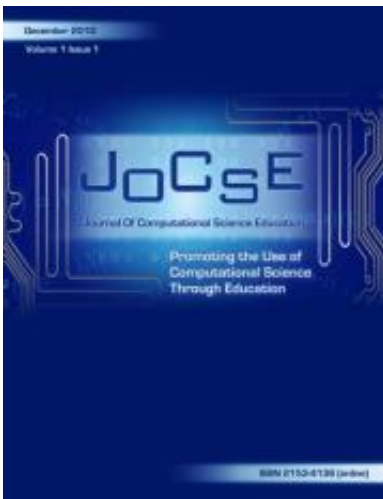


# New journal promotes computational science education

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A new online, peer-reviewed publication, the *Journal of Computational Science Education*, was unveiled this week by the Ralph Regula School of Computational Science and the Shodor Foundation Inc. Credit: The Shodor Foundation Inc.

A new online publication unveiled this week, the *Journal Of Computational Science Education (JOCSE)*, will publish peer-reviewed articles focusing on various aspects of teaching computational science – the application of computing, especially supercomputing, to the solution of complex scientific and engineering problems.

"The journal, freely available online with the first issue in December 2010, promotes the use of computation in education through disseminating unique uses of computation in the classroom as well as

research findings in computational science education, with submissions from both professionals and students," said Robert M. Panoff, Ph.D., founder and executive director of The Shodor Education Foundation, Inc. "JOCSE utilizes internet technology and a web-based format to allow for enhanced interactivity."

Panoff added that the on-line journal is a "real" journal and more than just a website, since the referred articles will be professional work that will give "full academic recognition to high-quality work in computational science education."

Computational science is an increasingly important interdisciplinary field as scientists, engineers and social scientists apply modeling and simulation techniques to gain insights on the behavior of complex systems, accelerate the rate of discovery and design new approaches to a variety of problems.

"Modeling has become recognized as the third approach to scientific advancement, along with theory and experimentation," said Steven I. Gordon, Ph.D., editor-in-chief of the journal and executive director of the Ralph Regula School of Computational Science (RRSCS), a program of the Ohio Supercomputer Center (OSC). "Computational science has produced enormous advances in technological innovation and scientific inquiry, such as product prototyping, DNA sequencing, behavioral modeling, global climatic predictions, drug design, financial systems and medical visualization."

As a result, an increasing number of institutions have begun academic programs in computational science ranging from minor and certificate programs for undergraduates to specialized undergraduate and graduate degree programs.

"The journal is intended to provide an outlet for high-quality papers

describing successful computational science instructional materials and projects and research on the efficacy of instruction with computational science," said Gordon. "Articles will be accepted from faculty describing instructional materials and/or the impacts of those materials on student learning and from students presenting successful projects and their assessment of what was learned."

The journal, ISSN 2153-4136, will be published quarterly, with more frequent releases if the number of submitted articles warrants. An editorial board of scientists, mathematicians and engineers will lead the peer review process for submissions of computational science lesson plans, exercises with documented programs and datasets or a technical paper describing the outcomes of computational science education. For more information on submission procedures, visit:

<http://jocse.org/submitProcedure> .

Materials accepted by JOCSE will be hosted on the journal's website and catalogued by the Computational Science Education Reference Desk (CSERD) for inclusion in the National Science Digital Library (NSDL). NSDL is a national network dedicated to advancing STEM teaching and learning for all learners, in both formal and informal settings, and the locus of activity for the National Science Foundation's National STEM Distributed Learning program. NSDL receives the majority of its funding through the NSF's Division of Undergraduate Education (DUE), Directorate for Education and Human Resources (EHR).

Panoff serves as the principal investigator for the NSF grants (DUE-0435187 and DUE-0937910) that funded the creation of CSERD and the extension of that NSDL project to help start publication of JOCSE. The Shodor Education Foundation and its staff provide the mechanisms for the submission, review and publication of the journal.

A collaborative project of OSC, the Ohio Board of Regents and the Ohio

Learning Network, RRSCS is a virtual statewide school focused on teaching computer modeling and simulation. RRSCS coordinates computational science education programs that offer a baccalaureate minor, an associate-level concentration, workforce certification, as well as various K-12 STEM activities.

**More information:** [www.shodor.org/](http://www.shodor.org/)

Provided by Ohio Supercomputer Center

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