



EDITORIAL NOTE

As the scientific research advances in computing capacity and network facilities, scientific information grows dramatically, making the scientific communities more connected, spanning knowledge, technologies, data, and institutional boundaries in a global domain. Hence, the 21st century approach to science is based on a genuine interdisciplinary interaction of basic research, applied sciences and advanced information technology. In this multidisciplinary complex scenario “*e-Science*” is a term used for scientific work in which the effective utilization of distributed computing, storage and networking resources hosted by multiple organizations, refers to the development of the so-called cyber infrastructure to support computationally based science. This is the large-scale science which will be increasingly carried out in distributed global collaborations that are made available by the virtual environment. Such *e-Science* collaborations will require efficient access to very large data sets and very large-scale computing resources and will use distributed visualization to support user access from multiple sources and locations. This requires automatic data gathering, sorting to optimal databases, capacity-demanding processing and high-performance visualization. As computers become increasingly more powerful, faster and smart, e-Science becomes increasingly important for all kinds of science: for example, for materials science, molecular dynamics, genomics, environmental physics, space science and sociology.

This special issue of the Journal of Computational Interdisciplinary Sciences includes extended versions of key papers presented in the IV e-Science Workshop. This meeting was organized by Federal University of Rio de Janeiro in the context of the XXX Conference of the Brazilian Computing Society. The Program Committee was conducted by Prof. Vanessa Braganholo and Jonice Oliveira. The e-Science meeting was designed to bring together leading Brazilian interdisciplinary research communities of e-Science. Therefore, the present issue, opening Volume 2, contains six original papers. Four papers are representative of the e-Science meeting covering subjects as GPU/CUDA, Wireless Sensor Network Data, Workflow Clustering, and Biodiversity Data Management. The two closing contributions are invited white papers which highlights the need for virtual data analysis environment in modern science.

We are especially grateful to PACIS, the authors, the editorial board and all the reviewers for making the publication of this special and original issue on e-Science.

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