

A photograph of a person standing on a rocky outcrop overlooking a large lake and distant mountains. The person is wearing a green jacket and blue pants. The lake is surrounded by forested hills, and the mountains in the background are hazy.

Terra Firma

Summer 2008

Department of Earth Science & Geography

Vassar College

Greetings from Earth Science & Geography at Vassar! In this issue of *Terra Firma*, our biennial newsletter, you will read about the people and events associated with our department during the last two years. As in the past, we continue to offer distinctive disciplinary perspectives on the world's geo-physical structures, spatial systems, and human environments. We welcome you to visit us when you are next on campus!

Some of you may wonder about the department's new name. Although we still teach geology, we have rechristened the program "Earth Science" to keep pace with evolving areas of inquiry in earth systems. As you can see in our A. Scott Warthin Museum of Geology and Natural History, the department cherishes our traditions while we embrace contemporary approaches to science. Of course, we also offer degrees in Geography, Geography-Anthropology, and Earth Science and Society. In fact, ours remains Vassar's only department to span two divisions—the natural sciences and the social sciences. This cross-fertilization promotes a collaborative, inquiry-centered approach to teaching and learning about the many challenges facing the planet.

More than fifty majors and correlate sequences now focus their efforts in our department, while some 500 students enroll in our courses annually. Our many alumnae/i, who have gone on to contribute so much in various walks of life, also fill us with pride. Recently, we particularly benefited from the creation of the Mary Laflin Rockwell Fund for field research in Earth Science, Geology, and Geography—thanks to the generosity of Joan Rockwell '72 and Ellen Rockwell Galland '67. These funds help to support our study trips and advanced student research. We greatly appreciate the many ongoing contributions our graduates make to the College.

We do encourage alums to update contact information with the AAVC, from whom we get our current mailing information. Indeed, we always enjoy hearing news from our graduates, so please stay in touch!

Best wishes, Brian J. Godfrey, Professor of Geography and Chair, Dept. of Earth Science & Geography

NEWS FROM FACULTY & STAFF

Mary Ann Cunningham, now Associate Professor of Geography, got tenure this year! She taught some of her favorite courses, including Conservation of Natural Resources, which culminated in a week-long research trip to the Adirondacks, and Environment and Land Use Planning, which examined strategies to minimize

sprawl in Dutchess county. In both classes, students carried out very interesting original research projects on topics from water quality to reforestation to transportation innovations. The Cartography and GIS classes also had excellent groups of students, and they learned a lot and produced really nice work. Local research projects have allowed Mary Ann to continue to collaborate with students, former students, and colleagues on questions about spatial analysis of land cover, water quality, and vegetation change. The Casperkill Project has expanded now to include watersheds as far north as Red Hook and to include faculty and students from Bard College. Mary Ann attended a landscape ecology meeting, which gave her a chance to examine the biking infrastructure and bird life in the Netherlands.

David Gillikin, Visiting Assistant Professor of Earth Science, taught Earth, Environment and Humanity in the fall, which included a weekend field trip to explore the geology of the Devonian rocks of western NY and more recent glacial history in Watkins Glen and Letchworth state parks, as well as numerous outcrops along the way. He took nine students to the NY State Geological Association meeting and field trips in Cortland NY. In the spring, David taught two courses. Evolution of Earth and Its Life where students learned about the major geological and biological events of the 4.6 billion years of Earth history and were exposed to the rich geologic history of the Hudson Valley during several local field trips. He taught Stable Isotopes in Environmental Science in which students completed their own mini-research project on local environmental issues using stable isotopes as a tool. David has also been busy with research. He guest edited a special issue on mollusk sclerochronology in Geo-Marine Letters with Darren Gröcke (University of Durham, UK) and has two papers recently accepted and three submitted. In February, David presented an invited talk at the University of Brest (Brittany, France) and has also organized sessions at the European Geophysical Union and American Geophysical Union annual meetings. He was just awarded a grant from the Mellon Foundation to study freshwater bivalve shell geochemistry and will be working with Vassar students as well as colleagues from Denison University and Rhodes College.

Brian Godfrey, Professor of Geography, served the third year of his current term as departmental chair. He taught ESSC 100, "Water and Cities," with Kirsten Menking; GEOG 250, "Urban Geography"; and GEOG 340, "Preserving Whose City? Memory, Heritage, and Planning In Global Cities." He presented papers at conferences of the Association of American Geographers in Boston and the International Seminar on Urban Form in Brazil. He wrote a book chapter on "Favelas, Beaches, and Guanabara Bay: Environmental Justice and Sustainability in Rio de Janeiro, Brazil" for *Urban Sustainability: A Global Perspective*, he was co-author of a chapter on "Cities of South America" for *Contemporary World Urbanization* (4th edition), and

his book review of Lawrence Herzog's *Return to the Center: Culture, Public Space, and City Building in a Global Era* appeared in the *Journal of Latin American Geography*. He served as lecturer on two scenic group trips this past year: "An Expedition on the Wild Side: Costa Rica and Panama," sponsored by the Vassar College Alumnae/i Association; and "From the Strait of Gibraltar to Patagonia: A Grand Voyage to West Africa, the Atlantic Islands, and South America," sponsored by the American Geographical Society. He is now working on a book on urban heritage, collective memory, and historic preservation in the cities of Brazil.

Elizabeth Goeke, Visiting Assistant Professor of Earth Science, taught Structural Geology in the fall, followed by Earth Materials and Volcanoes & Civilization in the spring. Structural Geology took advantage of the great fall weather and spent the majority of the labs in the field as well as taking two weekend trips. The first took advantage of the NYSGA meeting at Cortland and examined the Piseco Lake Shear Zone in the southern Adirondacks. Then in November, the class traveled to the Bear Valley Strip Mine in central Pennsylvania and spent a gorgeous day running all over the Whaleback syncline. In the spring, Earth Materials spent a day examining the Palisades Sill in March and then spent another Saturday in April examining the Dutchess County Barrovian sequence. Volcanoes & Civilization made up for the lack of volcanoes within driving distance by hosting a poster session documenting a number of active volcanoes around the world, which showed off the students' creativity and wide-range of interests. In addition, Elli worked with senior Katy Hutchinson on a volcanology independent study, in which was developed a new Junior (4th-6th grade) badge for the Girl Scouts. The badge combined Katy's deep interest in volcanoes and her second major in Elementary Education. Katy submitted an abstract about the badge to GSA in Houston in the fall and they hope to get the badge accepted by the national Girl Scout office. Elli will move on to the University of Pittsburgh at Johnstown next year.

Lois Horst, our dedicated administrative assistant and curator of the A. Scott Warthin Museum of Geology and Natural History, worked on day-to-day operations, classroom renovations and building maintenance, museum exhibitions and class tours, and countless other matters. Lois assisted Mary Ann Cunningham with her Natural Resources course by making the arrangements for the week-long field trip, accompanying them on the trip, and by helping students with their research projects. Lois and Rick Jones started the Matthew Vassar Natural History Club for campus children, which met periodically over the school year. She also assisted Jeff Walker in preparing for the John Burroughs Conference in June and addressed the group one evening on the topic of the history of the Warthin Museum. She is looking forward to spending her summer break at her family's log cabin in the Adirondack Mts.

Rick Jones, the department's laboratory technician, took on a variety of tasks around the building. He continued his work in organizing the collections of the museum, and tackled the logistics of the many field trips. He also maintained the departmental labs, classrooms, field equipment and computers, as well as curated a show in the museum in conjunction with the John Burroughs/Sharp Eyes V conference, in June 2008. He continues to work as an artist, with a successful show in Lyon, France in December, as well as teaching at an art camp during the summers in the Sierra Nevada mountains by Lake Tahoe.



Brian McAdoo, Associate Professor of Earth Science and Associate Chair of the department, taught Field Geophysics (ESCI 261), which, with help from community members, found that the rumored free-black burial ground behind the St. James Episcopal Church was really just shallow bedrock. His multidisciplinary course on "Terroir" (ESCI 180, co-taught with visiting French professor Thomas Parker), studied the interaction of landscape, history, mythology, biogeochemistry, and food products. This may be the first class taught between foreign language and natural science faculties. He also taught Global Geophysics (ESCI 251) and as an overload the multidisciplinary Environment and Culture of the Caribbean (ENST 256, with Lisa Paravisini-Geber), the first time this long-running course has had a scientist as a co-teacher. He worked on securing a three-year environmental scientist position to be

shared with ENST. His research on the 2007 Solomon Islands earthquake and tsunami produced two papers for publication: one is an overview of the event in the American Geophysical Union's *Eos* (circulation ~50,000); the other piece, accepted in *Natural Hazards*, describes the differences in mortality between indigenous and immigrant populations.

Kirsten Menking, Associate Professor of Earth Science, finished her third year as director of Vassar's Environmental Research Institute (ERI) and is now stepping down. Her directorship saw the development of an interdisciplinary project to study the Casperkill stream on campus that has involved 19 research students and 7 faculty members from the departments of Biology, Chemistry, Earth Science and Geography, Environmental Studies, Sociology, and Urban Studies. This year Kirsten taught the laboratory based ENST 224: Essentials of Environmental Science (with Marshall Pregnall) in the fall semester, and ESCI 361: Modeling the Earth and ESSC 100: Water and Cities (with Brian Godfrey) in the spring semester. The ENST 224 course involved six weeks of field and laboratory work focusing on the Casperkill, a synergistic outcome of the ERI research. Kirsten delivered a number of invited lectures this year for the Dean's Intellectual Buffet on climate change, the College's Focus the Nation event, ENST 282: the History of Climate Change, GEOG 266: Population, Environment and Sustainable Development, Marist College's Center for Lifetime Studies, and the Hudson River Basin Alliance. She also presented Casperkill research at the Northeastern section meeting of the Geological Society of America in Buffalo. Kirsten continued as our departmental representative on the science facilities planning committee and served on the Environmental Studies and Vassar Farm Oversight committees as well.

Joseph Nevins, Associate Professor of Geography, taught the fall senior seminar (required for all geography majors), which included a 2-day trip to Syracuse during which the students conducted independent fieldwork and gained exposure to a top graduate program in geography. In addition, he taught a new seminar in the spring, "Lines, Fences, and Walls: The Partitioning of the Global Landscape." Also in the spring, City Lights Books released his new book, *Dying to Live: A Story of U.S. Immigration in an Age of Global Apartheid*, and Cornell University Press published a book he co-edited (with Dr. Nancy Peluso) entitled *Taking Southeast Asia to Market: Commodities, Nature, and People in the Neoliberal Age*.

Jill Schneiderman, Professor of Earth Science, returned to full time teaching from her stint as Associate Dean of the Faculty. She taught ESCI 101 on "Geohazards," ESCI 111 on "Environmental Justice," ESSC 380 on "Gender, Resources, Justice," and two courses in Women's Studies. She also published a manuscript on heavy minerals in a collection on their utility for provenance studies, began study of heavy minerals in Pleistocene lake sediments in Oregon, and completed a manuscript for *For the Rock Record: Geologists on Intelligent Design*, to be published in 2009 by University of California press.

Jeff Walker was promoted to Professor of Earth Science this year, his twentieth at Vassar, during which he was on leave. He published three papers on John Burroughs (with another one coming out in September), wrote an NSF proposal, completed the better part of a large research project on John Burroughs's responses to Charles Darwin, organized a national conference on John Burroughs (held at Vassar, June 15-20, 2008), and began working on a transcription of Burroughs's journals. Since Vassar Special Collections has all 45 years of Burroughs's journals, they have begun the process of transcribing and editing the journals for eventual publication by the library on their website. The final product will include a digital reproduction of each journal page, accompanied by a transcription. Starting in the fall, he will have a half-time release from teaching in order to fill the newly created position as College Sustainability Coordinator.

Yu Zhou, recently promoted to Professor in Geography, published her book on *The Inside Story of China's High-Tech Industry: Making Silicon Valley in Beijing* (Rowman and Littlefield Publisher, 2008). Other publications included "Synchronizing export orientation with import substitution: Creating competitive indigenous high-tech Companies in China," which is now in press for World Development; and "China's High Tech Industry and the World Economy: Zhongguancun Park," published in Japan Focus, a leading electronic journal of Japan and Asian Studies. She also served on the national screening committee for the Fulbright program for U.S. graduate students to China. And she became the vice chair of the China Geography Specialty Group for the AAG in 2008. The National Committee on US-China Relations has selected Yu Zhou as one of twenty Public Intellectual Fellows for the years 2008-2010. She has taught courses in Global Geography, Geography research methods, Spatial statistics, Ethnic Geography, Spaces of Global Capitalism. She is organizing a faculty study trip to China in the summer 2008.

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We will use their very up-to-date
database to send out our
newsletter, preferably by email (an
effort to save resources) or by post.

Department T-shirts and
glasses are available for
purchase- please contact
Lois Horst for more
information.



Recent Field Trips 2007-2008

Field trips continue to be an important aspect of learning in Earth Science & Geography. Here is an incomplete list of the many field trips taken by the department last year.

Fall

Rhinebeck, Red Hook, Gardiner, Beacon, Sprout Creek Farm, New York City, as well as longer overnight weekend trips to Syracuse, Cortland, Watkins Glen-Letchworth State Park, Shamokin, PA. The weeklong Adirondacks trip was taken in October.

Spring

Nyack, the Shawungunks, Millbrook, Mohonk Mountain House, Esopus, Martinsburg, Boston, MA, as well as special trips to Matthew Vassar's estate-Springsides, and Ground Zero in Manhattan.



2006-2007 Academic Year

Deborah Elise Bergman, Geography

From the (Inter)national to the Individual: State, Territory, and Power in Western Sahara's Struggle for Self-Determination Advisor: Joseph Nevins

Evan Casper-Futtermann, Geography

Between Cowardice and Courage: The Geography of Soldier Dissent and Resistance and the Space of Patriotism Advisor: David Jansson

Elizabeth Engel, Geography

Space and Sovereignty: The Construction of Conflict Between the Nation and the International Advisor: Joseph Nevins

Kelly Graham, Geography

The Asphalt and the Favela: A Critical Examination of Contemporary Urban Segregation Advisors: Brian Godfrey and David Tavaréz

Lauren Johnson, Geography

Strangers in a Strange Land: An Investigation of the Assimilation Process of Japanese Descendants in Sao Paulo, Brazil Advisor: Yu Zhou

Ann Maldonado, Geography

Gateway to the 'Peninsula': Catholic "Spanishness" and Exclusion in Melilla Advisor: Yu Zhou

Jessica Ouwerkerk, Geography

Disciplining the Body, Defining the State: State Terror and the Geo-Politics of the Body in Post-Colonial Morocco Advisor: Joseph Nevins

Caspar Vuong, Geography

National Cinema as Arbitrator of the Geographic Imagination: Projecting Multiple Vietnams in French, American and Vietnamese Films Advisor: Brian Godfrey

Owen A. Wiles, Geography

WaterFronting: Buffalo's New Interpretation of the Festival Marketplace Advisor: Brian Godfrey

Yvonne Yeung, Geology

An Interdisciplinary Approach to Assessing the Cultural Consequences of the Late Bronze Age Eruption of Thera, Greece Advisors: Jeff Walker and Robert Pounder

Daniel Yonkin, Geography

The New Urbanism in Hudson Valley Inner-City Redevelopment: Understanding the Diversity and Complexity of an Increasingly Practiced Planning Tradition Advisor: Yu Zhou

2007-2008 Academic Year

Elizabeth Murphy, Geology

Hydrokinetic Tidal Power Site Model Advisor: Kirsten Menking

Michael Kantor, Geography

Are Your Carharts Dirty? Land Ethics, Ownership, and Motivations Within Community Supported Agriculture Advisor: Mary Ann Cunningham

Jessica Chong, Geography

Transnational Fujian: The geographical and historical making of Fujian as a transnational place

Advisor: Yu Zhou

Amy Dowley, Geography

Living on Water: Women's Thirst in the Tonle Sap Biosphere Reserve

Advisor: Mary Ann Cunningham

Daniel Orme, Geography

On My Block: A geographical study of the spaces of early Hip-Hop culture in NYC

Advisor: Yu Zhou

Adam Jost, Geology Carbon isotope stratigraphy and the Silurian-Devonian boundary in the Eastern Appalachian basin Advisor: David Gillikin

Lily Huang, Geography

Place- and Race-based Activism: Boston's Chinatown and its Struggle for Parcel C and Community Advisor: Joseph Nevins

Shana Volesky, Geology

Dendrochemistry as an Indicator of Soil Salt Concentrations Advisor: David Gillikin

Toren Elsen, Geography

Subterranean Architecture: An Alternative for Green Homes?

Advisor: Brian Godfrey, Pinar Batur

Aletheia Higgins, Geography

The Spatial Expression of the Mashantucket Pequots as seen through the Mashantucket Pequot Museum and Research Center Advisor: Joseph Nevins



1st row: Carrie Holland (Geog), Lily Huang (Geog), Aletheia Higgins (Geog), Amy Dowley (Geog)

2nd row: Mike Kantor (Geog), Toren Elsen (Geog), Jessica Chong (Geog), Abby Kreidler (Geol), Geol Prof. Kirsten Menking

3rd row: Shana Volesky (Geol), Adam Jost (Geol), Libby Murphy (Geol), Geol Prof. David Gillikin, Geog Prof. Yu Zhou

Missing 2008 graduates: Bryan Aldeghe (Geol), Katy Hutchinson (Geol), James Harris (Geog), Kofi James (Geog), Dan Orme (Geog), Randall Stuebner (Geog)

The A. Scott Warthin Museum of Geology and Natural History

The A. Scott Warthin Museum of Geology and Natural History has had two more great years of expansion and refinement. We've managed to create more exhibit space using the hallways of the department and the foyer space outside of the department office. New specimens were discovered after retrieving our stored boxes from the barns out at the farm. And we now have on display, an Auk, an extinct aquatic bird from Newfoundland, Canada, which was a part of the original Natural History collection and has a wonderful story of its own. We are always happy to hear more about the history of the museum collection, so let us know if you have any stories to share. The museum continues to pursue its original mission—that of providing primary sources for the students at Vassar to study.

Among our new exhibits are two of particular interest. The 'Souvenirs' case is filled with historical objects that remind us of the Victorian craze for collecting. Text in the case identifies the objects and gives some historical references for the viewer. There are bullets from Waterloo, a piece of George Washington's coffin, a bit of mosaic from Pompeii, and some pressed chunks of cooled lava that have been imprinted with a device similar to a pizzelle cookie iron. We think the chunk of lava-- with an Italian coin imbedded in it-- was collected by Matthew Vassar himself when he was visiting Vesuvius.

The other new exhibit, which took months of preparation and many helpers to complete, is our Fluorescent Cabinet. Though a compact display, it showcases some exceptional specimens. We were all surprised to see the range of color that had been hidden in our storage shelves just waiting for its moment under the ultraviolet lights. This exhibit is a hit with our majors and with the local schoolchildren who visit the museum.

This past year, Rick Jones and I, along with two of our student employees, Lucy Cantwell and Tatiana Hoffecker, established a science club for campus children. The Matthew Vassar Natural History Club has been a great success with as many as 33 children (ages 5-14) attending. We meet 4 times per semester and present programs on topics such as geologic time, fluorescent minerals, snowflakes, the 'web of life,' and birdwatching. The members are already looking forward to next year's meetings.

The museum was also involved in the John Burroughs conference that took place 15-19 June, 2008. Three exhibits were put together by Rick Jones to address the evolution of the natural sciences. Most exciting for us was the fact that our collection contains many specimens that illustrate that concept. Rick was able to pull together wonderful examples of fossil ichthyosaurs, ammonites and fish, as well as venerable teaching aids like charts, drawings, maps and models. The two models by Charles Knight, casts of his original sculptures depicting a mastodon and a titanotheres, were restored and are real gems of the exhibit.

The museum has been very busy, with visits from local schools and Boy Scout groups, mounting special exhibits, hosting visiting Mineral Clubs, and welcoming the occasional alum who wanders in to see if Ely Hall is just as they remember it. We've changed! And we hope you'll agree, for the better. Please stop in and see the new exhibits and to reminisce with us, we'd love to see you!

Lois Horst, Museum Curator

