



Special Section Proposal
IEEE Open Access Journal of Power and Energy

Special Section on
"Power Quality in the Energy Transition: Selected Papers from ICHQP 2022"

1. Description of the Special Section

Electrical Power Quality is a vital aspect when designing or assessing the operation of all modern power systems and forms an important part of the ongoing energy transition to more efficient and multi-vector systems. However, the ongoing proliferation and changing functionality of power electronic devices, coupled with new grid operating paradigms, such as ac RES integration, microgrids, low-voltage dc distribution networks and the large-scale integration of electric vehicles, present unique opportunities and challenges for grid operators the world over and require new assessment methods and fresh perspectives on the role of power quality.

In this context, this Special Section will publish a selection of technically extended versions (with **40 %** new content as stated in PES publication policy) of the best papers presented at the 20th edition of the International Conference on Harmonics and Quality of Power (ICHQP), which will be held in Naples, Italy, from May 29th to June 1st 2022. Thus, the proposed Special Section provides a timely platform to publish a collection of outstanding research on pressing topics in the power quality research area.

Authors will receive a 25 % contribution, covered by ICHQP 2022, on the article processing fee to be paid after acceptance.

Full details are available in the Authors Section of the ICHQP website: <https://ichqp2022.org/>

2. Background of IEEE PES ICHQP

ICHQP is one of the premier international conferences in the field of electrical power engineering and the only IEEE PES conference dedicated to the area of power quality. The conference presents academic and industrial work of technical excellence at the forefront of power quality research and practical developments. Since its origins in 1984, the conference has been held once every two years at locations traversing the globe, providing a truly international forum and fostering the development of the power quality community.

The scope of the Special Section will cover the topics of ICHQP, which are designed to drive innovation on the most important topics in power quality, with current topics of interest including, but not limited to:

- Power Quality Analysis
- Power Quality Mitigation Technologies
- Distribution System Planning for Power Quality
- Power Quality Monitoring /Reporting Methodologies and Indices
- Power Quality State Estimation
- Impacts on Systems and Equipment
- Power Quality Standards
- Equipment Power Quality Immunity
- Transients – Propagation, Measurements and Modelling
- Harmonic Generation and Propagation
- Interharmonics and other Non-Harmonic Distortion
- Power Quality Case Studies
- Probabilistic Aspects of Power Quality
- Economic Impacts and Management of Power Quality
- Renewable Generation / Distributed Generation and Power Quality
- Smart Grid Technologies for Power Quality
- Time-Varying Harmonics
- Light Flicker and Voltage Fluctuations
- High Frequency Distortion in the Range 9-150 kHz
- Power Quality in Liberalized Energy Markets
- Power Quality in E-mobility Infrastructures
- Lightning-induced Power Quality Issues
- Power Quality and Reliability
- Power Quality Data Analytics
- Forecasting Techniques Applied to Power Quality

3. Paper Evaluation Process

The paper selection and review process of the proposed Special Section consists of the following steps:

- 1) Preselection of **30** best papers identified during the ICHQP paper review phase by the ICHQP International Technical Committee chaired by Prof. Dario Zaninelli (Italy) and co-chaired by Prof. George Cristian Lazaroiu (Romania);
- 2) Reduction to the final **20** invited papers based on chairmen reports of the quality presentation at the conference and level of audience interest;
- 3) In the final stage, a rigorous review process, with 3-5 reviewers assigned to each paper, in alignment with the OAJPE review process, will be managed by the Guest Editorial board (Please refer to Section 7 for further details), resulting in the publication of **10-12** papers.

4. Paper Extension Requirements

The authors of the **20** papers identified in Step 2 of the Paper Evaluation Process will be invited to submit a technically extended version of their conference paper to the IEEE OAJPE Special Section subject to the following criteria:

- At least **40 %** new content reflecting new data, experimental results, analysis, conclusions, etc. (as stated in PES publication policy for a PES conference paper to be submitted as a PES journal paper),
- Extensions beyond the conference paper must be clearly stated in the introduction of the extended paper and marked in red text throughout the paper,
- A cover letter containing a clear list of the extensions and the authors contact information must be sent with the paper.

5. Guidelines and submission

Authors are referred to the IEEE Open Access Journal of Power and Energy author guidelines at <http://www.ieee-pes.org/publications/information-for-authors> for information about content and formatting of submissions.

The PDF version of the extended paper and cover letter is to be sent to the Guest Lead Editor of this Special Section, Prof. Alfredo Testa via e-mail at: alfredo.testa@unicampania.it.

6. Important Dates:

07/15/2022: Deadline for full paper submission

09/30/2022: Final decision notification

10/07/2022: Publication materials due

Publication of Special Section – December 2022

7. Guest Editorial Board

Prof. Alfredo Testa (Guest Lead Editor), IEEE Fellow, University of Campania “Luigi Vanvitelli” (retired), Italy

Prof. Gary Chang (Guest Associate Editor), IEEE Fellow, National Chung Cheng University, Taiwan

Prof. William Mack Grady (Guest Associate Editor), IEEE Fellow, Baylor University, USA

Eng. Alex McEachern (Guest Associate Editor), IEEE Fellow, McEachern Laboratories Inc., USA

Prof. Paola Verde (Guest Associate Editor), University of Cassino and Lazio Meridionale, Italy

Editor-in-Chief of IEEE Open Access Journal of Power and Energy:

Fangxing "Fran" Li, The University of Tennessee, USA