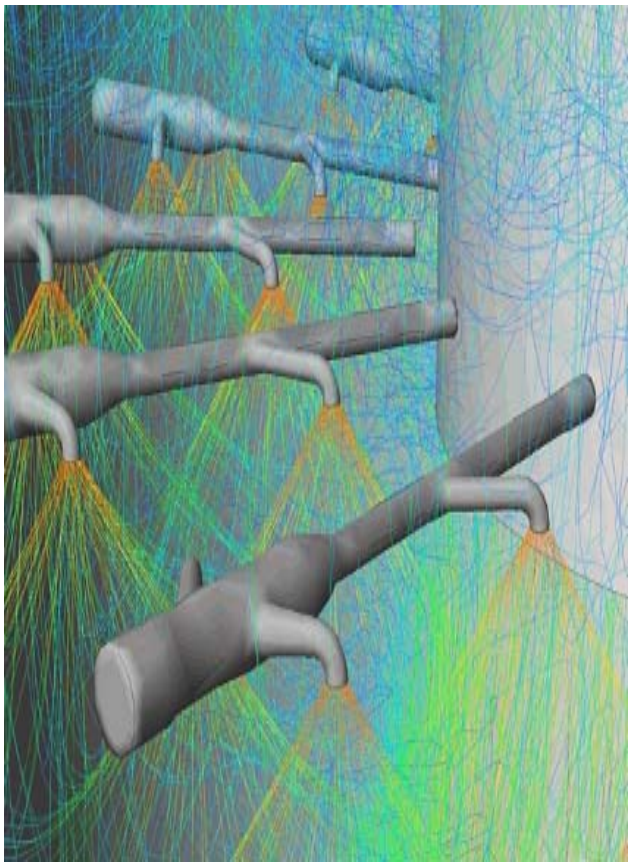
SPRING 2011

Faculty Lecture Series

Sharing Our Work and Knowledge



Friday, March 11

Environmental Computational Physics

Albert S. Kim
Civil and Environmental Engineering

"Computers are incredibly fast, accurate, and stupid; humans are incredibly slow, inaccurate, and brilliant; together they are powerful beyond imagination" – A. Einstein.

Environmental engineering is the application of science and engineering principles to improve the environment and environmental resources such as food, energy, and water. It is a multi-disciplinary study area that requires broad knowledge in natural phenomena and specific engineering processes. As A. Einstein implied, computers significantly contribute to 21st century science and technology.

When a single computational task requires enormous amount of computational resource such as weather forecasting, you can use many PCs (processors or cores) assigning partial jobs to worker processors. You can either solve much large problems spending the same amount of time, or solve the same problem spending a much shorter time. Computational physics/engineering is a research area of science and engineering disciplines including environmental engineering, which deals with a high degree of uncertainties in large natural environment. This talk focuses on the computational aspect of environmental engineering using fundamental theoretical physics. Practical examples include daily-life probability questions.

Albert Kim is Associate Professor of Civil and Environmental Engineering. His areas of research interest are Environmental Soft Matter Physics: Theory and Simulations, Computational Environmental Engineering, Membrane Separation Processes, and Hydrodynamics of Colloids, Biocolloids, and Fractal Aggregates. Kim earned his doctorate in Civil and Environmental Engineering at the (2000) and his M.S. in Civil and Environmental Engineering (1997) at the University of California, Los Angeles.

UH Hamilton Library, Room 301
3:30 – 4:30 PM
Admission free
Refreshments provided
Doors open at 3:15 PM

Presented by:

- Vice Chancellor for Research and Graduate Education
- Office of Research Relations
- UNIVERSITY OF HAWAI'I AT MĀNOA LIBRARY