



# Call for Papers

## *Operations Research*

### Special Issue: Computational Advances in Short-Term Power System Operations

DEADLINE EXTENDED  
TO 15 MARCH

#### Guest Editors

**Ross Baldick**

University of Texas, Austin baldick@ece.utexas.edu

**Steven Low**

California Institute of Technology slow@caltech.edu

**Richard O'Neill**

Advanced Research Projects Agency - Energy (ARPA-E) richardponeill@gmail.com

**Daniel Ralph**

University of Cambridge d.ralph@jbs.cam.ac.uk

**Golbon Zakeri**

University of Massachusetts, Amherst gzakeri@umass.edu

Unit commitment and optimal power flow and dispatch have been the workhorses of short-term (day-ahead and real-time) power system and electricity market operations over the past decades. The increasing integration of distributed renewable and flexible resources are placing demanding requirements on these problems, including but not limited to: (i) increasing spatiotemporal resolution (due, for example, to transitions to 5-15 minute system operation intervals and transmission-distribution integration), (ii) increasing uncertainty, (iii) an increasing importance for adaptive dynamic decision-making, and (iv) consistency between pricing and market clearing instructions. These functions are crucial for both driving the efficient short-term operation of the system, as well as generating price signals that drive long-run investment.

Operations research methods have contributed to tackling the non-convexity and massive scale of these problems, allowed the power industry to realize significant economic gains from increasing operational efficiency, and supporting the development of coherent price signals in short-term electricity markets. The potential for operations research to contribute meaningfully to power system operations has been reaffirmed recently in the USA with the various challenges of the Advanced Research Projects Agency in Energy (ARPA-E) Grid Optimization (GO) competition.

Inspired by the tangible success of advanced OR methods in ubiquitous electricity industry operations, historically and presently, this special edition in Operations Research focusses on computational advances in short-term power system operations and electricity market clearing, including underlying economics and equilibrium processes. The special edition invites, but is not limited to, novel contributions that significantly further our understanding of these problems including their structure and practical contributions for resolving these problems at scale. The special edition



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is addressed to the operations research community, including academics, industrial stakeholders and research groups that bring novel insights into problems related to short-term power system and electricity market operations.

### Timeline and Process

- **Submissions are invited from January 15 – ~~February 28~~ April 2, 2021**
- The Guest Editors encourage pre-submission enquiries to discuss their manuscript plans for this Special Issue. We specifically invite you to contact any Guest Editor by email, optionally attaching a one-page abstract, by 30 September 2020.

### Submission Instructions

Please submit your manuscript online in ScholarOne Manuscripts at: <http://mc.manuscriptcentral.com/opre>. You must select Special Issue on Computational Advances in Short-Term Power System Operations as the Manuscript Type in Step 1 of the submission process. As part of the submission process you will be asked to identify potential conflicts of interest, e.g., co-authors and co-grant holders between 1 January 2016 – 28 February 2021.