Dando continuidade ao ciclo de palestras do MMC anunciamos a primeira palestra do ano de 2010.

DATA: Sexta-feira, 12 de fevereiro.
HORÁRIO: 14:00h.
LOCAL: Anfiteatro Escadinhia (Sala 4118) UFJF - Fac. Engenharia

"Undergraduate Computational Science: Integration, Internships and Impact"

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Wofford College instituted one of the first undergraduate programs in computational science, the Emphasis in Computational Science (ECS). Besides programming, data structures, and calculus, ECS students take two computational science courses (Modeling and Simulation for the Sciences, Data and Visualization) and complete a summer internship involving computation in the sciences. Materials written for the modeling and simulation course and developed with funding from National Science Foundation served as a basis the first textbook designed specifically for an introductory course in the computational science and engineering curriculum. Science and mathematics students, pursuing the ECS, complete internships that link computational applications with their major. These students have studied at government laboratories, industries and research institutions throughout the United States. A few have even completed internships abroad. These internships reinforce computational principles and expose students to new techniques and interesting projects. Besides its established curriculum, Wofford has integrated computational science into other courses, such as microbiology. Microbiology is the study of microorganisms. Most college courses in microbiology emphasize the biology of bacteria and viruses, including those that are human pathogens. One challenging aspect of the course is to introduce students to epidemiology, which considers the causes, dispersal, and control of disease. Although disease transmission models have helped develop successful strategies for managing epidemics, most science students are unaware of their advantages and complexities. To address this challenge, the microbiology course at Wofford College has incorporated a sequence of three or four laboratories on modeling the spread of disease. Emphasis in Computational Science students who have studied modeling and simulation in depth serve as mentors for these laboratories. There is anecdotal evidence from test responses and self-assessment that supports the hypothesis that the sequence of laboratories has improved student understanding of human disease dynamics and demonstrated the utility of computational models. This talk will discuss the impact of computational science through such curricular integration and through a substantial enhancement of students’ opportunities for graduate education and employment.