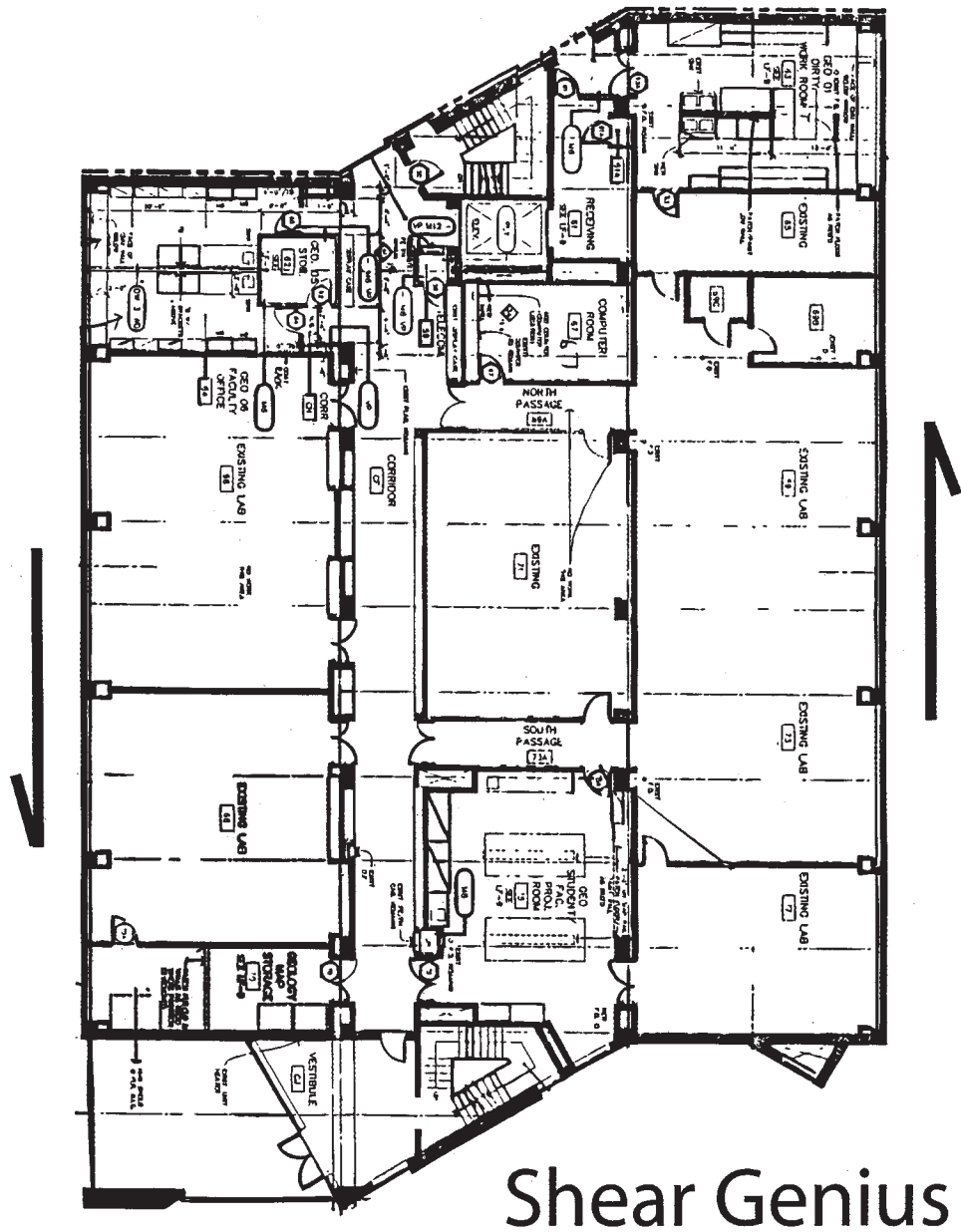


Carleton Geology Newsletter

Volume XXXII

2007

Mudd Hall of Science:



Shear Genius

Published By
The Department of Geology
Carleton College
Northfield, MN 55057

The cover drawing is the 2007 Geology T-shirt design by Ellen Root '07. We never envisioned Mudd as looking like a sheared rock until we viewed it from directly above with Google Maps/Earth!

The Carleton Geology Newsletter is edited by Timothy Vick.

Photo Submissions:

Pictures submitted to the Newsletter can be either in traditional print format or electronic, but electronic pictures should be medium to high resolution in order to reproduce well on paper. The file size of electronic pictures should be several hundred KB or more. Web-formatted pictures of less than 200KB generally will not reproduce well on paper.

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Department of Geology
Carleton College
Northfield, Minnesota 55057

July 1, 2007

Dear Friends,

The Department, as you all know, suffered a great loss this year with the sudden passing of Shelby Boardman. Shelby's teaching philosophy, his dedication to learning and especially to learning in the field, his character, his humor, and his devotion to this place, will always be part of the fabric of the Geology Department, and indeed, of the fabric of the College itself. We will miss him. Inside the pages of this year's Newsletter, you will find some attempts, notably by Tim Vick and Ed Buchwald, to put to paper what Shelby's life and career meant to us; alas, words cannot help but be insufficient, so great was Shelby's impact on his colleagues' and student's lives and on this institution. To honor Shelby, we are planning events associated with the '03-'08 Reunion next June—which also marks the 75th Anniversary of the Geology Department and the 25th Anniversary of the largest class ever to graduate in Geology. You are all invited, so please watch for news in the mail and on our website.

Even under the circumstances, however, the Chair's letter cannot forego mentioning some of the good things that happened this year. We graduated another excellent crop of majors who, as a group, presented the best collection of Comps most of us remember seeing. We have strong rising classes of Senior and Junior Majors, too, who keep the place hopping and fun. And as fitting legacy, many of Shelby's freshmen from his Field Seminar last Fall are still very much around in the Department, and making their presence felt and prized.

This year, too, Sarah Titus joined us as a tenure-track faculty member teaching Structures and Tectonics, and will add some sort of Geophysics course once we figure out our curriculum for the next few years. Sarah has gotten off to a fantastic start, and has reawakened a sleepy department and gives us great hope for the future. Speaking of sleepy (and sneezy and dopey...), Mary, Bereket and Cam have all been very active this year and are at the top of their games. As a department, we are developing a new Off-Campus Studies Seminar to New Zealand that will run for the first time in the Winter of 2010, so we're all very excited about that.

This was my last year as Chair for, hopefully, many years. It was made bearable by the addition of Ellen Haberoth as our new, and wonderfully hands-on, Administrative Assistant. Ellen brings strong budgetary and web skills to the job, so she has already proven to be invaluable in the smooth running of the Department. Lastly, I want to mention that this Newsletter, which each of you pores over every summer, is the creation and inspiration of Tim Vick, without whom our interactions with alums, parents, supporters and friends would be nowhere near as strong as they presently are, and we all appreciate his efforts very much. So, take care, hope to see many of you next June.

Yours in perpetual servitude,

Clint

DEPARTMENTAL NEWS

Shelby's Legacy: He helped put Carleton Geology on the map

By Timothy Vick

The outpouring of messages of grief, and testimonials to Shelby Boardman's teaching talents, which flowed after his sudden and unexpected death of a heart attack at age 62 on January 19, 2007, was an amazing and beautiful testament to Shelby's ability to engage students and lead them to a new world of discovery in both geology and life. Scores of people called or wrote to relate how they had been drawn into geology by Shelby's personality, and then stayed in the science because of his ability to teach and connect with his students. But there's another facet to Shelby's story.

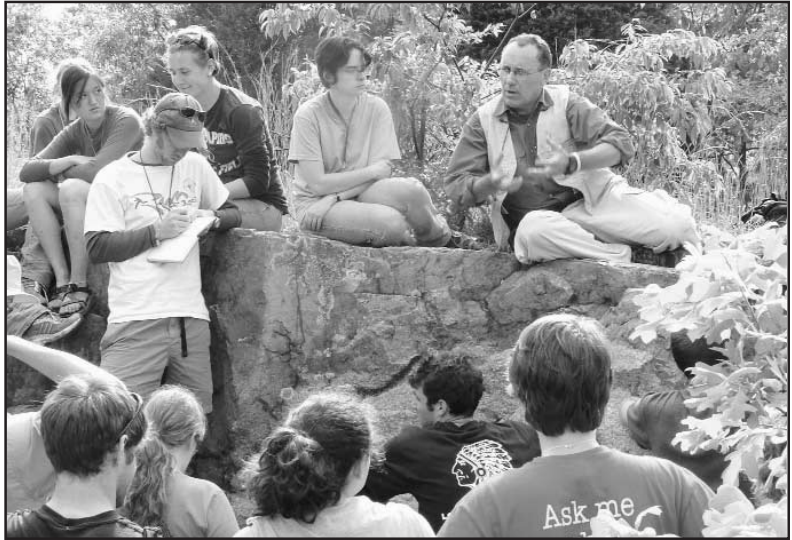
Compared with other liberal arts colleges and even major universities, the Carleton Geology Department is off the charts in its production of geology majors, women geologists, and bachelor-level geologists who go on to earn PhD degrees. In terms of the proportion of our graduates earning geology and earth science Ph.D. degrees, Carleton ranks first among liberal arts colleges.

Our classes of graduating seniors have averaged about 21 students per year since the mid-1970s, but this was not always the case. Before 1975 our graduating classes of geology majors averaged only around five students per year.

In the mid-1970s something caused Carleton's Geology Department to metamorphose from a respected department with modest enrollments to a national and international leader in the production of bachelor-level geologists who go on to earn higher degrees. What made the difference between our pre-1975 status as a well respected but small geology department and the geological education success that we became?

Shelby arrived at Carleton in the fall of 1971. He was instrumental in helping develop a new style of geological field education emphasizing Socratic discussions and detailed field observations as opposed to show-and-tell "geotourism" in which the goal is to see as many rocks as possible. And also, without question, the infusion of Shelby's energy, enthusiasm, and ability to engage students also was a catalyst for the Geology Department's amazing growth in the mid-1970s.

By the early 1970's, the pieces were in place for an unusually dynamic geology department. Eiler, Ed and Shelby each brought their own strengths to the department's teaching, and they were well supported in logistics and administrative needs by Tim Vick and Betty Bray so they could focus on what they did best: teaching undergraduate geology.



Shelby Boardman leading a discussion on the Missouri field trip in 2006

Among Shelby's gifts were an intuitive understanding of the impact of enrollment levels on the quality of our program, and a knack for connecting with students to draw them as majors and encourage them to aspire to their fullest career potentials. To Shelby, the number of students we signed up as geology majors and the alums who went on to earn doctorates or prestigious prizes and fellowships were points on the Geology Department's scoreboard. In fact, during the last weeks of his life Shelby laboriously combed through our list of 1000 geology alums and compiled a list of all of our graduates who are teaching in colleges and universities; he was still keeping score.

Shelby also understood the value of connecting with students as individuals, learning about them and giving them words of encouragement to help them progress in their personal journeys. He worked at this and students appreciated it; his popularity was not simply a function of a charismatic personality. The comments submitted by alums following Shelby's death, a few of which are reprinted following this article, are helpful in understanding how Shelby's concern for students had so much impact.

Upon hearing of Shelby's death, President Robert Oden and Dean of the College Scott Bierman wrote a memo to the college community which included the following paragraphs:

"Shelby was such a vital part of the Carleton fabric for over thirty-five years that it is very hard to imagine the College without him. He embodied the finest qualities we hope our faculty possess: the

deepest integrity in all matters, an unwavering devotion to teaching of the highest order, and the creativity and doggedness to produce sophisticated and influential scholarship. He was a trusted mentor, confidant, and role model for literally hundreds of Carleton faculty.

"While Dean, Shelby guided the College with wisdom and insight. His matchless understanding of Carleton's core values and his unfailing honesty made him supremely effective in his role as the College's chief academic officer. The 21st Century Report, which he authored while Associate Dean of the College, is arguably one of the most influential planning documents in the College's history.

"This note, of course, cannot begin to do justice to Shelby's many contributions to Carleton nor can we adequately convey the lasting legacy his thirty-five years at Carleton have had on all of us, and will have on Carleton's future. Without question, we are a far better community and a better institution for having enjoyed Shelby's presence among us for so long.

"We will, all of us, profoundly miss Shelby. We extend our most sincere condolences to his family and friends."

The following news items include a formal memorial statement by Ed Buchwald which Ed read, in accordance with faculty tradition, at a Carleton College faculty meeting this spring, followed by some of the many comments we received from alums in the days immediately following Shelby's death. These provide a bit of insight into Shelby's many contributions, and how he affected students so deeply.

Shelby Jett Boardman

Charles L. Denison Professor of Geology

November 7, 1944 - January 19, 2007

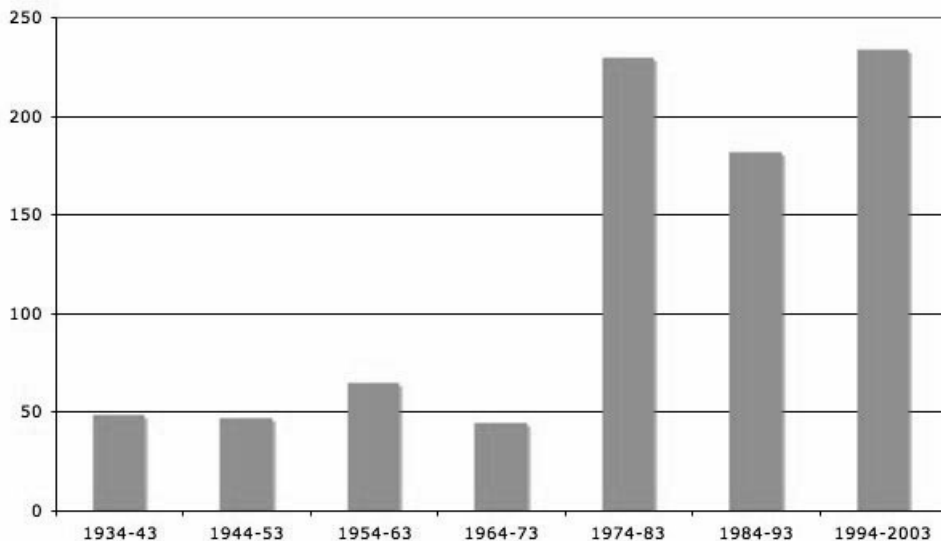
Official college obituary by Ed Buchwald

Shelby Jett Boardman, Charles L. Denison Professor of Geology, came to Carleton College in the fall of 1971 to teach in the Geology Department, which at the time consisted of two faculty members; he would increase the department to three! Professor Boardman received the Ph.D. in geology in the spring of 1971 from The University of Michigan where he had also earned an M.S. in economic geology. His undergraduate degree in geology was earned, with honors, at Miami University, Ohio, in 1966. At Carleton he served as Geology Department Chair from 1977 to 1983 and as Acting Chair from 2000 to 2002. He was Associate Dean of the College from 1994-1998, and Acting Dean of the College in the spring of 1997. He served as Dean of the College from 2002 to 2005.

During his years at Carleton he also held the position of visiting scholar at the University of Glasgow, Scotland, and research associate at The University of Kansas and the University of Arizona.

Professor Boardman's teaching interests included mineralogy, petrology, x-ray analysis of rocks and minerals, mineral and energy resources, the geochemistry and geochronology of igneous rocks, Precambrian geology, and introductory geology. In addition to classroom teaching he especially enjoyed introducing students to field research. He was involved in field programs in Australia, the Salida, Colorado, area, the Bearpaw Mountains of Montana, and the northern Sierra Nevada of California. He was the Associate Director and Director of the Associated Colleges of the Midwest Geology-in-the-Rockies Program in 1978 and 1980 respectively. He participated in two Keck Geology Consortium programs in Colorado, as director in 1988 and as a faculty member in 1999.

Geology Majors By Decade



The sizes of Carleton's classes of graduating geology majors grew dramatically during the mid-1970s.

(Data provided by the Carleton College alumni database. The years on the faculty time lines show the years the long-term faculty members were at Carleton.)

Professor Boardman was one of the founders of the Geology Council of the Council on Undergraduate Research (CUR) and served as a member of the Executive Council and as the Geology Council's first president from 1987-1989. In 1988 he was the site chair for the CUR National Conference held at Carleton.

For most of his career he focused his research on the Precambrian geology and crustal evolution of central Colorado. He received research and grant support from the National Science Foundation, the Petroleum Research Fund of the American Chemical Society, the Atlantic Richfield Foundation, Mobil Oil Corporation, the Pew Mid-States Science Consortium, and Carleton College. He edited one published book, the proceedings volume from the Fiftieth Anniversary Symposium of Carleton's Geology Department, and authored or co-authored more than 30 journal articles and published abstracts. Many of these were co-authored with Carleton undergraduates.

Professor Boardman was active as a Fellow of the Geological Society of America chairing numerous technical sessions. He also served as a grant proposal reviewer for the National Science Foundation as well as serving as an outside reviewer of geology programs at other colleges. In 1986 he participated in the International Field Conference on Proterozoic Geochemistry, held in Colorado, presenting a paper and leading one of the field trips. He was a member of the American Association for the Advancement of Science, a Fellow of the Geological Society of America, the Council on Undergraduate Research, The Society of Sigma Xi, the American Geophysical Union, the American Mineralogical Society, and the National Association of Geoscience Teachers.

At Carleton, Professor Boardman was elected to the College Council, the Faculty Personnel Committee, the Tenure and Development Committee,

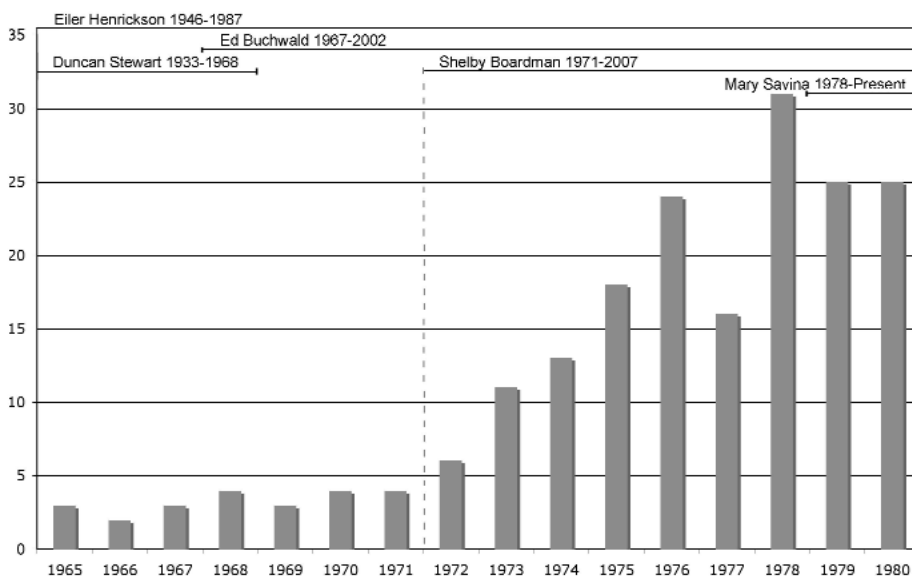
the Educational Policy Committee, the Budget Committee, and the Administrative Policy Committee. He also served on such appointed committees as the Advisory Committee on Academic Computing, the Off-Campus Studies Committee, the Athletic Facilities Planning Committee, and the Admission Strategy Task Force.

During his term as Associate Dean, Professor Boardman co-authored Carleton's Assessment Plan for Student Academic Achievement, prepared for the North-Central Association of Colleges and Schools (NCA). He also prepared Carleton's self-study for the College's NCA re-accreditation review and served as Chair of the 21st Century Committee, which produced the planning agenda for Carleton for the first decade of the 21st Century. In May, 1998, he delivered the Honors Convocation address at the College.

Shelby Boardman began his duties as Dean of the College at Carleton on July 1, 2002 contemporaneous with the start of Robert Oden's presidency. Dean Boardman's depth of understanding of Carleton's values and his honest and collaborative approach made the administrative transition seamless. Among his most important accomplishments as Dean was chairing the Campaign Priorities Committee. He also deftly inaugurated the first comprehensive curricular review in over forty years and established a roadmap that would eventually lead the College to a five course teaching load. While Dean he represented the College widely and effectively to alumni, friends of the College, and external institutions.

Following a sabbatical year in 2005-2006 he returned to the classroom in the fall of 2006. His last class at Carleton was a freshman field seminar in introductory geology.

Geology Majors Per Class 1965-1980



And here are some comments of Ed's that were included informally with the faculty report about Shelby:

"Here is the Shelby Boardman that I knew, his favorite things:

- sport: broomball with the teams created by geo majors
- food: campground chili that would make your ears water
- rock: anorthosite (Shelby could tell you that anorthosite, a plutonic rock, is the name given to a dioritic rock composed almost entirely of feldspar. Quartz content may be negligible, perhaps 3 percent, feldspar 75 percent or more, and any dark minerals, usually amphiboles, are less than 20 percent.)
- music: the song "Chantilly Lace"
- leisure reading: detective stories
- place to teach: an outcrop with students
- field trip: St. Francois Mountains in southeast Missouri
- favorite course to teach: freshman seminar called Outdoor Geology
- favorite job: being Dean of the College at Carleton
- favorite liberal arts college: Carleton College

"Along with Eiler Henrickson I had the opportunity to recommend Shelby Boardman to president Howard Swearer and Dean Bardwell Smith for appointment as the third member of the faculty of the geology department. When Bardwell Smith asked about Shelby I said that we had found the best young teacher and having established his character and skills we asked what he could teach. Luckily we were so few in number that anything at all was the right answer."

Ed Buchwald

Alums Write About Shelby

Here are a few of the many comments we received following Shelby's death articulating specific ways in which Shelby made a difference to the writers. To everyone who wrote, thanks for your comments!

 He was such a wonderful teacher, mentor, and friend. I'll always remember how much he loved to teach, and he was one of the reasons I went into teaching right after college. *Marie del Toro '79*

 It was indeed a horrible shock to get yesterday's email. I have already talked with Bill Matlack '76 this morning. We agree that it was Shelby who really steered us into the professional geology we have done since Carleton. *Will Maze '76*

I can't think of my Carleton experience without thinking about Shelby. He was my best professor in a school full of excellent professors. *Tillman Farley '79*

I credit Shelby with steering me through my complicated Geo Major/India Studies senior year--and giving me good advice post-Carleton, to shoot higher and go to the best Business School I could get into (I wanted to go to Colorado State or CU at Boulder, but he convinced me to try for Northwestern or Michigan). I've never been sorry I chose the Kellogg Graduate School of Management at Northwestern, but I wouldn't have set my sights higher if it hadn't been for his mentoring. If not for Shelby's counsel and advice when I was deciding whether to continue as a mine geologist in Missouri or to go to business school in the mid 80's, I likely would not have tried to get into Northwestern's Kellogg Graduate School. That turned out to be a great experience at another fine school--which then gave me the credentials, tools and confidence to pursue an interesting if somewhat offbeat career in banking and project management with Citigroup these past 20 years. I'm glad I had the occasion to tell him how much I appreciated his guidance.

Laura Nadelhoffer '78

I am so sorry to hear about Shelby. I don't know if any of you remember, but his 1992 Intro class team taught with George Davis was my introduction to the Geology Department, fall term my freshman year. I was a quiet student (surprise, surprise), but I loved it. I loved Shelby's field trips especially, even though I didn't own a raincoat and all I remember from the Cannon River Wilderness Park mapping trip was the beautiful fall color. But I enjoyed all of it. When the term was over and I got my final exam back, Shelby took the time to write me this note on the back of my exam:

"Sara- You are what I call a 'sleeper.' You do really fine work, but not in a loud and flashy way. But by the end of the term – BAM – there you are with one of the better grades in the class! Good work. You have a lot of talent for geological concepts and for complex analytical thinking."

This note, which I've kept all these years, was really influential in my decision to become a geology major. I read it even now and it makes me feel better about myself and the work I do. I always think of Shelby when I think of how I started this career path. He made a big difference, and I'm sorry he is gone. *Sara Gran Mitchell '96*

With many others, I am a geologist because of Shelby Boardman. *Dave Barbeau '97*

 Since I never saw Shelby after graduation in '77, in my mind he'll always be about 34 years old, doing his rendition of "Chantilly Lace."
Stu Naegele '77

 Shelby Boardman was an outstanding human being who cared for students long after they graduated. I carry a deep and lasting appreciation of what Shelby did for me both during and after my four years at Carleton. I still can't fathom his loss.
Heyo Van Iten '81

 Personally, I remember one moment more than others. We were on a field trip on a very rainy and cold day. We were all soaked. Before continuing to our final stop on our Tuesday field trip, Shelby took us to McDonalds where he bought us all coffee and hot chocolate. We then pulled up a lot of chairs and sat around in a circle talking about Minnesota's geological history. That was not only what I would call a Shelby moment, but a Carleton moment. Discussing geology in McDonalds while soaking wet and sipping coffee. Nothing beats it...
Shane Auerbach '10 (student in Shelby's class last fall)

 Shelby was always a good person and a good teacher. I only ever had mineralogy and petrology from him, but I remember those classes as being some of the most challenging and interesting classes I had, and he was always so willing to help people learn. And he was funny and made the subject fun at the same time. *Rowan Littell '95*

 I was fortunate enough to be a geology major in the 1970s when Shelby Boardman was in his heyday. He always had a smile, was a good teacher and made our weeklong field trips in the spring and the fall full of fun and learning. He is missed."
Craig Banister '78

Sarah Titus Joins Geology Faculty

We are most pleased to welcome Sarah Titus, who recently earned her PhD at the University of Wisconsin-Madison, as our newest tenure-track faculty member in the Geology Department.

Sarah graduated from another fine liberal arts college (Oberlin), but she's no stranger to Northfield and the halls of Mudd. If her surname rings a bell, it

might be because you remember her father who is a Carleton physics professor. She's also a graduate of Northfield High School.

Sarah is a structural geologist interested in the distribution of strain both temporally and spatially across the central San Andreas fault system, and more generally across major strike-slip boundaries in a wide variety of tectonic settings. This year Sarah taught Structural Geology, Tectonics and Introductory Geology.

Sarah explains her research focus this way: "I am interested in how deformation is accommodated across major strike-slip or transpressional boundaries at a variety of lithospheric levels. My dissertation research focused on deformation in central California across the creeping segment of the San Andreas fault where I used a combination of geodetic, geophysical, and geologic techniques to characterize deformation in space and time across the central San Andreas fault system.

"Moving down in the lithosphere, I've also worked on emplacement mechanisms of late-stage felsic intrusions in the Cretaceous Sierra Nevada batholith in California. A variety of data sets including gravity surveys, magnetic fabrics, and field data led us to believe that emplacement was controlled by regional transpressional structures. At even deeper lithospheric levels, I've been trying to characterize strain across a mantle shear zone (transform fault) exposed in an ophiolite in New Caledonia."

Ellen Haberoth Is New Administrative Assistant

We'd like to extend a special welcome to Ellen Haberoth, who became our departmental Administrative Assistant in January.

Ellen is a native of the Winnipeg area in Manitoba but she's been in Minnesota for many years now. She came to us from the Northfield Public Schools where she was the webmaster of the school system's web site, so of course now she is taking over a lot of the responsibility for managing the Geology Department's web site. In addition to her web skills, Ellen has a wide variety of other administrative experience including providing administrative support for businesses and organizations, desktop publishing, and database management.

Welcome Ellen!

Geology Department Celebrating 75 Years

2008 is a special year for the Carleton College Geology Department. It is both the 25th anniversary of the graduating class of 1983 – the largest single contingent of geology majors we have ever had – and the 75th anniversary of the founding of the Geology Department in 1933.

Those of you who were around in Spring 1983 probably remember the symposium on April 14-16 that brought back many geology alumni to campus to speak. If you don't remember all the particulars, you

certainly DO remember the heavy snowfall on April 14th, centered on Northfield and conjured up by the weather gods in honor of Larry Gould's presence. Shelby planned most of the other details of that celebration, including the symposium and the book that resulted, and that's one of the memories we cherish of his years.

For the 75th, we have several plans that we would like your help with:

First, we will have some special events during reunion weekend, June 19-22, including an open house and celebration and a field trip, most likely on June 19 (Thursday) or June 22 (Sunday), perhaps to



Taylor's Falls, perhaps somewhere else. If you are one of the "threes and eights" – or even if you're not – please let us know if you are interested in a one-day trip.

Second, we invite you to participate in an oral history and film project that will help connect present students with alums. We were inspired by Aleshia Mueller (2001), who produced "Eiler Henrickson, A Gentleman of Great Magnitude" for the Minnesota Historical Society's "Minnesota's Greatest Generation" Film Initiative project (see <http://digi-mashaghen.blogspot.com/2006/10/eiler-henrickson-gentleman-of-great.html> for more details). We would

like create short films about our alums and we are looking for volunteers who would be willing to share their life stories. Please let us know if you are interested, and please be assured that this effort will include both alums who have continued in geosciences and those who've pursued other career and life paths. We'll show the first of these videos during the reunion open house in June.

Finally, we will be updating the "Carleton's Century of Geology" booklet that you may remember. Eiler and Betty put the original together back in 1975. Among other things, we'd like the new version to include the names and a short biographical sketch of

Fall Departmental Field Trip Tackles The Black Hills

The fall field trip this year was an old favorite, the Black Hills. We packed our bus with 37 students, four faculty members and the ever-faithful technical director/photographer, and enjoyed once again the incomparable geology and autumn weather that is typical of South Dakota in October. In the upper picture on the opposite page, taken during the discussion following the Elk Creek Canyon mapping exercise, Cam Davidson and Sarah Titus demonstrate physically how the sedimentary beds were deformed and slid past one another as the Black Hills granite uplift pushed up through them. In the lower picture, Mark Dyson '07 and Ethan Hyland '08 will bring a smile to many people who remember doing the same thing in previous years at Dinosaur Park in Rapid City. And, below, Clint Cowan leads the discussion on the amazing sediments and landforms in the Badlands.



everyone who has taught in the department over the years, so if you are such a person, or want to be sure someone else is included, please let us know.

Watch for information on the Geology Department web site of more 75th anniversary news and plans.

National Science Foundation Renews Keck Geology Consortium Support

The National Science Foundation has continued its support of the Keck Geology Consortium, of which Carleton College is a founding member, by awarding it a three-year, \$650,000 grant under its Research Experiences for Undergraduates (REU) program.

The Consortium comprises 18 primarily undergraduate institutions and was created in 1986.

The Keck Geology Consortium is a multi-college collaboration focused on enriching undergraduate education through development of high-quality research experiences. In 116 sponsored projects to date, the Consortium has supported 970 undergraduate students from 90 schools across the country, including several score from Carleton. Research projects in the United States and abroad have involved more than 115 faculty representing 50 different colleges, universities, governmental agencies, and businesses.

The success of the Consortium can be measured on multiple levels. Keck faculty and students have produced numerous peer-reviewed articles and have presented over 200 multi-authored papers at regional and national conferences. Consortium alumni are active in research and in geoscience-related business and industry, are K-12 and tertiary educators, work for non-profit organizations, and occupy a variety of professions outside the sciences.

Other members of the Keck Geology Consortium are Amherst College, Beloit College, Colgate University, The College of Wooster, Colorado College, Franklin & Marshall College, Macalester College, Mt. Holyoke College, Oberlin College, Pomona College, Smith College, Trinity University, Union College, Washington and Lee University, Wesleyan University, Whitman College, and Williams College.

In addition to 15 years of support of over \$5 million from the W.M. Keck Foundation of Los Angeles and the continuing grants from the NSF, the Consortium receives substantial annual contributions from member colleges.

Jean Bahr Is Bernstein Geologist-In-Residence

We were pleased to welcome Dr. Jean Bahr, a hydrogeologist from the University of Wisconsin-Madison, who was the Bernstein Geologist-In-Residence in the Geology Department January 15 through 17.

Besides visiting classes and social events with students and faculty, Jean gave two public lectures: "Groundwater as an ecosystem resource" and "Do you know where your drinking water comes from?"

Jean received her B. A. from Yale University and M.S. and Ph.D. degrees from Stanford University. Since 1987 she has been a faculty member at the University of Wisconsin-Madison, where she has served as chair both for the Department of Geology and Geophysics and for the Water Resource Management Program. She has also served as faculty director for the Women in Science and Engineering residential learning community at UW, Madison.

Jean is a Fellow of the Geological Society of America and presently serves on the GSA Council. In 2003, she was chosen as the GSA Hydrogeology Division's Birdsall-Dreiss Lecturer. She has served on two National Research Council Committees, one on Research Priorities in Earth Science and Public Health and the other on Restoration of the Greater Everglades Ecosystem. Her research has taken her to West Africa, Canada, sea (on the JOIDES Resolution) and Wisconsin. She has published many journal articles, conference proceedings and formal reports. Her website, in addition to the details of her professional life, includes pictures and specifications for her solar roof and the replacement of her aging VW bug with a hybrid Prius in 2001.

Other Talks In Our Department This Year

Among other talks this year, Blas Valero-Garcés, Instituto Pirenaico de Ecología Zaragoza, Spain, "Deciphering the Quaternary from Lake Records in Spain."

Anna Courtier, University of Minnesota, "Mantle Composition and Dynamics in Regions of Active and Ancient Subduction"

Tony Withers, University of Minnesota, "Oceans in the Mantle: the Global Water Cycle."

Laura Cleaveland '01, Brown University, "Trans-Fats and Climate Change: Alkenone Sea Surface Temperature Reconstruction for the

Pleistocene."

Greg Townsend, John Deere AgriServices, "Producing Food or Fuel - The Great Debate."

Michal Tal, University of Minnesota, Meanders in Captivity: Dynamic interactions of vegetation and channel morphology in a laboratory experiment.

Megan Kelly, University of Minnesota, High resolution characterization of the Asian Monsoon since the Penultimate Interglacial, Dongge Cave, China.

Aleshia Mueller '01, Carleton College Science Education Resource Center, "Eiler Henrickson: A Gentleman of Great Magnitude" (a film produced for the Minnesota Historical Society project on "The Greatest Generation."

Seth Kruckenberg, University of Minnesota, "Partial Melting and Crustal Flow in Orogens."

George Hudak, University of Wisconsin, Oshkosh, "The Precambrian Research Center - Training and Supporting the Next Generation of Geoscientists in Precambrian Field Studies".

Kathryn Hanson, Geomatrix Consultants, Career opportunities in geologic consulting.

Better Living Through Chemistry—and Math

Carleton College News Bureau

Maija Sipola, a sophomore from Embarrass, Minnesota, wants to major in geology, but wasn't sure her small-town high school had prepared her for Carleton's intense science curriculum.

Students like Maija are the reason Carleton faculty members designed the Science Scholars Workshop, a two-week winter break program for freshmen and sophomores with weak high school science and math backgrounds. The program helps those students build their problem solving and inquiry skills and develop strong working relationships with science faculty.

Funded by a grant from the Howard Hughes Medical Institute, the program ran for two years. Its five-member faculty team works with the scholars for three hours a day on problem-solving skills. Other activities include internships with math and science professors, lectures, and dinners with faculty and staff members.

The program allowed freshman Melissa Abecasis from La Paz, Bolivia, to work with associate math professor Bob Dobrow in analyzing a "Lancet" study of civilian wartime deaths in Iraq. Besides the internship and the chance to brush up her science skills, Melissa valued the program for the friendships

it allowed her to form. "I know those students and professors will help me with any science issues I face," she says. Maija Sipola also found the two-week course had raised her comfort level with professors.

That's just what geology professor Mary Savina was hoping would come out of the Science Scholars Program. "I'm most concerned that students feel they can navigate the science and math departments," she says, "and that they can ask the faculty questions."

Carleton Geologists Present At GSA

A number of people from the Geology Department and a related Carleton office, the Science Education Resource Center, presented papers at the recent Geological Society of America convention in Philadelphia October 22-26.

Below are the authors and titles. Carleton students and alums are indicated with their class years, and the current Carleton staff members are in bold face type.

Bierman, P., C. Massey '86, and **C.A.**

Manduca. The textbook: Dead? or Alive!

Cowan, Clint'83, Ellen Schaal '05, and Mark Dyson '07. Was some Proterozoic and Cambrian seawater anomalously viscous?

Finley-Blasi, Lee'06, **Cameron Davidson**, Wirth, Karl R., Craddock, John P., and Vervoort, Jeffrey D. U-Pb dating of detrital zircon from the neo-proterozoic (?) Fond du Lac and Hinckley Sandstone formations near Duluth, Minnesota.

Haileab, Bereket, Introductory course projects as an opportunity for water quality monitoring and education.

Lopez, Sara'09 and **Mary E. Savina** '72, Using radon problems for quantitative and science literacy and civic engagement.

Manduca, C.A., H. Rissler, J. Anderson, C. Bezanson, S.C. Moosavi, and **J.R. McDaris**. Preparing teachers to teach earth science.

McDaris, J.R., **C.A. Manduca**, and R.H. Macdonald '76. Geohazards visualizations and teaching materials just-in-time.

McDaris, J.R. and **C.A. Manduca**. Teaching in the field: Gathering the collective expertise.

Meyer, Katherine J. '09, Megan Ward '09, and **Bereket Haileab**. Tracing nitrate-N from a drainage tile through surface waters of the Cannon River Watershed.

Ormand '89, C., R.H. Macdonald '76, and **C.A. Manduca**. Managing Your Career: New "On the Cutting Edge" online resources for graduate students, post-doctoral fellows, and early-career faculty.

Savina, Mary E. '72, Studying scientific controversies through the lens of Katrina.

Savina, Mary E. '72, Sara Lopez '09, , and Kendra Murray '06,. Exploring science/public policy intersections in a course on geology and human health.

Short, Lisa C. '09, **Mary E. Savina '72**, and **Ann E. Zawistoski '97**, Applying Tufte's principles of graphic design to geoscience textbook illustrations.

Titus, S. J., B. Tikoff, and B. Housen. A kinematic model for the Rinconada Fault System in central California based on structural analysis of en echelon folds and paleomagnetism.

Titus, S.J., B. Benford, S. Maes, E. Ferre, and B. Tikoff. Strain across a mantle shear zone, Bogota Peninsula, New Caledonia.

Wenner, J.M. '92, E.M. Baer '91, and **C.A. Manduca**. Infusing quantitative literacy into introductory courses: Best practices, courses and activities.

Wirth, Karl R., Jeffrey Vervoort, John P. Craddock, **Cameron Davidson**, Lee Finley-Blasi '06,

Laura Kerber, Rebekah Lundquist '06, Sarah Vorheis, , and Erin Walker. Source rock ages and patterns of sedimentation in the Lake Superior Region: Results of preliminary U-Pb detrital zircon studies.

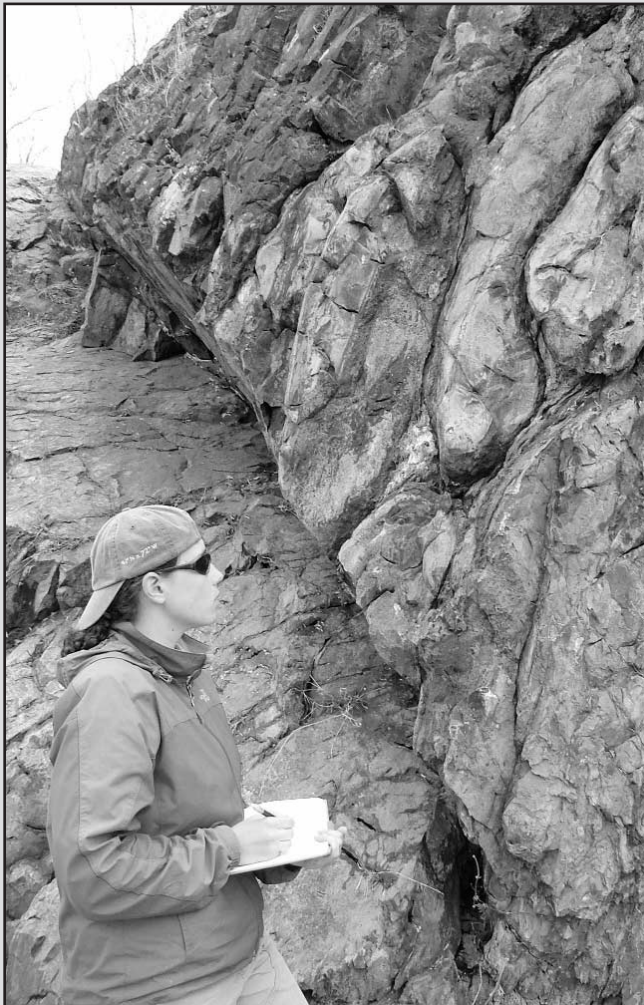
Richard Buchheit '56 Donates Collection Of Ore Suites

The Geology Department is gratefully working its way through cataloging hundreds of mineral and ore specimens recently donated to us by Richard Buchheit '56.

The collection, 23 boxes weighing a total of over 600 lbs., contains a wide variety of ore samples from mines that Dick visited during his career as an exploration geologist. Mining districts represented include the famous Canadian areas in Sudbury and eastern Ontario, Minnesota, Wisconsin, Colorado, Arizona, Utah, and numerous other areas.

The rocks are being catalogued into several categories. Some suites will be used as study suites,

Northern Michigan Trip Features New Outcrops



We discovered some great new (to us, anyway) pillow basalt outcrops in Marquette, Michigan, this spring on our departmental field trip in April and May. Among the 29 students on the trip was Susan Schnur '07 (in the picture at left) who had done her comps on a series of pillow basalts in California. Below, Matt Dettinger '08 and Phil Varela '09 help Sarah Titus demonstrate how to take a strike and dip reading with a Brunton on a drawing pad at the infamous Prison Problem outcrop in Marquette.



and some of the others are going into the Dana Set (used as a museum reference set for students studying mineralogy) and the display set. Some will be going into the Introductory Geology course sets.

The specimens represent a lifetime of work - so we owe Dick a special thanks for remembering Carleton!

Luwamna Riena Haileab Passes Away

It is with huge sadness that we report the death of Bereket and Freweyni Haileab's infant daughter Luwamna Riena, who was born September 27, 2006 with heart and lung complications and passed away October 23, 2006.

Her funeral and burial were on October 25 in Northfield. Our thoughts and prayers are with Bereket and Freweyni and their family.

New Duncan Stewart Fellows Named

Each spring, the geology faculty faces the difficult task of selecting a few students to be Duncan Stewart Fellows. The Duncan Stewart Fellowship was established in 1976 by Daniel Gainey, class of 1949, in honor of Duncan Stewart, professor of geology at Carleton for nearly 25 years.

We select the Stewart Fellows based on a combination of excellence in scholarship, a high level of intellectual curiosity, potential for scientific growth, and involvement in departmental activities. As we make this selection, we realize how fortunate we are to have so many talented, interesting, and impressive students within the department.

We are pleased to announce that Tyler Mackey, from McFarland, Wisconsin, and John Nowinski, from Black River Falls, Wisconsin, both class of '08, will be the 2007-08 Duncan Stewart Fellows. Tyler and John will extend the number of Stewart Fellows over the years to 88. Congratulations and best wishes to you!

Carleton Network For Lesbian, Gay, Bisexual And Transgender Geology and Natural History Alums

The Carleton Network For Lesbian, Gay, Bisexual and Transgender Geology And Natural

History Alums provides students and alums with career information, fellowship and support. It was founded in 1990 and now has 41 members coast to coast.

The network has the twin objectives of helping reduce isolation among alums and working toward a more open, accepting and informative environment on campus for students in geology and related fields.

The network consists of a confidential list of names and addresses, circulated only to members of the network, maintained by Marilyn Yohe '88, Dan Spencer '79, and Tim Vick (Geology Department staff member). Inquiries about joining may be addressed to any of them.

LGBT folks might also be interested in the general alumni group called Out After Carleton (OAC). Full information about OAC is available through www.carleton.edu in the alumni section.

Geology Department T-shirts Available By Mail

We have a supply of geology T-shirts available that can be purchased by mail. The cost for current year shirts is \$10 plus \$4 postage payable to Carleton College.

The 2007 shirt is grey with blue printing (the colors of a blueprint) with a diagram on the back showing Mudd being left-laterally sheared, as its outline indicates. The front says, "It's not our fault we like rocks." All sizes are available at this writing.

There is also a timeless (and priceless!) special shirt for families with multiple generations attending Carleton. The shirt features a diagram of the interior of the Earth with the core labeled Carleton Faculty, and the layers going upwards toward the surface being Post Docs, Graduate Students, Seniors, Juniors and Sophomores; the blebs of magma (which melted off the subducting plate) rising toward the surface are "Children that go to Carleton." It is cardinal red with white ink. All sizes are available; \$10 per shirt plus \$4 mailing.

The 2006 shirt is dark blue with white ink. On the front it says "Carleton Geology 2006," and on the back it says "The Dark Crystal... Trial By Stone" with a picture of a quartz crystal. M, L and XL sizes are available. Clearance sale price on the 2006 shirt of \$5 per shirt plus \$4 mailing cost.

We still have some 2002 shirts left, which is light blue with black ink, with a picture of a trilobite and saying "Hoc animal maxime placet," which translates to "This is my favorite animal." L and XL are

available. SPECIAL clearance sale price on the 2002 shirt of \$5 per shirt plus \$4 mailing cost.

Email Tim Vick at tvick@carleton.edu or give him a phone call to find out whether your size is in stock.

2007 Awards

Distinction In Comps

Lauren Andrews
 Keith Christianson
 Nathaniel Dixon
 Mark Dyson
 William Guenther
 Gloria Jimenez
 Ross Mitchell
 Kendra Murray
 Susan Schnur
 Daniel Shapiro
 Carl Ulberg
 Sarina Yospin

Sigma Xi

Lauren Andrews
 Sarah Bergman
 Keith Christianson
 John Gibbons
 William Guenther
 Kelly Hereid
 Gloria Jimenez
 Ross Mitchell
 Kendra Murray
 Selena Pang
 Susan Schnur
 Daniel Shapiro
 Christina Spence

Mortar Board

Cicely Miltich

Phi Beta Kappa

Mark Dyson
 Kendra Murray
 William Guenther

National Science Foundation Honorable Mention

Nicholas Swanson-Hysell '05

Mike Ewers Award

Katie Bovee

David John Field Prize

Cliff Swanson

Jefferson Natural Sciences Teaching Award

Sarina Yospin

Melon-Mays Undergraduate Fellowship

Clara Tsang

Jonathan Paradise Israel Experience Scholarship

Lauren Colwell

Class of 1963 Fellowship

Matt Dettinger

Farmclub Summer Gardening Internship

Katherine Bovee

Initiative for Service Internships in International Development

Andy Lorenz

Duncan Stewart Fellowship

Tyler Mackey

John Nowinski

Senior Projects – 2007

Graduating senior geology majors, their hometowns and titles of integrative exercise (“comps”) projects:

Lauren Andrews, Bella Vista, CA, “A Geochemical Analysis of Aluminum and Iron Oxides in Little Backbone Creek, Shasta County, California”

Sarah Bergman, Saint Paul, MN, “Late Pleistocene glacial history and reconstruction of the Fish Lake Plateau, South-Central Utah: Implications for climate at the Last Glacial Maximum”

Keith Christianson, Beverly Hills, MI, “ $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ analysis of Cenozoic Camelidae tooth enamel, Great Plains, U.S.A.”

Nathaniel Dixon, Foster, RI, “Experimental and theoretical hydrodynamic analysis of *Mercenaria* valves from the Florida Pinecrest beds”

Mark Dyson, Cannon Falls, MN, “TriMan: An interactive tool for modeling earthquakes, with applications to the 1992 Landers and 1999 Hector Mine, California earthquakes”

John Gibbons, Hurley, WI, “Geothermobarometry of Mid-Cretaceous Plutons from Southeastern Alaska”

Jacob Gold, West Chester, PA, “Effects of variable land management and topography on soil quality on an agricultural site in Nerstrand MN”

William Guenther, Oak Park, IL, “Mafic microgranular enclaves in a coarse grained granite, Vinalhaven Island, Maine: Evidence for magma mingling and chamber evolution”

Kelly Hereid, Wildwood, MO, “Pyrodinium bahamense var. bahamense cysts as a dinoflagellate population and depositional environment proxy in Puerto Mosquito, Vieques, Puerto Rico”

Gloria Jimenez, Saint Paul, MN, “Changes in soil carbon cycling across a nitrogen pollution gradient in the San Bernardino Mountains, California”

John Kracum, Chicago, IL, “Study of the release of Ca, Mg, Fe, and Mn from a biologically active soil due to microbial eradication and a chelating agent”

Andrew Lorenz, Birmingham, MI, “Saltwater intrusion in a fractured granite aquifer, Vinalhaven, Maine”

Ross Mitchell, New Fairfield, CT, “Late Cretaceous Paleomagnetic Pole for North America from the Pierre Shale: Implications for Baja-British Columbia and True Polar Wander”

Kendra Murray, Fly Creek, NY, "Using $\delta^{18}\text{O}$ of zircon and geochemistry to determine the magmatic evolution and degrees of contamination in Peggy's Cove monzogranite, Halifax Pluton, Nova Scotia"

Selena Pang, Wailuku, HI, "Nitrogen inventory of developed headwaters in Greenville, SC"

Donald Penman, New York, NY, "Biostratigraphy of Santonian-Campanian genus *Baculites* in the Western Interior of North America: Implications for evolutionary timing and Migration"

Nicholas Riordan, Anchorage, AK, "A Paleoenvironmental study of the Nyac Terrane, SW Alaska"

Megan Rohrsen, Marengo, IA, "Siderite-magnetite oxygen isotope fractionation: A potential iron mineral biosignature"

Ellen Root, Minneapolis, MN, "Characterization of the matrix of the Mill Street Conglomerate at Taylors Falls, Minnesota (U.S.A.)"

Susan Schnur, Switzerland, "An analysis of the morphology and physical properties of pillow lavas of the Nicasio Reservoir Terrane, Marin County, California: Implications for seamount formation and structure"

Daniel Shapiro, Bronx, NY, "Evidence for wide scale climate forcing in the late Pleistocene from a speleothem stable isotope record from Spring Valley Caverns, Fillmore County, Minnesota"

Christina Spence, Tacoma, WA, "Surface-groundwater interactions in a test well field and Spring Creek, Fort Collins, CO"

Cliff Swanson, Los Alamitos, CA, "Macroscopic and petrographic analysis of silica cementation on the Cambrian-Ordovician boundary strata near Osceola, Wisconsin"

Carl Ulberg, Seattle, WA, "Investigation of Cascadia tremor correlation with earth tides"

Sarina Yospin, Newton, MA, "Using gravity for sub-surface imaging at Ship Rock, New Mexico"

Class of 2008

Karen Aydinian, Spring, TX; Michael Barrett, Walla Walla, WA; Katherine Bovee, Henderson, MN; Karin Brown, Madison, WI; Daniel Callahan, Centerville, GA; Matthew Dettinger, Washington, PA; Ethan Hyland, Poland, ME; Hannah Kinzie, Evanston, IL; Calvin Lieu, Hong Kong; Tyler Mackey, McFarland, WI; Zachary McGuire, Fanwood, NJ; Cicely Miltich, Cohasset, MN; Marc Monbouquette, Omaha, NE; Dorene Nakata, Waipahu, HI; John Nowinski, Black River Falls, WI; Frances Reid, Newport, OR; Elizabeth Ritz, Madison, WI; Samuel Roberts, Leverett, MA; Perry Spector, Saint Louis, MO; Lydia Staisch, Saint Louis, MO; Clara Tsang, Hong Kong

Class of 2009

Kirke Anderson Elsass, Madison, WI; Jonathan Aronson, Little Rock, AR; Kathryn Buckner, Inman, SC; Lauren Colwell, Saint Paul, MN; Jadi Conkling, San Diego, CA; Tiffany Cox, Farmer City, IL; Aaron Fricke, Kallspell, MT; Mary Henke-Haney, Saint Paul, MN; Justin LaMont, Scarsdale, NY; Dylan Linet, New Paltz, NY; Katie Marks, New Berlin, WI; Maija Sipola, Babbitt, MN; Kristin Sweeney, Portland, OR; Phillip Varela, Saint Paul, MN; John Vigeland, Fort Worth, TX; Elizabeth Webb, Waterville, ME



A highlight of this school year was the High Latitude Periglacial Geology class, taught by Mary Savina, which culminated in a week-long field trip in central Alaska. In this photo (from left), Mary and Lauren Chetel '02 (lab assistant on the trip) discuss a stream reclamation project with Craig McCaa '86 of the U.S. Bureau of Land Management. Ken Tape '99 and Craig both gave the group excellent day-long tours of periglacial landforms in the Fairbanks area - Thanks Ken and Craig!

Don't Read This

Among the events which might be documented in the collection of Carleton Geology field trip anecdotes are some which I will not write about. It may be that they are undignified, or that I don't want to admit to them, or they are embarrassing to somebody else. Anyway I will not list them and I won't tell about them.

I won't tell, for example, about a batch of chili in the Badlands which contained the entire contents of the bag of chili powder the food service had given us knowing it was well in excess of what our recipe called for and which we figured was carefully measured for our recipe.

Likewise, I won't tell about any traffic tickets that were awarded to any of our faculty members on field trips.

I won't tell about the times we took long complicated short cuts down bumpy little dirt roads in the North Woods and bypassed the boring, smooth high-speed state highways that paralleled them.

You won't be hearing from me about the time we forgot the dish detergent and had to wash the grease off 39 dinner plates and all the cooking pots with a mixture of sand and water, nor will you hear about the trip where we found ourselves brutalizing the tops off of #10 cans of food with rock hammers because we forgot a can opener.

You won't hear a word from me about the time we abandoned two very conscientious and helpful geo majors in Jay Cooke State Park when they dodged off for a bathroom break after helping everyone else load up the trailer. We came home without them, and an elderly couple picked them up, fed them, gave them a place to sleep the night and a bus ticket home.

I wouldn't even think of mentioning the incident that almost got us kicked out of Jay Cooke when the faculty member with the illegal dog in the park wouldn't put the dog on a leash, nor will I tell about the time a structure class got kicked out of Jay Cooke for being noisy past the curfew and had to camp the next night at the K.O.A. in Cloquet. The aforementioned dog's run-in with rangers in Devil's Lake State Park in Wisconsin shall go unnoticed, as well.

Never would I discuss the trip to the Iron Range in which a van skidded off a road and hit a post, doing thousands of dollars worth of damage to the steering gear, and I am absolutely mum about the Paleo trip where we left the car lights on and had to use a student's AAA card to have a tow truck come and restart the car.

My memory goes completely blank when I contemplate the chili we made the time we camped in Silver Bay on a Petrology trip; the chili was so spicy that most of it had to be carried to a dumpster in a floppy, felt-like-it-was-melting plastic garbage bag that draped over our arms as we carried it away like a makeshift body bag of warm gore. Amazingly, the amnesia even spreads to many of the other way-too-hot-chili episodes; each time there were people clamoring for more, hotter spices.

I would be never so imprudent as to allude to the time when someone forgot to pack the mustard for lunch, and later the group retaliated by painting his name in mustard on an old dark blue junk car in an abandoned specular hematite mine we visited. Nor will I mention the time a few years later when on another Northern Michigan trip someone dutifully packed away the lunch in the front compartment of the brown trailer only to realize at lunch time that we had left the trailer in camp for our day of outcrops.

No way would I ever admit to the times when I exploded the pressure cookers. I'm sure the birdies in the tops of the pines of the Black Hills have recovered fully by now anyway and the bears probably got a good snack out of the stew that blew all around the campsite.

And it would be totally undignified to tell about the time the group of women followed along wondering what great outcrop the group of men was heading off into the woods to see (sprinkle yellow), only to return seconds later howling with laughter that they had been so naive. So I won't mention it.

I won't be talking about the times we have gone onto property without proper permission, and I won't say anything about the farmer (this is true) who complained when I did ask permission that the last time we brought a class to his land (without permission) that the students (nuns in a summer workshop for teachers) had frightened his cows with their habits flapping in the breeze.

Get chewed out by the rangers for people skinny dipping in Lake Superior in view of the tourists? Couldn't happen. In Sheridan Lake, South Dakota? Naw. No place else, either.

There simply are times when decorum matters more than substance, and this is one of those times. Not a word about any of these things will ever escape my sealed lips!

Timothy Vick

NEWS FROM ALUMS

Faculty

Ed Buchwald - As I write this note to Tim, our wonderful newsletter editor, Cynnie is preparing to go to Reading, Massachusetts, to play with our two grandsons, Theo (2 ?) and Max (1). And I am preparing to go to Boy Scout camp for a few days to mentor the young men who teach all the nature-related merit badges. I will get to see Theo and Max and, incidentally, their parents later this summer.

Life seems very busy to me what with Scouting, helping the National Park Service, and working to create a charter school that will concentrate on teaching children to do science in a field setting. In October I will start my 40th year as Scoutmaster of Troop 337 and sometime in the next year will fledge my 35th Eagle Scout.

Cynnie and I are still working with the staff of Agate Fossil Beds National Monument near Harrison, Nebraska, and developing good elementary school science programs with local teachers. Most of the kids are in one- or two-room country schools and do not have the resources that urban schools might have. But they do have the marvelous natural setting of the Nebraska Panhandle!

The Maltby Nature Preserve and Science Center has decided to pursue the development of a charter school emphasizing science, technology, engineering, and mathematics (STEM). STEM is the hot, new buzzword in Congress, but we have been working on the idea for many years. It seems like a huge commitment, and I will keep you informed about our progress.

It is hard to believe that I have been fully retired for five years. I miss the students but have been asked by the men's lacrosse club to mentor them. That has helped me retain connections to the students at Carleton, and I am grateful for that opportunity.

I will repeat my plea: Come to alumni reunions. It is so much fun to hear the stories of your lives. Cynnie and I cannot wait to see you.

Alums

1942. In response to the question "What's new with you?" **Charles D. Edwards** writes, "I am planting corn."

1943. **Eiler L. Henrickson** recently sold his home in Northfield's Park Pointe community and moved into Millstream Commons, near the Cannon River in downtown Northfield. His number is still (507) 663-1655, and he would welcome a call or visit anytime. Especially if you're coming back for Reunion Week,

he says get in touch! Eiler was the subject of a short documentary film by Aleshia Mueller '01 this spring. Aleshia prepared the film as part of the Minnesota Historical Society's "Greatest Generation" project.

1945. **Dick McCarthy** had a slight stroke and is now dealing with a small speech problem. Fortunately there was no brain bleeding, and his reflexes are fine. He volunteered for experimental surgery, where they ran a probe into the inside of his heart to seal off the atrium. There was some risk involved, but he said "go for it." Dick, best wishes for a full recovery from the Geo Department!

1946. Thanks to **Charles G. Higgins**, who wrote saying he is looking forward to the annual newsletter.

1947. **Georganna Dean Dickson** is looking forward to visiting Carleton this June for her 60th reunion. She's also finding it hard to believe all those years have gone by.

1954. **Pat Bickford** continues to enjoy his new job as a Science Editor for Books for GSA. "The work keeps me in touch with lots of the most active people in our profession, and editing the books keeps me, at least to some extent, on top of exciting things in the science. An interesting sidelight of my editorship is that, through friendship with Abhijit Basu (the former editor), I became involved in a project to date some rhyolites in the upper part of the Proterozoic Chattisgarh Basin, in India. The basin, one of a number of so-called "Purana" basins in peninsular India, is filled with essentially unmetamorphosed and undeformed sedimentary rocks, and has been considered to be Neoproterozoic (ca. 500-600 Ma) in age. Imagine our surprise, while seated at the SHRIMP at Stanford and dating zircons separated from the rhyolites, to find that the rhyolites are 1020 Ma, that is Grenvillian! This work has led to a paper that will appear in the July issue of the *Journal of Geology*. We also dated detrital zircons from an associated volcaniclastic sandstone, and found an interesting spectrum of zircon ages including a number of Archean zircons. Our intention is to collect sandstones from the bottom and middle of the sedimentary succession and obtain additional detrital age data before publishing these data. I am continuing to publish the results of my studies of the timing of high-grade metamorphism and anatexis in the Adirondack Mountains of northern New York. So, there is life after retirement! Best wishes to all Carleton Geology alums."

1955. **Joe Mancuso** writes, "I have kept busy as usual traveling, playing golf, visiting grandchildren, and attending geologic field trips. Two pieces of good news: In March, at their annual meeting in Toronto, I was initiated as a life member of the Prospectors and Developers Association. I have been chosen by The

Institute on Lake Superior Geology to receive The Goldich Medal to be presented at their annual meeting this May. The medal is for contributions to the understanding of the geology of the Lake Superior Region. I have been a member of the organization since its inception in 1955. Eiler took our class to that first meeting in Minneapolis, and I have attended most of the meetings since then."

Bill LeMay reports that they've moved from Santa Fe, New Mexico to Aiken, South Carolina.

1956. Dick Buchheit writes, "Hope Tim and assigned students had fun with the 490 samples I brought last August, and that the uranium ores from Happy Jack aren't a problem. Expect to remain in the Four-Corners Mine area for the rest of the year, investigate some old prospects and tour the Dakota SS-hosted copper mine in the Lisbon valley, Utah. Will probably prowl canyon of the ancients which is at our back door." Dick, the rock collection is great! Many thanks for thinking of us with your donation - Tim.

1958. Dante Stephensen sent a card last November that said, "In March I boarded a China Airlines plane in Beijing, picked up 'The China Daily,' (China's English newspaper), and all I could say was 'Wow!' What I saw was a photo of an amazing ancient archeological site found in Xinjian on the Gobi desert below Mongolia and east of Kazakhstan. It was discovered by a Swedish explorer in 1934, but his records were lost, turning up in 1984. The site could not be found because the river on which he traveled had dried up. Rediscovered last year, it is believed to be the lost tribe of the mysterious Loulan Kingdom dating back 40,000 years. The 1,000 or so mummies are seemingly in perfect condition and believed to be at least 15,000 years old. I am honored to be the first non-Chinese to visit this site late in '07 and hope to write a piece for the Smithsonian. We will travel by camel and hopefully, I will give you a complete report next year."

1960. Michael W. McLanahan is serving on the boards of the National Mining Association, National Association of Manufacturers, National Coal Council, Mt. Aloysius College, King Coal Club and the Rocky Mountain Coal Mining Institute.

1961. Jeff Hanor writes, "I was one of the keynote speakers at the Geofluids V Conference that was held in Windsor, Ontario, in May 2006. The subject matter was 'Do the compositions of basinal brines reflect secular variations in the composition of seawater?' The short answer is 'no.' My class of '61 celebrated its 45th reunion in 2006, and we were delighted when **Eiler Henrickson '43** joined us for our class dinner at **David Appleyard's '61** house! "

1963. Wendell Duffield and **Anne '64** still split their year between Hayward Wisconsin, and Flagstaff. He



Jeff Hanor '61 sent this nice picture of Don Davidson '61; Eiler Henrickson '43; and Jeff, taken at Don and Jeff's class reunion last year.

has a new novel in print, Yucca Mountain Dirty Bomb, a 2025 scenario involving radioactive waste being percolated into an inactive volcano that then goes boom all over Las Vegas. You can order it online, and we look forward to reading it.

1968. Connie Jefferson Sansome writes, "I miss Shelby - My best to Jean and her family." She continued on, "I love western Oregon! I completed my PhD here - Oregon State University (geology, integrated minor in botany, soils, college teaching) years ago. Loved the Willamette Valley then. I'm glad to be back here now - near son **Dain** (Carleton '01) and his family (wife Suyu, daughter Mei) and his bamboo-growing business - during Ken's and my, at least for now, retirement. We've put our long-time, beautiful Northfield home on the market. Anyone interested? My writing? Yes. Last autumn I completed the first of my numerous Quarrywood Journals. For now - family and exploring the region's forests, beaches, and mountains take precedence over everything. New Oregon friends would also be good. My best to the Geology Department." Connie also is celebrating the success of her first book, Minnesota Underfoot, which has been a regional best-seller many times over and has been in continuous print for 24 years now. Congratulations Connie!

1971. Jane Willard was elected to a three-year term as a trustee of the American Institute of Professional Geologists (AIPG) Foundation. **Royston Kruse** writes, "After nearly 24 years with the Billy Graham Evangelistic Association, I have joined Faith Search International whose mission is to present the Gospel with Evidence to all people everywhere. In my time with BGEA I have traveled to 80 countries and more than 2.5 million miles."

1972. Mark Taylor is happy to report that, "After 13

years of waiting, we finally received our permit for a Grand Canyon trip. No rips, no flips, but lots of big waves and fun. It's amazing to see the changes in the canyon over the past 35 years."

1974. Margie Diamond Simpson writes, "Our second granddaughter was born in February. We will spend four months this summer in the Central British Columbia Coast in our sailboat." **Ellen Smith** deserves congratulations on being elected to serve on the Oak Ridge (Tennessee) city council, placing 2nd out of 7 candidates in the non-partisan race for 3 at-large seats. She adds, "My husband, chem-major-turned-ecologist **Rich Norby** (Chem '72), is pleased that **Gloria Jimenez '07** will be working with him at Oak Ridge National Laboratory as a field/lab assistant in his research on the effects of higher atmospheric carbon dioxide in forest ecosystems."

1975. Jim Pizzuto is taking a year sabbatical after his six years as Geology Department chair at the University of Delaware. His current projects include using hi-tech LIDAR (laser range finder) to monitor eroding banks and dating techniques to quantify residence times of mercury-contaminated sediments. He has great students and is getting tons of writing done. And, "I am also canoeing for science!" **Emily Wrubel** says, "This summer I finish my MS in Science Education at Montana State University. Most of it has been on-line, as I do still live in New Hampshire, but I had to go out there last summer for a couple weeks and again this summer to deliver my capstone and to take some classes. Last year I took Ecology of a Trout Stream (and snorkled with trout!) and this year I'll take Alpine Geology and Birds of Prey of Yellowstone! I am reminded of Shelby telling me that I needed to make a choice between geology and biology -- I didn't and, obviously, still haven't! Still teaching middle school science. Kids are older -- Wiley is almost a junior at University of Montana and Carson will be a high school senior next year. With my masters out of the way this summer, I'll have to reacquaint myself with my husband!" **Ginna Gillerman** is finding that "being the mother of a nearly 3-year-old is a challenge and very time consuming. Still, Hannah XiaoHong Dornfest is a cheerful, happy kid and gives us much joy and laughter." Ginna's research continues to center on thorium deposits and mining in her home state of Idaho. **Susan DuBois** writes, "I continue in private practice of Shiatsu, massage therapy, Chi Nei Tsang - nearly 18 years now! My oldest son, Jesse, just graduated from Macalester College. My youngest son, Michael, is a sophomore in high school. We sometimes escape the desert heat by taking summer vacations in Minnesota! Hope to reconnect with old friends as childrearing slows down, travel increases, time off manifests!"

1976. Leah Haworth Evison writes, "my daughter Liz started at Carleton this year and loves it. She hasn't taken any geo yet, but we'll see... It's been a kind of hard year for me as we moved to Chicago, and my job with EPA hasn't transferred yet. So for a while frequent-flier-miles-R-us." **Karen Kimball** wrote: "I am so sorry about Shelby. His kids are eternally toddlers in Montana in my mind even though Jeff is a freshman at Columbia, on the fencing team and also going to world championships in Belek, Turkey next week (top 3 US). Home schooling seems to be working. Will fences and was on the NY State Championship Mathcounts team. All the best."

1978. Laura Nadelhoffer wrote a note saying, "This June marks my 20th year with CitiBusiness--and so far I've managed to avoid having to move to NY to stay in the game! These days I'm very involved with fraud prevention and online banking security for our small business/middle market clients. A recent highlight was traveling to Japan to give a talk at a conference on online security to 100 bankers who spoke no English. Claire is now 16 and 'thinking' about college. She loves art as well as math and science (a natural geo major!). She also plays a mean classical violin, and rolls her eyes when her parents try to get her to play bluegrass fiddle music. Alex is 13, loves baseball and tennis, and is discovering his inner jazz trumpeter. He's also discovering that he likes going to parties and dancing with girls. Vlad and I are just trying to keep up with their busy schedules. My most recent geologic experience was picking out soapstone countertops with GREAT



Ginna Gillerman '75 and her husband Alan adopted this very cute little girl, now three years old, from China last November. Ginna writes, "Hannah is a real delight - shy at first, but very cheerful and smiling most of the time, but also obstinate and with a mind of her own. Still definitely a toddler, but progressing well we think."

veining for the kitchen." **Alison Krafft Rempel** and her husband Steve are busy settling into the house they moved into in the summer of 2005. They are adding solar panels to heat the pool, putting more insulation in the roof, and planning new windows and interior doors, pavers in the driveway, a kitchen renovation, new carpets, and lots of painting. Steve is still in telecommunications for Marki Microwave. The commute to Morgan Hill is a drag (35 miles each way), but it may be an excuse to look at buying a bright red Mini Cooper with white V-stripes. Alison is enjoying being at home, and besides volunteering at school and for Carleton, she's active as a Girl Scout troop leader. Daughter Sarah is in 10th grade, and is busy playing clarinet for Marching Band. She is also webmaster for her Girl Scout troupe, secretary for Venture Crew, and in a backpacking group. Rebecca is in 7th grade and officially a teenager. She enjoys middle school social life and has kept busy with softball and Girl Scouts. She also likes service projects, spelunking and rock climbing. Alison and Steve still try to vacation as often as possible in the Bahamas, and when he can, Steve spends weekends in the Sierras biking or skiing.

Craig Banister sends this note: "I was fortunate enough to be a Geology major in the 1970's, when Shelby Boardman was in his heyday. He always had a smile, was a good teacher and made our weeklong field trips in the spring and the fall full of fun and learning. He is missed." **Elizabeth Doull Wright** says, "Amazingly enough our oldest son Christopher is looking at colleges. He will be a senior and won't have time next year with marching band and cross-country. I don't think I had a clue about what to look for and how to approach this search long ago! Hope you are having a great success spreading the geology knowledge that seems so lacking here in Tennessee." The **Barb O. (and Mark) Bach** family sent their annual letter last winter, but it was written by the kids so we learned things we might not otherwise have suspected. Camilla and Nate were, at the time of writing, in 10th and 8th grade respectively, and they seem to be thriving. Congratulations to Mark on his appointment as Vice President, Clinical Research Operations Worldwide at Merck! Mark's job involves a huge amount of global travel, some of which trickles down to the kids, and so they take lots of trips to places including the Caribbean and Australia. Nate and Camilla wrote, "We are very proud of him. In his free time, he works at his desk, fixes things we can't fix, and tries to think of something fun and interesting where the family can go on weekends. Mom keeps the house running, washes our sports uniforms, and takes care of the dog." Hmmm, sounds pretty familiar to me, it could be the Vicks they're describ-

ing. And then they added, "Mom still swims every day and does yoga. She likes the people she works with on the Anti-Racism Commission and in the diocese. She volunteers at the county food bank and a soup kitchen." (Barbara, please thank Nate and Camilla for their excellent letter! Tim) In January **Cliff Wright** contributed some pictures for Shelby's memorial service (thanks Cliff!), and in his note he said he was splitting his time between Madison, WI, and Piedmont, MO, where he was working on a project to reinforce the bedrock foundation of the Clearwater Dam.

1979. Jerry McNeish moved to Sandia National Labs last fall, after they took over the science portion of the Yucca Mountain project. He reports, "I continue to work for environmental protection and global justice while I live in my big house, drive my big car and eat beef." **Dan Spencer** writes, "I was glad to be able to make it, bake for, and speak at Shelby's memorial service in February. I'm still very saddened by his death. I love teaching full time in Environmental Studies at Montana. I still go climbing in the summer with **Dan Maturen** and **Mary Horak**." Dan, congratulations on being hired in a tenure-track position at the U of Montana! We knew they'd come to their senses sooner or later. And good luck to Pat in his new endeavors, too. **Tillman Farley's** son Ben is a member of Carleton's class of 2010!

1980. Mindy Bell says, "Exciting news for this newsletter! I am one of 15 teachers accepted into the 2007 Polartrec program where educators are paired with researchers in either the Arctic or Antarctic in recognition and celebration of International Polar Year. I will be going to Antarctica in the fall of 2007 with Stacy Kim, a benthic ecologist at Moss Landing Marine Laboratories, and her team. My Carleton marine biology experience surely helped me with this one! We will be sending a miniscule ROV (remotely operated vehicle) down 15-cm holes in the sea ice to explore both natural and artificial substrates below the diving depth of 60 m. You can follow my adventure at www.polartrec.com and click on the "Undersea ROV" project under the list of expeditions on the left side. My adventure begins around October 1st! It lasts six weeks so I hope Darrell and Lindsey will figure out 'life without mom' while I'm gone." Darrell is teaching at Northern Arizona University and doing paleoclimate field work in Alaska and the Great Basin, as well as Australia. **Ed Secor** has been doing carpentry and project management for a historic restoration contractor for about two years now. He says it's a great company with good coworkers and interesting work, although he is traveling a little more than he would like. He's taking music to new levels by playing in two dance bands

(Contra and English country dance), as well as playing clarinet for fun in a classical trio. This summer he expects his 13-year old son, who is nearly as big as he is, to leave him in the dust on their 150-mile charity bike ride. **Reid Fisher** writes he is "doing the same-ol': geology; music; first grade girls; a little cross-country skiing on even less snow and religious-conversion-inducing lake ice; fruit trees; old bikes. Add a new one that'll ring a bell for most of this vintage: aging parents. Hoping a nephew will accept Carleton- hard to encourage without overselling! Hi to all, lots of room for visitors. Send graduating students with mapping talents our way!!" **Sandra Sopkin Haupt** writes, "I have two sons; Evan (16) and Dan (13). I teach high school math and earth science in Concord, Massachusetts. I love having summers free. I'll be going to Iceland in July to study glaciers with Earthwatch!! Any Carls out this way?" Congratulations to **Vicki Hansen**, whose Venus project was written up in the New Scientist magazine last fall. Vicki's research team found, after a careful analysis of the evidence, that surficial features on Venus are much younger than previously thought, and that the old "catastrophic volcanism" theory was bunk. More details are available through the Carleton Geology web site in the "Alums In The News" section. **Bill Hughes** writes that he "moved to Lafayette, CA, and bought a mudslide project." He adds, "I'm still working at Mather, CA, with partial telecommutation, supporting Air Force cleanup of soils and groundwater. Eileen is now senior pastor at Walnut Creek first United Methodist Church. All four (grown) children will be in college or grad school this fall and I'm still playing soccer and enjoying music." **1981. John Hankins** reports that, "Beth and I have shipped our second child off to Macalaster College and are enjoying a less complicated life. To celebrate, we circumnavigated the paved portion of Alaska last summer on our bikes, covering 1200 miles in ten days. We spent an afternoon with **Jeff Mow**, who's the new manager of Kenai Fjords National Park." **Heyo Van Iten** and Tatianna went to Paris and London over their winter break. Heyo is now teaching structural geology in addition to paleo, hydro, historical, environmental and field geology classes at Hanover College in Indiana. He's been taking his structural and sedimentary geology students to the Cumberland Gap area (Kentucky-Tennessee-Virginia) to examine the thrust faults of the Appalachian Orogen. " Want to see the entire Sauk Sequence? Drive the Dixie Highway (old and new) between Tazewell and Clinch Mountain. And get a taste of Appalachia (Check out Hillbilly's Buffet in Barbourville, but beware of the folks who do their business in the secluded hollows)." **Dave Bice** and **Jenn Macalady '91** write with good

news - a new son! "Nile Francis Bice came into the world a bit ahead of schedule, with no reluctance, at 5 pm on Saturday, January 20th, weighing in at 6 pounds, 10 ounces, and measuring 19.5 inches long. After 1.3 hours in the hospital, he came out and was seeking food within another 15 minutes. We're home now, and Nile is doing great, and we are glowing with the new-baby feeling." Recently we received a nice note from **Jan Pohl Bronson** summarizing her journey since Carleton. She said, "Life's been good. I live in Anchorage with my beloved family (husband, an eight- and a ten-year-old daughter and various pets). I taught science and math for seven years, including earth science and geology, and took students on field trips and camping trips in the good Carleton geology tradition. I also worked for a number of non-profits over the years, fighting the good fight (The Anchorage Waterways Council, The Alaska Center for the Environment, Citizens Against Nuclear War, and one or two others.) I was home with my girls for about eight years, and two years ago started working half-time for the University of Alaska Anchorage in the Tech Prep program."

1982. Dan Sontag tells us that "I am enjoying my children and grandchildren, and as my kids get older, I am finding more time to do things with my wife. We're spending more nights out, going to the theater. I am organizing the 2nd annual walkathon for the scholarship fund commemorating my daughter who died three years ago. My son is a varsity athlete and my daughter is in chorus and musicals. Good things."

1983. Jeffrey Pipes writes, "Things here on the vineyard and in the winery are going well. We are in the middle of frost season (April), so the vines are starting to leaf out and I am staying up all night, every night, watching the temperatures and baby-sitting my frost fans. The life of a winemaker is not so glamorous at 3:30 AM when it's dark and literally freezing and you are trying to find tools to fix an engine on a frost fan! We are now the proud owners of a team of very large, very black draft horses (Percherons), Betty and Bobbie. Needless to say, my daughters, Grace and Gwen, are beside themselves with excitement! However, these are yankee work horses that I'm using to farm in the vineyard. I keep joking that I'm going to give away my tractor, but it IS just a joke! Working the horses, however, is a much different experience. It's quiet, slow and seems very primeval. It's better for the soil's structure too, not to mention the trade deficit and the compost pile (50 lbs. of you-know-what every day!!!). We've been here over 10 years now and can't really believe it! We get an amazing flow of Carleton grads walking into our winery - Everyone is welcome to visit."



*In the quest to make their vineyard organic and sustainable, and to help maintain the compost pile, **Jeff Pipes '83** and Florence have bought a team of Percheron draft horses, Bobbie and Betty.*



***Julie Chen's ('84)** daughters, Grace and Gwen in the Almond trees, taken this spring.*

Ceci Warner's girls, 13 and 14 years old, are doing well. She writes, "I am finishing up eight years on the local school board and that has been interesting! I make a few pennies doing tax preparation. I've been at it for seven years and am getting quite good. Drop me a line." **Keith Knudsen** writes that "the Knudsen family is doing well and growing up fast (my son will be a senior in high school next year, daughter entering high school." He sees **Steve Ingebritsen '78** in the hall regularly in Menlo Park, and runs into **David Purkey** occasionally. He also saw some Carls at the AGU meeting, which he attends annually. **Amy Zacheis** reports, "Matt and I quit our jobs last year and started a tug and barge business. This summer we will be delivering freight and fuel to villages along the Yukon River. We operate out of Nenana, AK, so if you are driving around Alaska on the Parks Highway, stop in and say hi."

1984. After nine years with GX Technology, **Mark Gordon** left to join Repsol, a Spanish oil company with an office in Houston. He says, "I am mostly working in the Gulf of Mexico. I still process seismic data but I spend more time talking with interpreters and at least thinking about geology!" **Carolyn White**, Project Manager for the Harris County Flood Control District in Houston, describes her job as, "Can we say fluvial geomorphology?" **Julie Chen** and family are wrapping up four years in Egypt and moving further east to Bangladesh as part of the Foreign Service at USAID. She says, "Lazhar's been working hard, also with USAID, to help democracy along in Egypt, though I think there's little we can do but be supportive. The kids do grow up fast. Sana, our 13-year-old, is going to high school there, and Ranya, our nine-year-old, will be going to high school at our post after that. We've received many visitors while here, including my aunt and uncle, Pat and Dave Borchert who are alumni of Carleton also, along with her extended family of five, which included one ex-Carl (are you ever an ex?) and one current Carl. We welcome more visitors, though expect fewer at

our next post. I was very sorry to hear of Shelby's sudden passing this year. It's a huge loss to the community. I hope all's well otherwise-- maybe we'll get down to Northfield this summer for a campus tour with the girls."

1985. Peter Cole writes, "I am certain to win the New Yorker cartoon caption contest. Keep an eye out."

Jon Parshall wrote last October, "My Battle of Midway Book, 'Shattered Sword' is now in its fourth printing, after nine months on the market, so that's great. I'll be in Hawaii in December for the 65th Anniversary Pearl Harbor Symposium, where I'll be a panel member. Too funny! Family is all doing great!" In answer to the question "What's new with you?"

Brad Werrell writes, "1. Living in Globe, Arizona, meeting miners, geologists, and metallurgists. 2. Publishing multimedia works - three titles now. 3. Looking for collaborators for GPS-narrative multimedia roadside geology collection - any takers?" Sounds like a neat project Brad, hope it works out.

1986. Mary-Russell Roberson writes, "My news is that the geology book I coauthored was published in February, and we've got a busy schedule of readings and other book-related events this spring. I am planning to send some copies to the geology department!" Her book is titled *Exploring the Geology of the*



Greg Foley '86: "Gromit (who was my eldest and died in June) is on the left, and Shiloh (whom we rescued and died in December) is on the right . . . Barclay is the big, dumb, sweet boy in the middle and is, for now, an only child..."

Carolinas: A Field Guide to Favorite Places from Chimney Rock to Charleston, and you can order it at <http://uncpress.unc.edu/books/T-6234.html>. (We got them - Thanks M-R. The book is a wonderful guide to the Carolinas, and is engaging and very well written!) **Greg Foley** sent a note saying, "For the past 4 years I've been working for Kaiser Permanente in their Oakland Emergency Department and have found (to my surprise) that emergency medicine and I are a natural fit. About a year ago I became Day Shift Charge Nurse and have also found that I'm pretty good at bossing people around! ;-) I still work as a Nurse Practitioner for the San Francisco Dept. of Public Health at their weekly Dimensions Clinic which is a clinic for 'gay, lesbian, bisexual, transgender, queer and questioning youth.' (whew) . . . basically it is for at-risk homeless gay-etc. adolescents. Somehow we have developed what is perhaps the largest female-to-male transgender adolescent patient load in the US if not the world . . . we really don't know how that happened, but there you have it. David and I recently celebrated our 20th anniversary and are continuing to work on the never-ending house renovation. We lost two of our three beautiful Bernese Mountain dogs rather suddenly and within six months . . . each from a different type of cancer. Actually in the Foley Clan it has been a very tough year for dogs, with Chris losing one of his Berners (only three years old) just after my sister lost her dog. Four dogs within 12 months. Ugh."

1987. Chris Carlson tells us that, "Over the last year, I have continued my efforts to develop a ground water awareness in the US Forest Service. It is difficult to convince agency staff that have not otherwise considered ground water as a component of the resources for which the agency is responsible on the national forests and grasslands. However, applicants to carry out activities on those lands and other activities taking place adjacent to those lands have helped raise the level of awareness in many areas of the country. Though my crystal ball is very cloudy, I suspect that such activities will only increase for some time to come since in many places in the country, Forest Service-managed lands contain the only remaining high quality waters left. In addition, the agency has many ground water-related clean-up challenges associated with abandoned mines, pesticide use and disposal, etc., which provide some needed project level work. I think we are finally adjusting to the new situation here, including our nearly 18 month-old son, Niklas. As many of you know better than I, they certainly grow up quickly! Hopefully, we'll see some of you at reunion in June. If you are going to be in the DC area, look us up."

1988. Sean Weekes is father to a new boy, Alexander



Carolyn Carr '88 with Jonathan and Sylvia, in a picture taken last Thanksgiving.



Sonja Wolter '89 spent last winter as part of a four-woman team at the Summit Camp in Greenland. The team members, pictured here as they prepared to leave Greenland in February, are (from left to right) Sonja, Shannon, Kathy and Andrea.

Phillip Weekes, born July 12, 2006. **Carolyn Carr** wrote a nice note at Christmas time relating that her daughter Sylvia had recently begun a couple of days per week at an English/Spanish bilingual daycare in their Minneapolis neighborhood. She wrote, "The funniest outcome of this was when Jonathan changed her dirty diaper, Sylvia looked at the diaper, looked at him, then waved at the diaper and said, 'Hasta la huego!'" Carolyn, Sylvia has a great future, you can just tell.

1989. Sarah Gramlich Howard writes that she feels challenged managing two people with type 2 diabetes; herself and her two-year-old. She is also home-schooling a seven-year-old who recently moved from dinosaurs to prehistoric mammals, asking, "Mommy, how did all these different species of mammals evolve from one species?" What fun!"

Sonja Wolter spent last winter as part of a 4-woman team at the Summit Camp in Greenland. Sonja wrote in November, "It's the first time there's been an all-woman crew here, and we'll be ushering in the start of the International Polar Year. Also, it's just an amazing place - all of which is cool (both literally and figuratively)." The team was responsible for tending several major science experiments monitoring climate, snowfall and snow pack deformation. It was totally dark a lot of the time and temperatures ranged from near 0°F to about -75°F. The concept of "chilling out" got redefined. The sun became visible again shortly before they left camp in February. Of course, with her extensive experience in Antarctica, Sonja is an old hand at this sort of thing.

1990. Mark Newcomb writes, "At the tender age of 40 I'm entering graduate school. I'm thinking masters, possibly Ph.D. I'll be putting my geology background to use helping a professor do research on the economics of carbon sequestration." Congratulations to **Rebecca Arenson** who gleefully reports, "I am finally a fed! I am working as a scientist/policy person for NOAA. It is quite exciting to be a fed after years working with NOAA as a contract employee. I'm loving Seattle and I am in the midst of gardening." **Andrew Garrett** reports, "This last year has been an interesting break from clinical medicine and an exciting venture into the world of academic public health and advocacy. Have a new job at Columbia University which started last August, but am still living just outside of Boston and doing a rather formidable commute twice a week. My new position is focused on evaluating and improving the nation's ability to respond to disasters, and the work is varied and interesting. A fair amount of policy and evaluative work, some medicine, lots of public health, and very little geology (sadly). I am fortunately still able to describe the rocks that I hit with my

lawnmower in the backyard though, so all hope is not lost yet. An interesting balance for now, and we are tackling some very interesting issues related to national policy and the readiness of the critical-sector disaster response workforce. I'm still active with a federal disaster medical team, although fortunately business has been slow since last year's update- a nice change from 2005."

1991. Jennifer Nigrini writes, "I still enjoy living in Boise. I was recently promoted to Director of Campus Recreation at Boise State. The title seems like a lot of fun, and actually, the job will be too! My partner just finished medical school in Salt Lake and will be doing residency back here in Idaho, so that is a pretty good deal also. And my big goal this year is to complete RAGBRAI - a 7-day bike ride across Iowa for those who don't know. You would think 4 years at Carleton would make me smart enough to avoid significant exercise in the midwest in July, but apparently the memory of humidity has faded away living here in the high desert." **Eric Baer's** daughter Elizabeth is now seven years old, and Eric is still teaching at Highline Community College, and working with **Jen Wenner '92** and Cathy Manduca on improving the teaching of quantitative literacy. He recently had dinner with **Beth Pratt-Sitaula '93**, and writes that he enjoyed seeing her during her teaching term on the HCC campus. **Dave Bice '81** and **Jenn Macalady** write with good news - a new son! "Nile Francis Bice came into the world a bit ahead of schedule, with no reluctance, at 5 pm on Saturday, January 20th, weighing in at 6 pounds, 10 ounces, and measuring 19.5 inches long. After 1.3 hours in the hospital, he came out and was seeking food within another 15 minutes. We're home now, and Nile is doing great, and we are glowing with the new-baby feeling."

1992. Jim Rowe has been very busy, returning from nine months in the Netherlands to start a new job at an engineering consulting firm in January, where he's working with Dan "Jell-O" Revelle '92. Jim says that, "So far it's great, but I came shockingly close to having to do calculus." **Sean Kempke** writes that, "life in Duluth continues to treat us well. Ivy (wife), Nola and Agres (our shelter dogs), and Zoe (daughter) are now enjoying life at home since Ivy has taken the bar exam. I'm still keeping busy with the residency, and am excited to be joining the Duluth Clinic-Hermantown in 2008! For now, we're enjoying working on our house, and adding a deck this summer. Needless to say, I expect to be in the ER often..."

1993. Beth Pratt-Sitaula and her husband Ajay writes that they "moved to Ellensburg, Washington, in Dec. 2005. Our son, Kiran, arrived 8 months later. He's now growing like a weed, I'm enjoying my job as



Myongsun Kong '94 happily introduces her son, Henry Kong Peck, who was born August 30, 2006. He was 6 lbs 14 oz., 20" long. Myongsun wrote, "Thanks for the good wishes from all of you- it has meant a great deal to us."

assistant professor at Central Washington University, and Ajay is finishing up at the University of Washington electrical engineering program. He's home on the weekends."

1994. **Emily Darby** writes, "VK and I both start 'real' jobs this summer. No more training! I'll be in private practice for infectious diseases in Seattle. Ela turns two this week." **Liz King** sent an update from Normal, Illinois. "Our third boy (Bradford) was born in November and is doing great. David (3) and Colby (7) are wonderful big brothers to him. And the other good news is that my tenure and promotion have been approved by all so far and we are only waiting to hear from the university president." Liz, congratulations on all counts!

1996. **Cari Johnson** is expecting baby number one! She says all is well, and the bundle of joy is due in early June. **David** and **Sara Mitchell** report, "Sara finished her Ph.D. at the University of Washington and got a tenure track position as the only geologist at the college of the Holy Cross in Worcester (pronounced 'woostra'), Massachusetts. So we moved cross-country last summer and brought a house. David continues to work as an environmental consultant for the Fletcher Driscoll & Associates. We miss the west coast, but have enjoyed seeing east coast geology alums such as **Justin Clarke '96**, **Jay Stetzel '95**, **Geoff Collins '94**, and **Josh Galster '96**." Last fall, **Nina Molumby Stuyt** wrote this note: "After 38 hours of labor and a cesarean, Karsten Molumby Stuyt was born on Sunday October 1st at 8:15pm. He was 8 lbs.

12 oz. and 21 inches long. Mom, Dad, and Baby are back from the hospital and all are doing well." Whew - good work Nina! **Karen Gran** says, "I'm doing well and keeping busy. We're still living in Duluth, enjoying life on the North Shore. I've been working for the National Center for Earth-surface Dynamics at the U of MN, Twin Cities, running a graduate program in stream restoration. Next year, I'll be a little closer to home, teaching at UM-Duluth. Our biggest news arrived on Valentine's Day though, in the form of a new baby boy, Peter. Alex (now three) is enjoying his role as big brother. He's into baseball and volcanoes right now (Mount St. Helens is his favorite). He's already an expert on petrology (where do rocks come from? "The lake") and sedimentology (if you plant a rock and water it, it grows into a bigger rock). We were shocked to hear about Shelby. He was such a great asset to the department and the college and will be missed. Hopefully Spring in Northfield is in full swing by now. We are seeing green for the first time this week. P.S. **Rik '94** was thrilled to discover he's on the geology department alum mailing list now. We figure it must have something with the Ph.D. in geology that he was awarded via the Voice (somehow thinking Rik had received it, not me). He'll be sending in his news soon, too..." Umm, welcome to the mailing list, Rik? We're sure you'll like the company.

1997. **Laura Veirs** has been touring extensively this year, performing in the U.S., Europe and Australia for many weeks at a time. She is warmly received everywhere she goes. Good luck Laura!

1998. **Allison L. Payne** has completed the first year of graduate work in volcanology at University of Alaska, Fairbanks. "I'll probably do a masters, but may still do a Ph.D., depending on what I decide about my breastfeeding schedule. I don't have wee ones yet, but in the next few years I hope to. I'm madly in love with the Alaskan mountain man of my dreams, whose mountaineering skills are serving me well as he works as my field assistant. This summer I'll be doing field work in the Aleutian Range of Alaska and in Kamchatka, Russia. Alaskan interior winters are awesome - wonderful cross-country skiing and the northern lights and all-day sunrises/sunsets. The summers, however, are even better, minus the mosquitoes. So finally, after years of nomadic life, I'm settled in one spot living a 'normal' life. How odd."

1999. Congratulations and best wishes to **Noah Finnegan** and **Heidi Guetschow** who were married on June 10, 2006 in Rhode Island. After the wedding, they traveled to Paris, where Heidi took courses for her law degree and Noah worked on his graduate

studies in geology. They finished their stay in France with a week of cruising a Burgundy canal in a rented houseboat. They are currently in Ithaca, N.Y., where Heidi is pursuing a law degree at Cornell and Noah has a postdoctoral research position in geology. **Mizu Kinney**, her husband Lou, and their daughter Opal report that they left Seattle in August '06. After moving to rural Oregon they spent the fall preparing for their second child, Helen, who was born on December 13, 2006. Mizu says their young children are keeping them very busy. **Mike Smith** sent a note back from the West: "I just moved out to the coast. The redwoods and sea breeze are wonderful. I'll not mention the lack of humidity. Take solace - we have no thunderstorms here, and I miss them dearly." Mike, we're getting some of that solace as I type this, and the storm is booming away outside of Mudd... Congratulations to **Nathan Sheldon**, who writes, "After three and a half years at the University of London, I'm moving back to the US in January to take up a position in Earth Systems Science at the University of Michigan, adding one more Carl to the faculty there as I join **Chris Poulsen '94** and **David Lund '93** (starting on the same day!). I'd be happy to hear from anyone looking for a paleoclimate/soils/global change PhD project, or who can help me to re-adjust to American-size restaurant servings and driving on the right."

2000. **Nick Weinberg** writes, "I am finishing up my first year of medical school at the University of Vermont. I finally have a real girlfriend. This summer I am doing a month-long mountaineering and pack-raftering trip in Alaska." **Erica Richardson Wallstrom** is enjoying her first year as an earth science teacher. They just bought a new house in Rutland, where "It is close enough for me to rollerblade to work. I will look quite entertaining wearing work clothes and elbow pads." In a card received last August, **Liila Woods** wrote, "I just finished my masters degrees in civil and environmental engineering at the University of Washington, Seattle. I also just started work for a small consulting company called Five Winds- I'll be doing environmental life cycle assessment from their Boston office, which also means I'm in the process of moving across the country. Very busy but exciting times!" **Anna Nelson** departed for Antarctica from the UK on January 2. After setting sail on the British navy ship HMS Endurance, she flew by helicopter to James Ross Island field camp and stayed until early March. While over there, her only form of communication was iridium satellite phone and HF radio. She arrived back in the UK on March 11 and promptly went on holiday for two weeks. **Deb Goodwin** is

back in school again, this time heading towards a Ph.D. in Oceanography. Her research is on bio-optics and the dynamics of the light environment in the upper ocean. But she says, "I mostly daydream about buying a boat and surveying the sea under sail."

2001. **Carl Tape** is working on his "4th year Ph.D. in seismology at Caltech. I'm still plugging away at my thesis. And looking forward to marrying Elisabeth Nadin in July 2007 in Big Bay, Michigan, just northwest of Marquette. A conference in Corsica in May will probably be the second-best highlight of 2007." **Jamie Levine** is back in Austin, Texas working on her Ph.D. She spent a month last February/March in southwest Australia doing fieldwork, specifically looking at the relationship between migmatites and deformation. Other than that, she says, "I'm recovering from minor knee surgery and am bracing for the Austin summer!" **James Bishop** writes that he got married in Pennsylvania last September. "I've fulfilled every poor immigrant's dream and moved to America and married a doctor, Megan Murphy. Unfortunately, she's not rich. Otherwise, I'm finishing my Ph.D. this year. I'm also working on my California tan and trying to spoil my six-month old niece." **Anne Sawyer** is back in her native state (of the Union). She writes, "Finally finished my M.S. in snow hydrology at Colorado State. I hate to leave Colorado, but sometimes the sweet jobs aren't in the place you want to be. So, it's back to Minnesota, at least for now!" Anne is an Associate Scientist II at the National Weather Service National Operational Hydrologic Remote Sensing Center in Chanhassen, MN.

2002. **David Nickerson** writes, "My biggest news is that I'm getting married this summer to my best friend and girlfriend of three years. I'm finishing up my first year of medical school at the University of Washington. I left grad school at the University of Iowa in 2003 to start taking pre-med classes. However, I still get to talk rocks once in a while. I've passed the geo bug onto my youngest brother and occasionally get to accompany him out into the field. Take care, everyone!"

2003. **Buddy Tangalos** is completing his masters in geomicrobiology. He is studying the Iron Mountains in Northern California, looking at acid mine drainage deposits related to relevant microbial communities and the potential "biosignatures" of their metabolic processes. He has also been fly-fishing, skiing, and speaking at an intervention gerontology conference in Puebla, Maine, on smart technology for patients with dementia. **Tiffany Larsen** writes, "I love hearing from the Carleton Geology Department! I'm almost

finished with my first year at UVM and am excited for summer! I catch up with **Adrienne Hacker Pahl** every once and a while out here. I'm always surprised how many Carleton alumni have wound up in Burlington. Busy as a bee as usual!" **Nico Davies** is now officially Dr. Davies since she finished her Ph.D. in Bristol last December. After a break in Germany, she was eyeing work opportunities that involved a synthesis of microscopic biomechanics with physical chemistry in the context of drug metabolism.

2004. Bess Koffman is happy to announce that she was "fully funded for two years at the University of Maine to study climate change. It's my top choice school, with an interdisciplinary Climate Change Institute that facilitates interdisciplinary research and emphasizes fieldwork. I'll be working on the new West Antarctic Ice Sheet Divide ice core for a Masters beginning this fall. So, I'll be living in Orono, Maine for the next two or so years. I look forward to settling down somewhere for awhile, and re-connecting with my friends and family in the Northeast. This spring

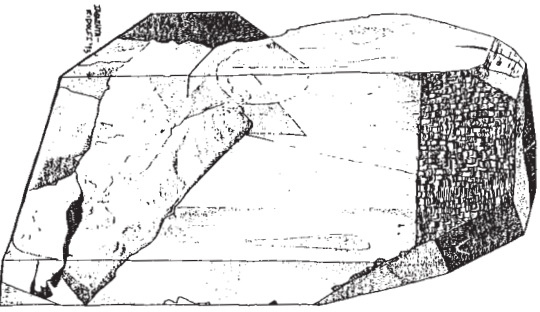
finds me again in Nevada working in the desert, monitoring the plants that grow back after wildfires. This summer Farlin and I will be leading a canoe trip together in Quebec for the Chewonki Foundation in Maine. Soon after that I'll be starting school! Please keep in touch and come visit!" **Annaliese Eipert** writes, "I moved from Seattle to Salt Lake this winter, and just last week defended my master's at the University of Washington. I've been working part time with the University of Utah Seismograph Stations as Earthquake Exhibit Coordinator, delivering an exhibit to schools around the area, and now am starting to look for something a bit more permanent/full time. I miss Seattle sometimes, but actually really love it out here- I've been rock climbing almost every weekend."

2006. Lee Finley-Blasi writes that he's migrating to Wyoming to learn about its deep history, and he's excited to be returning to school. Good luck with it Lee, hope it goes well for you.

Nico Davies '03 with her friend Iris.



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