



Earth & Environmental Sciences

RUTGERS-NEWARK



THE NEWARK SUPERGROUP ALUMNI NEWSLETTER

Volume 2

Spring 2006

Happy New Year!

I am hoping to increase the alumni activities this year. You will see some new programs and projects in this newsletter. I hope to get more of you back involved with the department. All suggestions are welcome.

A few of you have inquired about Dr. Puffer's health because he missed the GANJ trip. He did have health issues but is back to near 100% and back to work.

PERSONNEL CHANGES

Dr. Priscilla Nelson is a new Associate Member of the department. She is the current Provost at NJIT. Her background is a BS and MA in Geology and a PhD in Civil Engineering from Cornell University. She taught at University at Texas at Austin for 13 years before beginning a career at the National Science Foundation where she was before coming to NJIT. Dr. Nelson conducted research on the engineering properties of rocks (including rock mechanics and geological engineering) during her academic career so she never got far from geology. Even her stint at NSF included several earthquake hazard

and natural disaster programs. Dr. Nelson was kind enough to give us a seminar on the workings at NSF which was well appreciated.



Dr. Yuan Gao is in the process of hiring two new post-doctoral fellows to help with her research. They are listed below. We now have three post-docs in the department.

Huiyan (Helen) Yang, who obtained her PhD in atmospheric science from Princeton University in the summer of 2005. Her work focuses on numerical modeling of mineral dust on the global scale.

Nan Xu is finishing her PhD in environmental engineering from Stevens

Institute of Technology. Nan's effort will focus on heterogeneous chemistry of mineral dust using laboratory experimental approaches.

NEW EXECUTIVE COMMITTEE

In order to be a really applied department, we need to keep abreast of industry trends and opportunities. Since we are a bunch of academics, sometimes we don't quite keep up to date. For that reason, we are establishing a departmental executive committee of successful alumni to act in an advisory capacity. Terms are for three years, renewable upon agreement of both the department and the member. We ask for:

- opinions on our opportunities and decisions,
- to keep track of trends in the profession for us,
- to identify opportunities for us (scholarships, employment for our graduates, etc.)
- to identify departmental needs.

We realize that there are numerous alumni who would be appropriate for the committee. Our first group is listed below and was chosen by recommendation to be broad-based in terms of areas of expertise. We are always looking for additional and replacement members for the future. You may be next. The executive committee will likely be contacting you in the near future.

MEMBERS

Donald Bello, Vice President, Bell Environmental Services,
Ed Caamano, Exploration Manager for the North Africa Middle East Region

Pioneer Natural Resources

Michael Cramer, Director Metals and Mining, Citigroup, Corporate & Investment Banking,

Nick DeRose, Principal, Langan Engineering & Environmental Services,

Peter Regan, President and CEO, Environmental Resource Management,

Dr. Roy Schlische, Associate Professor, Rutgers University, New Brunswick

FACULTY NEWS

The five faculty members served on several departmental, campus and university projects as committee or task force members. They also served the profession and participated in scholarly activity that produced significant publications.

Dr. Gates:

Dr. Gates serves as the current President of the Geological Association of New Jersey. His Highlands Environmental Research Institute will host the 2006 meeting in Sterling Forest. The theme of the conference will be Environmental Geology of the Highlands and several Rutgers-Newark people will participate. Dr. Gates has also proposed a field trip on the bedrock tectonics of the Highlands for the 2006 National Geological Society of America Conference in Philadelphia. Otherwise, Dr. Gates appeared twice this fall on Geology Forum on the Staten Island Cable TV channel, once to discuss earthquakes and once to discuss volcanoes. Watch for a new coffee table book by Dr. Gates this spring: Till, T. and Gates, A.E., 2006, Wild and Scenic New Jersey, Brown Trout Publishers, Inc., San Francisco, ISBN 0-7631-9787-4, 156 p.

Dr. Puffer:

Dr. John Puffer has spent most of last year finishing an extensive study of Precambrian iron ore deposits in New Jersey the results of which are being published in the Canadian Journal of Earth Science and has also been studying the geochemical effects of metasomatism and the fusion of host rock on Palisades diabase the results of which are being published in *Northeastern Geology and Environmental Science*. He is currently on sabbatical working with Jeffery Steiner at City College on a correlation of Palisades sill layers with Watchung basalt flows and is working with Alan Benimoff on some new ideas pertaining to the Palisades. He plans to spend some time this summer in Nova Scotia working with Gregory McHone and other geologists on the petrology of the North Mountain basalt.

Dr. Slater:

Dr. Slater's research group published 11 articles in major international journals (e.g. *Environmental Science & Technology*, *Journal of Geophysical Research*, *Geophysical Research Letters*) in 2005. In collaboration with Dr. Nathan Yee (this department) and Dr. Estella Atekwana (University of Missouri-Rolla) they are advancing the new field of "biogeophysics" (fusing biological and geophysical research to improve knowledge of microbial processes in subsurface) as well as continuing research efforts in "hydrogeophysics" (fusing hydrogeological and geophysical research to improve knowledge of flow & transport in subsurface). This year Dr. Slater received new funding from the National Science Foundation to continue

his peatlands research in collaboration with Dr. Xavier Comas (this department) and Dr. Andrew Reeve (University of Maine). This work is now focusing on the geophysical detection and monitoring of biogenic (carbon) gases that form in peatlands. Dr. Slater also received new funding from the U.S. Department of Energy to continue his work on geophysical properties of permeable reactive barriers and geophysical signatures of microbial mineralization processes.

Dr. Slater was awarded promotion and tenure in our department this year and was awarded a Rutgers Board of Trustees Research Fellowship for Scholarly Excellence. One of Dr. Slater's significant achievements this year was convincing the American Geophysical Union (AGU) to form a new focus group in Near Surface Geophysics to promote the science at an international level. The AGU officially established this focus group on December 10 and Dr. Slater currently serves as the first Vice-Chair. Dr. Slater also served as the Society of Exploration Geophysicists elected representative to the Technical Committee of the 2005 AGU Joint Assembly and is currently serving again for the 2006 Joint Assembly.

Dr. Yee:

Since arriving in January 2004, Prof. Yee has been very busy with his scholarship and teaching. He has continued to publish in top Earth and Environmental research journals, and has recently obtained a major research grant from the United States Department of Agriculture to study the genetics and geochemistry of Se-reducing microorganisms. Prof. Yee's

laboratory has made important advances in the field of "Geomicrobiology" and currently preparing to publish groundbreaking work on this subject. His laboratory is bustling with activity, as there are 9 graduate student (PhD and Masters) performing research in his lab. Prof. Yee continues to teach Mineralogy for undergraduate students and has taken on lecturing the popular course Environmental Geology. Prof. Yee is also offering a new course of graduate students this semester entitled "Bioremediation". In addition to his research and teaching, Prof. Yee continues to serve as an Associate Editor for *Geochemical News*.

ALUMNI BIOGRAPHIES:

Our questionnaire indicated that you would like to read about fellow alumni. Here are two, one from our first PhD ever in the department and one from earlier years. Please send me your biography about the same length and detail to include in an upcoming issue.

Our First Phd: Dr. Xavier Comas

Dr. Xavier Comas grew up in Spain and obtained a BS degree in Geology from Universitat de Barcelona, Spain in 2000, and a PhD (2005) degree in Environmental Sciences at Rutgers University-Newark, with thesis research in Geophysics and Peatland Science. After graduation, Dr. Comas was appointed with a Post Doctoral Fellowship at Rutgers Newark, to expand his previous research on the geophysical evaluation of biogenic gases in peatlands, an NSF funded project under supervision of Dr. Lee Slater.

Dr. Comas combines field-based research with laboratory

experimentation. During his tenure at Rutgers University, Dr. Comas combined a suite of geophysical methods (electrical resistivity, induced polarization, terrain conductivity, and ground penetrating radar, GPR) to improve the understanding of complex near-surface peatland systems and to investigate peatland formation and ecology in a large multiunit peatland bog in Maine. In the laboratory, Dr. Comas investigated the electrical and hydrological properties of organic sediments such as peat.

Dr. Comas' current research uses high-resolution geophysical methods (mostly GPR), to evaluate methane and methane flux in peat bogs. Dr. Comas' field research considers how GPR signatures may provide a proxy measurement of the free phase methane gas concentration that can be ultimately used to estimate the amount and methane gas content and its spatial distribution. In the laboratory, Dr. Comas investigates the relationships between certain GPR parameters and moisture/gas content in order to improve the understanding of biogenic gas distributions mapped at the field scale using GPR.

During the past semester Dr. Comas was also appointed for a short Post Doctoral Research Fellowship in collaboration with University of Maine and the US National Park Service, as part of a collaborative research into the nutrient loading to the Sieur de Monts spring in Acadia National Park. Dr. Comas also taught at the undergraduate level at Rutgers Newark including subjects such as Physical Geology and Environmental Disasters.

Bob Blauvelt

It has been almost 30 years since I bid *adieu* to the 4th floor of Boyden Hall and ventured out into the cold, cruel world with my brand new Master's degree in geology. Thanks to a door-opening recommendation from Dr. Vassilou (I still hesitate to call him Andy) I had sweet talked my way into a position as an entry-level geologist with the now defunct Bendix Field Engineering Corporation. We were working on the National Uranium Resource Evaluation, trying to identify and quantify potential uranium reserves available for such strategic purposes as fuel for commercial and military power and the making of nuclear weapons. For two years I traveled all over the United States, working in some of the most interesting geologic environments on the continent: Four Corners, Black Hills, even the Narraganset and Newark Basins. I co-authored two Department of Energy open-file reports and spent countless hours hiking, canoeing, and camping out - all while being paid to do geology!

But all good things eventually end, and with the collapse of the uranium mining industry in early 1980s, caused primarily by the Three Mile Island nuclear accident, as well as an ultimatum by my then fiancée to stop fooling around and settle down, I left Bendix and took a position as a geologist with a relatively new state agency called the NJ Department of Environmental Protection. Although today it's popular to trash-talk NJDEP, working there was a wonderful experience. The people were great and I was able to contribute to some truly interesting environmental permitting and regulatory enforcement projects. Some of my first assignments included all-night surveillance with the

State Police at landfills trying to catch "midnight dumpers" of hazardous waste and surprise environmental inspections of industrial facilities made in response to worker or neighborhood complaints. But I recognized early-on that, given New Jersey's absolute veterans preference in civil service hiring and promotion, that my career opportunities at NJDEP would be severely limited. This was just after the draft and the Viet Nam War had ended and there was no shortage of veterans entering public service.

So once again I freshened my resume and was lucky enough to land a position with Dames & Moore, a privately owned environmental engineering consulting firm. I immediately started working on projects related to soil and ground-water characterization of low-level radioactive waste sites. Much to my wife's dismay (my first child was born shortly after I joined D&M), I was traveling extensively, working at facilities in Kentucky, upstate New York, Ohio, and Idaho. I found a professional home at Dames - Moore, but over the next 25 years my career would shift from the technical to the managerial. Geology would become less and less a part of my daily routine, replaced by budgets, schedules, and new business development. D&M would eventually morph into URS Corporation and today, as Vice President of Environmental Services, I manage a 50 person group of geologists, environmental scientists and engineers focused on the investigation and remediation of industrial and commercial waste disposal sites.

Looking back on what has been and exciting and rewarding professional life, I have come to realize that the technical

foundation that Drs. Garner, Puffer, Agron, Vassilou and the other professors at RN helped me build allowed me to hold my own with colleagues and co-workers from much more prestigious and well known schools. When I visit RN today, I am amazed how much the campus has grown - new dormitories, an expanded library, a large athletic field - it looks like a real college! I now look forward to finishing my consulting career within the next ten years or so and rediscovering geology - taking field trips, collecting rocks and learning just for the sake of learning.

MEMORIALS

With sadness, we report the recent passing of two people associated with the department. Dr. Manspeizer's wife of many decades passed away this past fall after a short illness. Our heartfelt condolences are extended to the Manspeizer family. Don Smith while still a graduate student in the department died during the past fall. He was an MS candidate working with Dr. Puffer.

Donald Smith

Donald N. Smith died of a sudden and unexpected heart attack on Friday September 16, 2005. He lived in Sparta NJ and was 53 years old. He worked at Keytech Consulting at Keyport, New Jersey before beginning a new carrier at Converse Consultants at Parsippany New Jersey in March. He was highly

respected at Converse and quickly made several good friends there. As a student at Rutgers Newark he was conducting a study of the distribution and environmental effects of tremolite asbestos in Franklin Marble exposures under Dr. Puffer's supervision that he was developing into a Masters Thesis. He was popular among his classmates and was consistently cheerful and fun to be around; he never complained and was always optimistic. He was an exceptional student with lots of potential and took geology very seriously. He was an active participant in GANJ activities and regularly attended professional geologic conferences including GSA.

John Puffer

A LITTLE HELP?

We could use your help with a couple of new projects. We would like to enhance our summer intern program. If you are interested in hiring current undergraduate students, please fill out the intern form and send it back to me (or preferably, send an electronic version) sometime in this semester (the sooner the better). We also have a few graduates looking for jobs if you need entry level people.

Finally, if you would like to send a message to your former classmates, there is also a form to write a note (or preferably, send an electronic version) to be published in the next issue.

Please Spread the Word!

We are still missing a large number of alumni from our list. Please spread this newsletter around to any alumni you are in touch with or send me their contact information directly. If you have not already done so, please send your contact information to agates@andromeda.rutgers.edu as soon as possible. Thank you for your help.

The Old Fogies Corner

Dr. George Theokritoff

After 27 years, Professor **George Theokritoff** retired from Rutgers in 1994. He is seen occasionally in the Department and is always amazed by the number of new faces that he sees there. He continues his research and is the second author of a multi-authored paper published earlier this year in the *Journal of Paleontology* on the big Middle Cambrian trilobites from eastern Massachusetts. This is the result of a joint project that has been going on for two to three decades. He is also author of a paper In Press in *Northeastern Geology and Environmental Science* on the number of green/black transitions in the Taconic Klippe of eastern New York State and western Vermont. In addition, he also has a number of ongoing projects related in one way or another to Cambrian trilobites in the Taconic Klippe and eastern Massachusetts.

Dr. Theokritoff has taken advantage of travel opportunities since his retirement. He has been to Ireland where he was invited to a reunion of geologists who have worked or are working on the very complex geology of Galway (since the passing of Robert M. Shackleton and W.S. Mckerrow, he is now the oldest survivor in this group); to England and Scotland; to Greece (twice) and Turkey (twice); and to Finland.

Retirement is strongly recommended. It is good for the blood-pressure and the spirit in general.



ALUMNI GROUP DATA SHEET FOR NEW MEMBERS

NAME _____ YEAR _____

1) Would you rather have the newsletter sent electronically (preferable for us) in word or pdf? If so, give us your permanent e-mail address here:

Would you rather have it in hardcopy through snail mail? If so, please provide us with a current mailing address:

2) We will summarize the news of the department in the newsletter including personnel changes, research programs, announcements and academic programs. What else would you like to see? (circle all that apply)

- a) Stories about other alumni?
- b) A message board to post notes to the other alumni?
- c) An employment opportunities section?
- d) Stories about the history of the department?
- e) Make a suggestion _____

3) Would you seriously consider attending (ie: you would come if your schedule permits) an alumni geologic field trip including faculty and current students? Y N (circle one).

4) Would you seriously consider attending (ie: you would come if your schedule permits) an alumni picnic or social function (dinner, etc.) including faculty and current students? Y N (circle one).

5) Would you seriously consider attending (ie: you would come if your schedule permits) an edutainment function like a trip to a museum or other exhibit (with input from a faculty member or alumnus) including faculty and current students? Y N (circle one).

6) Would you seriously consider attending (ie: you would come if your schedule permits) a sponsored booth at a conference like Geological Society of America? Y N (circle one).

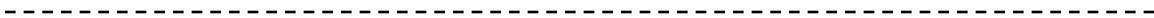
7) Do you have any other suggestions to run a better Earth Science alumni group?

Return completed forms to:

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agates@andromeda.rutgers.edu

A NOTE TO MY FORMER CLASSMATES

NAME _____ YEAR _____



INTERNSHIP FORM

Contact Person _____

Contact Information _____

Company _____

Job Description _____

Background Needed _____

Salary _____