

**COLGATE
UNIVERSITY**
**GEOLOGY DEPARTMENT
ALUMNI NEWSLETTER**

Issue 8

**Late Fall
2010**



**Antelope Canyon, Arizona
Geology 190 Spring Break Field Trip 2009
Photo by Karen Alley '12**

A Note from the Chair

“We have an unknown distance yet to run, an unknown river to explore. What falls there are, we know not; what rocks beset the channel, we know not; what walls ride over the river, we know not. Ah, well! we may conjecture many things.” John Wesley Powell

Whether you graduated in 1950 or 2010, we are thankful for the news you send! Though you may have spent only four short years here as undergraduate students in the Colgate Geology Department, your emails and letters remind us that those years had a lasting impact on your lives. As so well articulated by John Wesley Powell in describing his trip down the Colorado River, we never know where our paths will lead us – but we do know that we have been shaped by where we have been. Thank you for continuing to be a part of our department, even as you pursue your post-Colgate lives.

You are always welcome for a visit!

We wish you well as you continue your explorations!

A handwritten signature in black ink that reads "Amy Leventer". The signature is written in a cursive, flowing style.

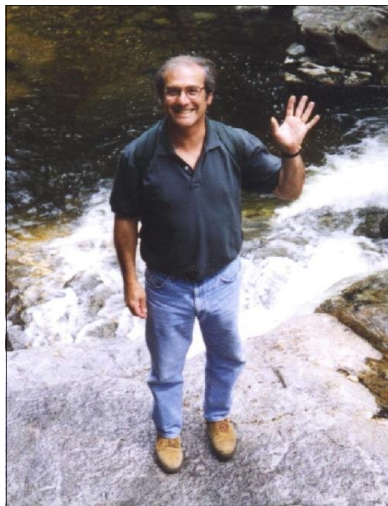
Amy Leventer, Chair
Associate Professor of Geology

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Rich April

Dunham Beldon, Jr. Professor



Writing this piece in mid-July 2010, Rich April finds himself supervising two students, a junior named Sarah and a senior named Gary, who are conducting summer research projects in and around the Adirondack Mountains. One project focuses on soil formation, specifically the chemical and physical processes involved in the weathering and decomposition of shale to soil. The other project is concerned with whether the Adirondack Mountain ecosystem is recovering from the ravages of decades of acid rain, specifically whether the soils still have enough nutrients to sustain the forest ecosystem. Both projects are funded by NSF grants, each of which supports teams of scientists looking into chemical weathering and geochemical processes in the “Critical Zone.” The Critical Zone (CZ) supports all life on Earth, and is defined as the thin “skin” of the earth, from the outer envelope of vegetation (the tree canopy) to the lower limits of groundwater penetration (down to solid bedrock). So, it is im-

portant to understand better how the CZ works, and how the CZ responds to climatic, tectonic, and anthropogenic forcings. Rich and his students presented some of the results of this research at geochemistry conferences in Davos, Switzerland (2009) and Knoxville, Tennessee (2010).

The department has settled in nicely to the new Ho Science Center. It’s a great facility and we are constantly showing it off to visiting scientists, faculty, alumni, and prospective students and their parents. The Robert M. Linsley Geology Museum opened last year and it has attracted hundreds of visitors, especially school children and teachers from Hamilton and surrounding school districts. Along with a show in the Visualization Lab, and a tour of the Biology Department’s greenhouse, the Science Center has become a magnet for school trips and science workshops for teachers. Rich - as he has been for nearly 20 years now - is coordinator of Colgate’s science outreach program sponsored by multiple grants to the university from the Howard Hughes Medical Institute and other external funding agencies. (If you are interested in learning more about these workshops for teachers, go to the following website for Colgate’s Science Affiliates Program: <http://www.colgate.edu/academics/centersandinstitutes/howardhughesmedicalinstitute/scienceaffiliates>)

Otherwise, Rich has been teaching Mineralogy, Geochemistry, an Acid Rain Seminar for seniors, and Gems, a liberal arts, scientific perspectives core course for First-year students and sophomores. This coming year he hopes to teach Clay Mineralogy, if there is enough interest out there. Interest in clay minerals is high, with recent findings (by HHMI investigators: <http://www.cnn.com/2003/TECH/science/10/25/clay.life.reut/index.html>) suggesting a link between clays and the origin of life – specifically, clay acting as a catalyst for cells to make RNA from nucleotides (maybe the song “100 pounds of clay” wasn’t so far fetched, afterall!: <http://www.youtube.com/watch?v=JHySRX9zxdw>). Clay – so-called “drilling mud” - also played a critical role in the recent blowout of BP’s deep oil well in the Gulf. Let’s hope that by the time you read this, the situation in the Gulf looks brighter. Unfortunately, it will take many years to make things in and around the Gulf right again.

Finally, Rich was happy to see many geology alumni during the past couple of reunion weekends. Others came by for the dedication of the Linsley Geology Museum in the fall of 2009,

and still others came back to Colgate to give some excellent talks for our students and faculty. Hope to see more of you over the next couple of years. Best wishes to all! And keep in touch.

P.S. Rich forgot (in the last newsletter) to thank you all for the Alumni Corporation Distinguished Teaching Award he received a few years back. It was truly an honor, one that he will cherish always.

Karen Harpp
Associate Professor



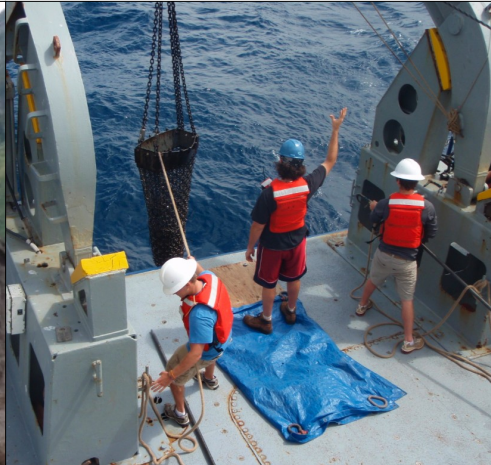
Things have been busy in my research group since 2008. We've managed to set up a clean lab in Ho furnished with a new laser ablation inductively coupled plasma-mass spectrometer, which has been used in several classes and for research projects of people at Colgate and from other institutions so far. We've done fieldwork on new projects in Antarctica and Ecuador, branching into subduction-related volcanoes and pyroclastic flow deposits in the process. Colgate students have continued work with me on these and additional

projects from Hekla volcano in Iceland and the Galapagos; since 2008, Katie Garman, Gretchen Swarr, Brandon Bray, Emmett Weatherford, Josh Turka, Brian White, Caitlin Perlman, and Jason Kammerdiener have all presented first-authored posters at major conferences. In class related news, since 2008 we have offered a new and improved version of the OC and an introductory field course (Geology 120), all of which have been out west so far. I've also led 2 Volcanology class field trips to Ecuador over spring breaks and one extended study trip to Japan for the atomic bomb class.

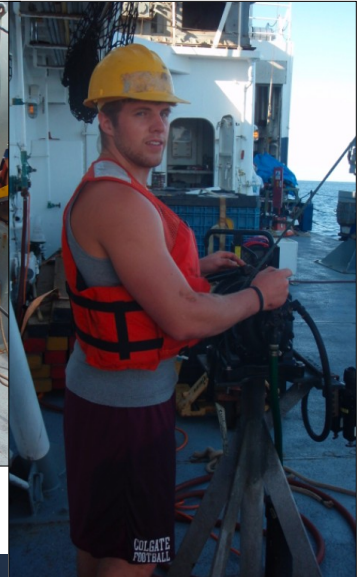
Most recently (May-June, 2010), I was fortunate to have a research cruise to the northern Galapagos Islands funded, to investigate the sources of volcanism on the seafloor and the islands in that area. Of the science team, which included faculty and students from WHOI, the University of Idaho, Oregon State University, University de Paris Sud, and Redlands University, 7 Colgate undergraduates joined the cruise after a seminar the semester before to prepare (Cait Mello, Will Cushman, Nick Pollock, Krista Moser, Mike Carbone, Will Schlitzer, and Cam McKee); there were also 3 Colgate alums on the cruise, Alison Koleszar (PhD graduate student at Oregon State), Gretchen Swarr (research assistant at Colgate), and Dorsey Wanless (working with the sonar mapping group and finishing her PhD at the University of Florida). We were on the R/V Melville out of Scripps, and managed to meet all of our scientific goals, which included mapping an area of seafloor larger than the state of Massachusetts and over 40 dredges of submarine volcanoes. We found lots of surprises that will keep us busy for several years! All the students will be working on research projects this summer here and at WHOI and will be presenting their work at AGU in the fall. If you want to see what the cruise was like, the students produced a blog for the month we were at sea; you can find it at <http://galapagos-expedition.blogspot.com>. Thanks to all the great Colgate students with whom I've been fortunate to work; you guys are awesome.



Gretchen Swarr '07 and Katie Garman '10 taking measurements on a pyroclastic flow deposit at Tungurahua volcano, Ecuador.



Cam McKee '12 (left) and Nick Pollock '11 bring in the dredge



Mike Carbone '12 works the dredge system on the Melville.



Ecuador's Tungurahua Volcano meteopt.com



Banos Tungurahua Volcano Destination360.com



Bo Montanye '12 Jackie Baughman '13, and Mike Schon '12 play ball with Ecuadorian school kids on a bike ride around the flanks of Tungurahua volcano.



Di Keller
Senior Lecturer

Just taking a break from teaching our summer research students sample prep and analytical techniques to say a quick hello. The labs are busy with clay/silt separations, cation extractions, powdering, rock crushing and sawing, and students are vying for time on the SEM, XRF and XRD. Currently we are experiencing a heat wave in Hamilton so something everyone is grateful for today is that the Ho building has air conditioning, as any of you who spent time standing in front of a 1100°C muffle furnace or Fluxy Fluxer in the Lathrop rock room during the summer can fully appreciate.

I continue to teach labs for Mineralogy and Environmental Geology, and also have helped to develop and teach the labs for a new course called Evolution of Planet Earth. Research interests still focus on soil (I do love dirt) and I am lucky to continue to be actively involved in the collaborative research funded by grants awarded to Rich April. Sample analysis for the NSF-CRUI study of acid deposition and calcium depletion in Adirondack soils is nearing completion, so I have been busy working on compiling and evaluating the enormous volume of data that our students helped so much to generate over the past five years. At the same time, I've become involved in a new research project that is associated with the Critical Zone Exploration Network (www.czen.org), a group that includes scientists from around the world and from different specialties who have come together to try to understand the interactions and complexities that are involved in soil formation and other near-surface processes. Thanks to the Boyce Geology Endowment, I recently was able to attend the Goldschmidt conference in Knoxville, Tennessee where Seghan MacDonald '10 did a great job presenting a poster on her senior research that was related to the CZEN study.

Finally, over the past few years, I spent a considerable amount of time serving as the chairperson overseeing the design and installation of the new Linsley Museum. It's hard to believe that when the last newsletter came out, the museum was still just in the planning and fund raising stages. Once again, many thanks to those who contributed and allowed us to make this a reality. It really is a beautiful museum that contains so many great ideas brought to life through the hard work and creative efforts of the members of the department along with a local design firm, The Exhibition Alliance. I hope you will be able to visit it sometime but in the meantime, for a web article and video covering the official dedication in October of 2009 go to: <http://blogs.colgate.edu/2009/10/with-its-displays-of-precious.html>

Amy Leventer
Associate Professor

Colgate's Geology Department continues to provide me with great opportunities to teach interesting courses. Over the past few years, in addition to more traditional courses, such as Oceanography and Marine Geology, I've been fortunate to teach my favorite first year seminar, Science and Exploration, and to help introduce a new introductory course "Evolution of Planet Earth." This course, a bridge between our



introductory and 200-level courses, has a strong lab and field component, thanks to Di Keller. During spring 2009, the course included an optional spring break trip based out of Flagstaff Arizona. Thanks to Colgate Alum Jeff Trembly ('78) for his help in advising on the wonderful geology of Arizona!

I advised several independent projects involving studies of Antarctic paleoclimate based on marine diatom records, including work with Stephanie McClellan '09 and Ilona Matulaitis '10. Ilona is continuing her work on Antarctic paleoclimate records by joining Molly Patterson '08 out as a graduate student out at Southern Illinois University; Stephanie will be starting graduate school at University College London in the fall. I've also worked with several other students on self-designed independent studies including:

Mika Ella-Tang '10 and Katelyn Nerbonne '10 (Special Topics in Oceanography - Sea Turtles: A Life in Peril), Elin Brown '09 and Stephanie McClellan '09 (Energy and Global Warming: A Canadian Perspective) and Ryan McClelland '10 (Contemporary Issues in Marine Sciences).

My research in Antarctica continues to be a primary focus, with a two-month research cruise to the former Larsen Ice Shelf region in January-March 2010, part of a recently funded NSF project, *Collaborative Research in IPY: Abrupt Environmental Change in the Larsen Ice Shelf System, a Multidisciplinary Approach – Marine and Quaternary Geosciences*. This project includes Geology colleagues Eugene Domack (Hamilton College), Scott Ishman (Southern Illinois University), Stefanie Brachfeld (Montclair State University), Julia Wellner (University of Houston) and Greg Balco, as well as colleagues with expertise in Glaciology, Ice Core Paleoclimate, and Physical and Biological Oceanography.

Finally, I continue to enjoy time spent out west teaching the *Geology Off Campus*. I was lucky enough to help (with Dave Linsley) for the final segment of the OC in summer 2009, out in the Seminoes of south central Wyoming. What better way to spend a week or two, surrounded by beautiful scenery and wildlife (including a few rattlesnakes!), and great bunch of students?

William Peck
Associate Professor



Hello! Myongsun and I have had an exciting last few years. Our daughter Julia was born in September, just two days after the maternity ward at Hamilton Memorial was closed, and necessitating a quick drive to Cooperstown. Henry is now 4 and loves being a big brother. Since the last newsletter the department has pretty much settled in the new building, with all labs and the new museum in place. It was great to see some of you here for your 5th reunion get to see the building for the first time.

Courses and research are going well. We had a rainy Petrology trip to Dutchess County in the spring, which means we are continuing a good tradition. In Environmental Economic Geology last year we went on a great field trip to the NY State Museum for a behind-the-scenes tour of the rock and mineral collections. We were also given a suite of rocks from 19th century Zn mines in the Taconic and Shawangunk mountains, which we turned into a class research project. This year I finally published the paper the New Jersey Fe and Zn-Fe-Mn deposits in the journal *Economic Geology* with Adam Mansur ('05) and Bret Doverspike ('03). I also published a paper on maple syrup and food adulteration in general with Steph Tubman ('08) in the *Journal of*

nal of Agricultural and Food Chemistry. This work was a spin-off of a class project in the isotope course several years ago.

My recent research focus with students has been on the Grenville Province in Canada, and correlating these rocks to the Adirondacks. Becca Tortorello ('10) and Trevor Halfhide ('10) did metamorphic studies of the Frontenac terrane and Sharbot Lake domain in Ontario for their senior research projects, and Christian Rathkopf ('10) worked on the origin of Zn-Pb ore deposits in the same area. This summer Bo Montanye ('12) and Douglas Schaub ('12) are continuing this project in adjacent parts of Quebec.

"Environmental Economic Geology (Geol 310) students get a behind-the-scenes tour of the rocks and minerals collection of the New York State Museum"



Miguel Rodriguez '10



Emmett Weatherford '09



Emmett Weatherford '09

Paul Pinet
Professor



The years are filled with surprises; the last few are no exception. My scholarship has followed twists and turns, the journey finally leading me to ponder philosophical issues related to landscapes. And so late in my career, I wonder about the quality and morality of deep geologic time for human existence, and about the evolutionary origin of landscape beauty in the minds of people. What exactly is the past's deep time beyond mere quantity, and what are the moral imperatives, if any, for our species and the Earth's ever-emerging deep geologic future?

What is natural beauty and how did this peculiar aesthetic vision of landscapes – their forests, tundra, prairies, mountains, rivers, shorelines - come to be? In an effort to begin to understand the meaning of these queries, I'm trying to organize a conference that will bring together biologists, geologists, and philosophers to consider the ecological and ethical ramifications of the Earth's sixth mass extinction that is now underway. How will the ecology of landscapes be affected as their biota is extirpated at an accelerating rate in the next few centuries, and can we and should we strive to mitigate this human-induced collapse of ecosystems? These may not be the right questions to raise, but it is a beginning of a new journey that will twist and turn and lead me to new visions of myself, others, and our surroundings.

Teaching continues to nourish me as I raise geological, ecological, and ethical issues in all of my classes. I learn a great deal from some of my students about my limitations as a thinker, both in terms of the lack of the breadth and the depth of my biases. I teach oceanography on an annual basis and coastal geology every other year or so. My workhorse for examining moral complexity is a science perspective course entitled "Ecology, Ethics, and Wilderness." During the past few years, I have team taught several new courses, one with a Professor of English, a high core distinction course (The Evolutionary Origin of Narrative), the other with a Professor of Economics, an environmental studies course (Complex Systems: The Management of Public Land). It's a bracing experience to discover how imperfect is one's view of the world from the perspective of a single discipline; such experiences promote humility and reveal how understanding the deep, emergent complexities of existence are beyond human cognition. This fall term I will be in England leading Colgate's Manchester study group for the third time, teaching a seminar entitled "Technology and the Human Prospect." Marita and I love Manchester, its theater, live music (jazz!), bookshops, and cafes; best of all it affords us time to read, think, converse, and write. What a privilege it is to work at Colgate. I hope that all of you who read this feel similarly about having attended Colgate as a student.



Bruce Selleck
Harold Orville Whitnall Professor

Bruce Selleck sends his greetings from the 3rd floor of the Ho Center. Bruce's teaching and research interests continue to focus on sedimentary rocks, geochemistry/diagenesis and geochronology. On the teaching front, Bruce has taken on the department's new Geology 120

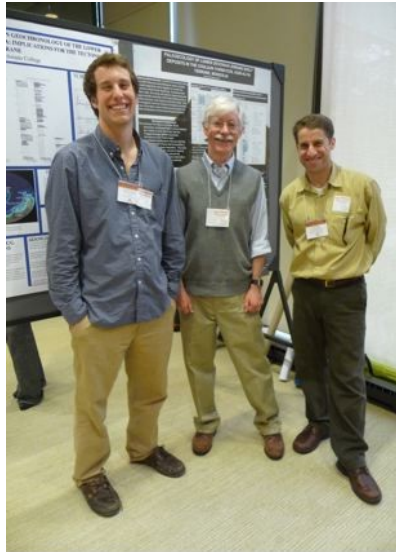
course included time at Great Sand Dunes, Sange de Cristo Range and San Juan Mountains in southern Colorado, Arches and Canyonlands National Parks near Moab, and Colorado National Monument and Black Canyon of the Gunnison National Park. This past May, the field component included stays at Bryce, Zion and Grand Canyon North Rim, and ended with a flyover of Lake Mead and the western canyon area. In the fall term of 2010 Bruce will teach Sedimentology/Stratigraphy, plus a Scientific Perspectives course "Earth Resources" which investigates the realities of our energy resources including fossil fuels and alternatives, and metal and mineral resources.

Bruce has five students working with him this summer on projects funded by The Petroleum Research Foundation, NYSERDA and Gastem, Inc., a natural gas development company. Recent expansion in natural gas development in the northern Appalachian Basin (including the controversial Marcellus Shale hydrofracturing method) is the focus of senior geology major Dana Bohan. Dana is working with Bruce to develop an informational website for land-owners in the region to better explain the science of natural gas systems, local development and potential interest in the region. Senior majors Julian Michaels and Jacquie Colborne are working with Bruce on fracture history and origin of mineralized veins in the Utica Shale, which is a likely target for future natural gas development in the region. Jacky Baughman and Ali MacNamee are developing analytical methods using XRD, XRF and leachate composition to assess the possible beneficial use of well cuttings. Because of local interest in natural gas development, Bruce has been asked to give a number of presentations to community and professional groups, and has been a guest on radio talk shows in the region. Bruce has also continued to work on geochronological and tectonic problems in the Grenville Province, including projects with Jim "The Chief" McLelland, and with William Peck and Martin Wong.

On the campus front, Bruce was involved the analysis of Colgate's budget and financial planning circumstances, precipitated by the economic difficulties of the last two years. Bruce led (with Dave Hale, geology major '84, now Colgate's VP for Finance and Administration) the Economic Environment Working Group, which developed strategies to reduce expenses and modestly increase revenue to account for the new financial realities that Colgate and many other college must address. Bruce also coordinated a regular "Science and Religion" reading group, made up of faculty from across the campus.

Constance Soja Professor

Hello to our alumni in the US and around the globe! I continue to enjoy teaching at Colgate and doing research with students interested in paleontology. In summer 2009, I directed a Keck Geology Consortium project in Mongolia's Gobi Desert. The research involved eight US students (including Adam Pellegrini '10) and four Mongolian students, two other US faculty (including Paul Myrow '80 at The Colorado College), and our Mongolian colleague. Students did exceptional work in the field and completed their projects last year on the paleoecology, chemostratigraphy, and magnetic susceptibility of Ordovician-Devonian fossiliferous rocks. They presented their research results at the annual Keck Symposium in Houston, TX, in April 2010, where it was a real pleasure to meet alum, Lee Gray '74, of Mt. Union College (Lee was a research advisor for one of our Keck/Mongolia students). Our research, which produced the first detailed descriptions, analyses, and interpretations of eight formations, sheds new insights on the paleogeographic setting of the Gobi-Altai terrane in southern Mongolia. More information is available on the department's website (<http://departments.colgate.edu/geology/research/mongolia09.htm>).



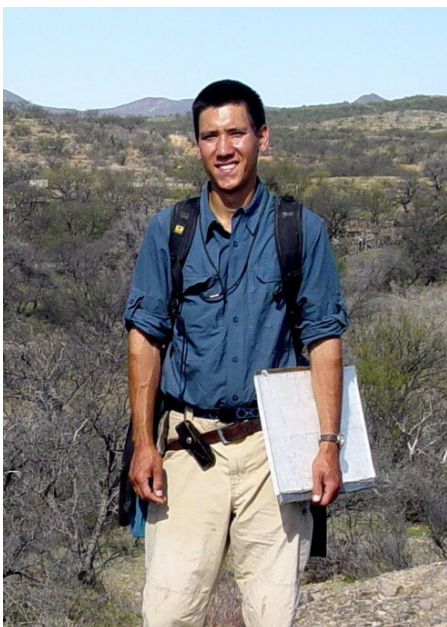
Three Colgate Generations. In April 2010 at the Keck Symposium in Houston, **Lee Gray '74** (Mt. Union College) and **Paul Myrow '80** (Colorado College) talked with **Adam Pellegrini '10** about the research Adam conducted with Connie Soja in Mongolia in summer '09. Lee advised a Keck-Mongolia student from Mt. Union College, and Paul was a co-director of the Keck-Mongolia project.

In Spring 2010, I directed Colgate's Australia Study Group at the University of Wollongong, an hour south of Sydney. It was a real treat to teach my Reefs Seminar for the first time in a coastal setting and to take the 15 Colgate students to the Great Barrier Reef and Wet Tropics — two World Heritage sites. We explored the reefs-to-rainforest transition to gain first-hand knowledge about the impact of global change on the "fragile edge." While in Wollongong, I enjoyed a visit with Emmett Weatherford '09, who is gainfully employed as a geologist working near Broken Hill in New South Wales.

In summer 2010, Emily Kennedy '11 and Gemma Wallace, a student in my Geology 115 (Evolution) course who lives in Hamilton, assisted me with research for a book about the evolutionary history and ecosystem services of endangered species. I am looking forward to a year's sabbatical, starting in January 2011, to complete the book.

Genuine thanks to all who brought such interest, energy, and enthusiasm to the department while at Colgate. Please stop by on your next visit to campus!

Martin Wong
Assistant Professor

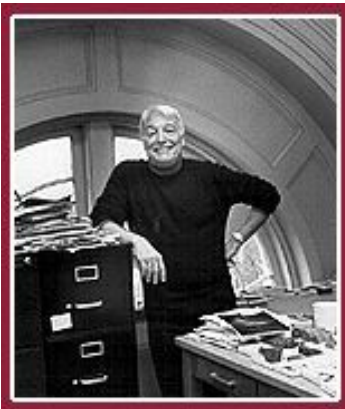


It's been a busy couple of years since the last newsletter update. On the teaching front, I've been regularly teaching Megageology and Environmental Geology, an upper level Tectonics seminar, and of course Structural Geology. I've also added a few new courses to the department's offerings. One new course is a Core-SP class called Dangerous Earth, which focuses on the science and societal impacts of geologic hazards. The other is a new FSEM called Geology Outdoors, which focuses on student observation and interpretation of the geologic record around Colgate and is really fun to teach.

Although much of much of my research has been focused out west, I've been wrapping up work on a couple of projects closer to home recently, including a project on the Black Lake shear zone in the Adirondack Lowlands

with Bruce and William and one examining the tectonic significance of sheared rocks in the eastern Adirondack Highlands. I also had a junior faculty leave this past spring (after passing my third-year review), which I used to start a couple of new projects in the Basin and Range province out west. With my wife Jen and 3-year old daughter Olivia in tow, we spent six weeks doing fieldwork in Arizona and southern Nevada.

One of the new projects is to field-test the $^{40}\text{Ar}/^{39}\text{Ar}$ K-feldspar thermochronometer, which I use for a lot of my research, at two tilted normal fault blocks. Hillary O'Brien ('11) joined us for a week of fieldwork on this project in the Grayback normal fault block east of Phoenix, where she will be doing a structural and geochemical analysis of dikes and some of the $^{40}\text{Ar}/^{39}\text{Ar}$ K-feldspar thermochronology. Dan Gleason ('11) is conducting U-Th/He thermochronology on apatite and zircon from this same area to further constrain the low-temperature thermal history of the fault block. Meanwhile, Kaitlyn Bunting ('11) is investigating ductile strain in the footwall of the Harcuvar metamorphic core complex, located west of Phoenix, to help us understand how this major extensional feature might have formed.



James McLelland

Charles A. Dana Professor of Geology, Emeritus

CHIEF IN RETIREMENT

During the past 18 months, Cathy and I have divided our time between Canada Lake; Hutchinson Island, Florida; Los Cabos, Baja California; and Carlsbad, California. We have enjoyed seeing Colgate alums Paul Stout, Jean Morrison, Jon Husch, and Jeff Frederick. At the same time, I have continued my Adirondack research in which I have been joined by Colgate colleagues, Bruce Selleck, William Peck, and Martin Wong. Forthcoming papers are: 1) The Tectonic Setting of Anorthosites (with B. Selleck); 2) A Review of the Tectonic Evolution of the Grenville Province, Its Adirondack Outlier, and the Mesoproterozoic Inliers of the Southern Appalachians (with B. Selleck); 3) The Mechanism of Metamorphic Zircon Growth in a Granulite Facies Quartzite, Adirondack Mountains, New York (with W. Peck, senior author). There is a fourth paper (Martin Wong, senior author) that is in progress and that will treat the late orogenic collapse of the eastern Adirondacks. All of this keeps me busy and involved but still resting comfortably in retirement. When I start to feel that Alzheimer's might be setting in, I churn up memories such as the time in Petrology when Roger Wiggin's spectacular run of questions retired the Fool of the Week Shirt in two days; or when Grugan and Olsen got caught by the Campus Cops; or when Hempton's dog ate Selleck's huge rack of prime ribs and half a wheel of cheese, and finally when Freddy did such an elegant job of dismantling the Foucault pendulum in the Lathrop lobby. Keep up the good work!



In Memoriam
Kevin Bradley Williams
Geology and Geography Dual Major
July 27, 1988—October 4, 2010

Kevin Bradley Williams, age 22, passed away at sunset on October 4, 2010. He died peacefully in the loving embraces of his fiancée, Kathlin Ramsdell, his mother Carolyn, his father Rich and his sister Stacy. Kevin's close friend Tyler Domsic, who flew in from Sweden that afternoon, was also by Kevin's side. Kevin bravely fought an inoperable brain tumor for the last year of his life, demonstrating courage and strength in trying to beat the unbeatable.

Kevin considered upstate New York his second home. He and his beloved Kathlin were on track to graduate with honors from Colgate University's Class of 2010. Kevin was captain of the water polo team, raced on the ski team, double majored in Geography and Geology, was in the Geography honor society and made the Dean's List every semester. Kevin and Kathlin's love for earth science and the outdoors led them to spend a semester at Canterbury University in Christchurch, New Zealand. In spring 2009 Kevin and Kathlin traveled in a camper-van while they saw as much as they could of the North and South Islands' geologic and geographic diversity. As a Fellow at the Upstate Institute for two summers, Kevin used his geography training to work on land use issues in Cazenovia, NY.

SEA Education Fellowship Established in Memory of Charlie McClennen

In September, 2007, the Sea Education Association established a Fellowship in memory of Charlie that will assist students in attending SEA semester. This fellowship is a permanent reminder of Charlie's goals and philosophy and the many contributions he made to SEA.

Charlie sailed twice as the Chief Scientist as part of the SEA semester and many times on shorter programs. He was an early member of the Academic Review Board, creating the strong affiliation between Colgate and SEA. Charlie was the first Doherty Chair in Ocean Studies at SEA.

SEA will award the Charlie McClennen Fellowship to one Colgate student each academic year. This is a \$5,000 award that may be applied toward any semester-long SEA semester program.

To date, fellowships have been awarded to the following students: Daniel Lieberman '09 (Natural Sciences), Ilona Matulaitis '10 (Geology), and Chloe Bushnell '12 (Environmental Geography).

Please contact our faculty liason, Amy Leventer, for more details about this fellowship.

Boyce Post-Doctoral Fellows Program

The Geology Department thanks Malcolm '54 and Sylvia Boyce for their generous gift to the Geology Department's Boyce Post-Doctoral Fellowship. We also thank the recipients of this award, who have brought their expertise and enthusiasm to our department. They have broadened our educational mission by helping us develop new courses (Geoinformatics and Paleoclimatology), contributing to our summer field program and through advising student research. The success of the Fellowship program is evident through the path taken by our Fellows. Three Boyce Fellows already have progressed well beyond their time here at Colgate, choosing jobs that highlight the importance of a strong undergraduate education. These include jobs at Western State College of Colorado (Dave Marchetti), University of Nevada Las Vegas (Scott Nowicki) and Harvard University (Jeff Standish '92). In each instance, we are confident that the time spent at Colgate as a Boyce Fellow facilitated the development of strong teaching skills, innovative research, and solidified intentions to focus on undergraduate education. Our mission at Colgate is the same and we have extended that mission through our Boyce Fellows. We wish our current Boyce Fellow, Kate Swanger, much luck in her job search this year!

Rankin Endowments Support Student Research

Thanks to Doug Rankin '53 and his exceptional generosity, the geology department now has two endowed funds to support students doing field research in the Appalachians, Adirondacks and beyond.

In summer 2009, four students received Rankin Fellowships for Geology Research: Trevor Halfhide '10 for research around the Maberly Shear Zone, Ontario with William Peck; Christian Rathkopf '10 worked with William Peck at Long Lake, Ontario; Lauren Idleman '10 did research with Martin Wong related to the pre-Holocene record on Unalaska Island; and Adam Pellegrini '10 for his research on the Gobi-Altai terrane, Mongolia, with Connie Soja. Rebecca Tortorello '10 was awarded the Rankin Fellowship for Appalachian Geology Research for her carbon isotope research with William Peck. In addition, some of this funding was used to support a structural Geology class field trip to the eastern Adirondacks with Martin Wong.

In summer 2010, Kaitlyn Bunting '11 was awarded the Rankin Fellowship for research related to field work in Arizona with Martin Wong. Gary Marshall '11 was granted the Rankin Appalachian Fellowship for research on mineral weathering and cation depletion in the Adirondacks soils with Rich April.

Norma Vergo Prize in Geology

Thanks to alumni contributors to the Norma Vergo endowment, we continue to offer this prize to geology concentrators who significantly contribute to the spirit of excellence among fellow students in the department. Norma Vergo graduated from Colgate with Honors in Geology in 1981 and then completed her M.S. degree at the University of Illinois. She died in 1989 at the age of 30. The special award was initiated by friends and colleagues in memory of Norma, an alum the department fondly remembers as a gifted scientist and as someone with a special compassion for others that continues to inspire us today.

2009 Recipient Emmett Weatherford
2010 Recipient Rebecca Tortorello

Robert M. Linsley Prize for Excellence in Geology

Thanks to a donor who wishes to remain anonymous, the department is able to award a new annual prize in honor of Bob Linsley. The award is to be given mid-way through the junior year to a rising senior who has demonstrated the promise and potential for leadership and excellence in earth science scholarship and research. It is to be used at the awardee's discretion to do field work or other research, to attend scientific meetings to present research, to interview and make contacts for graduate school, or to cover the costs of summer field camp or special field trips. It is intended for someone who exhibits a balance of leadership, research, and communication/teaching interests in Bob's spirit and who plans to pursue earth science as a career.

In its inaugural year, Nicholas Pollock '11, was the first recipient of this wonderful prize. Nicholas used the prize to offset the personal costs of travel associated with his research this past summer. During the first half of the summer, he was a member of the FLAMINGO cruise to the Northern Galapagos Islands, which studied the interaction between the Galapagos hotspot and the Galapagos Spreading Center. He then traveled to Ecuador for three weeks in July to study boiling-over pyroclastic flows at Tungurahua and Cotopaxi volcanoes, research which will form the basis for his senior thesis project. Nicholas would like to thank the donor of this generous prize for helping to make his summer experiences possible and thus furthering his education in geology.

Geology Award Recipients—2010 (pictured below)

Rebecca Tortorello—Norma Vergo Prize (Professor William Peck-left)

Lauren Idleman—Award for Excellence in Geology (Professor Martin Wong-right)



Geology Award Recipients—2009 (pictured below)

Emmett Weatherford—Norma Vergo Prize (right)

Jason Fredricks—Award for Excellence in Geology (left)



Allen Dennis '82 Receives Teaching Award



Allen Dennis wrote the following to Rich April on September 1, 2010. (Allen is pictured on left, Bob Thunell, right.)

Sue Pohanka and I have been emailing lately; I realized yesterday that we took Mineralogy 30 years ago this fall.

After I picked myself up off the floor, I thought (again) of how grateful I am for the opportunity you gave me July of 1982 when you offered me the chance

to work in the Geochem lab 1982-1983. If there is a single experience that changed my life, that was probably it. I grew up a little bit, and took more responsibility for my life, I was able to recover enough of my teachers' confidence to get recommendations for graduate school, I met the woman who became my wife and mother of my children. I made a little money, and I had a lot of fun. Thank you.

As I think about my other five brothers' college experiences, I am impressed that of all of them no faculty took a greater and active interest in the successes of their students and alumni than the Colgate Faculty, and the Geology Faculty in particular. I will always be grateful and proud of my association with you all.

Awards are awards, and don't change who we are or what we have done, whether that is recognized or not. Nevertheless, I want to tell you that this past Spring I was recognized by the University of South Carolina Board of Trustees as a Carolina Trustee Professor. No more than three of these are awarded annually, and only one can come from "off the Columbia campus." Amy Leventer might be interested to know that one of the Columbia professors recognized that night was Bob Thunell, who was graduate director in Geology for much of my graduate career there. We were both happy and surprised to see each other there. The picture above is a picture Bob's wife took of us that night. In some measure I want to show you that I have made the best of my opportunities (ha) since that time when you took a chance on me.

Please send along my best wishes to everyone there who might still remember me. I think of you all often.

Gratefully and sincerely, AD

Allen J. Dennis
Professor of Geology
Carolina Trustee Professor
SCANA Chair in Physical Sciences
Biology and Geology
University of South Carolina Aiken
Aiken SC 29801-6309

The Geology OC

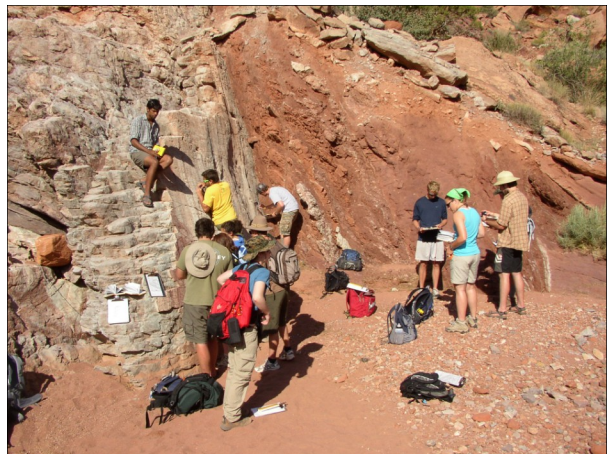
Beginning in summer 2009, Geology 120, Geology of America's Parks, was added to our traditional "OC" offering, Geology 320. Geology 120 is designed for first and second year students as an introductory half-credit course that introduces basic field observation and regional geologic history. In 2009, Bruce Selleck led Geology 120 students to the Great Sand Dunes, San Juan Mountains, Canyonlands, Arches, and Colorado National Monument. In 2010, led by Bruce Selleck and Dave Baird, Geology 120 toured Bryce, Zion and the North Rim Grand Canyon and concluded with a flyover of Hoover Dam, Lake Mead and the lower Grand Canyon.



2009—Geology 120 at the Delicate Arch



Geology 120 at Upheaval Dome



Geology 120 on the Moab Fault



2010—GEOLOGY 120 Grand Canyon



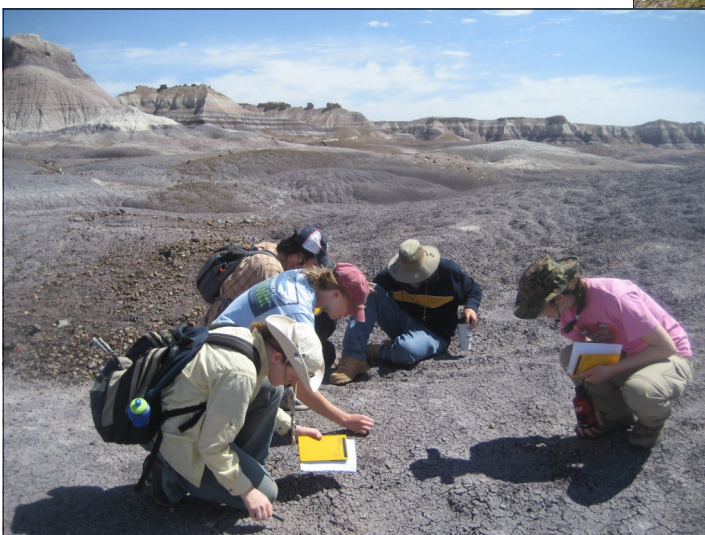
Karen Alley (left) '12 plays the hammer dulcimer, Doug Schaub (middle) '12 plays the violin and Dave Baird co-leader of Geology 120, in Zion, summer 2010.

Geology 190 spring break field trip to Arizona

During spring break 2009, a group of geology students headed out to Flagstaff, Arizona, where we spent a week packed with amazing geology. With the help of Geology alum Jeff Trembly ('78) and Dr. Richard Holm (retired volcanologist at Northern Arizona University and father of Biology professor Geoff Holm), Dave Linsley and Amy Leventer led a field trip that traveled all over northern Arizona. The trip started with a day spent investigating the San Francisco Volcanic Field, highlighted by a late afternoon hike at Sunset Crater National Monument. This was followed by a day hiking down into (and out of) the Grand Canyon, with our hike down taking more time than the hike back up! The next day, Dave Linsley took us west to the Basin and Range to probably the most remote (and most beautiful) spot most of us have been, a hidden oasis and ice-cold swimming hole in the midst of giant saguaro cacti and obsidian flows in the Burro Creek Wash. This was followed by a day at the Glen Canyon Dam and Antelope Canyon, where our Native American guide allowed us to linger as long as we liked. Our final morning was spent at Meteor Crater, which despite its touristy-nature, is simply an amazing natural site. Finally, we were hosted by a geologist at Petrified Forest National Park – where we spent an afternoon at one of their most recent sites. What we had expected to be a drive through the park, with stops at roadside overlooks, turned into an amazing scramble through the badlands, at one of their new research sites. Honestly, it felt like something out of an Indiana Jones movie, with everyone finding *Metoposaur* (Triassic amphibian) teeth and bones!



Saguaro Cactus
(photo by Kristen Meisner '11)



**Petrified Forest National Park -
searching for fossils (photo by Karen Alley '12)**

G. Arthur Cooper '24 Lecture Series

We continue to host invited speakers—including our alumni—in a weekly seminar series.

Fall 2009

3rd Annual Ho Summer Symposium 10 students present their research from Biology, Environmental Studies, Geography, Geology, Physics/Astronomy & the Visualization Lab.

Welcome Back Brown Bag Lunch CUGS - Fall '09 events and faculty-student research

Jeff Palmer '80 Exxon Mobil - Careers in Oil & Gas

Dr. Warren Allmon Director Paleontological Research Institution, Cornell University - Why Museums Matter

Brian Slater NYS Museum, Office of Oil & Gas - Characterization of Potential Carbon Sequestration Targets in NY State

Geology Open House Information on: courses and concentration, research opportunities, off-campus study groups, jobs, etc.

G. Warfield (Skip) Hobbs Managing Partner, Ammonite Resources Company - The Future of the Global Oil Industry: Resources, Challenges & Geoscience Workforce

Dr. Thomas Rothwell Veterinarian, Paris Hill Cat Hospital - The Cat's Tale...The Story of the Evolution of the Family Felidae

Robert Jacobi Director of Special Projects & Norse Energy, Professor of Geology-Buffalo
Faults in the Appalachian Basin of NYS and Their Tectonic Significance

Spring 2010

John Williams USGS - Darwin, Plants, and Tropical Biodiversity

Mark Kurz, Woods Hole Oceanographic Institution - Adventures with "Primordial" Noble Gases

Langhorne "Taury" Smith Reservoir Characterization Group, NYS Museum-Depositional Environment, Stratigraphy, and Natural Gas Potential of the Utica & Marcellus Shales in NYS

Adam Soule Woods Hole Oceanographic Institution RIDGE 2000 Distinguished Lecture Series - With a Bang or a Whimper? Explosive Eruptions in the Deep Ocean

Sheila Seaman University of Massachusetts, Amherst - Adventures in the Lower Crust

Victor Vargas Gutierrez University of Mexico, University of Mexico, UNAM - Hazards at Colima Volcano, Mexico

Jennifer Heldman NASA Ames Research Center, Joint Seminar with Physics - Lunar Impact! An Overview and First Science Results from NASA's Lunar Crater Observation and Sensing Satellite (LCROSS) Mission

Paul Fitzgerald Syracuse University - The South Virgin-White Hills Detachment Fault System of SE Nevada and NW Arizona: The Application of Apatite Fission Track Thermochronology to Constraining Displacement Gradient Accommodation Along a Major Detachment Fault

Eugene Domack Hamilton College - Impact of the Fifth Largest Earthquake in History on a Developed Latin American Country: The February 2010 Concepción 'Teremoto' in Chile

Keck Geology Consortium

In 2006, Colgate joined the Keck Geology Consortium, a group of 18 of the top undergraduate geology departments in the country. Faculty in the consortium run 4-week summer research projects, typically for 3 to 9 students, and these projects form the basis of senior theses at the students' home institutions. The consortium is funded by a grant from the National Science Foundation and contributions by member schools. Since Colgate joined the consortium, nine Colgate students have been part of consortium projects (projects listed below). In 2008, Colgate faculty William Peck, Bruce Selleck, and Martin Wong directed a 9-student Keck project in the northwestern Adirondacks. In 2009, Connie Soja directed a project in Mongolia that involved 8 US and 4 Mongolian students (see Connie's faculty report in this newsletter for details). The consortium provides great opportunities to interact with other students and faculty from other schools on projects across the country and abroad.

Colgate Students on Keck Geology Consortium Projects

2007

Mike Werner: Erosion of the Lepontine Dome, Switzerland

Caitlyn Perlman: Petrology of Norðurfjöður Volcano, Iceland

Dana Fisco: Post-Hurricane Dynamics of Coral Reefs in St. Croix

2008

Beverly Walker: Gastropods from the Tertiary Chickaloon Formation in southern Alaska

Miguel Rodriguez: Apatite in Soils of Betasso Preserve, Colorado

2009

Lauren Idleman: Age-Dating of Makushin Volcano, Alaska

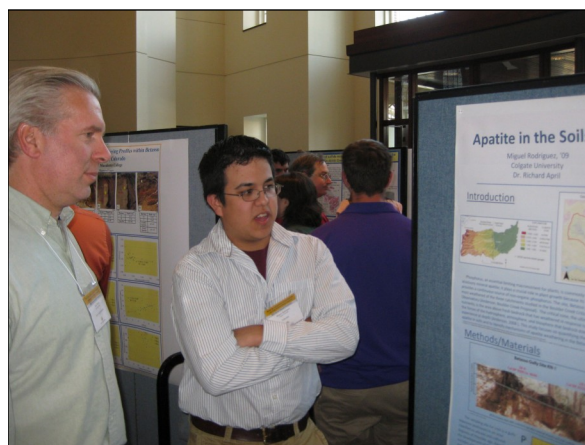
Adam Pellegrini: Paleogeology of Devonian Shelf Deposits in the Chuluun Formation, Mongolia

2010

Melissa Cross: Analysis of Sedimentary Sections, Lake Hövsgöl, Mongolia

Julianne Wallan: Petrology of Marbles in the Sequoia Region, Sierra Nevada Batholith

Bev Walker '09 and Miguel Rodriguez '09 present their research results at the 2009 Keck Geology Consortium conference at Franklin and Marshall College.



Educational Outreach

Geology faculty continue to be actively involved in extending educational outreach to local teachers, students and parents. Funding acquired by Rich April made it possible for Hamilton Central School teacher, Pat McGill, to offer a two-week Junior Paleontologist Summer Camp to 13 (!) aspiring young geologists in July 2010. Connie Soja and the Junior Paleontologists engaged in a one-hour, interactive discussion about dinosaurs and Colgate's *Oviraptor* egg. Afterwards, students visited The Egg in the Linsley Geology Museum, where it is now on permanent display, and learned more about vertebrate dentition in the exhibit on Pleistocene mammals. Based on the success of the Junior Paleontologist program over the past several years, Rich is in the process of applying for grants that would support the camp in future summers. For more information, visit this website: <http://blogs.colgate.edu/2010/07/youngsters-visit-campus-to-learn.html>



The Robert M. Linsley Geology Museum has also been a great general resource for outreach activities. Since its official opening in October 2009, approximately fifty school + scout groups have visited the museum, usually coupled with a VIS Lab show. While in the museum, the kids explore for a bit then gather to ask questions about what they have seen. Finally, they are given a numbered map of the museum and photographs of museum objects, and are sent off on a museum scavenger hunt. Each object they find gives them a letter that corresponds to each numbered location. Once the code is completed, they are able to solve the secret message that “Geology is the study of the Earth.”

In addition to these activities, there are two ongoing outreach programs sponsored by geology faculty at Colgate. Karen Harpp's Science Outreach Program, which involves a number of geology students, aims to make science less intimidating and more accessible to the general public by bringing assorted hands-on activities to community or school groups. The Science Affiliates Program, initiated by Rich April and funded by the Howard Hughes Medical Institute, strives to enhance science education in the public schools by making learning opportunities available to local school teachers. Activities include day-long workshops run by Colgate faculty, field trips and student science days. Links to information about both of these programs can be found at the following URL:

<http://departments.colgate.edu/geology/outreach.htm>

The new Robert M. Linsley Museum in the Ho Science Center

Di Keller and Rich April are to be congratulated for working exceptionally hard over a two-year period to complete the new geology museum designed in honor of Bob Linsley. Their endeavors on the department's behalf required an extraordinary amount of attention to hundreds, if not thousands, of tiny but important details. In addition to all of her regular duties, Di dedicated her efforts to the careful oversight of compiling and editing all exhibits text *and* identifying (or designing) the graphics and choosing appropriate specimens for each display. She and Rich coordinated work by others, including exhibits design, construction, and installation by Exhibitions Alliance as well as the transport of specimens from Lathrop to Ho. Jodi McNamara and Connie Soja coordinated a fund-raising "campaign" with Di and Bruce Selleck to help meet the Boyce Challenge to geology alums to raise funds that would help pay for the museum. By 1 March 2009, more than 50 geology alums, parents, and other supporters gave more than \$21,000 (in addition to lead gifts from Malcolm '54 and Sylvia Boyce and from Peter '67 and Patti O'Brien), allowing us to celebrate a landmark achievement in annual alumni donations to the department. We also were pleased that so many alums could be in attendance for the official ribbon-cutting ceremony on Homecoming, 2 October 2009. To date, we have received many wonderful comments from visitors to the museum, including Ho colleagues as well as parents and alums on campus during graduation and reunion. The department is greatly indebted to Di Keller – and to our alumni donors – for this wonderful new space.



Robert M. Linsley Museum Supporters

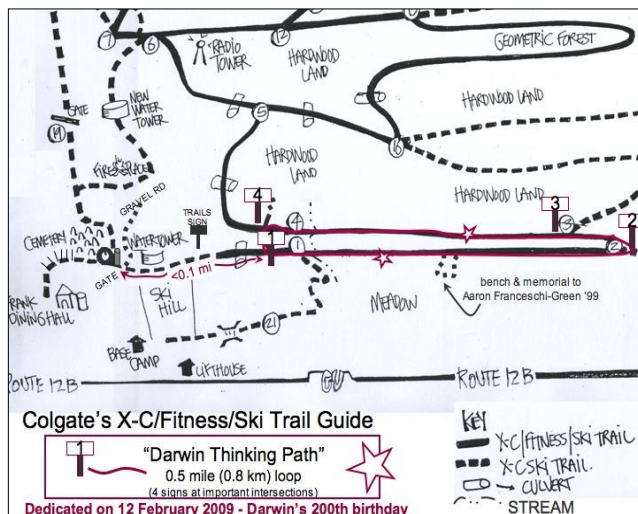
Carol and Richard April in memory of Hank Payne
Emma C. Barth '05
Karl E. Blumenberg '84 and Carole T. Stockmon '84
Malcolm W. '54 and Sylvia Boyce
Jordan C. Braun '56
Christopher Burns, Ph.D. '82
Brian A. '04 and Catherine Healy '02 Byrne
Douglas G. '50 and Sandra Campbell P'80, '81
Theodore R. Carron '62 in memory of Harold and Frances Carron
Paul T. '71 and Barbara Chan
Alexandra Dattelbaum '04
Emily E. Duncan '02
G. Bryan Dutt '81

Douglas H. Erwin '80
 Jeffrey A. '71 and Margaret M. Fischbeck
 Jeanne Cunniff Foussard '82
 Amy Baldwin Gonzales '81 and Edward D. Gonzales
 Robert T. '50 and Marilyn K. Halpin
 James T. '84 and Susan Corkran '83 Hutton
 Kerry F. Inman '79
 Gerald J. '73 and Melinda Jasko
 Di Keller '81 MA '88
 William M. Kier '78 and Kathleen K. Smith
 Andrea Kretchmer '84 and Paul N. Lutvak
 Scott A. '85 and Jill McClelland
 Ellen L. Mecray '90
 Fred C. '82 and Misty L. Meendsen
 Christopher P. Meyer '88 and Jennifer L. Tujague
 Jeffrey J. Palmer '80
 Mr. and Mrs. G. Peter O'Brien '67, P'98
 Harold B. '60 and Judith C. Rollins
 Bruce W. '71 and Nancy Barlow '76 Selleck
 Steven M. Shapiro '75
 Constance M. Soja and Brian White in honor of Di Keller (Chair of Museum Project)
 Walter and Kerri S. Steinmann, Jr. '79
 Paul M. Stout '77, JLA Geosciences
 Jeff Trembly (JT) '78
 Kim Waldron '81 and Hugh Bradford
 Karen J. Wilson '85
 C. Gil Wiswall '73

Darwin Thinking Path

In February 2009, Connie Soja coordinated with Jodi McNamara a week-long series of events to celebrate Charles Darwin's 200th birthday and the 150th anniversary of *On The Origin of Species*. Thanks to an idea first proposed by Liddy Kang '09, Colgate now has a 0.5 mile (0.8

km) walking path in the Colgate trail system named in honor of Charles Darwin. Liddy suggested that Colgate students and faculty – and the general public – would benefit from having a trail, similar to the “sand path” Darwin strolled daily, to contemplate their own imponderable problems or exciting ideas. Next time you're on campus, save some time to stretch your legs and enjoy the beauty of the Colgate campus along the new Darwin Thinking Path.



“If you were to feel how exposed we are to every wind under Heaven, you would understand our strong wish to have one sheltered walk.”

– Charles Darwin, 1846

Contributions to Geology

We want to thank those who have donated to the geology department over the last three years. If you are planning to give money to Colgate, you can specify that your contribution go directly to the Geology Department. The department's discretionary fund pays for the publication and distribution of this newsletter and other departmental projects, including support of student research. If you wish, you can specify for your gift to go into one of our endowed funds for students: The Norma Vergo Fund or the Bob Linsley/James McLelland Fund. Since the last newsletter the following have contributed to the department (July 1, 2008—June 30, 2010). Thank you! Our apologies if we missed anyone (please let us know so we can acknowledge you the next time.)

| | | |
|-------------------------------|--------------------------------|------------------------------------|
| Mr. & Mrs. Rand S. April P'13 | Adam J. Greenhut '01 | Allison H. Ridder '99 |
| Jay A. Barr '04 | David E. Haymes '84 | Daniel E. Riker '91 |
| Paul W. Beardslee '59 | Janet E. Hickey '77 | Shannon Jones Ritter '75 |
| Ezra R. Benjamin '02 | John W. Hoffman '68 | David A. Roth '62 |
| Edward W. Berg '07 | Gerald J. Jasko '73 | S. Andrew Sandberg '81 |
| Megan K. Bergman '07 | Fred M. Kaplan '74 | Jeremy M. Scheier '07 |
| Linda Besse '81 | Christopher C. Karmosky '04 | Ronald C. Schott '91 |
| John W. Bishop '80 | Kevin F. Kelly '04 | John T. Schulenberg '52 |
| Susanna W. Blair '03 | Ms Toni M. Kerns '97 | Julia K. Shackford '03 |
| Chapin L. Brackett '98 | Kristie A. Kilgore '84 | Steven M. Shapiro '75 |
| Gary J. Braham '02 | Alison M. Koleszar '04 | Justin M. Shaw '04 |
| Aron M. Buffen '05 | Andrea G. Kretchmer '84 | John P. Simpson, III '63 |
| Christopher A. Burns '82 | Elizabeth Sherwood Krol '92 | Michael R. Snyder '80 |
| Brian A. Byrne '04 | Robert S. Kuhlman, Jr. '73 | Walter S. Steinmann, Jr. '79 |
| Catherine Healy Byrne '02 | Deborah A. Levine '77 | Jason B. Stewart '00 |
| Michael P. Carrington '06 | Bryan K. Luftglass '77 | Emily Toffic Stewart '02 |
| Edward C. Cazier, III '81 | James A. Maritz, IV '05 | Paul M. Stout '77 |
| Chad R. Conti '07 | Victor A. Matos '04 | David F. Sunderlin '99 |
| Alexis L. Coplin '07 | Susan McCarthy McCotter '78 | Molly DeMark Sunderlin '00 |
| Janet A. Cushing '91 | Reed F. McEwan '86 | Shannon M. Sweeney '07 |
| Pamela Tiezzi Darwin '81 | Sharon D. McLelland '85 | Colleen Brogenski Tautfest '97 |
| Alexandra Dattelbaum '04 | Fred C. Meendsen, Jr. '82 | Michael J. Tone, Jr. '07 |
| Kevin E. Day '93 | Stephani Michelsen-Correa '07 | Kimberly A. Trelfall '01 |
| Christie M. Demosthenous '92 | Harlan F. Moonen '62 | Jeffrey A. Trembly '78 |
| Allen J. Dennis '82 | John S. Morgan '06 | Kyle Philip Tumpane '06 |
| Theresa Minchin Dennis '84 | Jean Morrison '80 | Christina E. Viviano '06 |
| John T. Dickinson '83 | Kristin VanVoorhees Nelson '98 | Emmett Hall Weatherford '09 |
| Barry L. Doolan '66 | Rebecca C. Newhall '99 | Charles E. Wechsler '88 |
| Emily Constantine Doren '04 | Ronald L. Parker '82 | Charles A. Weiss, Jr. '83 |
| Bret A. Doverspike '03 | Stewart W. Pearl '73 | Drs. Richard Berg & Julia Wen P'07 |
| Neal D. Durant '87 | Jacqueline M. Pearl '73 | Kenneth P. Wenz, Jr. '83 |
| F. Donald Eckelmann, Jr. '79 | Andrew C. Phillips '81 | Richard W. Wiener '73 |
| Lisa Hu Filer '87 | Susan Pohanka '82 | Roger C. Wiggin '80 |
| Gavin P. Fisco '06 | Holly Hoyt Posner '84 | Jason M. Williams '03 |
| Brian C. Flynn '98 | Todd W. Quillen '89 | Robert F. Ylagan '90 |
| Christian P. Gage '94 | Khaled B. Rahman '85 | Robert M. York '85 |
| Timothy D. Glotch '99 | Patrick C. Ramsey '90 | |
| Amy B. Gonzales '81 | Kristen Olson Ramsey '90 | |

Senior Honors Projects— Spring 2010

Rebecca Tortorello Carbon Isotope Thermometry in the Frontenac Terrane, Grenville Province, Ontario *Advisor: William Peck*

Christian Rathkopf Stable Isotope Geochemistry of Marble-Hosted Zn Deposits, Central Metasedimentary Belt, Grenville Province, Ontario *Advisor: William Peck*

Geology 440 (Senior Research Seminar) Presentations—Fall 2009

Matthew Loewenstein
Sources of Magnesium for Hydrothermal Dolomitization of Basement Marble, Adirondack Lowlands, New York *Advisor: Bruce Selleck*

Jason Fredricks
Fluid Inclusion and Stable Isotope Constraints on Hydrothermal Dolomitization of Proterozoic Basement Marble: Adirondack Lowlands, New York *Advisor: Bruce Selleck*

Catie Moore
Grain Size Distribution on a Barrier Beach: Duxbury, MA *Advisor: Bruce Selleck*

Miguel Rodriguez
Apatite Budget in Soils of Betasso Preserve, Colorado *Advisor: Rich April*

Beverly Walker
Gastropod Assemblages from the Tertiary Chickaloon Formation in Southern Alaska *Advisor: Connie Soja*

Emmett Weatherford
Evolution of the Northeast Ridge of Hekla Volcano, Iceland *Advisor: Karen Harpp*

Geology 441 (Senior Research Seminar) Presentations—Spring 2010

Katrina Garman
Dynamics of Pyroclastic Density Currents at Tungurahua Volcano, Ecuador *Advisor: Karen Harpp*

Lauren Idleman

⁴⁰Ar/³⁹Ar Dating of Lavas from Makushin Volcano, Alaska: Evidence for Xenocryst Contamination
Advisor: Martin Wong

Seghan MacDonald

Clay Mineralogy, Geochemistry and Weathering Characteristics of Clinton Group Shales in Central New York
Advisor: Richard April

Veronica Hanus

Classification and Interpretation of Channels and Valleys in the Mawrth Vallis and Arabia Terra Regions of Mars
Advisor: Bruce Selleck

Trevor Halfhide

Carbon Isotope Thermometry in Marbles in the Sharbot Lake Domain, Grenville Province, Ontario
Advisor: William Peck

Rebecca Tortorello

Carbon Isotope Thermometry in the Frontenac Terrane, Grenville Province, Ontario
Advisor: William Peck

Christian Rathkopf

Stable Isotope Geochemistry of Marble-Hosted Zn Deposits, Central Metasedimentary Belt, Grenville Province, Ontario
Advisor: William Peck

Ilona Matulaitis

The Polar Marine Diatom *Eucampia antarctica*: A test of its Paleooceanographic Utility
Advisor: Amy Leventer

Faculty—Student Publications*

***Indicates Colgate Student**

*Kaplan, J. and Selleck, B. (2008) Stable Isotopic Composition of the Freshwater Gastropod *Viviparus georgianus*, Central New York State: Evaluation As a Proxy for Summer Climate: Northeastern Geology and Environmental Sciences, v. 30, no. 2, p. 130-139.

*Koff, A. and Selleck, B. (2008) Stable Isotope Signature of Middle Devonian Seawater From Hamilton Group Brachiopods, Central New York State; Northeastern Geology and Environmental Sciences, v. 30, no. 4, p. 330-343.

Peck, W.H., Volkert, R.A., *Mansur, A., *Doverspike, B.A., 2009, Stable Isotope and Petrologic Evidence For the Origin of Regional Marble-Hosted Magnetite Deposits and the Zinc Deposits at Franklin and Sterling Hill, New Jersey Highlands: Economic Geology, v. 104, p. 1037-1054.

Peck, W.H., and *Tubman, S.C., 2010, Changing Carbon Isotope Ratio of Atmospheric Carbon Dioxide: Implications for Food Authentication: Journal of Agricultural and Food Chemistry, v. 58 (4), p. 2364–2367.

Peck, W.H., McLelland, J.M., Bickford, M.E., *Nagle, A.N., *Swarr, G.J., Mechanism of Zircon Overgrowth Formation of a Granulite-Facies Quartzite, Adirondack Highlands, Grenville Province, New York, Submitted to American Mineralogist (submitted)

Wong, M.S., Gans, P.B. and *Scheier, J., (2010) $^{40}\text{Ar}/^{39}\text{Ar}$ Thermochronology of Core Complexes and Other Basement Rocks in Sonora, Mexico: Implications for Cenozoic tectonic Evolution of Northwestern Mexico, *Journal of Geophysical Research.*, doi:10.1029/2009JB007032.

Geology Students Present Research at Conferences

An important part of student research is presentation of scientific findings. In the Geology Department, we hold a symposium at the end of the year where seniors can present their completed research projects. Students also often present talks or posters at local, national, and international meetings. These trips to meetings are funded by department funds, faculty grants, and some support from the university. At these meetings, students get a chance to interact with geology majors from other colleges and to talk to geosciences professionals about their work. Several seniors have met their future graduate school advisors at these meetings or have been inspired to pursue a particular subfield by talks they've heard. In recent years, students have presented work at the Northeastern Geological Society of America meeting in Baltimore, American Geophysical Union meetings in San Francisco, and the Goldschmidt Geochemistry Conference in Knoxville. Abstracts of conference presentations are listed below; * denotes the Colgate student presenter.

Abstracts:

*Bray, B., Harpp, K.S., Geist, D., Garcia, M.O., Swarr, G.J., Buck, S.A., Parcheta, C.E., *Matulaitis, I. (2009), Sr and Nd isotopic and geochemical analysis of the Vanda Dike Swarm, Antarctica, *Eos Trans. AGU*, 90 (52), Fall Meet. Suppl., Abstract V51C-1685, San Francisco, CA.

*Garman, K.A., Swarr, G.J., Dufek, J., Harpp, K.S., Geist, D. (2009), Clast morphologies and heating experiments constrain the thermal conditions during pyroclastic density current emplacement at Tungurahua volcano, Ecuador, *Eos Trans. AGU*, 90 (52), Fall Meet. Suppl., Abstract V13B-2018, San Francisco, CA.

*Halfhide, T.M., Peck, W.H. (2010), Calcite-graphite thermometry of marbles in the Sharbot Lake domain (Grenville Province, Ontario): Geological Society of America Abstracts with Programs, V42 (1), p. 160.

*Idleman, L.M., Wong, M.S., and Nicolaysen, K. (2010), Crystal size distribution analysis of Quaternary Lava flows from Makushin Volcano, Alaska, Geological Society of America Abstracts with Programs, V42 (1), p. 157.

*MacDonald, S., April, R.H. and Keller, D.M. (2010), Clay mineral weathering in shales and soils in the critical zone. Special Edition of *Geochimica et Cosmochimica Acta*, V74, Issue 11, Supplement 1 (A652).

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**Student Summer Research
Summer 2009**

Karen Alley '12 (Bruce Selleck) Plate Motion History & Digital Flythrough Visualizations for Teaching and Research

Brandon Bray '11 (Karen Harpp) Geochemistry of the Vanda Dike Swarm, Antarctica

Mellissa Cross '11 (Rich April) Effects of Weathering and Acid Rain on the Exchangeable cation Chemistry of Adirondack Soils

John Dow '11 (Amy Leventer) Phytoplankton Assemblages From the Ross Sea to the Antarctic Peninsula

Katie Garman '10 (Karen Harpp) Boiling Over Pyroclastic Flows at Tungurahua Volcano, Ecuador

Trevor Halfhide '10 (William Peck) Metamorphic Conditions Around the Maberly Shear Zone, Ontario

Lauren Idleman '10 (Martin Wong) Late Cenozoic Volcanism in the Aleutian Arc: Examining the Pre-Holocene Record on Unalaska Island

Theodore Jacques '10 (Karen Harpp) Numerical Modeling of Boiling Over Pyroclastic Flows

Erin Knauer '11 (Amy Leventer) Recent Diatom Record from the Swift Glacier Fjord, James Ross Island, Antarctica

Seghan MacDonald '10 (Rich April) Chemical weathering of the Willowvale and Sauquoit Shales, Silurian Clinton Group

Ilona Matulaitus '10 (Amy Leventer) Modern Distribution of Morphological Variability in the Marine Diatom *Eucampia antarctica*

Nicole McDonald '10 (Bruce Selleck) Fluid Inclusion and Stable Isotope Evidence for Mud Dewatering During Basin Flexure, Ordovician Utica Shale, New York

Zora McGinnis '11 (Amy Leventer) Phytoplankton Assemblages from the Ross Sea to the Antarctic Peninsula

Kristen Meisner '11 (Bruce Selleck) Petrological and Geochemical Assessment of Altered Basement Rock as a Carbon Sequestration Reservoir, New York State

Hillary O'Brien '11 (Rich April) Effects of Weathering and Acid Rain on the Exchangeable cation Chemistry of Adirondack Soils

Adam Pellegrini '10 (Connie Soja) Paleocology of Devonian Shelf Deposits, Gobi-Altai terrane, Mongolia

Christian Rathkopf '10 (William Peck) Origin of Hydrothermal Zinc Deposits at Long Lake, Ontario

Rebecca Tortorello '10 (William Peck) Carbon Isotope Thermometry of Frontenac Terrane Marbles

**Student Summer Research
Summer 2010**

Jackie Baughman '13 (Bruce Selleck) Mineral-Chemical-Leachate Analysis of Gas Well Cuttings for Beneficial Use Assessment

Dana Bohan '11 (Bruce Selleck) GIS Assessment and Environmental Impacts of Gas Well Development, Chenango, Madison and Otsego Counties, New York

Brandon Bray '11 (Karen Harpp) Geochemistry of the Vanda Dike Swarm, Dry Valleys, Antarctica

Kaitlyn Bunting '11 (Martin Wong) Microstructural Investigation of Mylonites in the Harcuvar Metamorphic Core Complex, Arizona

Michael Carbone '12 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Jacqueline Colborne '11 (Bruce Selleck) Fluid Inclusion and Stable Isotope Analysis of Utica Shale Veins, Mohawk Valley, New York

Alexander Crawford '11 (Amy Leventer) Marine Diatom Record of the Greenpeace Trough, Larsen A embayment, Antarctic Peninsula

Mellissa Cross '11 (Bruce Selleck) Analysis of Sedimentary Sections: Lake Hövsgöl, Mongolia

William Cushman '11 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Daniel Gleason '11 (Martin Wong) (U-Th)/He Thermochronology of the Grayback Normal Fault Block, Arizona

Emily Kennedy '11 (Connie Soja) The Last Good Buy: Evolution and Extinction in the Age of Consumerism

Sarah Lemon '12 (Rich April) Research in the Critical Zone: Weathering of Rock to Soil in the Clinton Group of New York

Alison MacNamee '12 (Bruce Selleck) Mineral-Chemical-Leachate Analysis of Gas Well Cuttings for Beneficial Use Assessment

Gary Marshall '11 (Rich April) Mineral Weathering and Cation Depletion in Adirondack Soils

Cameron McKee '12 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Caitlin Mello '11 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Julian Michaels '11 (Bruce Selleck) Fracture and Vein Development in a Proximal Foreland Basin Setting, Utica Shale, Mohawk Valley, New York

Bo Montanye '12 (William Peck) Calcite-Graphite Thermometry of the Metasedimentary Region in the Grenville Province of Quebec

Krista Moser '11 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Hillary O'Brien '11 (Martin Wong) Ar/Ar thermochronology and Structural Analysis of the Grayback Normal Fault Block, Arizona

Nicholas Pollock '11 (Karen Harpp) Boiling Over Pyroclastic Flows at Tungurahua Volcano, Ecuador

Douglas Schaub '12 (William Peck) Sulfur Isotope Ratios in Shawangunk Mountain Range Ores

William Schlitzer '12 (Karen Harpp) Plume-Ridge Interaction in the Northern Galapagos

Julianne Wallan '11 (William Peck) Petrology of Marbles in the Sequoia Region, Sierra Nevada Batholith

Department Activities – Summer

The department continues to sponsor many students working with faculty on research during the summer (and academic year). This July, Di Keller hosted a backyard barbeque that was attended by most of the 22 students who were engaged in geology research this summer, along with many of the geology faculty, staff, and their families. Everyone enjoyed the chance to swap stories from the field while digging into a gargantuan feast and playing a few yard games.



Our summer researchers are a close-knit group that regularly gets together after work hours and gathers for lunch or birthday celebrations in the student research lounge (photo below). In addition to weekend road trips and exploring the local area together, geology students fill several tables at the Trivia Night competition that is held every Wednesday at the Colgate Inn.



CUGS (Colgate University Geology Society)

The Colgate University Geological Society (CUGS) is an organization that focuses on both the educational and extracurricular aspects of the Geology Department from the student's perspective. CUGS is specifically focused on experiencing geology first-hand. Students arrange several field trips to local museums and natural features in the central New York area throughout the school year. CUGS also is a vital part of Demo Day. Demo Day is a big event in the fall semester that incorporates all of the Colgate natural science student groups. The aim of Demo Day is to show students and families in the community how fun and interesting the natural sciences can be. In addition, CUGS students also give regular guest lectures on rocks and minerals at Hamilton Central School. However, the most important role of CUGS is to foster the unique relationship between students in this department and our shared love of geology.



Demo Day
Hillary O'Brien '11 (left)
Seghan MacDonald '10 (right)



Going caving!



Demo Day
Becca Tortorello '10



Field Trip



Field Trip

ALUMNI RESPONSES....

Ach, Jay **1977** Still Maritime Environmental Manager at the Port of San Francisco. Busy managing the Port's dredging program, bringing the local utility to account over historic manufactured gas plant contamination of SF Bay, developing a maritime air emission reduction program, and building a shoreside power system for cruise ships, so they can turn off their diesel engines while at berth. Learning how to think at Colgate trumps any by-the-book engineering degree when it comes to figuring stuff out then getting it done! Eternal thanks to the Chief, Bruce, Rich and the gone-but-not-forgotten Charlie and Bob.

Karen, my main squeeze, wife, and SF State geology prof extraordinaire, received a Fulbright to teach geology for a semester (in Spanish no less) at the Univ. of Chile 3+ years ago. I got to go along! We returned 1 ½ years later to co-lead a joint SFSU/U Chile January trans-Andean field trip. Now planning a return semester in early 2012, this time in Argentina, home of great geology, great BBQ, and awesome wine – come visit! CHIEF: Amazing sheep & goat festival there too!

Arbeeny, Marc **1978** If the off campus is anywhere near Durango, CO, I would love to host a BBQ – I also have enough land for camping.

Battles, Denise **1985** I continue to serve as Dean of the College of Natural and Health Sciences at the University of Northern Colorado, where my husband, Michael Mills, also is a faculty member. Mike and I celebrated fifteen years of marriage with a recent trip to Italy, where I visited Pompeii for the first time – a site no geologist should miss! I was privileged to serve from 2008-09 as President of the Council of Colleges of Arts and Sciences (CCAS), a national associates for deans of the arts and sciences, and I am now completing my term as Past-President. An area of emphasis during my CCAS presidency was gender equity in the science, technology, engineering, and mathematics (STEM) disciplines, and I headed up a team who successfully applied for a \$1.2 million National Science Foundation grant to facilitate that work. The grant provides professional development for science deans and department chairs with the aim of promoting gender equity with the STEM professoriate. I am also active in the American Council on Education, where I serve on the Executive Board of the Council of Fellows and am Co-Chair of that body's Professional Development Committee.

Bebry, Andrew **1978** Should have gone into geology 100% instead of ½ geo and ½ marine science. Marine Science lasted about 3 years. Grant and soft money are NOT to be relied upon of course. Now into ultrasound. Also should have taken Selleck's crystalline structure course. Started faceting gemstones; my first is an 8 sided brilliant 'quartz'. Unable to include images with this e-mail. Anyone else faceting?

Besch (Gleason), Allison **1998** Our son Eli Stephen was born 8/22/09. I continue to lead fossil programs at the museum + recently curated my first exhibit, "Science by the Sea." Would love the O.C. to head south for a visit to NC any time!

Bergman, Erin **2008** After working as a geologist and marketing coordinator for EA (Engineering, Science and Technology, Inc.), an environmental consulting firm, she is traveling around Europe before heading to grad school at Univ. Wisconsin/Madison for a degree in epidemiology.

Bernstein, Michael **2007** Accepted into Bard College's Center for Environmental Policy MS Program – Fall 2010.

Besse, Linda **1981** still travelling the world (now been to all 7 continents) and painting the flora and fauna I see. (Taking particular care to make sure the rocks in my oil paintings are correct!) My husband Jim and I live just outside Spokane, Wa. He was also a geologist when we married 26 years ago. We'd love to see any of you if you are in the neighborhood.

Brackett, Chapin **1998** Chelsea Forkner (University of Washington) and I got married on August 14th in Seattle. We are both very happy. On the job front, I have been at the Kimberly-Clark pulp and paper mill in Everett, Washington for just under 2.5 years. My job duties have historically included waste management (hazardous waste, solid waste, recycling, and waste minimization), oil spill prevention and control, community right-to-know, reporting, and many other miscellaneous environmental concerns. As of last month, my job doubled in scope and I now manage the wastewater treatment plant and the NPDES water permit. Thanks to all the professors and fellow students of Colgate Geology department who put me on the path to this great job. I hope you are all well.

Braham, Gary **2002** I am living in Glens Falls, NY with my wife and our first child, Cassidy Mae Braham, who was born on January 6th 2010. I teach earth science at Hadley Luzerne HS in the southeast corner of the Adirondacks. I currently coach soccer and wrestling for our middle school. I am also a semi-professional sports photographer, which keeps me occupied most of summer vacation. Recently, my church has named me to be the assistant scoutmaster of their Boy Scout troop, which has been a new experience for me the last few months.

Byrne (Healy), Catherine **2002** My husband Brian Byrne '84 and I are expecting our first baby in November! This will be my parents' 13th grandchild. Colgate lucky # 13!

Caplow, Nancy **1982** After working in exploration geology and hydrogeology / environmental consulting for a long time, I went back to do my PhD in linguistics, pursuing a childhood interest. I do research on Tibetan dialects, and have done fieldwork in Nepal, Pakistan, and China. I'm currently teaching linguistics at the University at North Texas. I'm super happy here in Denton. I recently got back into judo after a 15 year hiatus and am having fun with that, too.

Cheney, Daniel **1950** Environmental impact of extracting gas from shale.

Chernak, Linda **2005** Just wanted to say hi and that I was so sorry that I missed seeing everyone during my 5-year reunion! I didn't arrive until late Friday evening but had a chance to wander around the beautiful new science museum! My news is that I am recently engaged and my fiance and I are buying a house in Rochester, NY where he is starting his residency next week and where I grew up. I am hoping to finish up my PhD in December so I can join him. In other news, my younger brother, Brian, will be starting at Colgate in the fall so I'm going to try to convince him to take at least one geology class! Hope everyone is doing well.

Clarke, Steve **1983** Greetings to the Prof's that may remember me and to the Class of 83 (+/- 2 yrs). My family and I have been in Atlanta for over 12 years now, working in Waste Management. As the Director for Environmental Protection Programs-South Group, my team is responsible for environmental compliance at WM landfills, collections companies, and transfer stations throughout the South (Think Green). We cover around 300 facilities located in seven states and Puerto Rico. I travel quite a bit, but enjoy getting out of the office and I still get to

practice geology and deal with a host of other environmental issues. My wife, Jeanette, is a nurse and we have two kids, a son in middle school and a daughter in high school. During our free time we enjoy getting outdoors (the kids roll their eyes every time I start talking geology) and I still hike, bike, and roller blade. Take care all.

Collins, Doug **2008** For the past year (and for the next four!) I've been working on making measurements of particulate matter in the atmosphere. My general focus is on how air quality affects the climate. I'm currently involved with a collaborative project with NOAA and the USGS, in which we're interested in finding out whether air pollution in California is affecting the quality of water deposited in winter months. Long story short: Does pollution make it rain and snow less? Is it perhaps making our droughts worse? The prevailing thought is "yes", but we intend to make direct measurements and figure it out the 'old fashioned' way! In non-academic news, living in San Diego is great...I live about 6 blocks from the Pacific Ocean, and let's just say the weather is more consistently dry and warm than Hamilton. If anyone is out my direction, don't hesitate to send an e-mail!

Conklin, George **1963** After many years, George has resumed interest in geology, having retired as professor of sociology at North Carolina Central University. With a summer house in Avery County, North Carolina, he has found the local geology very involved and quite different from the Hamilton area. Last fall he took the Carolina Geological Society's field trip in the Spruce Pine/Little Switzerland area of North Carolina, which focused on the economic geology of the region, including the old Bon Ami feldspar mine and a view of the quartz mines. The quartz from Mitchell and Avery counties is used in making the world's computer chips.

Coplin, Alexis **2007** Alex defended her MS thesis at the end of August at Dartmouth. In addition she is working part-time for the Environmental Studies program as a research assistant. Alex's work is with the Dartmouth Flood Observatory.

Dawson (Bergman), Megan **2007** Recently married to Cress Dawson on July 23rd in Seattle, WA. Megan has been living in Sydney, Australia for the past three years where she currently works as a Resource Geologist for the exploration and mining company, Cockatoo Coal Ltd.

Demosthenous, Christie **1992** My husband Tim (also a geologist) and I have settled nicely into life here in Oshkosh, WI. I am about to begin my 12th year of teaching geology at UW Oshkosh, which I still find fun. But more importantly, we just had a baby girl, Elanor Rose Paulsen, born May 7, 2010!

Duncan, Emily **2002** All is well in Denver! I've been married over a year now and am enjoying life in the front range. Still working with ERM, heading up sustainability and climate change work for our Western Division. Missing Colgate as always, and itching for that 10 year reunion for an excuse to get back to campus!

Franklin (Marks), Amy **1985** Just was up at the 'Gate this weekend with my daughter, who is a senior in High School. Went through Lathrop and found many of my old classrooms... brought back many a memory. I was sorry to see that this has not been updated in many a year, I hope that it will get updated soon. I really cannot believe that next spring it will be twenty five years since I left Colgate. Seeing it yesterday, was such an eye opener...if the Ho-center was opened then...

Glotch, Tim **1999** I'm an Assistant Professor in the Department of Geosciences at Stony

Brook University. My research focuses on infrared and Raman spectroscopy of minerals and understanding the composition of the crusts of Mars and the Moon using remote sensing. My wife and I have one beautiful daughter, Charlotte, who is two. We are expecting a boy, who is due on Thanksgiving.

Gray, Lee **1974** I'm still teaching geology in Ohio at the former Mount Union College (now University of Mount Union). Regardless of the name, it's still a small college. This year I re-connected with some Colgate folks when I attended a Keck symposium in Houston. One of our geology majors had participated in Connie Soja's trip to Mongolia. (Thanks again for all your hard work Connie.) Last summer my wife and I spent about 8 days hiking in southern Scotland. This was the easy style of hike in which we walked from B&B carrying only day packs while an agency transported the bulk of our luggage. It was fun and not too strenuous. I even noted when we crossed the Highland Boundary Fault when the bedrock changed from sedimentary to metamorphic.

Greenhut, Adam **2001** Still working as an Associate in the Insurance and Financial Services Group of Sidley Austin LLP. Just got married a few weeks ago in VT and everything is going really well. Hope all's well with everyone!

Guyton, J. Stephen **1959** Who would have thought the Marcellus Shale would become a "resource play"?

Hakes, Bill **1968** I retired a couple of years ago from the petroleum industry and moved back to London from Aberdeen. Since then, I set up a geological consultancy company and spend much of my time working with a geological software company based in Scotland.

Hausman, Alyssa **2009** Alyssa is a Policy Fellow with the American Sportfishing Association. She is working to promote fisheries conservation to ensure that recreational fishing is allowed wherever it is sustainable.

Henderson, Joe **2003** Greetings all! I think the last time I wrote in I was still teaching middle school Earth Science and loving it. While it still holds a special place in my heart, I have moved on to different endeavors. I was offered full-time doctoral work at the University of Rochester's Warner School of Education and Human Development where I am now studying full-time for a PhD in sustainability education. I work in science teacher development and conduct research in a number of areas from inquiry-based science teaching methods to how students understand the social aspects of environmental issues. I will begin my actual dissertation research in the fall when I begin studying how one school implements and understands a curriculum around issues of environmental and social sustainability. It's such a massive and exciting topic and I'd love to collaborate with any of you out in the world doing germane things. Hope that all is well!

Hirshorn, Emily **2001** As I write this, I am preparing for a three week adventure in Vietnam! I've heard there are some cool rocks there! Otherwise, I'm still in Philly – I run the afterschool and summer programs at a school in West Philly. I've been there for 4 years. I really love my job. I'm also working part-time on a Masters in non-profit leadership at Penn. I bought a house last summer and have been mosaicing the walls of my "backyard". No marriages or babies to announce – best I can offer is that I adopted two guinea pigs – they are EXTREMELY cute! I've been dying to get back out west to OC country – maybe next summer – would love to come visit some geology buddies along the way!! Hope you're all well!

Hoffman, John **1968** If you haven't been to Newfoundland, the geology there is spectacular and accessible. Check it out.

Howell, David **1966** After 30 years with the USGS and 5 additional years teaching at Stanford University, I have retired from professional geology. Susan and I now live on a small farm in Walpole, NH, raising cows and chickens and growing lots of vegetables. I also paint and all this can be seen at: <www.dghowellfarm.com>. If anyone knowledgeable about the geology of the NE is passing by our farm please stop in and share this info and I will share some wine. Thanks, David Howell.

Hutson (Olson), Kelda **2002** It's been exciting here in Gurnee, IL. I was named the NAGT 2008 Outstanding Earth Science Teaching of the Year (IL) and in 2009 I received my National Board of Certification, both which were very rewarding. I've been teaching Geology at the 11th-12th grade campus for 5 years and two years ago I created a dual-credit/Honors Geology course. We had 13 students the first year and this year we'll have 64 enrolled in the course. It is very fun working with students who find geology just as fascinating as I do. In fact, one of my graduating seniors gave me a 6" trilobite as a thank you gift. This summer I have been traveling around the country taking teachers workshops and in August I'll begin a MS through Mississippi State, just as my husband Joel receives his MS from NIU in paleontology. Josie starts 4th grade this fall and wants to study the Titanic when she grows up.

Inman, Kerry **1979** I'm still wearing two hats, working as a geologist at a small (recently) public oil and gas exploration company called Cobalt International Energy (cobaltintl.com). My focus is the regional geology of the deepwater Gulf of Mexico. Also still run Inman Gallery – we will celebrate our 20th birthday this September.

Whenever we get the chance, my partner Denby Auble and I sneak up to our house on Denman Island, British Columbia for great hiking and chilling out by the ocean. We hope to start spending more time there soon! I get to see Colgate Geology alum Andy Sandberg ('81) and his wife April Dierck often. Last fall I had a blast visiting Karen Fell (79) at her home in PA.

Kinsman, Nicole **2006** I am in the final stages of writing my PhD thesis at UCSC. I was recently hired as a Coastal Geologist at the Alaska Geologic Survey (DGGs) and will be moving up there next year. I Hope Ho Hall is as nice as I hear!

Knotts (Saunders), Kelly **1997** Kelly and her husband, Kurt, are helping to organize the first annual JK5K in Old Wethersfield, CT, to honor and remember their daughter Jamie who lost her battle with cancer in January at the age of 5 ½ months. The event will take place on November 7, 2010, and all proceeds will go to Connecticut Children's Medical Center where Jamie and her family received top-notch care. Please visit www.jamiesrun.org.

Kozinski, Jane **1982** Jane will be taking a position with the British Embassy as Senior Climate Change Policy Advisor. Jane will be working out of the Consulate in New York City, although she will be travelling both the U.S. and the world in this position that was created for her.

Lieberman, Dan **2009** Left USA in March 2010 to be a Peace Corps Volunteer in Belize. After two months of "Healthy Communities" training, now living in Crique Jute, a Mayan village in the rain forest of southern Belize, just north of Guatemala.

Luftglass, Brian **1977** Deb (Levine) and I have lived in West Orange, NJ for 5 years now, but last year bought a place in Solitude, UT for skiing, biking, hiking and milling about...and even-

tually retiring. I'm working for Linde, a global industrial gases company, where I'm involved in natural gas well fracking, enhanced oil recovery, alternative fuels production, carbon capture, water treatment, air emissions control and other products and services for industrial plants. Probably most interesting is we built the world's largest landfill gas to LNG plant last year to fuel heavy duty trucks.

Mangano (Barth), Emma **2005** Continuing on in school this fall. I'll be starting the Psychiatric Nurse Practitioner/Clinical Nurse Specialist Masters program at University of Maryland. I got married in April 2009.

Marengo, Robert **1965** I have not worked in geology or paleontology since graduating, but it still remains a major vocational interest of mine, along with Russian & German language, which were my minors. Every time I drive to the next town, I cross the Mississippian/Pennsylvanian boundary going up the western edge of the Cumberland Plateau. By a long, convoluted path, my wife Fran and I have gotten to be one of the biggest hearth products retailers in the Southeast (an almost 17,000 square foot store & warehouse). We are approaching retirement age, and would love to have some time for ourselves: one does not own a business, it owns you! Any young entrepreneurial types in Geology...?

McConnell, Martha **1997** Look me up if you live in Washington, DC – or just visiting!

Meyer, Tara **2007** This past spring Tara took a wonderful trip to Cambodia for work, and spent a week trekking around the Cardamom Mountains with other CI Cambodia staff. She also traveled to South Africa for a month for the World Cup!

Michel, Scott **2002** I am currently teaching Earth Science at Hilton High School and am married to a fellow 2002 Colgate alumnus, Lea Vacca Michel. I am also a co-founder and organizer of a music festival for land conservation (www.Conserfest.org). This April, Lea and I had a beautiful baby girl, Laralyn, and we are all living together in Rochester, NY.

Mitchell (Holden), Ray **1976** Sue (nee Hicks, geology '81) and I have been married almost 27 years. All four boys will be in college next year, 2 post grad, 2 undergrads. They are split evenly between the University of Oklahoma and University of Tulsa. We will be empty nesters staring in August! I have 25 years with COP and "retirement" looms. After many years of being the Middle East carbonate reservoir "expert", I've started working on unconventional oil plays in the US. Still looking at rocks.

Moriarty, Bruce **1972** Applying advanced geophysical technologies for oil & gas exploration in S. Texas and Louisiana. Current Treasurer for Geophysical Society of Houston.

Newton, Alicia **2002** I've been working for Nature Geoscience in London for three years now, after finishing my PhD at USC Columbia, where I studied paleoclimate.

Palmer, Jeffrey **1980** I'm approaching my 28th anniversary with ExxonMobil, I'm currently working on developing oil & gas fields in Russia (from Houston) and enjoy working on geology with other geologists every day. I enjoyed seeing Bruce Selleck, Rich April and the rest of the current Geology faculty at the dedication of the Linsley Museum in the fall of 2009. My wife Robin (Keyes '82) and I are more or less empty nester's now, since my son graduated from college in May '09, and my daughter Carolyn should graduate in May of '11. Hope to see some more geology at reunion in '12 and '15.

Parker, Ronald **1982** I left academia at the end of the Spring Semester 2008 after teaching geology at Earlham College for 7 years. At Earlham we were a tiny department (2) which necessitated that I teach many things: Intro, Historical, Hydrogeology, Sedimentology, Mineralogy, Geochemistry, Seminar Courses and Independent Study projects. I also had the privilege of leading 2 month-long field courses to the American Southwest and to Hawaii. During my time at Earlham I upgraded the facilities (new Rigaku Miniflex XRD, new Princeton Gamma Tech Sahara Energy Dispersive X-Ray Spectrometer for the SEM, ArcGIS capabilities, Trimble Differential GPS equipment, Geochem lab equipment overhaul, Ludlum Scintillometer, etc.). During my stay at Earlham, I was able to increase the number of majors and contribute to a successful bid to add a 3rd geology position.

After Earlham, I moved with my family (Kris and 5 kids) to Denver to take a position with Fronterra Geosciences. Fronterra is a consulting firm specializing in oil and gas borehole image log analysis and interpretation. Our strength is determining present-day stress trajectories, fault and fracture system dynamics and structural complexities in sedimentary rocks. In the 2 years since moving to Denver I have been able to work in many of the Rocky Mountain basins (Uinta, Piceance, Green River, Denver-Julesburg, San Juan and Paradox) as well as spending a great deal of time lately working with Middle to Late Devonian rocks in the Appalachian basin. Just recently I was involved in a 5 day field trip that featured Bruce Selleck leading us to some of the revered outcrops from the Colgate years. It was great to see the Ho Science Center and the Linsley Museum.

Patterson, Molly **2007** Molly successfully defended her thesis in July 2010. She is now headed to Wellington, NZ to do a PhD to continue her work on Antarctic forams.

Popowitz, Leonard, M.D. **1960** Oldest grandchild was "Bah Mitzvahed" on May 8, 2010. Enjoyed celebrating the 50th reunion in June 2010 with my oldest son, Stuart, who celebrated his 25th reunion also!

Posner (Hoyt), Holly **1984** I love my new career as an elementary school teacher. I especially enjoy teaching science and reading. I still remember how much I loved geology at Colgate and thank my teachers for sharing and encouraging that joy of discovery and learning!

Rice, Norm **1969** Into my 6th year of retirement from Northwest (Delta) Airlines (B747 captain). Enjoying motorcycling, ATV, snowmobiling, boating on Lake Chautauqua and kickin' back.

Rizzo (Fisher), Sharon **1984** Currently opening Planet Fitness health clubs in the Dallas/Ft. Worth area. Own four planet fitness clubs (3 in Massachusetts and 1 in Texas). Oldest son, Michael is a junior at Villanova University. Second son, Matthew is a freshman at Miami University of Ohio. Third son, Nicholas, Jr. is in high school. Fourth son, Nate is in 4th grade.

Schulenberg, Ted **1952** I have made a long slow glide into retirement. My primary hold on geology now is via teaching a 12-hour course in "The geology behind the scenery", which I present at our Adult Education Center. Kerrville, TX has a high percentage of retired people and the course is intended to provide travelers with some understanding of how and why the scenery that they visit came to pass. The course is well received and I offer it twice each year. I am also active in our Hill Country Geoscientist group. Geology has provided me with the means for an interesting career with a wide variety of types of work and places to live (six countries and six states). Not many professions offer that possibility. I have suggested this

before and will do so again. Before I get too old to travel I would like to see the Department organize and hold an all-class reunion of former geology students. I took on the task of organizing the first reunion of graduate students of my era at the Jackson School of Geoscience at The University of Texas. It was a success, and now departmental reunions for one segment or another (they have a rather large number of geology graduates there) are an annual event. Please consider it. Soon. *(Ted, this is a great idea!...stay tuned.)*

Schmidt (Abbott), Susan **1979** I am enjoying seasonal work as a National Park Ranger in Interpretation at Sleeping Bear Dunes National Lakeshore in northern Michigan after working for many years as an outdoor environmental educator, naturalist and classroom science teacher.

Shackford, Julia **2003** I've been working as a project geologist and project manager for an environmental consulting firm in the metro NY area for the past 5 years. This coming January, I'll be starting a PhD in Oceanography at Texas A&M and I'm very excited for the move!

Shaw, Justin **2004** After receiving an offer in April 2009 to work for Ernst & Young beginning in July 2010, I quit my position of 5 years at the University of Denver and took a 2-month vacation between jobs. I spent May and a portion of June backpacking around both the north and south islands of New Zealand and then spent the remainder of June working on my house in Denver. And talk about a small world – prior to my departure to New Zealand I discovered through communication with Connie Soja that she was at the same time in Wollongong, Australia directing Colgate's study group. As my travels were going to take me to Australia for a brief stop after backpacking New Zealand, we made tentative plans to meet up and visit. Unfortunately, due to airline related travel issues, my visit to Australia was relegated to a 36 hour layover in Sydney. Thus, while chance brought us extremely close to having a random chance for a fantastic visit on the other side of the world, airline blackout dates sadly prevented it from happening!

Shrady, Catherine **1979** After 20 years teaching in the St. Lawrence University Geology Department, the last 4 of which serving as Department Chair, I'm taking a new position within the university (a 3-year term appointment) as Director of Outdoor Studies and the Adirondack Semester.

Sunderlin, David **1999 & Molly (DeMark)** **2000** Things are going well for all of us here at Lafayette. Dave is enjoying teaching and continuing his regular fieldwork in Alaska. I have found my niche too in career advising. We are looking ahead to November, when we are expecting our second child, (Jeffrey who is almost 2 ½ can't wait either!)

Sweeney, Shannon **2007** I moved to NJ and am starting my PhD in Planning and Public Policy at the Bloustein School at Rutgers University.

Tubman, Stephanie **2008** I'm currently serving as a Peace Corps volunteer in Guatemala (2010-2012) and getting a Masters in geology through Masters International at Michigan Tech. I'm assigned to the Department of Protected Areas and Environment of a municipality of 23,000 people in the western highlands. My primary work is supporting my department's work in environmental education with area schools, developing a program of environmental interpretation in our municipal park "Cacique Dormido", and developing a local thesis project in hazards mitigation.

Vincent, Tom **1953** Enjoyed going over the last newsletter you sent and even knew some of

the submitters from my ancient era of the early 1950's.

After graduate school and the Army, I worked for Colgate-Palmolive in brand management for a couple of years before going into advertising with Ogilvy & Mather in 1960. Stayed there for 30 years, then started Marketing a la Carte, Ltd. working mainly in travel, tourism and hospitality. My only connection with rocks since graduation has been working with several of the Rockefeller interests here in Westchester and further north, such as the Historic Hudson Valley properties. All the best to those of you who can still identify a trilobite at first sight!

Viviano, Christina **2006** I'm a PhD candidate at the University of Tennessee in the Department of Earth & Planetary Sciences. My research currently involves the orbital spectral mapping of phyllosilicates on Mars.

Walker, Bev **2009** Bev is in the MS program at Vanderbilt University.

Weatherford, Emmett **2009** Emmett is working with a company in Australia doing iron ore exploration, drilling on the Eyre Peninsula of South Australia.

Weiss, Charles **1983** Dr. Charles A. Weiss, Jr., Geology/Computer Science 1983 was the recipient of 2 prestigious awards in 2010. Dr. Weiss was a member of a team formed from both federal and industry recognized by the Federal Laboratory Consortium for Excellence in Technology Transfer for "Corrosion-resistant Ceramic-Porcelain Enamel for Bonding Concrete to Steel." This technology also garnered a distinguished R&D100 award, widely recognized as the "Oscars of Innovation," identifies and celebrates the top high technology products of the year. The material called COR-PROTEX™ Bonding Enamel Coating is a material that can be used as reinforcement in construction but with superior bonding performance.

Comments & other important information!

- A copy of this newsletter is also available in color at our geology website at <http://departments.colgate.edu/geology/alumni/alum.htm>
- Many of us are trying to "go green." If you would like to join the cause, please contact us at **geology@colgate.edu**, and we will be happy to remove you from our hard copy newsletter distribution list. You will be able to view future newsletters at the site mentioned above in the coming years. The newsletter is published biennially.
- Jodi McNamara, Administrative Assistant to the Geology Department, prepared the geology newsletter for publication. Please send all comments/suggestions to her at **geology@colgate.edu**.

If you have a change of address, including an e-mail address change or other correction and/or update (marriage, name change etc.), and would like to keep getting your newsletter, please contact the Alumni Office (at 315-228-7453 or alumnirecords@colgate.edu) as we receive **all** of our addresses from the alumni records folks.