

# Call for Papers

Journal of Universal Computer Science

Special Issue on

Innovative Computational Science: Theory, Methods and Applications

Guest Editor: Dr. Lean Yu



Computational science is an emerging and rapidly expanding discipline in the past decade, which is concerned with constructing mathematical models and numerical solution techniques and using computers to analyze and solve scientific, social scientific and engineering problems. As a new discipline, computational science blends several different fields including computer science, applied mathematics, and application sciences (such as physics, chemistry, biology, engineering, economics, finance and others) to gain problem understanding, mainly through the analysis of mathematical models implemented on computers.

However, there is no consensus on the universal computational science framework, that is, there is no consensus on what computational science exactly is. Furthermore, there are many difficulties in the field of computational science field. For example, in the modelling of complex systems, the existing algorithms and computational techniques is difficult to obtain the solutions of some large and complex system problems when tight timing schedules are required. For these reasons, innovative computational science theories, methods and applications should be encouraged.

In order to further promote the development of computational science theory, *Journal of Universal Computer Science (JUCS)* will publish a special issue dedicated to the topic of “***Innovative Computational Science: Theory, Methods and Applications***”. This special issue is not to merely illustrate the superior performance of an innovative computational science method, but also to demonstrate how it can be used effectively in some practical application problems. The main purpose of this special issue is to provide researchers and practitioners an opportunity to share the most recent advances in the area of computational science, method and applications, to assess the state of knowledge of computational science, to generate new results in this relatively under-researched area, and determine directions for further research, All submitted papers should present mathematical analysis and modeling approaches/perspectives to the proposed computational paradigms. The special issue is interested in topics related to all aspects of computational science theory, methods and applications. Topics of interest include, but are not limited to, the following:

- **Innovative Computational Science Theory:** Foundation of Computational Science, General Framework of Computational Science, and New Computational Science System etc.
- **Innovative Computational Science Methods:** Advanced Numerical Algorithms, Computational Optimization Methods, Hybrid Computational Methods, Parallel and Distributed Computing, Clustering Computing and Grid Computing etc.
- **Innovative Computational Science Applications:** Computational Biology, Computational Chemistry, Computational Economics, Computational Electromagnetics, Computational Engineering, Computational Finance, Computational Fluid Dynamics, Computational Geophysics, Computational Mathematics, Computational Mechanics, Computational Physics, Computational Statistics, Computer Algebra, Environmental Simulation, Financial Modelling,

Geographic Information System (GIS), Machine Learning, Network Analysis, Pattern Recognition etc.

Authors should submit their paper via email: [yulean@gmail.com](mailto:yulean@gmail.com) and the subject of the email should be: "JUCS SI Submission: Innovative Computational Science". All manuscripts for this special issue should be submitted electronically by **September 1, 2009**.

Authors of presented papers at the IEEE CSO2009 conference (<http://www.gip.hk/cso2009/>) with papers published in the IEEE Computer Society proceedings are invited to submit their extended papers with at least 30% additional materials relative to conference papers. New submissions are welcome. Refereeing and the selection of all submitted papers will be carried out according to the high standards of *Journal of Universal Computer Science (JUCS)*. The editor of the special issue will make decisions on submitted papers based on referees' comments and recommendations, as well as quality and presentation of the papers. In addition, all submissions should strictly conform to guidelines of JUCS at the following web address: [http://www.jucs.org/jucs\\_info/submissions](http://www.jucs.org/jucs_info/submissions).

### **Important Dates**

Submission of extended papers:	September 1, 2009
Relevancy Review and Fast Evaluation:	September 15, 2009
Notification of review results:	December 1, 2009
Submission of revised papers:	February 1, 2010
Notification of final review results:	April 1, 2010
Submission of final papers w.r.t. JUCS guidelines:	May 1, 2010
Submission of the special issue to the publisher:	June 1, 2010

For editorial inquiry and correspondence, please contact the Special Issue Editor at,

**Dr. Lean Yu**

**Academy of Mathematics and Systems Science**

**Chinese Academy of Sciences**

**Beijing, 100190, China**

**Email: [yulean@gmail.com](mailto:yulean@gmail.com) (Preference) or [yulean@amss.ac.cn](mailto:yulean@amss.ac.cn)**