SPU?2019 - Solving Problems with Uncertainties

Objectives

The 7th SPU Workshop is part of the International conference in Computational Science (ICCS2019), to be held in Algarve, Portugal, 12-14 June 2019 (https://www.iccs-meeting.org/iccs2019/) **The theme for ICCS 2019 is "Computational Science in the Interconnected World".** ICCS is an ERA A-ranked conference series.

Problems with uncertainty need to be tackled in an increasing variety of areas ranging from problems in physics, chemistry, engineering, computational biology and environmental sciences to decision making in economics and social sciences. Uncertainty is unavoidable in almost all systems analysis, in risk analysis, in decision making and modelling and simulation. How uncertainty is handled and quantified shapes the integrity of the analysis, and the correctness and credibility of the solution and the results.

With the advent of Exascale Computing and Data Science larger and larger problems have to be tackled in a systematic way and the problem of solving such problems with uncertainties and quantifying the uncertainties becomes even more important due to the variety and scale of uncertainties in such problems.

The focus of the workshop will be on methods and algorithms for solving problems with uncertainties, stochastic methods and algorithms for solving problems with uncertainty, methods and algorithms for quantifying uncertainties such as dealing with data input and missing data, sensitivity analysis (local and global), dealing with model inadequacy, model validation and averaging, software fault-tolerance and resilience, etc.

The workshop solicits **strategic, short and full papers** presenting Domain Applications and Case studies in the context of the Computational Science/ HPC ecosystem **covering but not limited to the following topics:**

- methods and algorithms for solving problems with uncertainties
    - stochastic methods and algorithms for solving problems with uncertainty
    - hybrid (stochastic/deterministic) methods and algorithms for solving problems with uncertainties
- methods for quantifying uncertainties
    - quantifying uncertainties while dealing with Big Data
    - quantifying uncertainties while dealing with model inadequacy, model validation etc.
- sensitivity analysis,
- case studies showing efficient methods and approaches solving problems with uncertainties

Important dates:

- Paper submission deadline: **February 15th, 2019**
    - Notification of acceptance: March 1, 2019 Camera-ready papers: 20 March 2019
    - Author registration: 20 March – 5 April 2019

- Conference: 12-14 June 2019

Program Committee:

- **[Vassil Alexandrov, ICREA-BSC, Spain](#) (Workshop Chair)**
- Ana Cortes, UAB, Spain
- Andrew Rau-Chaplin, University of Dalhousie, Canada
- Aneta Karaivanova, IICT, Bulgaria
- Christian Engelmann, ORNL, USA
- Andrei Tchernykh, CICESE, Mexico
- Daniel Rodriguez, UAH, Spain
- Raul Ramirez, ITESM, Mexico

How to Submit:

1. Prepare the manuscripts in *Springer Lecture Notes in Computer Science (LNCS)* format (no more than 10 pages).
2. Log-in to ICCS 2019 submission site in EasyChair
3. You will need to create an account if you do not have an existing account in EasyChair.

1. Specify the workshop name as **SPU'2019 - Solving Problems with Uncertainties**

Authors are invited to submit manuscripts describing original, unpublished research and recent developments as well as position and strategic papers in the remit of the Workshop.

All accepted papers will be included in the Springer Lecture Notes in Computer Science (LNCS) series and indexed by Scopus, EI Engineering Index, Thomson Reuters Conference Proceedings Citation Index (included in ISI Web of Science), and several other indexing services..
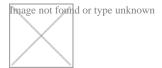
The submitted paper must be camera-ready and formatted according to the rules of Springer Lecture Notes in Computer Science (LNCS), not exceeding 10 pages. Submission implies the willingness of at least one of the authors to register and present the paper.

Papers must be based on unpublished original work and must be submitted to ICCS only.

After the conference, selected papers will be invited for a special issue of the Journal of Computational Science.

I am looking forward to seeing you at the workshop and ICCS2019.

[Further information](#)

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For further information visit the conference website:

https://www.iccs-meeting.org/iccs2019/
Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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