**IEEE PES Working Group on Intelligent Data Mining and Analysis,** operating under the

**IEEE PES Intelligent Systems Subcommittee**

# Call for Book Chapters and Sections

## Intelligent Data Mining and Analysis in Power and Energy Systems:

Advances in models and applications as drivers for smarter efficient power systems

### Scope

The increasing penetration of renewable energy sources and the consequent empowerment of consumers as a central and active solution to deal with the generation variability, are driving the power and energy system towards an historic paradigm shift. The small scale, diversity, and especially the number of new players involved in the power and energy system, potentiate a significant growth of generated data. Moreover, advances in telecommunications and digitalization hugely increased the volume of data that results from power and energy components, installations, and systems operation. This data is becoming more and more important for power and energy systems operation and planning, with relevant impact on all involved entities, from producers, consumers and aggregators to market and system operators. However, although the power and energy community is fully aware of the intrinsic value of those data, the methods to deal with it still require significant improvements and research. Data mining and intelligent data analysis are thereby playing a crucial role in this domain, by enabling players to improve their decision-making process and gain awareness on the power and energy environment. This book brings together the state of the art advances in intelligent data mining and analysis as drivers of the future evolution of power and energy systems.

### Addressed Topics

This book will address the following topics (although not limited to):

- Advancement in current data mining and analysis models
- Classification approaches in power and energy systems
- Clustering of energy consumers
- Consumption forecasting
- Data mining and analysis to support modelling and simulation of power and energy systems
- Data mining enabling demand response
- Electric vehicles travel patterns forecasting
- Forecasting of renewable energy generation
- Intelligent analysis of consumption patterns and habits
- Machine learning applications in power and energy systems
- Market prices forecasting
- Novel theoretical models of intelligent data mining and analysis

- Power and energy data association and correlation
- Practical applications of data mining in power and energy systems
- Practical applications of intelligent data analysis in power and energy systems

## Important Dates

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| **October 1, 2017** | **Deadline for chapters and sections proposals (organization and summary submission, with authors' names, affiliations, contacts, and CVs)** |
| December 1, 2017 | Deadline for proposals acceptance |
| March 1, 2018 | Deadline for chapters and sections submission |
| June 1, 2018 | Decision notification |
| July 1, 2018 | Book proposal submission to publisher (table of content and sample chapters) |
| November 1, 2018 | Publication material due |
| December 1, 2018 | Book submission to publisher |
| Q2 2019 | Target publication |

## Submission Guidelines

Please submit a PDF file of the chapter or section proposal including the proposed organization and summary, with authors' names, affiliations, contacts, and CVs, via e-mail to zav@isep.ipp.pt with the subject line 'IDMA Book Contribution' before the deadline. Authors must refer to the IEEE PES authors' guide at www.ieee-pes.org/publications/information-forauthors for information on content and formatting of submissions.

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