

Hoening Writes “Hot Paper”

A recent paper by Dr. John Hoening of the Fisheries Science Department has been selected by the Institute for Scientific Information® (ISI) as a “hot paper” in the field of mathematics. ISI ranks papers based on the number of times they have been cited in other research articles. ISI consistently tracks ten million articles in more than 8,500 journal titles from around the world. Hoening’s article ranked in the top one tenth of one percent.

The paper, “The abuse of power: The pervasive fallacy of power calculations for data analysis,” appeared in the September 2002 issue of *The American Statistician*. Hoening coauthored the paper with Dr. Dennis Heisey of the University of Wisconsin’s Dept. of Surgery Biostatistics & Medical Information.

The paper showed how “power analysis”—a statistical practice that researchers in applied fields commonly use to analyze their data—was in many

cases being used inappropriately, and pointed to a more appropriate methodology.

Why has the paper been cited so often by other researchers? “It’s unsettling when a seemingly logical, widely touted method is suddenly declared inappropriate,” says Hoening in a commentary prepared for ISI. “Using power analysis to interpret statistical test results was advocated in more than 20 applied science journals and in some statistics texts but we showed this is inappropriate.”

The impetus for the paper came, says Hoening, when several journal editors insisted that he perform inappropriate power analyses in submitted papers. “This was an abuse of power we decided to fight.”

To read a commentary by Hoening on his paper, visit <http://esi-topics.com/nhp/comments/september-02-JohnHoening.html>

Schaffner Wins Statewide Faculty Award

VIMS associate professor Dr. Linda Schaffner has been selected as 1 of 10 recipients of the 2003 Outstanding Faculty Awards, the Commonwealth’s highest honor for faculty at Virginia’s colleges and universities.

“I am pleased to recognize these distinguished faculty members and higher education leaders,” Governor Warner said at a State Capitol ceremony in January. “Their accomplishments in advancing educational excellence contribute greatly to Virginia’s educational, economic, civic, and cultural vitality. Each of this year’s

award recipients brings pride to the profession and honor to the Commonwealth.” Recipients received a \$2,200 award and a commemorative plaque from the State Council of Higher Education for Virginia (SCHEV), which administers the awards program.

Schaffner joined the VIMS faculty in the Department of Biological Sciences in 1988. According to Dean of Graduate Studies Dr. Iris Anderson, Schaffner’s commitment to VIMS’ graduate education program is unmatched. “Dr. Schaffner has exhibited a deep and lasting commitment to the School of Marine Science,” says Anderson. “She has also exhibited an enthusiastic involvement with college undergraduates and others participating in the Summer Intern Program, as well as an unending effort to enhance the participation of under-represented groups in science.” Schaffner has headed the Summer Intern Program at VIMS for the past 14 years.

Award recipients were selected from a list of peer-nominated candidates by a committee consisting of past Outstanding Faculty Awards Recipients, faculty, college administrators, and business and community leaders. There are nearly 10,000 full-time faculty members in Virginia eligible to be nominated.



Dr. Linda Schaffner lectures to a class of VIMS graduate students.

VIMS and Partners Win Grants To Promote Ocean Education

VIMS has been awarded two different federal grants as part of the national Centers for Ocean Science Education Excellence program, or COSEE. The goal of COSEE is to educate a broad spectrum of the U.S. population about ocean science.

COSEE was formed under a five-year, \$5 million grant from the National Science Foundation. NSF awarded its first eight COSEE grants in 2002. These established seven regional COSEE centers, together with a central coordinating office to be run by the Consortium for Oceanographic Research and Education (CORE).

The Virginia Sea Grant Marine Advisory Program at VIMS won a contract from CORE to create and maintain a web site called *COSEWeb* that will begin as a focal point of communication for COSEE and its growing network of partners and later expand to external audiences. The web site will integrate administrative elements, the web-based resources of each center, and the Bridge, an existing on-line resource center for ocean-science teachers that resides at VIMS. *COSEWeb* will support COSEE efforts to reach groups traditionally under-represented in the ocean sciences and ocean-science education.

VIMS Research Helps Protect Navy Ships from Mines
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five days previously,” says Wilkens.

Sandy coastal areas dominated by waves, like many parts of the U.S. East Coast, are an area of particular strategic concern for the Navy. This is an environment that Friedrichs understands well. His research expertise lies in the physics and modeling of sediment erosion, transport, and deposition under exactly these types of highly energetic coastal conditions.

The specific role of Friedrichs’ team in the MBP project is to develop 5-day forecasts of wave-generated bottom currents at MBP field sites off the Florida and Massachusetts coasts. Friedrichs then inputs the wave forecasts into a second model that predicts the rate at which scour processes are likely to mobilize sediments and bury the dummy mines used in their experiments.

Estimates of the probability of mine burial may determine whether a Navy

VIMS will also play a role in the Mid-Atlantic COSEE center, one of the seven regional centers established with NSF funding. Partners in the Mid-Atlantic COSEE include Rutgers University, Stevens Institute of Technology, New York Aquarium, Hampton University, and the University of Maryland. The group won the NSF funding in a year-long competitive process.

The Mid-Atlantic COSEE will develop educational materials, curricula, and programs to promote lifelong learning about the ocean sciences. Like the other centers, it will attempt to reach a broad audience including K-12 teachers, K-16 students, coastal managers, families, and diverse groups that normally receive little exposure to marine science.

“Recent surveys show that many Americans have misleading ideas about the ocean and coasts,” says Dr. Mike Newman, who leads VIMS’ participation in the Mid-Atlantic COSEE. “NSF wants us to promote new ways of thinking and teaching to help everyone understand just how intertwined we truly are with the ocean environment.”



fleet employs mine sweeping or mine hunting in a given area. Sweeping, which often involves use of a towed vehicle, seeks to activate mines across a large area by simulating the disturbances that a ship or other platform would produce if it traversed a route. In mine hunting, a remotely operated vehicle confirms the presence of an individual mine, then physically disarms or destroys it.

“Our field sites provide ideal laboratories for testing forecast models for mine burial by scour,” says Friedrichs. During tests, the researchers deploy dummy mines on the sea floor in 10 to 40 meters of water. These mines have optical sensors that let them “see” whether and how fast they are being buried. At the same time, the scientists search for the mines with sonar. Comparing the optical and sonar results with concurrent model forecasts provides a good test of the model’s predictive abilities.

For more information on the Mine Burial Program, visit www.vims.edu/physical/projects/CHSD/projects/MBP/