

## Pair Contribute to *Science* Article on Ocean Fertilization

VIMS researchers Dr. James Bauer and Sasha Tozzi are co-authors of a new article concerning silica's role in the ocean's response to iron enrichment. Sprinkling iron onto the ocean surface has been touted as one way to help curb global warming, based on the idea that this iron "fertilizer" can boost the rate at which marine plants remove carbon dioxide from the atmosphere.

The multi-author article appeared in the April 16th issue of *Science*. The work was part of SOFeX (the Southern Ocean Iron Experiment), one of the largest oceanographic experiments ever mounted. This two-year collaborative effort brought 3 ships, 45 tons of equipment and supplies, and 17 leading U.S. oceanographic institutions to the waters around Antarctica. VIMS researchers Drs. Walker Smith and

Hugh Ducklow and their graduate students were also involved in the project.

Silica is a key element in iron enrichment because marine plants called diatoms use it to build their "shells." Earlier studies have shown that diatoms are the plants that grow fastest when iron is added to polar waters. When the relatively large and heavy diatoms die, they quickly carry the carbon in their tissues to the deep sea, where it may remain for thousands of years and thus play no role in global warming.

Antarctica's Southern Ocean, where the experiment took place, is the most likely site for any future large-scale iron-fertilization projects, as it is the world's largest iron-poor ocean region and outside busy shipping lanes.

The SOFeX researchers wanted to know what would happen if iron was added to the large parts of the Southern Ocean with little silica. They thought the lack of silica might favor blooms of other types of marine plants that don't need the element. Because these kinds of plants are typically smaller and lighter than diatoms, they sink more slowly when they die. This gives other marine organisms a greater opportunity to recycle the carbon in the plants' tissues back into atmospheric carbon dioxide, foiling any promise of a quick-fix to global warming.

To test their ideas, the researchers created one iron patch in a silica-poor area north of Antarctica, and a second in a silica-rich area nearer the continent. They then measured how much of the carbon from the two patches

sank to the ocean depths when the iron-fertilized plankton died or were eaten.

The results were surprising. The researchers had expected that more carbon would descend beneath the southern patch where added iron and native silica supported a dense diatom bloom. Instead, they found that carbon "export" beneath the two patches was elevated to a similar degree.

"Although the northern, silica-poor patch supported fewer diatoms, we also measured significant carbon export there," says Bauer. "Together, these results show that iron truly is one of the key limiting trace nutrients in these waters."

The study was supported by grants from the U.S. National Science Foundation and Department of Energy.

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## News Briefs

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### VIMS Bestows 2003 Awards

VIMS recognized its outstanding faculty, staff, and students during the Institute's annual awards ceremony on April 16. For a complete list of the 2003 awards and Dr. Don Wright's remarks recognizing the recipients, visit [www.vims.edu/topstories](http://www.vims.edu/topstories)

### Schaffner Briefs U.S. Congress

VIMS Professor Dr. Linda Schaffner briefed congressional delegates and staffers on the importance of "essential fish habitat" during a March meeting that was co-sponsored by the Estuarine Research Federation (ERF), the American Fisheries Society (AFS), and the Ecological Society of America (ESA).

Schaffner, who serves as ERF president, discussed how ERF, ASF, and ESA can strengthen the role of science in management and policy decisions.

"The best way to understand the complex issues that affect our ability to manage essential fish habitat is to couple research and monitoring," said Schaffner during her briefing. She called for increased funding to help expand networks of ecological research sites, coastal observing systems, and research reserves. "These are critical investments for the future of fisheries and coastal systems," says Schaffner.

A number of VIMS students and alumni attended the briefing, including Bruce Vogt (Office of Navy Intelli-

gence, Surveillance & Reconnaissance) and Sea Grant fellows Jacques Oliver, Catherine Ware, and Bo Dame.

### VIMS Inaugurates Grants.gov

Ms. Jane Lopez, Director of Sponsored Programs, was recognized on behalf of the Institute for being the first federal grant applicant to submit an application package using Grants.gov, a new, comprehensive Web portal that will eventually contain information about finding and applying for all federal grant programs.

Ms. Lopez received a plaque and letter of appreciation after her invited address to a gathering of Grants.gov stakeholders in Washington, DC.

One of the Bush administration's E-Government initiatives, Grants.gov provides the public with an accurate and reliable location to access information on the \$360 billion in annual grant funds available through the 26 federal grant-making agencies.

"It's very exciting that VIMS is a part of such ground-breaking change in the federal grant-application process," says VIMS Dean and Director Don Wright. "It also highlights the enterprise and initiative of our Office of Sponsored Programs staff."

Grants.gov is a collaborative effort involving the departments of Health and Human Services, Agriculture, Commerce, Defense, Education, Homeland Security, Housing and Urban Development, Justice, Labor and Transportation, and the National Science Foundation. The site was

recently named a Showcase of Excellence E-Government winner by the Federal Leadership Council.

### Veloza Earns Scholarships

First-year graduate student Adriana Veloza has won scholarships from both Sigma XI and the Hispanic Scholarship Fund (HSF). Veloza will use her \$800 Sigma XI Grants-in-Aid of Research award and her \$2,500 HSF award to support her studies of how zooplankton food quality affects the growth of summer flounder. Veloza is advised by Drs. Kam Tang and Fu Lin Chu. Sigma Xi is an international research society with more than 70,000 members. The Hispanic Scholarship Fund is the nation's leading organization supporting Hispanic higher education.

### VIMS Graduate Authors Seafood Cookbook

VIMS alumna Carole Baldwin (*Ph.D.* 1992) has co-authored a new cookbook designed to help professional and home chefs choose seafood that is fished or farmed in an environmentally sustainable manner.

Dr. Baldwin wrote *One Fish, Two Fish, Crawfish, Bluefish* with colleague Julie Mounts. Both are ichthyologists at the Smithsonian's National Museum of Natural History in Washington, DC.

Subtitled *The Sustainable Seafood Cookbook*, the 330-page volume gives advice on how recreational anglers, chefs, and conservationists can

promote sustainable fishery practices while fishing, shopping, or eating out.

The authors write in the introduction that "Creating this book opened our eyes to a whole new world of choices and illuminated our own habits of relying weekly on the same species."

Julia Child, Emeril Lagasse, Alice Waters, and more than 90 other well-known American chefs contributed the book's 150 finfish and shellfish recipes. *One Fish, Two Fish* is only the second cookbook ever published by the Smithsonian Institution.

The book is available through [www.westmarine.com](http://www.westmarine.com) and [www.boatus.com](http://www.boatus.com). The cost is \$35.

### Graduate Student Association Awards Mini-grants

The VIMS Graduate Student Association has presented this year's mini-grant awards to Doug DeBerry, Kristin France, Andrij Horodysky, David Kerstetter, Jennifer Miselis, and Frank Parker.

The Mini-Grant program is an annual merit-based competition in which graduate students submit proposals to a panel of faculty and student reviewers at VIMS. A maximum of \$500 is awarded to each recipient, for a total of \$2,500. Funds must be used for research materials that are not ordinarily supplied by the student's department. For more details on the recipients' research, visit [www.vims.edu/topstories](http://www.vims.edu/topstories)