Workshop on
Computational Modeling in Teaching and Research using Nova Software
June 9 - 11, 2014
Oberlin College, Oberlin, OH
Sponsored by a grant from the National Science Foundation

Application Deadline: April 25, 2014

The ubiquity of powerful personal computers has made robust quantitative methods available to students, scientists, and researchers as never before. Through a 2009 grant from the National Science Foundation, the Oberlin Modeling Initiative (OMi; see omni.oberlin.edu), held a series of workshops to help Oberlin faculty expand computational thinking in the natural and social sciences. These workshops produced teaching materials applying dynamic systems or agent-based simulations in ways accessible to undergraduates from the introductory through advanced level. Born out of these efforts, the Nova Desktop modeling system supports combined system dynamics, spatial and agent-based design paradigms using a visual design language combined with textual annotations. Instructors in diverse fields have found Nova to successfully engage students in solving complex modeling problems not only at the introductory level; but also in upper level study, in which students have subsequently achieved sophisticated modeling.

We are now pleased to invite interested colleagues to participate in a similar grant-supported workshop this summer.

The workshop will introduce modeling concepts as well as provide an introduction to the use of Nova. Participants will have the opportunity to construct their own model with assistance from the NOVA team. Workshop leaders will include the following:

- Anthony M. Starfield: Professor Emerit. of Ecology, Evolution and Behavior, University of Minnesota
- Wayne M. Getz: A. Starker Leopold Professor of Wildlife Ecology, University of California, Berkeley
- Nick Sippl-Swezey: Research Associate, University of California, San Francisco
- Richard M. Salter: Professor of Computer Science, Oberlin College, Ohio

Also participating will be Oberlin faculty who developed models for use in their courses. Sessions led by the workshop leaders will focus on modeling as a discipline, how it is applied in various disciplines, and the pros and cons of using common computer tools across the natural and social sciences. Through guided, hands-on instruction, participants will build simple models of systems from their disciplines and gain experience with creating reusable model elements.

Nova simulations have been developed in such diverse areas as climate modeling, psychology, neuroscience, population ecology, geology, biology, economics, and environmental studies. Recent activities include a week-long Nova workshop in Israel, and a Florida Fish and Wildlife effort to combat invasive species. Nova may be downloaded from the Nova Website: www.novamodeler.com.

Housing and meals will be provided during the workshop, and applicants may request funding for travel. The deadline for application is April 25. Notification of acceptance will be within a week after the due date.

Please apply by clicking here and filling out the form (this link can also be found at omni.oberlin.edu).

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