Welcome

Greetings from the 'Gate

Once again I bid you greetings from all of us here at Colgate. As usual, we've been busy and all kinds of things have gone on. Fortunately, the "good stuff" is still here and unchanged. We still run the OC, still get our students involved in research, still teach to the best bunch of students that Colgate has, still bring in funding and still remain active in our own research. We've struggled to keep all our students funded for summer research since the National Science Foundation cut off our REU site grant. After six years of continuous funding, more than any other Geology Department in the country, they decided that we'd had enough. We still hope to squeeze some more grants out of the NSF for this program that funded so many of you. In the meantime, we've managed to work effectively with the Science Division in getting summer stipends and have utilized some of our endowments and contributions from you to make sure that everyone who wants can stay here after the OC and do some research. Thanks for all of you that have contributed to the department for this!

We've also begun the procedures for a formal BA in Environmental Geology. Rich April has worked hard at this, as has Bruce Selleck, who is back in the department. We all hope that this goes through the approval process without difficulty. Geology faculty have been active in taking study groups. Bruce is in Wales right now with a group of students from the sciences and next year Chief will take a group to Australia. As usual, we want you all to keep in touch with us and invite you to visit the department whenever you're nearby.

Messages from the Faculty

Rich April

Before Bruce Selleck left with the Wales study group he asked me if I would act as geology chair while he was gone. So this spring things have been hectic.

In addition to teaching geochemistry and a new course called environmental economic geology this semester (lots of fun, but lots of work), I've been administering Colgate's 5-year, $1,000,000 Howard Hughes Medical Institute grant for improving science education on campus and in the local public schools. There is a big push today for more hands-on science in the schools, even at the elementary levels down to kindergarten. The underlying philosophy is that all young children are natural scientists, driven by an innate curiosity and enjoyment of learning. If this is not encouraged from the very start of schooling the childrens' fascination and excitement with science quickly disappears,
leading eventually to apathy - or worse yet, fear and distrust - in matters concerning science and technology. So I've been working the past few years with both public school teachers and Colgate faculty trying to develop strategies and workshops that promote and teach hands-on, inquiry-based science and innovative pedagogical skills.

In addition, the HHMI grant allowed Beth van Schaack (a favorite geology groupie, now in her second year at Yale Law School) and me to set into place a new Health Sciences Internship Program at Colgate involving 25 local and regional physicians and surgeons and Colgate junior/senior health science majors. The HSIP provides 25 students each semester with some first-hand experience in the medical profession before attending medical school and exposes them to the field of general medicine in a rural setting.

I've been teaching a first-year seminar called Geology Outdoors for the past few years and it has been wonderfully successful. Only a "van-on" worth of students (14) are allowed to take the course so that I can fit all of them into one 15-passenger vehicle for the weekly field trips to interesting geological features, like Howe Caverns, the Herkimer Diamond Mines, and the Adirondack Mountains. Quite a few excellent geology concentrators have emerged from these seminars, so we will continue to teach the course each year. It is great fun and one of the best ways to get to know the young students during their first semester at Colgate.

I've also gotten myself involved in the Environmental Studies (ENST) Program and have begun to team teach a new course, with biologist Randy Fuller and climatologist Adam Burnett, called Earth & Environmental Processes. The ENST Program still only offers a minor concentration, but for the past year a committee of about 10 faculty members, including myself, has been working on designing new major concentrations in environmental studies and environmental science. The plan is to keep the new concentrations rooted in the existing geology, biology and geography curricula so that students will be assured of a firm grounding in a traditional discipline. However, ENST majors will have the opportunity and flexibility to choose from an array of newly created, interdisciplinary, environmental core courses to round out their concentration program. It is an interesting concept and we hope to begin offering this option to students in the fall of 1997. I'm looking for good ideas from alumni familiar with ENST programs at other institutions or working in the environmental field, so if any of you have any thoughts about the design or quality of an environmental studies/science program, please send me your thoughts via letter or e-mail (rapril@mail.colgate.edu).

My research has recently taken me to the White Mountains of New Hampshire where I am working with a team of scientists at the Hubbard Brook Experimental Forest to try to understand nutrient cycling and chemical weathering in forest soils. Right now we are focusing on nitrogen and phosphorus dynamics, trying to understand the major sources, sinks, pathways and residence times for these elements as the forest grows and matures. I'm also still working in the Adirondack Mountains and in Sweden studying the effects of air pollution on surface water quality and forest health. This summer I hope to have five students working with me on projects involving the source of phosphorus in NH soils, the nature of the newly identified Sprout Brook bentonites (Devonian), the weathering of biotite in Swedish and Adirondack glacial deposits, and the cause of the 1993 Tully Valley landslide, the largest landslide in NY in 75 years (south of Syracuse). It looks like a busy time ahead, but I'm looking forward to it.
Finally, my daughter Ilana will be graduating from Hamilton High School this June and has decided to attend Connecticut College next fall. My son Ben will be a senior next year, and youngest daughter Jessica will be going into eighth grade. Carol is busy as the reading teacher at Hamilton Central School. I hope you are all happy and doing well. Some of you have dropped by this past year and it was great to see you. More of you should get back to the Gate and visit us. Until then, best wishes and keep in touch!

Art Goldstein

The last two years have brought some fairly big changes for me. First, I stepped down from the department chair's job after five years. Second, I have just been promoted to Full Professor. Both changes are most welcome and I am having a good time getting back into my research. I am in the first year of a two-year NSF grant to study the strain and geochemical changes accompanying cleavage formation in the Taconics and am having a blast! The big discovery has been finding graptolites in the slates. These fossils are almost perfect strain markers and we have gotten some really good strain measurements from the first year of study. For the most part, the graptolite strains confirm the earlier work we did using reduction spots as strain markers.....thank goodness! I'll spend this coming summer searching for more graptolites and I have two really terrific students who will be working with me on this project. The other work on geochemistry is largely complete and I have a spreadsheet of chemical analyses which is almost too large to handle. Next Fall I will be on sabbatical and, in addition to trying to get the graptolite and geochemical work published, I will be spending a few weeks at the University of Wisconsin working on stable isotope analyses of veins from the Taconics. Of course, I might find the time to do some cycling as well!

Di Keller

The first cluster flies are starting to emerge here in Lathrop and I just spotted a geology major sitting in the sun on the steps leading to the quad; sure signs that spring is not too far off. I am beginning to look forward to it. Lighting the wood stove, skiing and aprés skiing are some of the finer things in life but now that the snow is gone, it would be nice to leave the coat and boots behind and stop scraping the windshield.

This semester I have been teaching Hydrology and Surficial Geology while Bruce is away with the Wales study group. I taught this course for the first time two years ago when Bruce was dean and I must say it's easier the second time around. My version of the course includes less colorful trivia than Bruce's, but hopefully the students are learning the geology anyway. During the fall semester I was busy with Mineralogy, Sedimentology and Physical labs. As usual the X-ray machine "took up smoking" for about a month this fall; one piece or another seemed to burn up every other week or so. (This was very exciting and lots of fun.) I also have been involved with a program that is working to develop "hands on" learning in the science programs at Hamilton Central School. In particular I was helping the Kindergarten teachers design learning activities and I got a chance to have some fun with the kids, playing with and learning about magnets.

Probably one of my best experiences over the past year was spending about two weeks in Alaska with my good friend Sally Rothwell ('84). Viewing the glaciers from the plane
was amazing, especially after teaching about them and seeing them in texts for so long. Certainly another highlight occurred during a sea kayak trip on the coast of the Kenai Peninsula; we spent the last hour of the summer solstice watching the sunset over Redoubt volcano. (The sun dipped below the horizon ~ 11:30 PM.) Over the two weeks, Sally and I managed to see quite a bit by road tripping, backpacking and day hiking both north and south of Anchorage. I must confess we did spend some of the time visiting a few of the local bars too, including Chilkoot Charlie's, Humpy's and the Salty Dawg. All were fine establishments.

**Charlie McClennen**

The two years since the last news letter have been really busy, as with the other department members. We all seem to have developed so many outside contacts and professional opportunities. The Antarctic cruises for undergraduate research are no longer funded by NSF, but we are working on numerous publications based on the 1990 and 1992 Polar Duke cruises. The Ocean Drilling Program is also considering a site proposal for a hole in the Palmer Deep, based in-part on our bathymetric mapping, coring and Huntec seismic profiling efforts. Venice, Italy has become a new focus of research as I have been helping Albert Ammerman, an archaeologist, find sites of the earliest inhabitants of that famous sinking city. The estuarine silt deposits of the lagoon and the underlying river floodplain deposits have been incised by the meandering and shifting tidal channels thus destroying some early habitation sites. We are starting to map out such events using a combination of coring and seismic reflection for mapping. This basic model of estuarine evolution is helping the Italians see their city and its archaeology in a whole new way. The food, wine, and culture are a lot of fun as well. Multiple grants from both the Colgate Research Council and the Delmas Foundation have funded most of this work. It also inspired an NSF-ARI grant to purchase easily portable side-scan-sonar and seismic-reflection equipment, now housed at Hobart Wm. Smith Colleges. This will help in the Venice work and in our Lake Ontario coastal erosion and sedimentation studies with Paul Pinet. Summer research students have been joined by students monitoring the importance of beach ice formation and ice rafting transport for the last three years. Only one student has fallen in and he was pulled out before he froze or even went into shock.

Otherwise the teaching of Oceanography, Marine Geology and GNED 300 - Global Change has continued in a series of ever evolving formats. Administration of Tier III and its new Liberal Arts CORE curriculum (GNED replacement), including particularly the new Scientific Perspective courses, has been demanding because of the thirty plus faculty involved in designing this new series of offerings. Family is fine, with Hannah using her Architecture degree for part-time free-lance design consulting when not distracted by visits to our first grandchild (Sarah of Sasha and Dave Dohan in Hanover, NH) or Aaron at Georgia Tech, in the Computer Sciences - Masters program.

**James McLelland**

Over the past several years, I have been extending my geochronological-tectonic investigations in the Adirondacks. The results have been exceptionally rewarding, and
we now have a very detailed picture of Adirondack geologic history during the interval 1350-1000 million years. While large gaps of understanding still exist, a reasonably sound plate tectonic picture is emerging. As in the past, I have been able to involve a number of students in this research, and we have (I think) been of mutual benefit to one another.

During late August of 1995, Cathy and I went on a 7-day horse trek into the Bob Marshall Wilderness of Montana. We rode all the way to the Continental Divide where we could look out over the most spectacular scenery imaginable. I am taking 10 Colgate students on the same trip this summer and will do so again in 1997. I would like to make it available to alumni as well. Interested?

Looking ahead, I am scheduled to take the Australia Environmental Studies Group in the spring semester of 1997. Cathy and I are very much looking forward to six months in one of the finest places on earth! Following this, I shall take the Wales Study Group (Natural Sciences) in the spring of 1999. Upon my return, I shall enjoy a year on sabbatical and retire as of June 2000. There will be a BIG party, and you will all be there. Thereafter, I shall repair the new cabin that Cathy and I are building on Canada Lake, and, from that vantage point, I shall fondly remember each of you as petrology students staggering under the load of your Opportunity. Then I shall have a martini - or two - or more. It would be wrong not to.

Paul Pinet

A substantially-revised paperback version of my oceanography book has just been released by West Publishing Company under the title of Invitation to Oceanography. It's a relief to have this out. Even though I was assured that the effort on my part would be minimal, it was not. But it's a handsome book with new chapters and beautiful photographs and drawings.

Most of my effort recently has been director at environmental issues. I'm teaching for the third time a course on wilderness ethics, trying to use the findings of geology and evolutionary biology as a basis for developing an ethic of care. The stuff we deal with in the course is controversial, laced with values, and emotionally draining. Most participants feel that it's a bracing appraisal of a harsh reality. I believe that it's the most important course that I teach currently. This May I'm going to do a short presentation to alumni who come back to Colgate for the reunion weekend. Maybe I'll see a few of you there.

Charlie McClennen and I have been working hard with a small army of students on the dynamics of coastal erosion along the southeastern lakeshore of Ontario. We've created some interesting models on bluff evolution and are using this understanding to develop management and shore stabilization strategies that mitigate rather than exacerbate erosion. We're just about to publish our first paper (with Laura Moore) in an annual GSA publication entitled "Reviews in Engineering Geology." Next Fall, I hope to be organizing a session on geology and ethics at the national GSA meetings in Denver. This summer I plan to work on the Ontario shoreline, continue writing a book on wilderness ethics, and do a bit of sailing on my small gaff-rigged catboat on Buzzards Bay, Massachusetts.
Bruce Selleck

I am here in Cardiff for the spring term as the Director of the Wales Study Group, based at the University of Wales. I have had the opportunity to teach 40 third-year Cardiff undergraduates in an honors sedimentology course. It is interesting to compare the teaching/learning styles here vs. the US. The work here tends to be more lecture-dependent, with practical lab opportunities more limited. The department offers a number of field trips and I have taken good advantage of those.

Nancy and our daughters Beth and Caity are here with me, and the girls are enrolled in local schools. The contrasts for them are perhaps greater, with required Welsh language now part of the primary and secondary curriculum. The Colgate students - from departments across the natural sciences - also have a course with me on Environmental Issues. Unfortunately a major oil spill along the west Wales coast has given us much to talk about.

When I return to the US in early June, I will immediately turn around and lead the off-campus to the Colorado Plateau and Grand Canyon, and will then join up with Jim McLelland for a trip to Montana to check out future OC possibilities in the Montana Rockies. When I return to Hamilton, I will pick up on my continuing research on the various aspects of basinal fluids and diageneis in the Paleozoic rocks of New York, and fluid inclusion work on, of all things, some Adirondack rocks. After all these years of seeing the 'Dacks with the Chief, I finally have developed research interests on the late-stage hydrothermal alteration of the younger gneisses and granites.

I will miss my 25th Colgate reunion in June, but hope that returning geology alumni will manage to toast in my memory.

Connie Soja

"Sabbatical Serendipity"

After receiving tenure and promotion to Associate Professor in December 1994, I have been on an all-time high! Now in my fourth year at Colgate, I am enjoying a pursuit of stromatolites (check your Geology 115 and 315 notes if, by chance, you've forgotten what these are!) while on a year's sabbatical. Last summer, sleuthing for stromatolites took me "down under" to Australia, the magnificent red continent where modern and ancient stromatolites abound (not to mention kangaroos, koalas, crocodiles, etc., whose memorable faces and behaviors I plan to illustrate in slide shows in Geology 215 next fall). I visited the world's most spectacular living stromatolites at Shark Bay in Western Australia and enjoyed the company of an international panoply of other stromatolite trackers while on a field trip to study Devonian rocks in the Canning Basin. The presentation I gave at a geology conference in Sydney helped to explain why observations of the Australian stromatolites aid in interpreting the ancient microbial deposits I've been investigating in Alaska for the past several years.

On the way back to Colgate, I had the wonderful opportunity to study modern reefs and carbonate platforms near Tahiti, Moorea, and Bora Bora in French Polynesia--all of which relates to my ongoing research in Alaska on organisms that in the deep, dark past colonized offshore oceanic islands like those today in the southwestern Pacific.
Once back in Hamilton, I broke out my Russian language tapes in preparation for my trip to Syktyvkar, Russia, last September to begin a research collaboration with a paleontologist there. We are investigating Silurian stromatolites from Alaska and the Ural Mountains that, despite being separated by thousands of miles, are remarkably similar in fossil composition, biofabric, and paleoecology. We believe our research nullifies the claim that the Alexander terrane of Alaska is a far-traveled crustal fragment and provides the first definitive evidence that the Alexander terrane was located near Laurentia (and not Australia, for example) millions of years before its accretion to North America. Thanks to all the Colgate students who worked with me in Alaska and have helped compile this important evidence!

Needless to say, I acquired lots of great invertebrate specimens from the tropical Indian and Pacific Oceans and from Russia for the Paleo lab--some of you may remember your old friends Tridacna ("killer clam"), Cliona (boring sponge), Belemnites (cigar-shaped squid part!), among others. Come visit us on your next trip to Colgate!

Kim Waldron

Remember when it seemed like a good idea to take some time off after graduation to 'find yourself' or 'get your head together' (this was always encouraged by the Chief)? Well this is what I am doing at the moment. I've always been a little slow on the uptake and am only just getting around to doing those things which most people do at age 21. After beating my brains out for three and a half years teaching the young and restless (sorry recent alums), I have been awarded a term off and have hot-footed it out of town. Specifically I have renewed my residence in the 'Athens of the North', a.k.a. Edinburgh, where I have the unfortunate burden of having to gaze daily out my front windows upon the grey edifice of Edinburgh Castle and the volcanic mound of Arthur's Seat. Bummer.

Officially the purpose to this visit (January through August) is to revitalize my research program by collecting vast quantities of data and pounding out a few papers in anticipation of the next round of belly-button fluff examination---standing for tenure in 1997. This aspect of my visit is making great progress, with Adirondack gneisses yielding up their secrets, the details of which will no doubt become familiar to you as the world press takes up the societally crucial story of ancient igneous provinces. It is only a matter of time before the Nobel committee institutes the Prize in Geology for this work.

The unofficial purpose of my visit is to use the distance from fair Chenango twilight to gain a fresh perspective on things and gear up for the next few years, whatever they may bring. To this end, I am working on developing a stern jaw line and a steely gaze; indulging my passions for cricket and rugby; avoiding the presidential campaign; renewing my left-leaning political slant and trying not to think about September. The National Science Foundation has graciously agreed to cover the cost of using great big electron microscopes for the first purpose, but is not funding the native malts necessary for completion of the second goal. Write me with your suggestions for enlightenment at: 19 Spottiswoode Road (3F2); Edinburgh EH9 1BJ; Scotland. Or at: Grant Institute of Geology; University of Edinburgh; West Mains Road; Edinburgh EH9 3JW. Or e-mail: kim.waldron@glg.ed.ac.uk"
Happenings

New BA in Environmental Geology

Well, we’ve finally decided to offer a separate BA degree in Environmental Geology. This has not yet been approved by the University, but if it is, our students will be able to choose between the traditional and environmental routes. Rich April and Bruce Selleck have spearheaded this effort and Rich comments on the new program in this newsletter. We all want you to know, however, that this degree is even more demanding than a traditional BA and is not a fluffy way through the geology concentration. We will comment in more detail in the next newsletter.

Colgate Geology on the World Wide Web

As you can clearly see we are now on the World Wide Web. We’re still building this page and trying to decide what to put here and not to put here.....we don't want to add to the litter on the side of the Information Superhighway. One of our students, Kari Kimball '97 did a tremendous job getting our web pages up and running. Since Kari's departure for grad school at the University of Maine in Orono, another very fine student, Mark Hayes '98 and Di Keller have taken up where Kari left off. Please take the time to add your own e-mail addresses and any bits of news you’d like to pass along. We envision this as a way that you can find out which of your old cohorts is on the web and pester them electronically. We are also planning on putting a photo scrapbook here and if you have any suggestions for other things to add to our home page, please let us know. You'll find all our e-mail addresses here, so you should be able to reach any of us easily. Please give us some responses. Thanks.

Lathrop 209 to be Renovated

Many of you remember taking classes in room 209, the large lecture room in Lathrop Hall. This summer it will be thoroughly renovated providing cosmetic changes as well as making it a true multimedia classroom. Art Goldstein has received a grant of $100,000 from the Booth-Ferris Foundation to fund part of this $175,000 project. We'll replace all the chairs and spruce the place up a lot, so it will look better. The big changes will involve permanently installing computers and new AV equipment in the lecture console as well as mounting a big 3-gun video projector from the ceiling. When all this is done, professors will be able to project images of the computer monitor or images from CD's or laserdisks. We'll have full Internet hook ups so we will be able to show students what kind of geological information exists on the WWW as well as run computer simulations and all sorts of good stuff. Construction is slated to begin sometime in the early summer and should be done well before the begining of the semester....knock on wood!

Chief Receives Teaching Award

Jim McLelland has received a long-overdue and well-deserved teaching award. In this Spring’s awards convocation it was announced that Chief was the recipient of the Alumni Corporation Distinguished Teaching Award. Having the recognition come from the alumni makes the award that more meaningful for him. Thanks to any and all of you who had something to do with this.
Contributions to Geology

As always, we all want to thank you for the donations you have made to the Geology Department over the years. When (or if) you are giving money to Colgate, you can specify that your contribution go to the Geology Department. If you want, you can specify that it go into one of our endowed funds for students; The Norma Vergo Fund or the Robert Linsley Endowment. The first is used to give a prize to an outstanding graduating senior who significantly contributes to the spirit of excellence among fellow students, and the second is used to fund a deserving student for summer research. The following people contributed to these funds since the last newsletter (if I have omitted anyone from this list, I want to apologize). A.G.

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The Norma Vergo Fund

The Norma Vergo Fund is used to give a prize to an outstanding graduating senior who significantly contributes to the spirit of excellence among fellow students. Past contributors include:

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The Robert Linsley / James McLelland Endowment

The Robert Linsley/James McLelland Endowment was established upon the retirement of Bob Linsley, Harold Orville Whitnall Professor of Geology, and the subsequent retirement of Jim McLelland (a.k.a. "The Chief"), Charles A. Dana Professor of Geology. This endowment is used to fund a deserving student for summer research. Past contributors include: