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B R Y N M A W R

November 2002

Dear Alumnae and Alumni,

We have just entered a new era! This year, Liz McCormack starts her term as Department Chair, ending twenty-five years of male department chairs. Before Liz, the last woman to chair the department was Rosalie Hoyt (1968-1977) who writes, by the way, that she "would love to hear from those who remember" her (rhoyt@zwi.net).

After last year's 11 majors, we will have smaller classes these next few years. We have six seniors and six juniors, of whom two are away – one at the University of Washington, another at the University of Melbourne. There are five in the second year course, including one freshman. This summer, as usual, we had a few students doing research here and elsewhere. Two were on campus, two at NIST, and one each at Columbia and West Chester working on such topics as robotics, mathematical logic, nanostructures, terahertz spectroscopy, particle physics, and astrophysics.

For the second year, our graduate students joined their colleagues from the other science departments to present their research in a Graduate Student Research Symposium (see <http://www.brynmawr.edu/Acads/Physics/grad/symp.html>). Organized by Liz McCormack and sponsored jointly by the Center for Science in Society (<http://serendip.brynmawr.edu/local/scisoc/>) and the Graduate School of Arts and Sciences, this symposium allows graduate students from all the science departments to share their work with each other and the community.

In 1986-2000, BMC ranks 10th of *all* colleges and universities in the country, second among liberal arts colleges, and first among women's colleges, in terms of the *total number* of its women undergraduates who go on to receive a doctorate in physics. In 1996-2000, BMC was second among all colleges and universities in the country in the total number of women to receive a bachelor's degree in physics. (OK – Harvard was first, if you're curious!). With the election of Naomi Halas (Ph.D. '87) to Fellowship last year, we now account for 3.5% of the women Fellows of the APS. The department was recently selected by the National Task Force on Undergraduate Physics (a task force jointly sponsored by the American Institute of Physics, the American Physical Society and the American Association of Physics Teachers) to be a case study in a publication highlighting the "best practices" of thriving physics departments.

Liz McCormack is back from leave this year and is serving as Chair of the department for the first time. During her leave she had two new proposals funded. The NSF is funding a three-year project to study "The Structure and Dynamics in Highly Excited Molecular States. The grant will allow her group to purchase a new laser system, which can generate light into the near UV. The second project, "An Investigation of the Feasibility of Laser-Trapped Mirrors for Space," was funded by the Nasa Institute of Advanced Concepts. For this project a crew of collaborators including Tony Rothman as a research associate at Bryn Mawr, are studying the feasibility of a new kind of space mirror based on recent advances in using laser light to trap particles. Bob Ekey is in his fourth year as a graduate student and is making good headway using a discharge source to prepare transient states for the NSF study.

Al Albano is still analyzing electrical signals from leeches and brains. Some of the work on brains is done in collaboration with a group that includes Chris Cellucci (Ph.D '98) who holds a tenure-track appointment at Ursinus College. For his dissertation, graduate student Steve Hess is constructing a nonlinear dynamical model for the analysis of nuclear plant risk, a study that is being funded by the Electric Power Research Institute (EPRI). In the meantime, together with colleagues from the English and Theater departments, Al is teaching a college seminar on light in which students read, among others, Calvino, Newton, H.G. Wells, and do labs in optics and stage lighting.

Peter Beckmann ended his n^{th} term as Chairman and is looking forward to a well-deserved sabbatical sometime in the near future. In the meantime, he continues with his research both on campus and at the Department of Chemistry at the University of Delaware. Peter is involved with undergraduate admissions for the m^{th} time and President Vickers has appointed him to her "Enrollment Management Advisory Group" to rethink the manner in which the College gets "the message" to high school students and how the college allocates financial aid. Any ideas?

Michael Noel's lab is operating in high gear. The NSF has granted him a 5-year "Early Career Development Award" to study dipole-dipole interactions between highly excited atoms in an ultracold vapor. Graduate student Thomas Carroll is designing the first series of experiments for this project. Michael is joined in this effort by Michael Lim, a Huff Postdoctoral Fellow. Michael L. did his undergraduate work at Harvard, his Ph.D. at Michigan, and comes to us after doing a postdoc at NIST. Mary Kutteruf, a senior undergraduate and Marshall Fellow, has begun construction of a high-power laser, which will be used to precisely manipulate the ultracold atoms in their vapor sample. In January, a second graduate student, Ahmed Rashed, joined the group. Ahmed is working to develop another research direction to study dynamics in highly excited atoms in the presence of strong electromagnetic fields.

Matthew Rice is taking the new Physics 214/215 sophomore sequence into its second year. This new sequence is an attempt to make the whole sophomore year gel as a two-semester course with modern and classical physics blended throughout. Meanwhile, Matthew is continuing his quest to take physics education to the web and students in one of the introductory courses, Physics 102, will again submit work and get instant feedback from their nearest computer terminal. He is also working with senior Emily Barrentine using computer-modeling techniques to discover monopole solutions in non-abelian gauge theories.

Juan Burciaga continues to run our introductory physics laboratories and he has remained active in the American Association of Physics Teachers. The upcoming Winter '03 National AAPT Meeting in Austin is a joint meeting with the National Society of Hispanic Physicists and Juan is the liaison between the two organizations. In addition to developing and chairing the session "Building Success: Support Communities and Curricular Strategies"; he has helped contact and recruit speakers in Mexico and the Southwest for the other joint sessions; is arranging for 100 5th and 6th graders to attend a Physics Circus at U.T.; and has organized the first ever joint forum with the NSHP, the National Society of Black Physicists, and the Committee on Minority Concerns of the AAPT to discuss common issues. Juan has also been asked to work as a consultant to the National Task Force on Undergraduate Physics as they begin working on issues of diversity in undergraduate education.

This Newsletter is being emailed to everyone who has a BMC alumnae/i email address and sent hardcopy to the rest of you. You can help us save on postage and stay in touch with the college by setting up an email account with the BMC Alumnae office. Thank you all for your support and continued interest. We look forward to hearing your news.

We are proud of all of you, the diversity and complexity of your lives and careers, and your continued interest in the College and the Physics Department. Please keep your emails, cards and letters coming and we will do our best to share messages and news in future letters. We look forward to your visits and hope to see many of you in the coming year.

We hope you will continue your financial support for the College's programs. Support for the general funds of the College gives maximum flexibility to direct resources to buildings, faculty, financial aid or programs. However, if you wish to restrict your contributions to support programs in physics, we urge you to consider contributing to the endowment of the Marion Reilly Chair (the partially endowed professorial position held in turn by Walter Michels, Rosalie Hoyt, and Alfonso Albano), to the Helen Schaeffer Huff Fund which provides income to support a postdoctoral position that alternates between the physics and chemistry departments, to the Anna Pell Wheeler Fund which supports the department's colloquium series, or to the Physics Mentoring Fund which was seeded by the mentoring award given the department by the White House in 1998.

Sincerely,

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We hear that.....

We apologize if any of the following information is 'old news' or if it has any inaccuracies. If corrections are needed, please let us know.

Reunion weekend brought a fair share of our physics alumnae back to BMC.

Class of 1997: Chastity Bedonie, Jordana Golden, Melissa Green Katrincic, Matty Lau, Karen Patwa, Lidija Sekaric, Emma Stellman, and Tracy Weber. Representing their respective classes were Nancy Cooper Werner '47, Suzanne Broughton Myers '58, Janet Hoffman '77, Anne Young '71, Angela Johnson '87, Christine Johnson and Zoe Williams '92

Abraham, Neal (Ph.D. '77) and BMC physics faculty member (1981-1999) tells us that, " things continue to go well at DePauw where we have had the good fortune of a surge in resources permitting the hiring of over 100 new full-time faculty members in the last five years, raising the total to 220 and reducing the student-faculty ratio to 10:1. I went with a team of faculty members last weekend to a conference at Iowa State University on recruiting and retaining more women as science majors and science faculty members. I spoke on the track record in these areas of Bryn Mawr and the special women in science support programs developed over the last ten years at DePauw. This cause is being advanced by the new series of major institutional grants under the NSF ADVANCE program (four of the recipient schools of the first round of grants were represented at the conference)."

Allersma, Miriam ('91) is a research Fellow in the Biophysics Research Division at the University of Michigan. She recently presented a paper at the Biophysical Society's meeting in San Francisco. She would like to hear from any alums that have gone into careers in Biophysics.

Artacho Guerra, Carolina ('99) is in Albuquerque working for CVI Laser Corp. The last we heard she was planning to apply to graduate school for physics.

Balant, Anne ('79) changed careers during the layoffs at IBM in 1993. She is now chair of the Dept. of Communication Disorders at SUNY, New Paltz. Her research interests are in acoustics and hearing sciences.

Bauer, Nelle ('01) is working for the US government – but we're not telling you where!

Bedonie, Chastity ('97) is currently living/working in Washington D.C. Last time we heard from her, she was on the staff of a Congressman from Oklahoma.

Blue, Cynthia ('90) is a Housing Planner for the City of Greensboro, NC and likes to think (or so she says) that she is doing better at it than she would have ever done in physics. She plays many roles in the development of affordable housing from lender to developer to planner and project manager. She sends her greetings to the class of '90.

Bokhari, Samina ('83) lives in Madrid and is an Account Manager in the Marketing Department of Amadeus, one of the leading travel distribution companies in the world.... She says, "that marketing plans and advertising campaigns are a far cry from quantum physics and differential equations, but I would like to think that I still put to good use the analytical thinking and research skills which Bryn Mawr helped me develop back then."

Cellucci, Chris (Ph.D. '98) is now co-chair of the physics department at Ursinus College in Collegetown, PA. He continues to work with Paul Rapp at the Medical College of Pennsylvania (now or soon to be the Medical School of Drexel University) and Al Albano on the analysis of biomedical signals. He is also enjoying a good season as Ursinus' Women's Rugby Coach.

Chen, Zhigang (Ph.D. '95) was tenured and promoted to Associate Professor at San Francisco State University in the Department of Physics and Astronomy. He recently returned from China where he attended a conference in Xi'an and also visited the Institute of Physics in Beijing; amazed at the changes that are occurring in his native land.

Cheung, Angela ('84) is now the Director of the Osteoporosis Program and Associate Director of the Women's Health Program; University of Health Network at the University of Toronto. She pursued medicine (MD, Hopkins '88; Ph.D. Harvard '97) then trained in internal medicine and women's health and bone densitometry.

Cohen, Beverly S. ('53) is Professor of Environmental Medicine at the Nelson Institute of Environmental Medicine (New York University) where, among other things, she studies the health effects of aerosols.

Conn, Kathleen (Ph.D. '86) who is now a K-12 curriculum supervisor in the West Chester Area School District in Pennsylvania has written a book entitled "*The Internet and the Law: What Educators Need to Know*". Kathleen received her J.D. from Widener University School of Law and is a member of the Pennsylvania Bar.

DiGrazio, Jeanne (MA, '92) is now with the Patent and Trademark Office in Washington. She is a Patent Examiner in the Physics/Optics unit and will be working in the liquid crystal area.

Donovan, Michele Torrusio ('83) is Marketing Manager (Computer Radiography) at IDEXX Laboratories in Portland, ME.

Dullea, John (MA '93) received an M.E. degree in Engineering Science at Penn State University and is working as a Senior Software Engineer at Keystone Computer Associates. He is continuing his research collaborations with Dr. James Alpigini at Penn State.

Elsing, Sarah Galchus ('89) is a Vitreoretinal surgeon in private practice at the Retina Center in Minneapolis. "She would love to hear from physics majors and anyone else, especially if you are in her snowy neck of the woods."

Flory, Melinda Groom ('61) She received a MS in Physics at Caltech and is currently a self employed math tutor.

Fry, Anne ('90) is a Research Associate with Lifetouch, Inc. The position involves looking at new technologies for portrait photography. Her research includes imaging science and technology (IS&T) and she is organizing a session on Digital Photography for IS&T PICS 2002 Conference.

Garber, Gary ('93 -Haverford student majoring in physics at BMC) is teaching at Boston University Academy, a private high school which is part of Boston University. He tours his students regularly through the physics department labs at Boston University. Gary is active in a Robotics FIRST Program for high school students and works part-time as a curriculum writer at Cambridge Physics Outlet, a publishing company.

Gebbie, Katharine B. ('57) is the Director of the Physics Laboratory at NIST/ Department of Commerce in Gaithersburg, MD. The NIST Physics Laboratory was recognized late last year for its leadership of the national effort to sterilize the mail.

Golden, Jordana ('97) is a Program Assistant at Drisha Institute/HaSha'ar in New York.

Gregory, Ann Merrill, ('47) received an MS in physics at Northwestern University in 1951. She worked two years as a lab assistant in the Department of Physics & Biophysical Research at the Mayo Clinic. She chose to stay at home and raise a family, but was kept very active in many organizations including the BMC Club in Chicago.

Halas, Naomi (Ph.D. '87) is the latest BMC physics alumna to be elected as a Fellow of the American Physical Society. Her Nanophotonics Group at Rice University continues to do pioneering work in the design and fabrication of nanostructures. Check out her website, <http://www-ece.rice.edu/~halas/>.

Herne, Catherine ('95) gave a physics colloquium last September, entitled, "Lasers, fields, and atoms: Programming Terahertz Fields for Rydberg Atom Control." She continues with her dissertation research at the Department of Applied Physics at the University of Michigan where she is also the president of the BMC Alumni Club.

Hoffer, Lois (AB '82, Ph.D. '90). Received a Diploma in Homeopathy (D.I.Hom.) from the British Institute of Homeopathy, Staines, in April 1998. These days Lois is busy applying her interests in languages and physics to a personally-motivated study of alternative medicine, including the re-translation and analysis of Samuel Hahnemann's "Organon of Medicine", the basis of homeopathy, which she does for an audience of about a hundred people on her Yahoo group, Hahnemaniacs."

Horner, Joseph (MA '61) is a Scientist Emeritus with the Air Force Research Laboratory. He had a long and successful career as a scientist and is now active in many organizations, including playing his violin in a chamber music group.

Janicki, Mary Beth ('93) is in her third year of OB/GYN residency at the University of Connecticut Medical School and has applied for a fellowship in Maternal-Fetal Medicine (high risk OB).

Johnson, Angela ('87) accepted a tenure-track position in teacher education at St. Mary's College in southern Maryland and started this fall. She joins Teymour Darkosh who is chairman of their Physics Department.

Johnson, Christine ('92) is a Veterinarian at Broadway Veterinary Associates in Oakland, CA.

Lau, Matty ('97) entered the Science Education program at the University of Maryland this Fall.

Lindsey, Beth ('00) has just entered the Ph.D. Physics Program at the University of Washington. She joins Eleanor Warfield ('96) in Lillian McDermott's group.

Lippi, Gian Luca (Ph.D. '90) and Lois Hoffer (AB '82, Ph.D. '90) visited this summer, their first joint visit to campus since moving to the University of Nice many years ago. Gian Luca is on the faculty of the University of Nice.

London, Michael (MA '94) has been appointed Adjunct for the Physics Introductory Laboratories at Ursinus College.

Los, Jennifer ('01) is working as a research assistant in Professor David Ryugo's laboratory at the Johns Hopkins School of Medicine. The work involves projects concerning deafness and neurology.

Louca, Despo ('90) gave a physics colloquium last October, entitled, "Lattice Distortions in Crystals and New Ways to Observe Them Using Diffraction." She is starting her fourth year as an Assistant Professor of Physics at the University of Virginia.

Mehrmanesh, Laura ('01) is a City Year Corps Member at The AmeriCorps Program City Year, Inc. which is a residential teaching program for city children. She is planning to enter a Master's/Ph.D. program in Biomedical Engineering in 2003.

Merchant, Shabnam ('90) is a senior consultant in computer programming at Dimension Data. She is actively involved in environmental matters in India.

Mooney, Patricia ('Ph.D. '72) who is still at IBM's T.J. Watson Research Center (Yorktown Heights) gave a physics colloquium in April 2002 entitled, "Frontiers of Si Technology: Materials for Strained Si Devices." She continues to serve on the Editorial Board of *Physical Review B*.

Nichols, Christine ('70) teaches physics, physical science, chemistry and earth science at Englewood High School in Englewood, CO and is chair of the Science Department. She is proud of the fact that half (sometimes, more, rarely less) of her students are young women.

Nihei, Taryn ('97) worked as an Analyst at Silver Oak Partners in Philadelphia after receiving her MS in Physics at the University of Pennsylvania. Now, we hear that she is back at Penn on a Ph.D. program.

Olney, Patricia ('85) is an Assistant Professor of Political Science at Southern Connecticut State University. She has been Latin America Bureau Manager at U.S. News & World Report and is currently working on publishing a book with Penn State Press.

Oran, Elaine Surick ('66), Senior Scientist, Naval Research Laboratory was recently inducted into the 2002 Hall of Fame for Women in Technology International. Dr. Oran has been an engineering pioneer using computer numerical simulation for solving problems. Currently she is working on simulating microfluids (the dynamics of flows in micro- and nanodevices), the physics of detonations and the physics of astrophysical supernovae.

Paoletti, Leslie ('66) is currently an Instructor in Mathematics at Central Connecticut State University. Her career path has included teaching math and science education K-12.

Paty, Carol ('01) just finished her qualifying exams and is starting her second year in the Space Science Program at the University of Washington.

Peckman, Bob (Ph.D. '77) Retired in 1998 from an engineering career at ITT-Night Vision to pursue a new career as a Jazz Drummer and Band Leader.

Pretorius, Dolores ('74) is Professor of Radiology at the Medical School of the University of California at San Diego. She is a pioneer in the development of 3D ultrasound imaging and its use in obstetrics. She came to give a talk in early November.

Purdue, Patricia ('95) finished her Ph.D. at Cal Tech and has started a tenure-track position at Colorado College. She gave a colloquium at BMC in February on her thesis research.

Seccareccia, Vada ('96) has just started her third year of graduate school in architecture at Rhode Island School of Design.

Sekaric, Lidija ('97) expects to finish her Ph.D. in Applied Physics at Cornell this May and is now exploring the academic and National Laboratory job markets.

Tesler, Pearl ('92) is still at Exploratorium in San Francisco; playing loads of soccer, and writing freelance. She recently finished an article on the physics of dance, for which she interviewed Dickinson Prof. Kenneth Laws (Ph.D. '62).

Weber, Tracy ('97) received an MPH from Columbia University in May 2001. She started law school at the University of Maryland this fall.

PHYSICS ALUMNAE/I DATA UP-DATE FORM**SEND TO:****BY MAIL:**

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