

**Meeting:** 1003, Atlanta, Georgia, MAA CP X1, MAA General Contributed Paper Session, I

1003-X1-351      **Ignatios E Vakalis\*** (ivakalis@capital.edu), Center for Computational Studies, Department of Math and Comput. Sc., Capital University, Columbus, OH 43209. *Connecting Mathematics with Other Disciplines: A Computational Science Curriculum.*

Computational Science is an emerging and rapidly growing interdisciplinary field at the intersection of mathematics, computing and science. It is considered as the third methodology in the development of scientific knowledge alongside theory and experimentation.

Funded by grants from NSF(CCLI-EMD 9952806) , W.M. Keck Foundation and Battelle, Capital University has designed a comprehensive undergraduate program in Computational Science. The program is primarily for mathematics, science and pre-engineering majors. All courses have a mathematical component, since modeling is an integral part of any computational experiment. One of the goals of the program is to present mathematics within the context of science problems, and also demonstrate how computing technology should be used to solve problems from various scientific disciplines.

The presentation will demonstrate the structure of the Computational Science program, its integration into the undergraduate mathematics and science curricula, and outline modules (on-line educational materials) from various courses. (Received September 11, 2004)