

BARNARD CHEMISTRY DEPARTMENT NEWSLETTER

June 1999

Greetings to alumnae and friends. The class of 1999 has graduated, reunion is over, so it is time to reflect on the 1998-99 academic year and bring you up to date on the college, the department, the faculty, the students, and those alumnae about who we have recent news.

NEWS OF THE COLLEGE

Things go well at Barnard. Applications are at an all-time high, so the quality of the entering classes is excellent. Renovation projects are many: the disruptions can be painful, but updated laboratories and classrooms are the reward. This summer's projects include replacing two of the three Altschul elevators (we are crossing our fingers that the third continues to function); the third will be replaced after the first two are put back in service. We all look forward to a future of reliable elevator service. The deck between Altschul and McIntosh is being torn up and replaced to alleviate serious leaks. A large classroom in Milbank is being refurbished, and equipped with the latest technology. Lehman Auditorium (202 Altschul) is scheduled for work in the summer of 2000; not a moment too soon: springs are starting to poke through some of the seats! But the campus looks better than it has in years, and many long overdue projects are being planned or completed. These are all signs of a healthy college.

Columbia, too, is building. Ferris Booth is gone; in its place, a much larger and handsome student center nears completion. A new dormitory rises at 114th and Broadway, where Chemical Bank was. A center for Jewish life grows on 115th St., west of Broadway.

The Barnard faculty has voted a new set of curricular requirements. Much is familiar, but the general education requirements have been restructured to give them greater coherence. Since Prof. Lessinger was a member of the Committee on Instruction, which brought the proposal to the faculty, details are in his faculty note below.

Barnard moves into the information age, albeit slowly and carefully. Web pages are now an essential part of college recruitment, and more and more information is being delivered on the web. Postcards we used to send with final course grades are a thing of the past: students can log onto the WWW and get their grades the day after they have been submitted. The Registrar and Dean of Studies offices conducted a pilot study this spring for web-based preregistration. The trick is to have it automated, but still to maintain some face-to-face consultation between advisor and student as part of the process. Catalog material is on the web, but it can be frustrating to find the information when and how you want it, and to be sure that it is current.

A few years ago, faculty worried that computer-based assignments might cause equity problems, with some students finding it more difficult to get access to a computer. Today, when we survey classes, we find that this is not so. But there does remain a huge disparity in what students are comfortable doing with computers: many run circles around the faculty, while others face a steep learning curve. Like the rest of society, we are still finding our way in this new cyberworld of education. There is much potential along with a lot of hyperbole. Considerable time, money, and effort are expended trying to exploit it wisely.

It drizzled on Barnard's graduation ceremonies (and poured the following morning, for Columbia's) but that didn't dampen the spirit of the last graduating class of the 1900's. Zoe Caldwell gave a marvelous graduation speech. The text is available on the web, but that doesn't do it justice; her wonderful dramatic elocution was an essential part of the overall effect.

NEWS OF THE DEPARTMENT

An important part of faculty development is making sure that junior faculty have sufficient time to focus on their research. Two chemistry department members, Profs. Robie and Shinnar, took Special Assistant Professor leaves this year. (More about their activities below.) **Prof. Burt Goldberg**, a biochemist, visited the department for the year. Although his Ph.D. is formally from the University of Cardiff in Wales, most of his research career has been as Haskins Laboratory at Pace University in Manhattan. Prof. Goldberg taught biochemistry labs in the fall and two lecture courses in the spring: Biochemistry and General Chemistry II. He played an active role in the department, serving as a liaison and informal advisor to several biochemistry students whose research mentors were outside the department. Prof. Goldberg's warmth and good humor were an extra bonus. **Dr. Qazi Hai** taught one course this spring, BC3252: Introduction to Thermodynamics and Kinetics. A surface scientist, Dr. Hai has taught chemistry all over the world.

Our tradition of majors' luncheons continues. Due to a last minute cancellation, our invited speaker for the fall was not able to attend, but visiting **Prof. Burt Goldberg** kindly stepped in and told us about his work on the biochemistry of trypanosomes - nasty organisms with fascinating chemistry. Our speaker in the spring was **Prof. Yorke Rhodes** of N.Y.U., who gave a very interesting overview about current research on interstellar molecules.

We had a special event in February. **Prof. Karen Goldberg '83**, an inorganic chemist at the University of Washington (Seattle) kindly offered to include Barnard in a series of visits she was scheduling. The department hosted a luncheon in the Altschul Atrium, including all chemistry and biochemistry majors, and faculty and graduate students in inorganic chemistry from Columbia. Her talk, "Making and Breaking Carbon-Hydrogen, Carbon-Carbon and Carbon-Heteroatom Bonds using Platinum Complexes" was a beautiful presentation, showing how a range of evidence, structural and kinetic, can be used to elucidate the specific mechanism of very important oxidative addition and reductive elimination processes. Thanks, Karen; it was a wonderful day!

We are very pleased to announce that **Dr. Linda Doerr** will be joining the department this fall as an Assistant Professor. Prof. Doerr received her B.A. *magna cum laude* from Cornell in 1991. She began doing inorganic chemistry there, doing undergraduate research in the laboratory of Prof. Francis J. DiSalvo. She received her Ph.D. from Massachusetts Institute of Technology in 1996, where she worked in the laboratory of Prof. Stephen J. Lippard. She was awarded a NATO postdoctoral fellowship to Oxford University. There she joined the inorganic chemistry group lead by Prof. Malcolm L. H. Green, F.R.S. She was subsequently awarded a very competitive Junior Research Fellowship at St. Johns College, Oxford. Her research focuses on the synthesis and characterization of novel metal-ligand compounds. In the 1999-2000 academic year, she will be teaching inorganic chemistry and the quantitative and instrumental techniques laboratory courses. Dr. Doerr was our first choice in a strong pool of candidates; we are thrilled that she is coming to Barnard.

Another new appointment is joint with the Environmental Sciences (ES) department. **Prof. Julian Sachs** specializes in organic geochemistry, oceanography and the climate history of the earth. He has a B.S. from MIT in Earth, Atmospheric and Planetary Science. In 1997, he received his Ph.D. in Chemical Oceanography from M.I.T. and the Woods Hole Oceanographic Institution. Since then he has been a postdoc at the University of Colorado in Boulder. Research in Prof. Sachs' laboratory includes the analysis of fossil biomolecules in marine sediments and polar ice to reconstruct ancient climates. His Barnard teaching will be divided between chemistry and ES; he will teach the Modern Techniques labs (Chemistry BC3333 and 3335) this fall.

Talented chemistry students won a number of awards. **Jing Lucy Sun '01** won the CRC Press Award for outstanding achievement in first year chemistry. **Christina Ring '00** won the ACS PMSE award for excellence in organic chemistry. Christina also shared the Eleanor Elliot Prize,

given to a junior for outstanding overall academic achievement, integrity, and good citizenship. **Sarah Tully, Tarah Pua, and Cindy Kan** (all '00) shared the Marie Reimer Prize for the outstanding junior chemistry major; it was simply impossible to distinguish among this talented trio of students. **Tarah Pua** also won the ACS Analytical Chemistry Division award along with the college's Gertrude Zufall award for a premedical student starting her senior year. In a national competition, **Sarah Tully** won a prestigious Barry M. Goldwater Fellowship. Sarah is spending the summer at the FBI Crime lab in D.C. We look forward to hearing about her adventures as a crimebuster! A Bernice G. Segal summer fellowship was awarded to **Joan Shu '01**. Senior Prizes are listed in the alumnae notes below.

An excellent group of students elected to write senior theses this year. Each worked on her project throughout the year; some beginning the previous summer, or even earlier. The thesis students meet with the faculty in a weekly seminar that emphasizes oral and written communication skills, with lively exchange of ideas. In addition to the written thesis, each student gives a formal oral presentation. This year's thesis projects are listed below.

Student	Mentor	Project
Jhoanne Bautista	Ann Shinnar Chemistry	Purification and Characterization of the Haloperoxidase from the Atlantic Hagfish (<i>Myxine glutinosa</i>)
Jamie Geier	Bruce O'Gara Biology	Characterization of Serotonin Receptors in the Leech (<i>Hirudo medicinalis</i>) Pharynx
Tanuja Goulet	Ann McDermott CU Chemistry	Margatoxin Sample Preparation for Solid State NMR Determination of Protein Structure
Moushumi Paul	Christian Rojas Chemistry	Remote olefin functionalization using photochemically generated acyl nitrenes
Hannah Storrie	Jed Parkin CU Chemistry	Modeling Aspects of the Catalytic Cycle of Liver Alcohol Dehydrogenase
Fay Xing	Bernard Weinstein Columbia P&S	Studies on the roles of specific isoforms of PKC in Mitogenic Signal Transduction Pathways and Growth Control

Some faculty and senior thesis students attended this year's Nichols Symposium and dinner, honoring Prof. Sam Danishevsky of Columbia. It was an excellent symposium.

We are very pleased that a recent gift to the college from **Dr. Helen Ranney '41** benefits equipment and facilities in Chemistry. As part of the sixth floor renovations, a large darkroom was reconfigured, creating a smaller and much more functional darkroom, with the remaining space perfectly sized for our fluorimeter. This new area is now the Helen Ranney '41 spectroscopy suite. Part of her gift is being used to purchase a much-needed ultracentrifuge.

Other equipment acquisitions this year, purchased in part with funds remaining from a series of gifts from Bristol-Myers Squibb, include a new Perkin-Elmer FTIR, and two benchtop centrifuges. College funds were used to upgrade our 200 MHz NMR with a Sun workstation front-end. Prof. Rojas submitted a proposal to the new CCLI program of the NSF for an NMR upgrade; the original proposal was not funded, but it has been resubmitted.

Prof. Chapman attended a symposium at the ACS meeting in Boston last summer on the history of women in chemistry. Margery Caserio, a Bryn Mawr Ph.D., presented a survey of early women chemists from Bryn Mawr, including in her highlights three women who taught at Barnard: Harriet Brooks, Marie Reimer, and Emma Stecher. The story told at Bryn Mawr is that when Harriet Brooks, a co-discoverer of Radon who had worked in Rutherford's lab, wanted to marry, the

Barnard President told her that she couldn't stay at Barnard and be married, so she left. I have not been able to verify this tale, but I am tracking down a biography of her to learn more.

Aware of the growing number of distinguished alumnae in chemistry departments, we recently conducted a small study. Among 24 top primarily undergraduate schools, Barnard ranks FIRST in the number of women bachelors' level graduates listed in the *1997 ACS Directory of Graduate Research*. Seventeen Barnard graduates appear; Wellesley is next with fourteen. The complete list is found on our web page.

April Fools' Day pranksters were afoot in Altschul this year. A ficus tree, given to the department by the class of 1998 (replacing one which had been stolen earlier that year, and for that reason chained to the wall) disappeared from the 8th floor hallway, replaced by several signs with messages like "unchained at last!" Throughout the day, signs would appear and disappear from the hallways. One example: a picture of a ficus tree, with caption "last seen swimming the Hudson..." We are glad to report that the tree was home, safe and sound, the following morning. We tied a yellow ribbon around it in celebration (and secured the chain a little better, we hope).

NEWS OF THE FACULTY

Being department Chair has kept **Prof. Sally Chapman** busy this year. Summer and part of the fall were consumed by construction hassles, but that has fortunately moved elsewhere. Faculty searches are another time-consuming, but critical and ultimately rewarding, task. Prof. Chapman has managed to learn enough basic HTML and other web arcana that she has put together web pages for the department and for all of her courses. Since the college maintains official web pages with things like catalogue material, our objective for the informal department web pages is to be relaxed and informative, with things like photographs, up-to-date information on lectures and events, and connections to course web pages and other relevant sites, like safety information. Please look at the site, and tell us what you think is good, bad, ugly, or missing. (This newsletter will be posted.) Its location: <http://www.barnard.columbia.edu/chem/>

Prof. Chapman taught Structure, Bonding and Spectroscopy (BC3253x) this fall. She continues to develop the use of computers in the course. Students again did individual quantum chemistry computational projects using the commercial PC-Spartan package. Problems sets used other web-based material along with Excel. We are hoping to assemble equipment so we can bring more of these applications directly into the classroom. She also worked with Prof. Lessinger and Mrs. Jebejian in the laboratory part of General Chemistry II, giving a couple of the lab lectures each week, and reviewing the grading of student lab reports.

In the spring, Prof. Chapman taught Quantitative and Instrumental Techniques ("Chem 38 and 40") with Mrs. Jebejian, assisted by Mrs. Liu. Old-timers would recognize parts of this course -- we still do lots of titrations --- but computers have changed data-analysis. Students who finish this course are experts at Excel. We have been working hard to incorporate the use of more advanced analytical instrumentation. An atomic absorbance (AA) experiment, determining Ca, Fe, and Cu in foods, is popular with the students, and a new AA experiment measuring trace elements in wine and beer was added this year.

Prof. Chapman attended a workshop on Digital Libraries at NSF in July 1998. Before attending she had only the vaguest notion of what a digital library is, so she learned a lot. Prof. Chapman continues her involvement with two ACS committees, as Chair of the Advisory Board to the Petroleum Research Fund (PRF) and a member of the Committee on Professional Training (CPT). In January, she was part of a team evaluating the Chemistry Department at Hope College, in Holland Michigan. She just returned from a relaxing holiday with friends in Alaska, where they enjoyed kayaking, biking, river rafting, and marveling at the splendid scenery, amazing wildlife, and unusually warm and sunny weather.

Prof. Leslie Lessinger taught the large introductory course, Chem 1601, again last fall. Class enrollments were steady at about 125, and the class had an excellent lively spirit. The emphasis of the class continued to be on weekly problem-solving, with greater weight given to conceptual understanding as well as working out numerical answers. Students were asked to explain things in their own words, to comment on the significance of the results they calculated, and to describe how experiments could decide among several hypotheses. We have had to use a new textbook, and we chose Oxtoby, Freeman, and Block. It is a fairly good, clear text, and introduces topics in just about the order we want, but the problems are not nearly as interesting or challenging as those in Prof. Segal's textbook, so we have had to construct a lot more problems on our own.

In the spring, Prof. Lessinger taught the third semester of physical chemistry, methods and applications, to a large group of 16 juniors and seniors. As part of the unit on solids and crystallography at the end of the course, students were asked to write brief summaries of current research papers, of their choice, and also to present the results of the research to the class. This mini-symposium covered a great variety of topics, including quasicrystals, sodium -1 anion, pentacoordinate silicon, scorpion toxins, diphtheria toxin, HIV-1 protease, and cold viruses.

Professor Lessinger supervised the research of **Anne Runge '99** this spring. Anne did a great deal of background research on vanadium chemistry, and worked in the laboratory attempting to synthesize complexes of the vanadyl cation, VO^{2+} , a beautiful blue species in water. This work was very challenging, since vanadium has many oxidation states and the predominant species in any mixture are very sensitive to the pH as well. Professor Lessinger also very much enjoyed hearing of the work of the six students who did thesis work this year, and he served on the examination committees of three of them.

Continuing as co-director of Centennial Scholars Program, with Prof. Helene Foley of Classics, Prof. Lessinger was again thrilled at the quality and depth of the work of an outstanding group of senior Centennials Scholars who presented their projects this year. The one science-related project was by **Jhoanne Bautista '99**, a major in Biochemistry, who worked with Professor Ann Shinnar on isolating, purifying, and characterizing a vanadium chloroperoxidase enzyme isolated from the Atlantic hagfish. Joey gave a spectacular presentation of her work using a Powerpoint slideshow and the fancy projector in the Held Auditorium, Barnard 304, used among other things for Art History classes.

The Committee on Instruction, of which Prof. Lessinger is a member, completed its proposals for the revision of Barnard's general education requirements and presented them to the faculty, which approved them. The new system requires all students to take both first-year English and first-year seminar, and we will work and making the two courses complementary and reinforcing of each other. In addition, students will now be required to take courses in 9 categories: reason and value, social analysis, historical studies, literature, comparative cultures, visual and performing arts, language (4 semesters), a laboratory science (2 semesters), and quantitative and deductive reasoning. Overlap with courses for the major is allowed. Two semesters of physical education are also mandated. The new requirements are now clear, easy to understand, broad in scope, flexible, and seem to satisfy most of the faculty and its interests.

Prof. Lessinger also served as President of Phi Beta Kappa this year, and was happy to conduct the very dignified and elegant ceremonies that Barnard uses in the fall and spring to induct new members. Excellent academic addresses were given by Professor Baswell of the English Department and Professor Pious of the Politics Department.

Professor Lessinger and Professor Tim Halpin-Healy of the Physics Department wrote a grant proposal for a new joint laboratory course in the chemistry and physics of materials. They were awarded \$50,000 from the Camille and Henry Dreyfus Foundations Special Grants Program in the Chemical Sciences. This will be used to purchase a lovely new Rigaku tabletop X-ray powder

diffractometer. This computer controlled instrument will allow rapid determination of powder patterns and comparison with the standard patterns in the powder diffraction database. It will be the centerpiece of the new course, and will of course be used in our own physical chemistry course as well. A similar proposal to NSF was turned down, but has been revised and resubmitted.

A commendation from The Barnard Committee on Appointments Tenure, and Promotion was given to Prof. Lessinger in recognition of his excellent teaching. The award was presented at the Medalists' luncheon on graduation day.

Prof. Elise Megehee will be joining the faculty at St. John's University in Long Island this coming fall. A farewell luncheon was given in her honor recently; she was given a set of Shakashiri's *Chemical Demonstrations* as a going-away present, along with a collage of photos. We wish her the very best in her new position.

Prof. Dan Robie has spent his leave this year visiting the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland. He has been working with the Chemical Science and Technology Group, which does a lot of very interesting laser science. He continues to develop cavity ring-down spectroscopy (CRDS) methods for measuring very weak spectral signals. He has sent us a sample spectrum showing an overtone signal in H₂, and is working on two manuscripts.

Prof. Ann Shinnar, also on Special Assistant Professor Leave, has set up her recently renovated lab and written grant proposals. The NSF POWRE Program (Professional Opportunities for Women in Research and Education) has just approved her proposal for characterizing antimicrobial peptides from lamprey intestine. This spring, Dr. Shinnar was invited to give talks at the Great Lakes Fishery Commission and the New Jersey School of Dentistry and Medicine about her research on antimicrobial peptides from hagfish and lamprey. She also participated in the April 1999 Gordon Research Conference on Antimicrobial Peptides in Barga, Italy, where she presented a poster. In May, she attended the American Society for Biochemistry and Molecular Biology (ASBMB) meeting in San Francisco. As one of eighteen undergraduate faculty members to receive an ASBMB travel award, she presented a poster and attended symposia on biochemistry curricula. Barnard undergraduates listed on these posters included **Jhoanne Bautista '99**, **Olga Fishman '98**, **Claudine Lombardi '98**, **Sheng-Ching Wang '97**, **Li-Min Yang '97**, and **Jennifer Walker '96**. **Jhoanne Bautista '99** continues her senior thesis project on hagfish haloperoxidase before going to MIT graduate school in bioinorganic chemistry. **Sophia Fu '00** and **Joan Shu '01** are also working on projects with Dr. Shinnar this summer.

A number of Barnard students worked with **Prof. Christian Rojas** during the past year. **Moushumi Paul '99**, **Sarah Tully '00**, **Charli Long '00**, and **Cindy Kan '00** presented their work at a symposium sponsored by the New York Section of the American Chemical Society (ACS) in May. Moushumi enters graduate school in organic chemistry at the University of Illinois this fall. This summer Cindy is continuing her work in the Rojas group with a fellowship from the Council on Undergraduate Research and **Christina Ring '00** has joined the effort with support from the Pew Foundation. Professor Rojas received a grant from the Petroleum Research Fund of the American Chemical Society for work on the synthesis of oxazolines via nitrogen insertion processes. He published a paper, "Studies of Acyl Nitrene Insertions. A Stereocontrolled Route Toward Lankacidin Antibiotics", *J.Org. Chem.* **1999** 64:736-746, with David Williams and Stephane Bogen of Indiana University. In February, Professor Rojas gave an invited lecture, "Novel Heterocyclic Intermediates," at the Columbia Chemistry Department, and will give talks this summer at the New England Regional Meeting of the ACS in Potsdam, NY and the ACS National Meeting in New Orleans.

The College recognized Professor Rojas's teaching efforts with the Gladys Brooks Junior Faculty Excellence in Teaching Award, presented at the Medalists' Luncheon prior to

commencement ceremonies. The prize money will help pay for diapers: Christian and his wife Christine had a baby girl, Sidney Victoria, their first child, in June.

General and analytical chemistry laboratories would not function without the experience and care of **Mrs. Olympia Jebejian**. Coordinating the system so that each week each of 125+ students gets her lab notebook back, carefully graded with personal comments, in a matter of days is an extraordinary feat. Long after they have left general chemistry, students rely on "OJ" for her support. The big event is the Jebejian family calendar this summer is the wedding of Maria, BC'97.

Dr. Meena Rao ably coordinates the organic laboratories. We salvaged some discarded furniture from the 6th floor renovations, and have made arrangements in the organic lab so that each student has a separate place for her equipment (enrollment pressure had caused some doubling up.) The 7th floor organic teaching lab is well-organized, but in desperate need of major renovation. A thirty-year old design with minimal hood space is simply inadequate for teaching modern organic chemistry. Any donors out there?

Dr. Toby Berger Holtz '67 continues to juggle several hats in the department, teaching sections of general and organic chemistry, doing preparations for the organic laboratories, and coordinating the department's purchases. **Mrs. SuQing Liu** keeps busy making sure that several lab courses run smoothly: biochemistry and physical chemistry in the fall, and analytical and physical chemistry in the spring. She has recently completed a project testing and developing new procedures using dry-ashing techniques for sample preparation for AA experiments. She spent a lot of time this past summer and fall reorganizing the renovated sixth floor teaching labs. Come visit them!

We are very happy that our successful team of laboratory associates will be with us this coming year. **Dr. Colette Levi** teaches in the two introductory labs: general and organic chemistry. **Dr. Frances Feerst** teaches in the General Chem lab in the fall, escaping to Florida for the winter. **Mrs. Jarka Paruchova** and **Dr. Mandy Bennett** teach both general and organic chemistry. Mrs. Paruchova will be working with Dr. Rojas in his research this summer. **Mrs. Ying Xie** joined the department this year. She has recently come to the U.S.; from 1973 to 1997 she taught chemistry at Fudan University in Shanghai.

NEWS OF FORMER FACULTY AND STAFF

Prof. Emerita Emma Dietz Stecher died in December 1998, at the age of 93. A Barnard graduate in the class of '25, Prof. Stecher received her Ph.D. in Chemistry from Bryn Mawr College. She taught organic chemistry to generations of Barnard students. After retiring from Barnard in 1971, she taught for many more years at Pace University in Manhattan. Until recently, she continued to live in Morningside Heights, attending many events at Barnard, where her intelligence and sharp wit were always in evidence.

Dr. Grace King, who lives in the neighborhood, visits the department from time to time. She keeps busy with family, concerts, and other cultural activities.

NEWS OF ALUMNAE

Class of 1999

Fourteen Chemistry and Biochemistry majors have just graduated. Some of their plans for next year are definite, others tentative. Some plan to work for a year or so before further studies.

Jhoanne (Joey) Bautista, a Centennial Scholar, graduated $\phi\beta\kappa$ with honors in biochemistry. She was awarded the American Institute of Chemists' award for the outstanding chemistry graduate. She was also awarded the college's Grace Potter Rice Fellowship. Joey enters graduate school at M.I.T. this fall.

Jae Choung is planning to work.

Jennifer Fung is planning to work.

Jamie Geier is entering graduate school in biochemistry at U.C. Berkeley.

Tanuja Goulet is spending this summer as a TA for Columbia chemistry lab courses. This fall she is starting a job in the Environmental Engineering department at U.C. Berkeley. Enjoy California!

Bonnie Koo is using her considerable computer skills to move into the business world. She will be working for Morgan-Stanley Dean-Witter, starting out in London. How nice!

Jennifer Montgomery graduated $\phi\beta\kappa$ and with honors in biochemistry. She was awarded the college's Alpha Zeta Club Graduate Fellowship, and the Ida and John Kauderer Prize for the outstanding premedical student majoring in Chemistry. Jen is entering a new M.D./Ph.D. program in California: her M.D. study will be at U.S.C., and her Ph.D. at Caltech.

Moushumi Paul will be entering graduate school in organic chemistry at the University of Illinois Urbana-Champaign.

Sunita Pradhan plans to test out the field of computer consulting.

Fawzia Qazi is looking for work.

Anne Runge will be entering graduate school at the University of Arizona, where she will be studying analytical chemistry.

Thalia Robakis graduated with majors in both Chemistry and Philosophy and was elected to $\phi\beta\kappa$. She will be working in a lab for the year, and plans to apply to graduate programs for fall 2000.

Hannah Storrie will be entering graduate school at Northwestern University, where she will be doing inorganic chemistry.

Fay Xing graduated with honors in biochemistry. She will be entering medical school at N.Y.U.

Classes of 1990 through 1998

Claudine Lombardi '98 has finished her first year in medical school at Columbia P&S.

Vicky Lin '98 completed her Masters in the Nutrition Program at P&S, and has applied to enter the Ph.D. program. She encourages others to consider this area.

Oops! I put **Christine Dunham '97** on the wrong U.C. campus in last year's newsletter. She is at Santa Cruz. She writes: "After debating about which lab to join (and doing rotations while teaching and taking classes), I finally decided to join Tony Fink's lab. His lab is a protein folding lab and I will be specifically looking at amyloid diseases. Amyloid diseases, such as Alzheimers and mad cow disease, can be attributed to protein aggregations. So I am looking at a form of the protein folding problem." Anyone who has read Richard Rhodes' scary but fascinating book *Deadly Feasts* knows how important this area of research is. Good luck, Christine, and keep us posted.

Rebecca Begley '97 will enter graduate school at Stanford this fall.

Eileen Doyle '97 writes from Rutgers: "I have joined Eddy Arnold's group and will work on his AIDS vaccine project for my thesis research. Right now I am working with a chimeric viral library that a visiting postdoc made but has not tested for neutralization against HIV, etc. I am doing a lot of molecular biology and virology, but later there will be some hard core biochemistry and crystallography! The lab just got crystals on a related project; we hope this bodes well for us later."

Sheng-Ching Wang '95 came by for a visit in March. She is a graduate student at Johns Hopkins. She enjoys the program, but is not a great fan of living in Baltimore. That's a good thing, since she has started research with Dr. Peter Gillespie who is moving his research group to the Oregon State University Health Sciences campus in Portland. Gillespie's group works in understanding the biochemistry of auditory cells in the ear. Sheng-Ching will take her orals at Hopkins, and will get her degree there, but will live and work in Oregon after next summer. She reported that some of the more biologically oriented graduate courses, like genetics, were very challenging since she hadn't studied these topics in our heavily chemical biochemistry major. But, of course, she did fine.

Tara DeJesus '94 sent us a lovely announcement of her graduation from Rush Medical College in Chicago. Congratulations, Tara!

Linda Liou DeJesus '93 took an evening from her busy life to tell Barnard students about careers in marketing and sales in a Career Services workshop. The students were very interested in what she had to say. Thanks, Linda. She wrote last summer: "I still work for the same chemical company, BNL, Inc. I was promoted to regional sales manager about one and a half year ago. Despite the hectic schedule, traveling on the road, and never ending hours of work at home (I work weeknights and weekends at home office), I enjoy my new responsibilities tremendously. On a personal note, my husband, Daniel, has completed his Physician Assistant program, and is working in orthopedic surgery; his true passion. My daughter, Isabela Lynn, turns four at the end of September. She is the most easy to handle kid I have known. Isa will be attending pre-K in a gifted and talented school in the Fall."

Prof. Chapman ran into **Charlotte Pooley Deckhut '92** at the ACS meeting in Boston last summer. At that time, she was quite pregnant; Nicholas was born in late October. Chuckie is an Associate at Ligand Pharmaceuticals. She explained that B.A. chemists can be given considerable responsibility in a small start-up company. She sent us reprints of several publications, including one on which she is first author: C.L.F. Pooley *et al.* "Discovery and Preliminary SAR Studies of a Novel Nonsteroidal Progesterone Antagonist Pharmacophore: *J. Med. Chem.* **1998** 41:3461-66.

Jennifer Chin '90, with a Ph.D. from M.I.T., will be starting Fordham Law School this fall. In this world of information and biotechnology, technically trained lawyers plan an increasingly important role. We hope you enjoy law school, Jennifer.

We received a nice long e-mail from **Lisa Spiryda '90**. She writes: "Following graduation I went to Mount Sinai School of Medicine in the MSTP (M.D./Ph.D.) program. I defended my doctoral thesis May '98. I worked with David Colman; my project turned out very interesting. I studied a peripheral myelin protein that was able to induce carcinoma cells to become morphologically and physiologically like normal epithelia including a decrease in their tumorigenicity in mice. It appears that this protein upregulates known proteins in the epithelialization pathway. I had a great time doing my Ph.D. and was fortunate to have several first author publications:

Spiryda, L.B. and D.R. Colman. Suppression of tumorigenicity in an aggressive cervical carcinoma induced by protein zero, a nervous system IgCAM. *J Cell Sci.* **1998** 111:3253-3260.

Spiryda, L.B. Myelin protein zero and membrane adhesion *J. Neurosci Res.* **1998** 54:137-46.

Spiryda, L.B. and D.R. Colman. Protein zero, a myelin IgCAM, induces physiologically operative tight junctions in nonadhesive carcinoma cells *J Neurosci Res.* **1998** 54:282-8.

Spiryda, L.B. and D.R. Colman. Cadherin expression and the induction of epithelialization in tumor cells (in preparation)

"Currently, I am finishing my third year of medical school and trying to decide which area of medicine I would like to concentrate; I am leaning towards neurosurgery." Thanks for the update.

Classes of the 70's and 80's

Our alumnae notes this year feature an unusual number of lawyers. **Wendy Pollak Rieder '89** sent a nice long e-mail, which is edited a bit: "After graduating, I spent a year and a half in Columbia's graduate chemistry program. That was sufficient time for me to realize that laboratory research was not my calling! I left with a Master's degree and went to work for a patent law firm in NYC (Fish & Neave). I learned about the patenting process and how intellectual property works in the context of pharmaceutical/biotech companies. I got involved with a number of very interesting pharmaceutical and biotech companies and obtained some key patents for these companies (including the HIV-protease inhibitor patent for Vertex). The firm also sponsored me to attend Fordham Law school in the evenings. I passed the Patent Bar Exam in '92 (you don't need to be a lawyer to do so).

“In law school, I met another Barnard chemistry graduate (**Rimma Mitelman '85**) and we spent four long, hard years supporting each other. She works in the patent department at Unilever in NJ and we remain very close friends. It is a very small world! When I graduated from Fordham Law in '95, I took and passed the NYS and CT Bar Exams. Soon after, I left the law firm and went to work in the corporate legal department of a large pharmaceutical company, Boehringer Ingelheim, where I got a taste of life inside “big pharma”.

“After two years, I decided to get involved with starting-up a drug discovery/development company focussed on identifying and developing new antibiotics and anti-viral agents. I learned about writing business plans and raising capital and got things rolling. The process of getting a start-up funded is slow and difficult (and still ongoing)! Money became tight, so I took on some consulting work from a number of companies I had worked with in the past. As it turns out, one of the companies I was consulting for (Bionturics, Inc.) eventually hired me on as Vice President of Business Development and Intellectual Property for their R&D subsidiary, LipoGenics, Inc., headquartered in Phoenix AZ, but I work from my home in Mahopac NY (50 miles north of NYC). Although the arrangement was working out rather well, I recently reduced my time with LipoGenics to get involved with a second start-up company based in NJ. This new start-up is involved further downstream in the drug development process and focuses on expediting the clinical development of new drug candidates. We are still fine-tuning the business plan and have several pharma companies and venture firms interested in working with us to launch the company. I am very excited about the prospects for all three of the companies I am involved with and have more than enough work to keep me busy!

“On a more personal note, I got married in '94 to Robert Rieder and purchased a home in Mahopac. Bob is a software engineer working for a trading company in Greenwich CT. He has been working there for 5 years and has given me all the security, stability and endless amounts of support I have needed to follow my undulating career path. We have no children, but have had a constant flow of animal companions (at present, two dogs and two cats).”

Yasmin Khakoo '86 telephoned last summer. She is now on staff at Sloan-Kettering, working in pediatric neuro-oncology. With an M.D. from Columbia, she did her residency at UCSF. Yasmin and her husband are the proud and busy parents of a baby boy.

In a recent ad looking for a postdoctoral fellow, **Linda Peteanu '84** describes her research at Carnegie-Mellon. “[We do] experiments examining the effect of molecular environment on charge-transfer reactions using Stark, fluorescence, and resonance Raman spectroscopies. The focus of the research is the photochemistry and photophysics of retinals and other polar donor-acceptor polyenes in glassy and polymeric matrices. Opportunities to study charge-transfer reactions in proteins and in organic compounds, conducting polymers, and to participate in the development of novel spectroscopic methods will also be available to the successful applicant.” May I apply?

Patty McGovern '83 is a chemist at Novartis. She and her husband have two children.

Prof. Lessinger encountered **Maria Savio '79** attending her twentieth reunion at Barnard this month. Maria is an attorney with Gottlieb, Rackman, and Reisman, a law firm specializing in patents. She is active in Barnard alumnae affairs.

Joy Cooke Andrews '77 is in the chemistry department at California State University, Hayward. Her book, *Chemistry of Water*, co-authored with Susan Kegley, was published by University Science Books in 1997.

Nancy Tennenbaum Sklarin '77 is an Associate Attending and Assistant Medical Director of the Evelyn H. Lauder Breast Center at Sloan-Kettering. Nancy was a panelist for a Barnard Women in Medicine program, "New Frontiers on Breast Cancer", last October. It was an excellent panel, and we enjoyed seeing Nancy again.

Classes before 1970

Eva Gans '62 brings us up to date with her busy life: "Although I still am a professional computer consultant, my time is almost fully spent on volunteer work. Last May I was installed as the president of UJA Federation of Bergen County and North Hudson. For the past two years I had been serving as the first woman Campaign Chairman of the federation. We expect to close the 1998 campaign at over \$8 million. Our federation raises money for more than 40 local agencies; we also directly support two community centers in Israel in Haifa and Netanya.

"In December 1997, I was delighted to visit Israel with my three sons and two daughters-in-law to celebrate a Gans family reunion. Family members joined from many countries for the festivities. Great fun! I am planning a federation "leadership experience" to Israel in November 1998 to coincide with the federation movement's General Assembly in Jerusalem."

Helen Worms Arfin '60 enclosed a note with her contribution to the Libby Halpern Miller '60 Scholarship Fund. Helen worked briefly after graduation as a lab technician at Einstein, was a pre-school teacher when her children were little, and is now in accounting. She notes: "Over the years I have become convinced that the goal of a college education is to teach you to think clearly, to be able to assimilate and organize large amounts of information, to learn to work with a deadline, etc. and the major field is irrelevant if it keeps you excited and curious. And the Barnard chemistry department did that superbly." Thanks.

Miriam Nelson Brown '51 wrote to tell us her 1998 newsletter lacked four pages. Our apologies; I hope that was not true of too many others! She included this news: "After a 29-year hiatus during which I raised 5 children (one of whom is autistic) I decided in 1987 to return to the work force. After a two-year stint performing analyses in an environmental lab, I moved into my present position at one of Long Island's burgeoning biotech companies. It has been a stimulating eight years during which I've had the opportunity to learn a great deal." She included her business card, from Collaborative Laboratories in Setauket.

Gertrude F. Neumark '48 has been named the Howe Professor of Engineering and Applied Science at Columbia. She called and told us about this new honor in late April. Unfortunately, at the time she was laid up with a broken ankle and ribs. She had fallen off a poorly constructed podium while giving an invited lecture. We hope she is back up and about now.

CLOSING REMARKS

As usual, we take this opportunity to remind you of two important funds at the college. Both continue to grow, thanks to your generosity. **The Edward J. King Memorial Fund**, in honor of Prof. King, chemistry Chair from 1960 to 1973, provides research assistance for junior faculty, a critical need in the intellectual life of the college. **The Bernice G. Segal Memorial Fund** originated with a fund set up by Prof. Segal in her lifetime, assigning a share of the proceeds of her textbook. The fund, which provides summer fellowships for science students to do research at Barnard, continues as a memorial to her. Prof. Segal recognized what is only more true today: without generous stipends, financial pressures prevent needy students from availing themselves of important research opportunities. To make a donation to either fund, please send a check to the Development Office, payable to Barnard College. *Please specify clearly the fund to which you wish your gift applied.*

Keep in touch. We enjoy hearing from you and sharing your news. Faculty e-mail addresses are (initial-name)@barnard.edu, e.g. schapman@barnard.edu. (barnard.columbia.edu works too.) Phone calls (212) 854-2098 and old fashioned mail are welcome, too. We also now have a department fax: (212) 854-2310. My apologies if any of your news above is incorrect: we sometimes assemble information from incomplete sources. Please write, and I will happily make corrections.

With warmest regards,

Sally Chapman
Professor and Chair