

# BARNARD CHEMISTRY DEPARTMENT NEWSLETTER

June 2005

Greetings to alumnae and friends of the chemistry department. The semester is over, grades have been submitted, and the enthusiastic class of 2005 has been launched into the world. It is time to reflect on the academic year and bring you up to date on the college, the department, the faculty, the students, and those alumnae about whom we have recent news.

## NEWS OF THE COLLEGE AND UNIVERSITY

Buoyed by its strong appeal to prospective students --- Barnard now boasts that it is the most selective women's college in the U.S. --- Barnard looks to the future with confidence and bold plans. These include two new buildings: the first nearing completion, the second still in the planning phase. The former, Cathedral Gardens, is located on 110<sup>th</sup> Street and Manhattan Avenue, a block from Central Park. When complete, this building will provide housing for both faculty and students, along with some moderate-income housing for city residents. Since local housing affordable on academic salaries is more and more scarce, and since Barnard's access to Columbia housing is limited, this addresses a critical need in the college, if we are to recruit strong faculty. The building project was originally developed by Columbia, but was offered to Barnard when Columbia decided that its greater priority for expansion was in Manhattanville (north of campus) rather than in Manhattan Valley (south).

The second major building, still in the planning stages, has been given the working name "Nexus" to emphasize its mixed-use and centrality to the college mission. Physically replacing McIntosh Center, the Nexus will include facilities such as campus center, classrooms and offices, a black box theater, some library functions, a large assembly room, and so on. Some aspects of an early design struck some of us as a bit much --- for example, a tree-filled area sweeping diagonally across the building --- but what is taking place now, in addition to the critical fundraising, is serious practical planning that recognizes how precious every cubic inch of useable space is on our tiny campus.

The issue of women in academic science has received wide attention this year, thanks to the well-publicized comments by Harvard President Larry Summers. Serious discussion about this issue is nothing new at Barnard. **Alison Wylie**, Professor of Women's Studies and Philosophy, organized an excellent symposium and workshop at Barnard on December 9-10, 2004: "Women in the Academy: Strategies for Responding to Post-civil-rights Gender Discrimination". Speakers on the public panel included Claude Steele, Professor of Psychology at Stanford, known for his work on the debilitating effect of stereotype threat, Nancy Hopkins, Professor of Biology at MIT, one of the leaders in the MIT report, and Virginia Valian, Professor of Psychology at Hunter, who studies the pernicious effect of the accumulation of disadvantage. Among the twenty distinguished participants in the Friday workshop were Donna Nelson, chemist from Oklahoma, who has compiled extensive data on the status of women and minorities, Kimberlee Shauman of UC-Davis, and Gerhart Sonnert of Harvard, who have written important books on women in science, and three leaders of NSF ADVANCE institutional transformation projects: Abigail Stewart (Michigan), Sue Rosser (Georgia Tech), and Robin Bell (Columbia). It is hoped that the web site of Barnard's Center for Research on Women will soon post workshop proceedings.

Last year our recommended summer reading was *Stand Columbia*, a history of the university by Barnard's **Prof. Robert McCaughey**. This year we recommend a related book, *Changing the Subject*, also by a Barnard historian, **Prof. Rosalind Rosenberg**. Released in October 2004, this book traces the history of women and minorities at Columbia. Needless to say, Barnard College plays a large role in this fascinating study.

Many fine speakers come to Barnard every year. Of note this spring was Supreme Court Justice Sandra Day O'Connor. Her talk, "How a Cowgirl Got to the Supreme Court" was enjoyed by an overflow audience in McIntosh Center. Another major spring event was the Peter Brook production of *Tierno Bokar*, for which Barnard's LeFrak gymnasium was converted into a theater.

Those of you who follow the NYC media have probably heard about a nasty controversy at Columbia. A video, *Columbia Unbecoming*, produced by a group called the David Project, contains allegations of misconduct by certain faculty in Columbia's Middle East and Asian Language and Cultures (MEALAC) department. Students interviewed in the video charge that their pro-Israeli voices were silenced. While many students from the same courses dispute these charges, the well-orchestrated, well-funded, and widely-disseminated attacks continue. An Orwellian-named "Committee on Academic Freedom" runs ads in the *Columbia Spectator* inviting students to report faculty who express inappropriate political opinions in class. Much heated discussion has followed. Columbia has promised a more effective procedure to review student grievances: students in the video alleged that their complaints were ignored. The challenge that remains is addressing larger issues of academic freedom: how to foster open discussion and defend faculty who speak and write on controversial issues from orchestrated attacks from outside the academy.

Barnard was very pleased this year to receive its fourth grant from the Howard Hughes Medical Institute, funding our Hughes Science Pipeline Project. Biology **Prof. Paul Hertz** continues to lead this important program. The project, focused on the biomedical sciences, provides summer stipends for student research, supports curricular innovation, a summer outreach program, and equipment and renovation. This \$1.5 million grant brings the total funding of this project to \$4.6 million.

### NEWS OF THE DEPARTMENT

This spring **Prof. Christian Rojas** was promoted to Associate Professor with tenure. Champagne corks popped in Altschul after far too long. The applause at the faculty meeting announcement was noticeably sustained and the entire department is pleased beyond words for his well-deserved success. There have been several celebrations of this event, including a student-organized one complete with homemade baklava and cupcakes, drinks at the Heights with Columbia colleagues, and a surprise dinner for Prof. Rojas at Mama Mexico on Broadway.



The renovation of virtually the entire organic chemistry laboratory space is finished and we are very pleased with the results. The project was completed handily and in time to



welcome the Organic Chemistry I lab course back in January. **Dr. Meena Rao** led the tremendous project of moving the teaching materials from the 6<sup>th</sup> floor, where we were generously loaned space by the Environmental Science department, back to the 7<sup>th</sup> floor. The department celebrated this major effort with an afternoon-long symposium in February to showcase Barnard Chemistry students past and present. Current Barnard students held a poster session on the 7<sup>th</sup> floor and described their research to all those who attended the Symposium. Our speakers for the afternoon included five

distinguished alumnae, **Dr. Patricia Andrade-Gordon '79**, **Prof. Helen Berman '64**, **Dr. Kerri-Ann Jones '75**, **Dr. Una O'Doherty '87**, and **Thalia Robakis '99**, and talks by **Prof. Rojas** and **Prof. Merrer**. Our sincerest thanks to the many alumnae who were generous with both time and material contributions for this endeavor. Come see the fruits of your efforts and generosity.

More good news! The department is pleased to welcome **Prof. Matthew Birck**, who will join us as an Assistant Professor of Biochemistry this fall. He is a graduate of another primarily undergraduate institution, the Rose-Hulman Institute of Technology in Terre Haute, Indiana, and did his doctoral work at the University of Michigan. More recently he has done postdoctoral research at the Albert Einstein College of Medicine. We look forward to his setting up his own independent research program here.

The construction work on the 8<sup>th</sup> floor in the former library space is complete, making two smaller seminar rooms out of the old space. During this year, one room was open to the college for general classroom use and the second room served the chemistry department for office hours, small meetings of faculty and students, as well as student study space and internet access.

In part of a college-wide effort to improve science education in the introductory sequences, **Professors Rojas and Doerr** are participating in two initiatives sponsored by the Office of the Provost, CHAS (Consortium on High Achievement and Success) and PKAL (Project Kaleidoscope). As part of the latter program, Professors Rojas and Doerr attended a three-day workshop in Atlanta where they, along with several other faculty and administrators, developed a plan for promoting "Science for All Students" at Barnard.

The tradition of holding a departmental luncheon with an outside speaker each semester continues. In the fall, **Dr. Diana Casper '78**, who is at Montefiore Hospital and Albert Einstein College of Medicine, gave a talk "My Research in Parkinson's Disease: A Tour from Molecules to Magnets". Students are especially interested in the career paths of alumnae; thanks, Diana. This spring, we welcomed **Prof. Ann Valentine**, Professor of inorganic chemistry at Yale University. She spoke on "The Bioinorganic Chemistry of Titanium".

A group of faculty and students again attended the annual Nichols Medal Symposium and Banquet. This year's medalist was **Prof. Richard N. Zare** of Stanford University. A good time was had by all. The back of the newsletter shows a picture taken at the symposium.

We are always pleased to announce the winners of various student prizes and awards. Achieving national recognition, **Molly Weiner '07** won a competitive Barry M. Goldwater Scholarship, an award of \$7,500 given annually to about 300 individuals nationwide recognizing outstanding students with promise in the physical sciences. The award covers expenses such as tuition, fees, books, and room and board. **Annie Jiang '05** and **Lauren Tal '05** were elected to Phi Beta Kappa this spring. **Annie Jiang** was also awarded a Grace Potter Rice Fellowship to support her graduate studies.

#### *Departmental Prizes*

CRC Prize for excellence in First Year Chemistry	<b>Lauren Jain '08 and Janaki Parameswaren '07</b>
ACS-PMSE Prize for excellence in Organic Chemistry	<b>Molly Weiner '07</b>
ACS Prize for excellence in Analytical chemistry	<b>Molly Weiner '07</b>
Marie Reimer Prize: junior major	<b>Marina Khrapunovich '06</b>
American Institute of Chemists Prize: outstanding senior	Biochemistry: <b>Lauren Tal '05</b> Chemistry: <b>Annie Jiang '05</b>
Ira and John Kauderer Prize: premedical student majoring in chemistry	<b>Lauren Tal '05</b>
Bernice G. Segal Summer Internships	<b>Kate Lieberman '06, Anna Landau '06</b>
Howard Hughes Medical Institute Internships	<b>Kimberly Sogi '06, Sarah Bernard '07</b>

Thanks to the Hughes and Segal internships as well as individual faculty grants, thirteen students are working with three faculty members doing research in the department this summer: **Jessica Anand '07**, **Victoria Baranov '07**, **Sarah Bernard '07**, **Ritu Gupta, '07**, and **Kimberly Sogi '06** with Prof. Rojas, **Marina Khrapunovich '06**, **Chantel Nicolas '06**, and **Denise Napolitano '08** with Prof. Merrer, and **Sherisse Butler '06**, **Rebecca Hayoun '06**, **Diane Zhong '06**, **Eman Bataineh '07**, and **Teresa Wojtasiewicz '07** with Prof. Doerr. Two Barnard students are working in the Columbia chemistry department this summer: **Anna Landau '06** (Prof. Jack Norton) and **Kate Liberman '06** (Prof. Brian Gibney). Monitor this magnificent space for momentous molecular manifestations!

Fifteen chemistry and biochemistry students graduated this year, of whom nine wrote senior theses. Their research topics are listed below.

Student	Advisor	Topic
Rena Azulay Bodner	Christian Rojas	A Novel Approach to the Synthesis of the Allosamidin Disaccharide
Montana Childress	Linda Doerrer	Magnetization Studies of Bridged Phenolate Compounds and Synthesis of Mononuclear Nickel Phenolates
Diana Huang	Nasreen Haque	Development of an <i>in vitro</i> inhibition model of CCR8/CCL1 by directed siRNA
Annie Jiang	Linda Doerrer	Oxidation of Copper(II) and Iron(III) Phenolate Compounds
Bridget Marcellino	Christian Rojas	A Novel Approach to the Synthesis of the Allosamidin Disaccharide
Katherine Nguyen	Brian Mailloux (Env. Science)	Towards Understanding the Roles of Bacteria in the Pristine Aquifer Carbon Cycle
Alexandra Severino	Christian Rojas	Allosamidin Disaccharide Synthesis
Lillian Seu	Geoffrey Pitt CU Pharmacology	Small GTPase inhibition of Ca <sup>2+</sup> channel expression and activity
Lauren Tal	Nasreen Haque	Regulation of Gene Expression by CC Chemokine CCL-1

Not all plans of this year's graduating class are firm, but here is what we know now:

**Nasreen Bakht** is starting law school at Rutgers University. **Rena Azulay Bodner** is in the process of interviewing for jobs. **Pamela Cole** will be conducting lupus research as a senior research technician in the immunoregulation lab at the Hospital for Special Surgery. **Diana Huang** will be starting medical school at SUNY Buffalo in the fall while **Martha Low** is starting veterinary school at the University of Illinois. **Bridget Marcellino** is going to be a research assistant at the Albert Einstein College of Medicine and **Katherine Nguyen** is looking for industrial positions. **Lillian Seu** has been accepted to the Ph.D. program in Pharmacology at UCSF, but will defer for a year while she continues her thesis research at P&S. **Annie Jiang** and **Montana Childress** will be starting graduate school in inorganic chemistry at the Massachusetts Institute of Technology in the fall. **Alexandra Severino** will begin working for Merck and Company in the summer. **Lauren Tal** is starting an MD/PhD program at Albert Einstein College of Medicine. **Sana Ali, Gail Amurao, and Ruth Kang** have not yet sent us news, so please let us know what you are planning!

#### NEWS OF THE FACULTY

**Prof. Sally Chapman** was named a 2005 Fellow of the Association for Women in Science (AWIS). This nice honor recognizes her activities in support of women in science. Her current formal activities, focused on women in academic chemistry, include being principal investigator of an NSF ADVANCE Leadership grant, now in its second year, and being a member of COACH. She also enjoyed being a panelist and participating in Barnard's symposium on Women, Work, and the Academy.

Teaching and being Chair keep Prof. Chapman busy at Barnard. This year she coordinated the Senior Thesis Seminar (BC3901-3902), and taught BC3252 (Thermodynamics and Kinetics) and BC3368 (Integrated Lab II). In addition to running searches in Chemistry, she served on the search committee for the Environmental Science department. She enjoys being a faculty representative to Barnard's Board of Trustees.

This past December, Prof. Chapman served on a panel evaluating nominations for the NSF Director's Award for Distinguished Teaching Scholars. It was a pleasure to read about these extraordinary nominees. She also visited Spelman College in Atlanta, on behalf of the ACS Committee on Professional Training. Spelman has a beautiful new science building.

In January, Prof. Chapman attended the Gordon Research Conference on Molecular Energy Transfer, in Buellton, CA, where she gave a poster presentation on her recent research, collisions of pyrazine with hydrogen halides, work that was initiated with **Kiryn Haslinger '02**. The conference was in the region where the movie *Sideways* was filmed, so it was fun seeing many of those locations. But this meeting was during the big mudslides: Prof. Chapman considered herself very lucky that she had booked a flight out of Santa Barbara, thus avoiding a 12-hour detour to LAX! Prof. Chapman was one of a few senior faculty invited to participate in a special pre-meeting mini-symposium for graduate students and postdocs.

In March, Prof. Chapman chaired a symposium at the ACS National meeting in San Diego, "Strengthening our Academic Foundations". The symposium was, in essence, a progress report on the ADVANCE project. A similar symposium will be held at the ACS meeting in D.C. in August, for all those who are interested. In May, Prof. Chapman gave a talk at the ACS Middle Atlantic Regional Meeting at Rutgers: "COACHing Academic Women for Success". One research paper was published this year: C.J. Higgins and Sally Chapman, "Collisional Energy Transfer between Hot Pyrazine and Cold CO: A Classical Trajectory Study" *J. Phys. Chem. A*, **108**; 8009-8018 (2004).

**Prof. Leslie Lessinger** is delighted, as his last duty as Chair of the Department, to have seen through to a successful conclusion the case for awarding tenure to Christian Rojas. We are all thrilled that such an outstanding teacher and researcher has been appropriately recognized by the college and the university. Last summer Prof. Lessinger enjoyed the opportunity to conduct some research with the very able assistance of **Diane Zhong '06**, exploring the synthesis of some new vanadium compounds. Diane proved, using X-ray diffraction, that the literature recipe for a gray vanadium acetate yielded exactly the same compound as a known orange vanadium acetate, which was an unpleasant surprise, but she also succeeded in making what we think are some new compounds, whose structures are as yet undetermined. In the meantime, Prof. Lessinger continues to note down ideas and designs for new laboratory spaces on the 8th floor, so the college can implement the promised expansion of the chemistry department.

Having given over the co-directorship of the Centennial Scholars Program [to the able hands of **Prof. Tim Halpin-Healy** of Physics, who will guide it together with **Prof. Elizabeth Castelli** of Religion, who is taking over for **Prof. Helene Foley** of Classics], Prof. Lessinger taught a full complement of courses in the department for the first time in many years. In the fall, Integrated Laboratory went very well, with the improvement of a spreadsheet template for calculation of X-ray diffraction intensities to determine the structure of NiO, and a better procedure for the redox titration of vanadium(IV). Quantum chemistry saw greater emphasis on bonding theory and spectroscopy, including photoelectron spectroscopy. In the spring, Prof. Lessinger oversaw the General Chemistry II laboratory, a comfortable small course with an interesting variety of experiments. He split the lab duties with **Steve Dougherty**, who gave the demonstrations, and is developing very nicely as a lab associate. Students in this course now get a nice taste of computer use, including least squares fitting of data and molecular modeling and visualization. Last, Prof. Lessinger really enjoyed teaching Intermediate General Chemistry, to 56 eager, hard-working, and motivated pre-medical students. He was kept very busy during office hours, and sometimes outside them as well. It was interesting to look for as many biologically and medically relevant examples as possible to illustrate the thermodynamics, kinetics, radiochemistry, and inorganic chemistry subject matter. The incredible availability of images and the power of search engines and other computer-based tools for research and teaching makes this a very different task than when he last taught this course, in 1982.

Last, Professor Lessinger looks forward to his year-long leave. First, he has to finish all his letters of recommendation, which he hopes will be done by the time this reaches all of you.

**Prof. Christian Rojas**, along with Senior Thesis students **Rena Bodner '05**, **Bridget Marcellino '05**, **Alexandra Severino '05**, and **Abigail Smenton '04**, recently published an article in *The Journal of Organic Chemistry* on *N*-acetylmannosamine synthesis using intramolecular nitrogen insertion reactions (*J. Org. Chem.* **2005**, *70*, 3988-3996). Rena, Bridget, and Alex traveled to the Spring 2005 National Meeting of the American Chemical Society in San Diego to present a poster on their efforts toward preparation of the disaccharide portion of the chitinase inhibitor allosamidin.

Professor Rojas's research is supported by an ongoing grant from the National Institutes of Health, and he will serve as a temporary member of the June 2005 Synthetic and Biological Chemistry Study Section at NIH.

Professor Rojas contributed a section on "Ethyl Azidoformate" for the compendium *Electronic Encyclopedia of Reagents for Organic Synthesis*, published online by John Wiley & Sons. He gave a talk at the Fall 2004 ACS National Meeting in Philadelphia where he saw **Sarah Tully '00**, **Moushumi Paul '99**, and **Charli Long '00**.

With his usual co-instructor, Professor Dina Merrer, on leave this year, Rojas taught the entirety of the Advanced Organic Chemistry lecture course, focusing on synthetic methodology, particularly stereoselective reactions. The class, with a small but decidedly enthusiastic enrollment, also included discussion of some classic natural product total syntheses.

Barnard science faculty have been considering ways to enhance our programs, especially in the introductory lecture courses. Professor Rojas is Principal Investigator on a grant application from Barnard College to the Teagle Foundation for funds to evaluate and implement such curricular changes. If the grant is funded, Barnard faculty in chemistry, biology, and astronomy will work with colleagues at Swarthmore College and Wellesley College to pursue goals that include encouraging and more actively recruiting students to take chemistry courses, both as majors and non-majors; reducing the attrition rate of students in introductory science courses; and experimenting with new approaches to teaching the traditional large lecture courses.

Christian and his wife, Christine, had a baby boy, Lewis Hibbert Rojas, in October, 2004. Sidney Rojas (almost 6) is in kindergarten at P.S. 75, and Alice Rojas (almost 4) is in nursery school at 114<sup>th</sup> and Broadway. All send their best to friends and former students.

**Prof. Linda Doerr**er taught both introductory levels of chemistry at Barnard this year. The former Chem1601 was offered in a slightly modified version as Chem2001 during the fall. Chem1002, "Molecules and Matter", designed for students with little or no background in chemistry, was offered for the first time this spring and quite favorably received. It will certainly be offered again next year as well.

The Doerr group's progress was communicated through two publications this year (*Inorg. Chem.*, **2004**, *43*, 7709-7724 and *Acta Cryst. C.*, **2005**, *C61*, m90-92). Four students from the group, **Montana Childress '05**, **Rebecca Hayoun '06**, **Zeah Venitelli '06**, and **Jessica Eisenberg '07**, and **Dr. David Millar**, also presented several posters at the Philadelphia ACS meeting in August 2004. Prof. Doerr gave a talk at St. John's University in April, "Fluorinated Aryloxides in Transition Metal (and Main Group) Chemistry", as well as two talks ("Computational and Experimental Charge Density Studies in Bis-Phenoxide Anions" and "Thallium Aryloxides and Thallophilicity") at the ACS meeting in San Diego in March. She continues to be active in the Columbia University NSEC (Nanoscale Science and Engineering Center) and worked with several other Barnard faculty this spring on the Saturday Science Seminars. The latter program is designed to expose enthusiastic high school juniors to the possibilities of research with faculty at Barnard and encourage them to apply. Linda and her group will be at the ACS meeting in Washington, DC in August 2005. Stop by and say hello!

**Prof. Dina Merrer** enjoyed her 2004-05 Special Assistant Professor Leave immensely. She spent the fall at Cornell with Prof. Barry Carpenter, learning the ins and outs of molecular dynamics calculations, and has been back at Barnard toiling away in her research lab since January. This spring, Dina published "Dichlorocarbene Addition to Cyclopropenes: A Computational Study" (*J. Org. Chem.* **2005**, *70*, 1630-5) with Prof. Paul Rablen (Swarthmore), and gave a lecture on this work at Smith, her

alma mater. This spring, Dina also was awarded a major grant from the NSF (\$201,000/3 years) for her research on the mechanisms and dynamics of electrophilic carbene additions to strained cyclic C–C bonds. She is looking forward to summer research with Merrer group veteran **Marina Khrapunovich '06**, as well as new members **Chantel Nicolas BC '06** and **Denise Napolitano '08**, and teaching the Modern Techniques Lab for the first time in the fall in the newly-renovated organic labs.

With new courses, faculty leaves, and teaching reductions for junior faculty, we are increasingly dependent on visiting faculty to help cover some of our program. This year we have been ably assisted by **Dr. Joanna Goodey Pellois**, who has taught Inorganic Chemistry, General Chemistry I lab, and Quantitative and Instrumental Techniques. Dr Pellois and her husband JP are enjoying their year-old son, Max. This is Joanna's third year at Barnard, and we are pleased that she will be with us next year as well. With Prof. Merrer focusing on her research this year, the Organic lectures were taught by **Prof. Charles (Chuck) Doubleday**. Dr. Doubleday often teaches organic in Columbia's School of General Studies, so he is well-experienced. Finally, the biochemistry courses and the Senior Colloquium this year were taught by visiting **Prof. Nasreen Haque**. Dr. Haque, who studies chemokines, is also an intrepid scuba diver: how else would you describe someone who dives for specimens in the Gowanus Canal?

**Dr. Meena Rao** reports: "First semester in the new lab was very exciting. I have also started teaching at Stony Brook during Summer months (from last summer) and it has been shocking to see the difference between a richer private school and a public college (they have to wash and reuse even disposable pipets and vials). On a personal note: my daughter Gowri is graduating from Princeton with a degree in Mechanical and Aerospace Engineering and a minor in Computer Science and Spanish. My son has three more years to go before entering college."

**Dr. Toby Berger Holtz** comments: "The spring course (3328) was fun to teach in the new lab. We devised new ways of doing the experiments because of the new layout, including the hoods and their monkey bars. Because of the great new hoods, organic lab no longer smells. During the fall semester, I continued to teach General Chemistry and carried out organic lab preparation in temporary locations. During the spring term, I taught and did preparation for Organic, in addition to office hours, grading of notebooks, advising first-years and sophomores, and serving as department Safety Officer. In June, I will attend the Green Chemistry and Laboratory Waste Management Seminar at Vassar College. We have two granddaughters, Tzofiya (19 months) and Tzahala (2 months), both daughters of our son Mordecai. By invitation, I have written 2 biographical articles that have been accepted for publication in volume 2 of the *Encyclopaedia Aethiopica*, now in press.

This year, **Ms. Suqing Liu** completed her second Masters degree in Biochemistry. She is now working towards her PhD at CUNY. She has been working on several projects to improve experiments in lab courses. She analyzed tyrosinase, used in an enzyme kinetics experiment. Learning about the stability and composition of the commercial enzyme will make it possible to obtain more reproducible results. Secondly, working with **Prof. Jym Mohler** of the biology department, she revised the DNA purification method to reduce significantly the purification time. Thirdly, working with **Prof. Joanna Pellois** and **Mrs. Olympia Jebejian**, she developed a new HPLC experiment for the Quantitative and Instrumental Techniques lab. Students now determine the Scoville Heat Value of hot sauces and chili peppers, analyzing various substances including Cayenne red pepper, TABASCO pepper sauce, Crushed red pepper and Hungarian hot paprika. This summer, Suqing is planning and testing improvements in the RNA purification and electrophoresis experiments.

**Olympia Jebejian** presides on the 8<sup>th</sup> floor: she sees that equipment and reagents are always ready for the general chemistry and analytical chemistry laboratory courses. She also teaches these courses. Barnard's HEOP program is reintroducing a full chemistry unit this summer, guided by Mrs. Jebejian. Olympia is also a busy and proud grandmother: three boys and a brand0new baby girl.

Other off ladder faculty include **Ying Xie**, who works in general and organic lab courses. Part-time Lab Associates include **Frances Feerst**, **Colette Levi**, **Steve Dougherty**, and **Bob Black**.

## NEWS OF FORMER FACULTY

We were pleased that **Dr. Grace King** was able to join us for the celebration of the organic chemistry laboratory renovation. Dr. King still lives in the neighborhood and enjoys cultural events in the city.

Things are going well for **Prof. Elise Megehee** at St. John's University in Queens. She was recently awarded tenure: congratulations! Her research activities continue in both inorganic chemistry and chemical education. A recent paper in *Inorganica Chimica Acta* ("Improved synthetic routes to rhodium bipyridine complexes: Comparison of microwave vs. conventional synthesis") **2005**: 358, 2231-2238, includes both Barnard and St. John's students as co-authors: Daniel Amarante, Cheryl Cherian, Christopher Emmel, **Hui-Yun Chen** [BC'98], **Saraswati Dayal** [BC'94], and **Mary Koshy** [BC'94].

We saw **Prof. Dan Robie** at the Nichols Symposium this spring. Prof. Robie teaches at York College, part of the CUNY system. Unfortunately, we didn't get much chance to catch up with his news.

We often see **Prof. Dan Libby** at ACS meetings. He is Chair of the chemistry department at Moravian College in Bethlehem, PA. He is also chair of the Women Chemists Committee of the ACS; he and his wife Carol have been active members of WCC for some time. Their daughter Lisa is an Assistant Professor of Psychology at the Ohio State University.

## NEWS OF ALUMNAE

*Classes of 2000-2004*

**Abby Smenton '03** sent a recent update: "I've been in the Medicinal Chemistry department at Merck and I'm planning on applying to graduate school in organic chemistry next fall."

**Lisa Perlson '02** wrote to Prof. Rojas: "I'm in the third year of my PhD in chemistry at Stanford. I work in Steve Boxer's lab studying intramolecular charge transfer processes in bistable molecules. I'm foremost a spectroscopist these days, but I do my own synthesis of many of the compounds that I study, and the experience that I got in your lab has helped me tremendously in this regard. And when I'm not doing this, I'm out hiking in the Sierras, skiing in Tahoe, and all of the other fun things there are to do in Northern California, oh, and of course playing music too." She sent a picture showing her backpacking in Glacier National Park in Montana last summer.

**Elnaz Menhaji '02** also wrote to Prof. Rojas: "I've been Yale for a year and a half now following my return from Ireland. I joined John Wood's group a year ago and for a short while I worked with Andrew Nickel, a fifth year student, on making material for Ingenol which was completed by him a few months thereafter. I was then charged with the awesome challenge of choosing a new natural product target for the group, Citrinadin A, proposing a synthetic route and beginning work towards making it. After completing some initial studies on a model system, I've recently begun working on the real target. While I'm not taking classes anymore, I'm still busy being in class and taking tests. I'm TAing for one of the undergraduate Organic Chemistry courses offered at Yale. I am also working to complete the department's cumulative exam requirements with which I hope to be done this year. In addition, I look forward to preparing for and taking my oral exam at the end of spring.

Most recently, I feel as though things have come full circle. I have an undergraduate working for/with me and as I teach her how to take good TLC's and run efficient columns I can't help but be reminded of all the time you spent teaching me good lab technique. When I started working in lab in Ireland as well as at Yale, I felt I was a step ahead of others. Not all students come to graduate school with the skills I acquired while working with you and they have to figure things out on their own. I will always be grateful to you for that and I only hope that I can pass on a fraction of that to whomever I work with in the future." Elnaz enjoyed talking to Prof. Rojas at the ACS National meeting in Philadelphia last August.

After a hiatus in the working world, **Miki Kim '02** is enjoying being a student again. She wrote last winter: "The biotechnology program [at Columbia] has been going well. It is hard work but I really have been enjoying my classes. I am even getting a chance to take some of the biology courses that I didn't get a chance to try out when I was at Barnard! My favorite course was neurobiology. I also took a bioinformatics course which was fun. I'm already looking forward to next semester!"

Having completed a Masters in theoretical chemistry at NYU, **Kiryn Haslinger '02** decided to return to science writing. At present, she is doing freelance work. Among the articles she has written is a report for the National Academy of Science on the Keck Futures Nanoscience Symposium.

**Cindy Kan '00** writes "I am in my 5th year of the PhD program at Stanford University working on total synthesis under the guidance of Prof. Paul Wender. I hope to complete my studies by the end of the year. I will then join Prof. Samuel Danishefsky's lab at Sloan Kettering as a post-doc." We look forward to seeing Cindy back in NYC.

**Charli Long '00** was married in Lima, Peru, last December, and sent us a nice picture. Congratulations, Charli and Coco! Charli is finishing up her fourth year in the PhD program at Penn, working in organic synthesis with Prof. Madeleine Joullie.

**Christina Ring '00** sent us an update this winter: "I will be in Guatemala for the month of February learning Spanish and working with an OB/GYN in Antigua. 4th year of medical school [at Colorado] is the best treat! I am finished with my residency interviews --- they led me as far south as Texas to as west as Hawaii! My top choice is Colorado, but I also liked Oregon and Hawaii. I find out March 17th where I'll do my OB/GYN training for the next four years on the infamous "Match Day." Aside from interviews, I'm working with a faculty gynecologist on a study looking at absent endocervical cells as a marker for cervical stenosis after loop conization procedures - I am in the writing stages and hopefully will be able to present it as a poster at the annual American College of Obstetrics and Gynecology meeting this May in San Francisco - where I hope to meet up with Cindy Kan!"

**Sarah Tully '00** wrote last winter: "I am still at Caltech in the chemistry dept. I am working for Linda Hsieh-Wilson. She is giving her tenure tour now and will probably go to Columbia sometime soon--you will have to check out the talk if you can. I am researching the importance of a class of sulfated sugars known as glycosaminoglycans in the brain. They are important in nerve cell growth and communication. We have shown that a synthetic tetrasaccharide with a specific sulfation pattern can stimulate nerve cell growth in three types of neurons. I am currently investigating how it does this through microarray analysis of protein binding to our sugars, cell based assays, and ELISA. I am also working on some other molecular probes for studying different biological pathways, but those are unrelated to my major project. I guess the short way of putting it is that I am just doing a lot of bioorganic chemistry. After this I am headed to Oxford for a postdoc. I am looking forward to it".

#### *Classes of the 1990's*

**Hannah Storrie '99** completed her PhD in chemistry at Northwestern in December, where she worked on self-assembling molecules with biological applications. She is now doing a postdoc in bioengineering in the group of David Mooney at Harvard. Hannah sent us a couple of lovely pictures from her wedding, including a beautiful one of her with bridesmaid Moushumi Paul.

**Moushumi Paul '99**, at the University of Illinois-Urbana, wrote in January: "I am about to finish up. I have already started writing, and I have three experiments to finish before I can defend - so hopefully sometime mid-March I'll be standing in front of my committee for the last time. I have accepted a post-doc position in the laboratories of Prof. Ron Raines at the University of Wisconsin, Madison. I know - I never would have imagined five years ago that I would voluntarily be staying in the midwest, but like a fungus, it grows on you. Madison is a great city and I am really looking forward to starting there this spring and so excited to be moving on to the next chapter of my life. We just wrote a *Chem Review* on the lantibiotics which should be coming out soon. Working on some research papers as well. I never thought I'd get here and I know it will feel really good once I get this pesky PhD out of the way. Give my best to the department - I wouldn't have made it this far without the stuff I learned there."

In March, we received a follow-up: "I just wanted to let you know that I defended on Tuesday. Thanks for all of your advice and support." Thank you for the kind words, and congratulations, Moushumi.

**Sunita Pradhan '99** is very enthusiastic about the progress of Schools-on-I-Net (SOIN), which has been adopted by several school systems. This web-based product, developed by her small company, facilitates communication among teachers, students, and parents. She writes "It has been a fun academic year for us as we have made many advances. Our next project is a web-enabled financial system that will be integrated with the rest of the SOIN platform for easy online payment of tuitions, donations, school store merchandise, and fundraising activities."

**Fay Xing '99** received her MD from Stanford in June 2004. While in medical school, she worked on cardiac devices, holding a patent on one discovery. Fay is doing her residency at New York-Presbyterian, at the East Side (Cornell) location.

We were pleased that **Bonnie Koo '99** was able to drop by for part of our organic renovation celebration symposium. Bonnie reports having a great time in her first year in Medical School at Columbia. She writes "P&S is great because there is a such huge range of people - age, background, etc -- so I don't feel like I'm over the hill. In fact our oldest students are in their early 30s. I'm the class social co-chair, so my job is to plan fun events like post-exam parties and we just had a class ski trip to Vermont." Who knew?

**Thalia Robakis '99**, who is in the MD/PhD program at Columbia, kindly participated in our organic renovation celebration symposium. Thalia gave an amusing and insightful autobiographical talk, describing some of the challenges and rewards in the dual-degree program.

**Evelyn Kwon '94** is a scientific advisor in the New York office of Morgan and Finnegan, a firm that specializes in intellectual property law. Evelyn has a PhD in experimental pathology from the UCLA School of Medicine. She works in patents and client counseling for pharmaceuticals and biotechnology.

**Vanthanh Ly '94**, whose MD is from SUNY Downstate (Brooklyn), is a fellow in the program in Pulmonary, Critical Care, and Sleep Medicine at Mount Sinai.

#### *Classes before 1990*

We very much enjoyed the contribution of **Una O'Doherty '87** to our organic symposium. Una, who has an MD/PhD from Cornell and Rockefeller is Assistant Professor in the Medical School at the University of Pennsylvania. She talked both about her work and about some of the challenges facing women (especially those with small children) in academic medicine.

**Ainat Beniaminovitz '86** is Assistant Professor of Medicine at Columbia University College of Physicians and Surgeons and an Assistant Attending Cardiologist on the Heart Failure and Cardiac Transplant Service at the New York Presbyterian Hospital. She received her MD in 1990, trained in internal medicine, and then completed a fellowship in cardiology, all at Columbia Presbyterian. She is a member of the Division of Circulatory Physiology and helps run the Cardiac Transplant Program. Columbia all the way!

We heard from **Leah Basickes '85** in December: "I went from Barnard to Penn and graduated with a PhD in 2000. I must confess that I spent most of my time drinking coffee with friends but I did write a thesis on the use of metalloporphyrins in living radical polymerization and small molecule activation. I went from Penn to Rohm and Haas where I have spent the last four years in their adhesives and sealants section working on pressure sensitive adhesives. Now I am off to Pittsburgh for two years so I am searching for opportunities on the other side of the state."

**Linda Peteanu '82** is a tenured Associate Professor in the Chemistry department at Carnegie-Mellon. Linda does spectroscopy applied to biochemical systems. She has recently started working in the emerging area of single molecule spectroscopy.

**Esther Siegfried '81** is Assistant Professor of Biology at Penn State. She works on Wingless signaling in *Drosophila*. Esther has a PhD from Washington University in St. Louis, and did a postdoc at Harvard Medical School.

**Patricia Andrade-Gordon '79** was another participant in our January symposium. Patricia, who is VP for Drug Development at Johnson and Johnson Pharmaceuticals in Pennsylvania, spoke movingly about her experience at Barnard. Fresh from Cali, Colombia, speaking almost no English, she encountered General Chemistry and Bernice Segal. Patricia credited Bernice's extraordinary support for her success at Barnard and beyond.

**Nancy Tennenbaum Sklarin '77** writes "I've been really busy at Memorial Sloan-Kettering: balancing care for breast cancer patients with administrative responsibilities. I received an MS in Management from the Wagner School of Public Service in 2002 and was recently promoted to Clinical Member ("Professor") at MSKCC. In addition to being the Assistant Medical Director of the Breast Center, I am also the Director of Chemotherapy Practice for the whole institution. We create guidelines, rules, and tools to help make the treatment process smoother and safer for patients."

At our organic symposium, everyone enjoyed hearing **Kerri-Ann Jones '75** describe her unusual and fascinating career. With a PhD in Molecular Biology and Biochemistry from Yale, she worked at the U.S. Agency for International Development, NIH, and NSF. She then joined the Clinton White House, as Associate Director for National Security and International Affairs at the Office of Science and Technology Policy. After leaving the White House, she became Director of the Experimental Program to Stimulate Competitive Research (EPSCoR) for the State of Maine, and is now Director of International Science and Engineering at NSF. She told the students that her training in chemistry has been important.

**Helen Berman '64**, Professor of Chemistry at Rutgers, is a loyal Barnard chemistry alumna who supports the department in many ways. Students at the organic symposium were very interested to learn from her about the history of bioinformatics and of the Protein Data Bank, which she manages.

#### CLOSING REMARKS

As usual, we take this opportunity to remind you of two important funds. **The Edward J. King Memorial Fund**, which honors Prof. King, chemistry Chair from 1960 to 1973, provides research assistance for junior faculty throughout the college. This year's recipient was **Lisa Son**, Assistant Professor of Psychology, for her study "Metacognition and the Allocation of Time." **The Bernice G. Segal Memorial Fund** provides summer research fellowships for science students at Barnard. Prof. Segal recognized what is very much true today: without competitive stipends, financial pressures prevent needy students from availing themselves of important research opportunities. To donate to either fund, or to support other department priorities, please send a check to the Development Office, payable to Barnard College. *Please specify clearly the purpose to which you wish your gift applied.*

Keep in touch. We enjoy hearing from you and sharing your news. Barnard faculty e-mail addresses are (initial-name)@barnard.edu, e.g. [schapman@barnard.edu](mailto:schapman@barnard.edu). Phone calls are always welcome (Chapman: 212-854-2098; others can be found in the directory on Barnard's web page), as is regular mail. Our apologies if any news above is outdated or incorrect: we sometimes assemble information from incomplete sources and our not always reliable memory. Please write: we will happily make corrections or add more personal details.

With warmest regards,



Sally Chapman, Professor and Chair  
(with contributions from the entire department)

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**Alex Severino, Annie Jiang, Dick Zare (medalist), Katherine Nguyen, Bridget Marcellino,  
and Marina Khrapunovich at the Nichols Award Symposium**