

## I

# Skidmore Intercom

## Faculty & Staff Newsletter

**Vol. 4, No. 2 - December 16, 2004**

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Karen Kellogg, associate director of environmental studies, consults with a student in her office. [Story](#)



David Domozych (left), and Richard Lindemann check out Skidmore's new Variable Pressure Scanning Electron Microscope. [Story](#)

**Welcome --** The Skidmore *Intercom* Faculty-Staff Newsletter is a production of the Office of College Relations. All members of the campus community are invited to submit story ideas or news items, using the contact information provided below. Department chairs and office directors are asked to please print a copy of this document to share with colleagues who do not have regular access to a computer.

We hope you enjoy this electronic newsletter and encourage you to share your impressions via email or telephone.

**Skidmore Intercom**  
 Skidmore College  
 815 North Broadway  
 Saratoga Springs, NY 12866  
 518.580.5000  
[intercom@skidmore.edu](mailto:intercom@skidmore.edu)

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### NSF Grant Supports Microscope Acquisition

Skidmore received a whopping holiday gift a bit early this year, in the form of a new Variable Pressure Scanning Electron Microscope and Energy Dispersive Spectrometer X-ray Analysis System. A \$234,000 grant from the National Science Foundation has provided funding for the instruments, which will be housed in the College's Microscopy Imaging Center.

The new equipment, which arrived Dec. 13, will be put to quick use by faculty and students in the departments of biology, geosciences, anthropology, chemistry, and physics. They will use the instruments to conduct collaborative research, to enrich activities in upper-level microscopy courses, and to further several community outreach programs.

Professor David Domozych, biology, and Associate Professor Richard Lindemann, geosciences, are co-principal investigators for the NSF grant, and each has specialized research projects that will be enhanced through the use of the use new equipment.

Domozych is eager to pursue his investigation of microbes in freshwater wetland communities. He is examining algal-based biofilms and the structure and development of the extracellular matrix (ECM) of a special group of green algae, the desmids. The role of the ECM in the formation, structure, and development of wetland biofilms is of particular interest to Domozych. "I am looking at the cellular mechanisms involved in a desmid's entrance into a biofilm community. In aquatic ecosystems like Adirondack wetlands, most microbes are typically found in complex, biofilm communities that are attached to solid substrates. There is an incredibly diverse population of algae in these biofilms, and they are very significant to photosynthetic production. In fact, transient wetlands of the Northern Hemisphere are more productive than even tropical rainforests," he explained.

Biofilm-based desmids produce complex ECMs consisting of multilayered cell walls that are often traversed by arrays of pores or pore organs. To move, the algae secrete gel-like extracellular polymeric substances (EPS), which also protect the cell structure and help the algae attach to a surface.

His study of the structure of complex freshwater microbial communities will focus on environmental events that trigger EPS production. The new scanning electron microscope will enable detailed study of the EPS architecture, helping researchers to accurately and efficiently study EPS-related phenomena in desmids and biofilms.

Domozych's freshwater community is an isolated beaver pond in Porter Corners. He typically has five to 10 student collaborators each year. They will be actively involved in learning and applying the new technology to study biofilms of wetlands.

Lindemann, chair of the geosciences department, is conducting a comprehensive study of dacryoconarid occurrences in Middle Devonian marine strata of New York State. He also hopes to develop a database of dacryoconarid individuals to identify known species, diagnose and describe new species, and develop a set of biozones in eastern North America that correlates with global standards.

Lindemann is the only paleobiologist in North America – and one of few in the world – currently pursuing this research topic, which he discovered unintentionally while a doctoral student. Dacryoconarids are an extinct species of marine organisms that once thrived in the world's oceans. Tremendously diverse, their fossils are now found in vast numbers in Devonian-age rock. Research such as Lindemann's can increase knowledge of how migrations of marine organisms took place as parts of continents were flooded, leading to the intermingling of formerly separate oceans. The study of minute organisms can shed light on times of abrupt change in marine environments.

He explained, "This helps us to understand our surroundings – the driving mechanisms that reorganize the biosphere."

By examining the microstructure and trace element geochemistry of the shells, he hopes to develop chemical maps of the shells that will act as tree rings do to document patterns of growth, which will enable him to determine whether or not there is an evolutionary relationship between the extinct dacryoconarids and the mollusks of today.

To explain how the VPSEM system will facilitate his research, Lindemann said, "If you were to examine a sand grain at high magnification, you'd find little gouges and dings. The new scanning electron microscope will tell you not only what the grain is but also will explain any 'chatter marks' on the grain, and will tell you the grain's origin." Applied to the interdisciplinary Water Resources Initiative (see story on the Rathmann Family Foundation grant, this issue) these observations will enable Lindemann and collaborating students to interpret the transport mechanisms that delivered sediment to the Kayderosseras Creek and the upper Hudson River. The WRI offers the chance for community-based research.

Students in his upper-level geoscience courses, *Paleobiology* and *Stratigraphy*, will be able to use the new technology to observe and identify microfossils, to determine the relative ages of rock strata and interpret the transport of sediment particles in new ways.

Other faculty who will use the new instruments for their research include the following:

- Steven Frey, associate professor of chemistry, in his analysis of the structure of natural and synthetic clays;
- Pat Fidopiastis, assistant professor of biology, in her study of the structure of bacterial biofilms in squid, including elemental mapping of EPS extracts;
- Susan Bender, professor of anthropology, in her examination of chert artifacts. Chert is a rock that resembles flint.

Installation of the new equipment is under way, with training to be provided to faculty during the semester break. The new microscope will be housed in the Robert Mahoney Electron Microscopy Laboratory in Dana Science Center, part of the Skidmore Microscopy Imaging Center. For more information about the center, [visit the web site](#).

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**Vol. 4, No. 2 - December 16, 2004****Rathmann Gift Enhances Environmental Studies**

A new \$80,000 grant from the Rathmann Family Foundation will support increased development of Skidmore's Environmental Studies (ES) Program, including the establishment of academic awards for students, funding for the recently opened Geographic Information Systems (GIS) Center for Interdisciplinary Research, and launching the Water Resources Initiative, a community-based research project devoted to studying the Hudson River and the Kayderosseras Creek.

The generosity of the Rathmann Family Foundation has been "critical to building the curriculum of the Environmental Studies Program," according to Karen Kellogg, associate director of the program and assistant professor of environmental studies. Since 2002, Rathmann Family Foundation funds have supported a host of collaborative research projects and the development of a number of courses, including a new course titled the *Adirondack Wilderness Experience*. To be introduced during the summer of 2005, the course will cover the major challenges to the ecological, social, and economic success in the Adirondacks. Kyle Nichols, geosciences, and Bob Turner, government will teach the course.

Skidmore will match the grant with 100 percent funding.

A key project to be supported by the new funds is the Water Resource Initiative (WRI), designed to create a common research focus among Skidmore's faculty, students, and regional constituencies. Kellogg explained that the ultimate goal of the WRI "is to create a common point of discussion among our diverse faculty and students - a platform for discussion that will allow for a true interdisciplinary immersion in study and research." Two bodies of water will be the focus of the WRI: the headwaters of the Hudson River and the Kayderosseras Creek. According to Kellogg, the Hudson headwaters were selected because that area is "virtually unexplored," in terms of scientific research, while the Kayderosseras "is an incredible resource in our own backyard."

The WRI will integrate coursework across a range of disciplines, team-based research, and engagement with local, regional, national, and international concerns for the availability, distribution, uses, and quality of water. Elements of the WRI include the following:

- a signature interdisciplinary, service-learning course. This spring, 10 seniors will be enrolled in *Case Studies in Environmental Sustainability*, undertaking "The Kayderosseras River Conservation Project." They will research the historical, economic, cultural, and biological aspects of the river, using GIS as a means to examine the interrelated data sets. Said Kellogg, "The GIS laboratory is geared to serving a very broad audience, and we're discovering what an important skill this knowledge is for ES students."
- summer collaborative research involving faculty-student teams
- case-based seminars related to water issues for first-year students who may or may not formally enter ES.

In addition, the new grant will fund two honor awards for ES students—one for a student on the program's science track and the other for a student on the social and cultural perspectives track. To be called the Rathmann Honor Awards, the prizes will be presented in recognition of academic excellence.

Additional initiatives to be supported by the new grant and matching funds include pedagogy workshops for faculty involved in ES. The Environmental Studies major was introduced in 2003 and has more than 40 affiliated faculty from 15 departments and programs delivering the ES curriculum to nearly 40 majors. Workshops will help increase communication about teaching concerns and help lay the foundation for an external review of the program sometime in 2005.

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### Increased Funding Furthers Arciero's Research

Associate Professor of Exercise Science Paul Arciero has received an additional \$95,000 from Experimental and Applied Sciences Inc. of Golden, Colo., to further his current study of diet that focuses on meal composition and frequency.

To date, Arciero has received a total of \$185,000 from EAS Inc. for this research. He has completed testing on 23 of the participants in his study and will recruit approximately 25 more volunteers beginning in the early spring. He has spent the fall analyzing data from the first half of his study subjects and writing about his research on earlier, related studies.

[Read more about Arciero's research.](#)

### Winter Celebration Announced

Mark your calendars and plan to welcome the new year in a special way by attending Skidmore's annual Winter Celebration, which starts at 6 p.m. Friday, Jan. 14, at Longfellow's Inn and Restaurant.

Cocktails are scheduled from 6 to 7 p.m., followed by a dinner buffet and dancing. College employees and retirees will be admitted free. The first-guest fee is \$20, with \$25 charged for each additional guest.

Don't feel like driving after a night of partying? Longfellow's Hotel and Restaurant will extend all Skidmore employees a holiday discount rate of \$89 per night for the night of Jan. 14.

Invitations have been sent to all employees. The RSVP deadline is Jan. 10, 2005. For more information, contact the Office of College Events.

### In the News

**Sandy Baum**, professor of economics, was a source for a story titled "Generation Broke," published Nov. 8 at TwinCities.com, the online edition of the St. Paul *Pioneer Press*; and for "Study: Low-income students don't consider college entry" published in the Oct. 5 edition of *The Michigan Daily*.

**Don Blunk**, director of planned giving, was interviewed by *The Wall Street Journal* for "A New Strategy for Giving Away Your Money," published Oct. 6.

**Darren Drabek**, associate director of admissions, wrote a guest column titled "Senior Year Not the Time to Slack" for the Nov. 7 issue of *The Post-Star* (Glens Falls).

**Bill Duffy**, director of consulting services for CITS, was a source for "Sailing on in Cyberspace — Commodore Users Unite," published in the Nov. 21 edition of *The Sunday Gazette*.

**Cori Filson**, director of international programs, was interviewed for "Students Must Readjust After Being Abroad," by Justin Pope of the Associated Press. The story was distributed nationally in late October and has appeared in newspapers in Schenectady and Poughkeepsie, N.Y.; Miami, Fla.; Raleigh, N.C.; Nashua, N.H.; and Cleveland, Ohio; as well as England's *The Guardian*.

**Penny Howell Jolly**, professor of art history and Kenan Professor of Liberal Studies, was interviewed for "You Paid *How Much* for That Haircut?", published Nov. 21 in *The New York Times*.

**James Kennelly**, associate professor and chair, Department of Management and Business, is a co-author of an essay titled "Sensitivity and Responsibility the Key to Enterprise," published Nov. 7 in Ireland's *Sunday Tribune*.

**Tom Lewis**, professor of English, was a source for a story titled "For 50 Years, Thruway a Vital Link in N.Y. Road Network," published Oct. 24 in *The Sunday Gazette*; and for "Demolition of Larkin Building Was Key Loss," published Oct. 10 in Buffalo's *Business First*.

**Mary Lynn**, professor of American studies, was a source for a story titled "Adding Men Has Saved Schools," published Oct. 3 in the Auburn, N.Y., *Citizen*.

**Greg Pfitzer**, professor and chair, Department of American Studies, was interviewed by *The Sunday Gazette* for an Oct. 10 story titled "Book Reveals Parents' Past," about an area author whose parents were members of the Weather Underground.

**Rik Scarce**, assistant professor of sociology, had a letter to the editor published in the Dec. 13 issue of *The New Yorker*. The letter responded to an essay by Elizabeth Kolbert on the insights of sociologist Max Weber.

**Linda Simon**, professor of English, was interviewed by Joe Donahue for a story that aired Nov. 30 on WAMC-FM in Albany, about her new book, *Dark Light: Electricity and Anxiety from the Telegraph to the X-Ray* (Harcourt, 2004).

**Sheldon Solomon**, professor of psychology and Ross Professor of Interdisciplinary Studies, was a source for a story published Oct. 26 in the online edition of *Medical News Today* and titled "Relationship Between Fear of Death and Political Preferences"; and for an Oct. 23 story in the *Toronto Star* titled "Politics on the Brain?"

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