Call for Papers
Annals of Operations Research
Special Volume: Mathematical Modeling of Electoral Systems – Analysis, Evaluation, Optimization

The ***Annals of Operations Research*** seeks submissions for a special volume on

Mathematical Modeling of Electoral Systems – Analysis, Evaluation, Optimization

The deadline for submission is **May 31, 2012**.

The choice of an appropriate electoral system, capable of guaranteeing a recognizably fair and transparent process for the translation of citizens' votes into seats, is a major concern of the political debate in many countries. Policy makers generally know the wide variety of possible electoral formulas and methods, but it seems that they are not completely aware of the consequences of the procedures that they adopt, and are not able to evaluate them. In fact, in the electoral process there are some complex problems that can be correctly analyzed and solved only if suitable mathematical tools are used. Among others, mathematical logic, game theory, combinatorial optimization, graph theory, and statistical analysis seem to be the most adequate tools for this purpose. The quantitative study of the above problems requires to start from real-life situations and develop appropriate models and algorithms to provide pragmatic solutions for the problem under study, but it also puts interesting research questions that stimulate the production of additional theoretical results and contributions.

The Annals of Operations Research meets this typical paradigm of the studies in applied mathematics – and, in particular, in operations research – publishing peer-reviewed original articles dealing with the theoretical, practical, and computational aspects of a problem.

The idea of the present volume originates from the lack in the literature of Electoral Systems of a unified view and methodological approach to the study of these problems. The publication of some monographic volumes on this topic [first of all, the book by M. L. Balinski and H. P. Young "Fair Representation – Meeting the Ideal of One Man, One Vote", New Haven CT, 1982, which can be considered a milestone on the mathematics of electoral systems, but also the more recent volumes by P. Grilli di Cortona et al., "Evaluation and Optimization of Electoral Systems", SIAM Monographs on Discrete Mathematics and Applications, SIAM, 1999, B. Simeone and F. Pukelsheim (Eds.) "Mathematics and Democracy: Recent Advances in Voting Systems and Collective Choice", Springer 2006] partially answered to this need, but the always high level of attention for this kind of problems and the research advances of the recent years asks today for an update in this particular field of research.

The aim of the volume is to collect contributions from different research areas on the quantitative analysis of electoral systems, promoting the use of mathematical methods to correctly analyze and solve problems in the context of electoral theory.

The main topics of interest for the Special AOR volume are:

- Proportional Representation
- Apportionment Problems
- Political Districting
- Voting Systems

A note from the editors
Professor Bruno Simeone was the prime mover in initiating a Special AOR Volume on the mathematical analysis of electoral systems. This topic formed a major part of his scientific oeuvre and he was a recognized authority at an international level. His efforts and foresight were instrumental in making research in this area so vital and productive. In recognition of Bruno Simeone's scientific achievements and his exemplary academic standards the Special AOR Volume will be dedicated to his memory.

Instructions for authors can be found at:

http://www.springer.com/business/operations+research/journal/10479

Authors should submit a cover letter and a manuscript by date
via the Journal's online submission site. Manuscripts submitted after the deadline may not be considered for the special volume and may be transferred to a regular volume.

Please see Author Instructions on the site if you have not yet submitted a paper through this web-based system. Be sure to note in the Manuscript Comment text that your work is intended for the special volume and to select the article type "***xxx.***"
Papers will be subject to a strict review process managed by the Guest Editors and accepted papers will be published online individually, before print publication.

Guest Editors:

Isabella Lari, Federica Ricca, Friedrich Pukelsheim