum length 5 pages, and in accordance with the PES Author's Kit) are to be submitted by July 29, 2022 (11:59 PM EST) via the document submission portal: https://submissions.mirasmart.com/ISGT2022/login.aspx .

In addition to general criteria mentioned in the Author's Kit, the following criteria will be used in evaluating the submissions:

1. Evidence of actual deployment or application
2. Representative of a state-of-the-art capability or practice
3. Ability to inform strategies for advancing grid capabilities

Registration at the conference is required for the author(s) to present accepted paper(s) in the poster session. Papers presented at the conference will be posted in IEEE Xplore.

To promote a more efficient and comprehensive engagement among participants, ISGT NA 2023 will endeavor to make the papers available online in advance of the conference to allow registrants time to prepare questions and comments for the presenters to address during the conference.

Important Dates for Paper Submission

- Paper Submission Site Opens: **June 18, 2022**
- Paper Submission Deadline: **July 29, 2022 (11:59 PM EST)**
- Notification of Paper Acceptance: **September 23, 2022**

Call for Panels

The Conference Organizing Committee invites to submit proposals for panel sessions for review and presentation (if accepted). The format of panel sessions typically consists of three to four speakers, and a session chair who also serves as the panel moderator. Each panel session is typically expected to be 1.5 hours long. Proposals including presentations of electric utility experiences and practical implementations of novel concepts and solutions are encouraged.

Please provide a title and brief description of the panel topic. It is required to include the names, email addresses, titles and affiliations of the proposed panelists along with their presentation topics. A brief abstract of what they intend to cover is optional, but highly recommended. Panel proposal template which will be available on the ISGT NA 2023 website should be used, and the proposals need to be emailed to 2023isgt@ieee.org within the deadline mentioned below. All panel participants including the session chair and panel speakers need to register for the conference.

Important Dates for Panel Proposal Submission

- Panel Proposal Submission Starts: **June 18, 2022**
- Panel Submission Deadline: **July 15, 2022 (11:59 PM EST)**
- Notification of Panel Proposal Acceptance: **August 26, 2022**

For any questions please contact 2023isgt@ieee.org.