



2 Our Faculty

3 Research Profiles

4 New Curricular Options

5 Organic Labs Revised

6 Undergrad Research

7 Old Rogers Recollections

9 Chemists Relax

10 Meet Our Staff

11 News from Alums

 insert **Chemistry Concentrators 1999**

Dear graduates and friends,

This newsletter is a very important way for us to keep in touch with you. It is also an opportunity for us to ask what you are doing. With this edition a brief section highlighting alums' achievements and happenings premieres. Send your information to Editor, Chemistry Distillations, Department of Chemistry, College of William and Mary, P.O. Box 8795, Williamsburg, VA 23187-8795. (The P.O. box number is very important now; the U.S. Post Office will not deliver mail to the College without it.) You can also correspond by e-mail if you prefer, to dcbebo@wm.edu.

Remarks by the Chair

This edition of Chemistry Distillations was edited by Debbie Bebout and, as always, Louise Menges capably put everything together in final form for publication. A sincere "thank you" to Debbie and Louise and to all others who contributed to this edition.



The 1998-99 academic year was busy and productive for the Chemistry Department. Bill Starnes became editor-in chief of the Journal of Vinyl and Additive Technology in July of 1998. He also won the 1998 Thesis Advisor Award of the Society of Plastics Engineers, Vinyl Plastics Division, for his mentorship of the Ph.D. thesis which won First Prize in the annual worldwide competition. Debbie Bebout was promoted to Associate Professor and awarded tenure. Also, she and her husband welcomed their first child, son David, in August of 1998. Congratulations to both Debbie and Bill. During this year, members of the chemistry faculty received over \$825,000 from externally funded research grants to support their undergraduate and graduate research programs. Research in the department resulted in 17 papers published with 31 student coauthors.

Last year we graduated 50 undergraduate students with Chemistry degrees. Their names and destinations appear elsewhere in this newsletter. Sixteen of these students earned departmental honors, 10 were Monroe scholars, and 7 were elected to Phi Beta Kappa. In addition, 4 students earned Masters degrees. The destinations of our students continue to be diverse and impressive.

There are several faculty and staff changes. We welcome a new faculty member, John (J.C.) Poutsma, who comes to us from a postdoctoral position in the laboratory of Professor Richard Zare at Stanford University. J.C. replaces Barbara Siles, who left in May to join her husband in Denver after he was transferred. Barbara is now employed at the University of Denver Research Institute. We wish Barbara continued success in her new endeavor. We also welcomed two new staff members during the year, Tanya Peyton and Katherine Hazelwood. Tanya replaces Connie Smith, who moved to Massachusetts, and Katherine replaces Sarah Dodson, who retired in May.

We must sadly announce the death of Mrs. Gladys Guy on October 24, 1998. Mrs. Guy was the widow of William George Guy, who served the Chemistry Department and the College for more than 40 years. She endowed the Garrett-Robb-Guy Chair in Chemistry in 1986 to honor the first three chairs of the Chemistry Department. As reported in the last newsletter, she celebrated her 100th birthday last year on June 14. We all remember Mrs. Guy as a stately, very intelligent, and extremely gracious lady.

The Chemistry Department is hosting a reception for our graduates. It will be held at 5:15 p.m. on Friday, October 29 in the Rogers Hall Conference Room. We have extended a special invitation to chemistry graduates who will be celebrating a class reunion divisible by five. We hope to see all of you there.

Once again Trevor Hill has written "Old Rogers Recollections," focusing this time on William Barton Rogers himself. It is a fascinating story about the man from whom our building takes its name. We appreciate the time and effort that Trevor spent on this article.

The Chemistry Department has been the recipient of two recent endowments. The Charles E. Flynn '34 Memorial Chemistry Endowment from the estate of Charles E. Flynn has been established. The income from about \$180,000 will be used for the most pressing needs of the department as determined by the department chair. This will provide some wonderful flexibility to address unexpected financial needs. The Debra L. Allison Summer Fellowship has been established by Debra Allison of the class of 1977. This will enable a deserving student to spend 10 weeks in the summer working with a member of the faculty. We are most grateful for these gifts, which will enhance the chemistry program at William and Mary.

This past summer, 45 William and Mary undergraduates participated in our summer research program. Of these, 18 were supported by competitive grants from the College and the remaining 27 were funded by external research grants to individual faculty members. This year students received \$2400 for the 10 week program along with free housing in a College dormitory. Next year, the stipend will be \$2500. We continue to look for creative ways to augment the funding of the program so we can involve more students.

In the previous edition of Chemical Distillations, we appealed to our graduates for financial assistance to provide additional support for teaching and research. We are grateful to all who responded and look forward to your continued support. We have an active and dedicated department which continues to attract top-notch students. We hope to hear from you either by e-mail, letter, or better yet, in person. I hope to see many of you on October 29.

Dick Kieferr

Faculty Changes

Promotions

Debbie Bebout, Associate Professor

On leave for 1999-2000

Gary DeFotis (Research Leave) Spring 2000

Part-time faculty, 1999-2000

Gary Hammer Summer 1999

Kathy Sturgeon 1999-2000

Trevor Hill 1999-2000

Welcome!



We welcome J. C. Poutsma as Assistant Professor of Chemistry this fall. J. C. received a B.S. in Chemistry from Furman University in Greenville, South Carolina where he studied reactions in low temperature matrices with

Charles Arrington. In 1997 he earned a Ph.D. in Physical Chemistry from Purdue University working with Robert Squires in tandem mass spectrometry. J. C. then spent two years doing postdoctoral work at Stanford University with Richard Zare in guided-ion beam mass spectrometry. His research focus at William and Mary will initially be the gas-phase chemistry of non-protein amino acids with electrospray ionization-quadrupole ion trap mass spectrometry. J. C. is off to a great start as one of only 12 new faculty at predominantly undergraduate institutions to be awarded a Dreyfus Faculty Start-up grant this year.

Bon Voyage!

Barbara Siles leaves the Department after four years as an Assistant Professor. She and her husband John moved this spring to Denver, Colorado, and she has been appointed to the University of Denver Research Institute.

Current Faculty

Chris Abelt, organic
Garrett-Robb-Guy Prof.
cjabel@wm.edu

Carey Bagdassarian,
biophysical
ckbagd@wm.edu

Debbie Bebout,
biochemistry
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Sophomore Advising
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analytical
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Ted Putnam, department administrator
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Gary Rice, analytical
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Bill Starnes, polymer
Gottwald Professor
whstar@wm.edu

Dave Thompson,
inorganic
Chancellor Professor
dwthom@wm.edu

Emeriti

Alfred Armstrong, 1976

Ed Katz, 1979

Trevor Hill, 1992
tbhill@wm.edu

Cirila Djordjevic, 1992

Selected Research Profiles

Stephen K. Knudson

The work in our group involves computational studies in which we try to apply fundamental theories to understand dynamical processes in chemistry. Currently we are seeking to probe the one-electron chemical bond to elucidate why it occurs; competing explanations in terms of “potential energy effects,” “kinetic energy effects,” and “quantum resonance effects” all occur in the literature. Our approach is to obtain as classical a picture of the process as we can to clarify the interpretation, since all of the above explanations are true. Our preliminary results lead us toward the “tunneling is fundamental” posture.

Recent Publications

S. K. Knudson and I.C. Palmer (B.S. '97), “Semiclassical Electronic Eigenvalues for Charge Asymmetric One-Electron Diatomic Molecules: General Method and Sigma States,” *Chem. Phys.* **1997** 224, 1–18.

Emily Jane Buehler (B.S. '96), Erin E. Gooch (B.S. '98), Jennifer L. Dial (B.S. '99), and Stephen K. Knudson, “Semiclassical Kinetic Energy for Heteronuclear One-Electron Diatomics,” *Chem. Phys.* (submitted).



Robert A. Orwoll

My students and I are altering polymeric materials to affect their utility. Dispersing organo clays into polymers (nanocomposites) increases the modulus. In NASA- funded work with Professor Kiefer, we study boron-containing additives to transform polymeric materials into neutron absorbing shields and silicon additives to reduce atomic oxygen erosion of polymer films in low-earth orbit. Polymeric resins with cavities specific for particular molecules (molecular imprinting) are used in separations such as HPLC. Other Orwoll students have



been making thermal expansion and thermal pressure measurements on low molecular-weight aromatic imides to establish parameters that characterize intermolecular forces in polyimides.

Recent Publications

S. Ahmed (B.S. '93, Ph.D. Applied Science '97) and R. A. Orwoll, “The Synthesis, Characterization, and Molecular Modeling of Cyclic Arylene Ether Oligomers,” *Polym. Preprints* **1997**, 38, 172-3.

R. L. Kiefer, R. A. Orwoll, E. C. Aquino (B.S. '88, M.A. '91), A. C. Pierce (B.S. '93), M. B. Glasgow (Ph.D. Applied Science '96), and S. A. Thibault, “The Effects of Atomic Oxygen on Polymer Films Containing bis(triphenylin) Oxide,” *Polym. Degrad. Stabil.* **1997**, 57, 219-26.

P. R. McDaniel (Ph.D. Applied Science '94), R. A. Orwoll, and J. W. Connell, “Modification of a High Performance Epoxy Matrix with Poly(arylene ether-co-imidazole)s,” *Polymer* **1997**, 38, 6023-30.

R. A. Orwoll and Y. S. Chong (B.S. '97), “Polyacrylamide,” in *Polymer Data Handbook*, (J. E. Mark, Ed.), Oxford University Press, New York **1999**, 247-51.



Robert D. Pike

My students and I are carrying out research at the border of transition metal chemistry, polymer chemistry, and materials research. Currently, we are synthesizing new inorganic polymers which have copper atoms in the backbone. These polymers can be one-dimensional chains, two-dimensional sheets, or three-dimensional lattices. Such materials are interesting with regard to conductivity, fluorescence, and small molecule inclusion behavior. We are also working in collaboration with Prof. Starnes and his students to develop new copper-based smoke-suppressant additives for poly(vinyl chloride) (PVC). These additives function by a new, potentially more effective, mechanism and could represent a significant technological advancement.

Recent Publications

R. D. Pike; W. H. Starnes, Jr.; J. P. Jeng, (Ph.D. Applied Science 1996); W. S. Bryant (B.S. '94, M.A. '97); P. Kourtesis (B.S. '94, M.A. '97); C. W. Adams (B.S. '98); S. D. Bunge (B.S. '97); Y. M. Kang (B.S. '97, M.A. '99); A. S. Kim (B.S. '97); J. H. Kim (B.S. '97); J. A. Macko (B.S. '97, M.A. '98); C. P. O'Brien (B.S. '97), "Low-Valent Metals as Reductive Coupling Agents: A New Strategy for Smoke Suppression in Poly(vinyl chloride)," *Macromolecules* **1997**, *30*, 6957-6965.

S. C. Chaffee (B.S. '96); J. C. Sutton (B.S. '97); C. S. Babbitt (B.S. '97); J. T. Maeyer (B.S. '99, M.A. '00); K. A. Guy (B.S. '01); R. D. Pike; G. B. Carpenter, "Improved Synthesis of $[\text{Mn}(\text{CO})_5\text{OClO}_3]$, a Versatile Reagent for the Preparation of Cationic (Polyene)manganese(I) Complexes. Crystal Structure of $[(\text{h}^4\text{-1,5-Cyclooctadiene})\text{Mn}(\text{CO})_4]\text{ClO}_4$," *Organometallics*, **1998**, *17*, 5586-5590.

R. D. Pike; W. H. Starnes, Jr.; G. B. Carpenter "Cubane Tetrameric Complexes of Copper(I) Chloride and Bromide with Triphenyl Phosphite," *Acta Crystallographica* **1999**, *C55*, 162-165.

R. D. Pike; J. L. Todd (B.S. '99); Maeyer, J. T. (1999, M.A. 2000); Johnson, J. T. Maeyer (B.S. '99, M.A. '00); J. P. Jasinski, "Oligomers of $[\text{Cu}(\text{PPh}_3)_x]\text{BF}_4$ ($x = 2, 3$) Bridged by Bidentate, Unsaturated Nitrogen Ligands," manuscript in preparation.

David W. Thompson

My students and I have been working on a unique synthesis of surface metallized polymeric films. Silver has been the major metal of interest since it has the highest reflectivity and conductivity of all metals. The major uses for these metallized films include large scale lightweight antennas to manage microwave communication signals in space, patterned electrical circuits, and anti-infective catheter tubing.



Recent Publications

R. E. Southward (B.S. '91, M.A. '95, PhD. Applied Science '97), C. K. Bagdassarian, C. J. Sudol (B.S. '99), ; J. L. Waysk (B.S. '99), S. H. Sproul (B.S. '99), S. T. Broadwater, J. L. Scott, and D. W. Thompson, "Synthesis of Surface Metallized Polymeric Films Via In Situ Reduction of (4,4,4-Trifluoro-1-(2-thienyl) -1,3-butanedionato)silver(I) in a Polyimide Matrix," *J. Mater. Res.* **1999**, *14*, 2910-2917.

New Curricular Options

Over the last few years the Chemistry Department has introduced several new curricular options which benefit both chemistry concentrators and other undergraduates. These options include courses reflecting the expertise of new faculty, ACS certified tracks and a biochemistry minor.

New formal courses include Principles of Biophysical Chemistry and Organic Synthesis. The biophysical chemistry course is taught by **Carey Bagdassarian**. This course has been designated an alternative to Physical Chemistry for completing the chemistry minor and is very popular with biology concentrators and other pre-meds who are not concentrating in chemistry. This course has had the added benefit of decreasing enrollment in the physical chemistry course for concentrators. The organic synthesis course has been taught for two years by **Rob Hinkle** at the graduate level. The Department is currently petitioning the Educational Policy Committee to offer this course in modified form to undergraduates. Since many William and Mary Chemistry undergraduates seek graduate degrees in organic chemistry or industrial employment with companies involved in synthesis, this course fills an important gap in the Department's offerings.

The Chemistry Department has offered American Chemical Society (ACS) certified degrees since 1950. In 1995 the certified track in polymer chemistry was approved. Recently the Chemistry Department received approval for biochemistry and chemical physics certified tracks. One of the four certified tracks is normally completed by approximately 80% of our graduates each year. According to the Spring 1999 Newsletter of the ACS Committee on Professional Training, William and Mary is the only University offering four certified tracks and only Michigan Technological University offers a greater variety of tracks. The polymer and biochemistry tracks were each completed by 8 undergraduates and the chemical physics track by 3 undergraduates last year. Twenty-one of the '99 Bachelors degree recipients were certified in the chemistry track. The growing importance of biochemistry to the professional preparation of chemistry undergraduates is reflected in ACS plans to add one semester of biochemistry to the requirements for all ACS certifications in the very near future.

In addition to the new ACS tracks, a biochemistry minor has been developed by **Debbie Bebout** in cooperation with the Biology Department. The minor affords incentive for chemistry concentrator to take some of the new courses which have been added to the biology curriculum over the last six years with the addition of several cellular and molecular biologists to the faculty. The general requirements for the biochemistry minor are the first two years of chemistry, the first year of biology, one biochemistry lecture course and two upper level electives from a select list. Chemistry concentrators must take two upper level Biology electives while biology concentrators must take two upper level chemistry electives. Undergraduates with other concentrations must take one biology and chemistry elective. Five undergraduates completed a biochemistry minor in each of the first two years that it has been available.

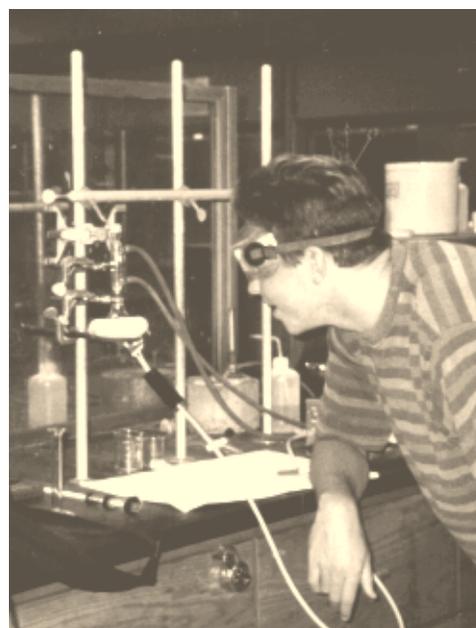
Organic Laboratories Revised

The Chemistry Department has recently received funding for extensive revisions of the two semesters of Organic Laboratory. A Howard Hughes Medical Institute grant through the Undergraduate Biological Sciences Education Program to the College of William and Mary will provide over \$25,000 for new equipment and over \$60,000 to purchase software, 15 laptop computers and a radiotransmitter network hub. In addition the William and Mary Parent's Fund has contributed nearly \$6,000 for new chemistry software. The new acquisitions will be used to develop exercises which emphasize the interrelatedness of biology and chemistry.

The equipment purchases will include hotplate/stirrers, Mel-temps, and microscale glassware kits. These purchases will expose undergraduates to procedures which are typical for practicing synthetic chemists and provide a better foundation for research. **Rob Hinkle** and **Trevor Hill** have spearheaded the introduction of microscale exercises into the organic labs. Two distillation procedures and the benzoin condensation synthesis have already been adapted to microscale and there are plans to rework or replace several additional labs in the next few years. Microscale experiments provide a dramatic cost savings in chemicals, safer laboratories due to lower amounts

of solvents, and a reduction in toxic waste generation and disposal.

Kathleen Morgan has been the strongest proponent of increasing student exposure to chemistry software applications at the lower levels. Computer exercises give students a different way of visualizing molecules in three dimensions, as well as a way to study structure-energy relationships for a series of similar molecules. During spring 1999, the first semester organic chemistry lab students traveled to Morton Hall to use Chem Draw[®] and Chem3D[®]. Students compared shapes and structural parameters for benzene vs. cyclohexane, then calculated the axial vs. equatorial energy difference for one of a series of substituted cyclohexanes. By pooling data with others in the lab, students were able to interpret how the size and shape of cyclohexane substituents affect the conformational energy. In a second exercise, students studied structural and energy differences for a series of alkenes. In addition, they drew a complex molecule derived from the natural product Taxol[®] in two dimensions then viewed it in three dimensions. This fall we plan to have one of the Rogers Hall labs equipped with a radiotransmitter network hub which will allow students to perform computer exercises on laptops. Students in



A reflux in Chem 252 with the new microscale glassware.

second semester organic chemistry lab will use the program Spartan[®] to calculate the electron density distribution for an acid, then compare it to the conjugate base. The program shows a color-coded, three-dimensional electron density surface so that it is simple to observe where a molecule has an excess or deficit of electrons. Students will also study the acid-base chemistry of imidazole using similar techniques.

You may be wondering which experiments have been retired to make space for the new ones. Since we were able to purchase the Mel-temps, students no longer need to perfect the Thiele tube melting point technique. In addition, the conversion of butanol to bromobutane via S_N2 reaction, which included a dreaded one-hour reflux, and the vacuum distillation labs have been mercifully discontinued.

New Opportunities for Undergraduate Research

The quality of the chemistry undergraduate research program has for many years served to attract bright, talented students and dedicated new faculty to the department. Expansion of the number of research active faculty has permitted new research courses to be introduced for undergraduates. In addition, undergraduate enthusiasm for summer research opportunities has led to the initiation of several new competitive campus scholarship programs. The strength of the institutional commitment to undergraduate research has also been parlayed into additional external grant funding for undergraduate research.

Two years ago the Department enhanced the research opportunities available to undergraduates with two new research courses. Freshman Honors research is specifically for students enrolled in Freshman Honors chemistry who have been awarded credit for one or more semesters of chemistry lab. About one third of the eligible students have enrolled in the last two years. In addition there is a new 200-level research course for undergraduates who have not yet completed physical chemistry. Approximately fifteen freshman, sophomores and juniors have been enrolling in this course annually.

The Charles Center currently hosts annual competitions for eight types of summer research awards in addition to the Monroe Fellowships awarded to incoming freshman.

Chemistry concentrators are regular recipients of the Batten Scholarships for Pre-Honors Research, the Chappell Undergraduate Research Fellowships to work with W&M summer research grant recipients, and Parents' Association Awards. Donations from alumni and other departmental discretionary funds are used to supplement Charles Center awards which have stipend levels below the current departmental level. The Environmental Science and Policy Cluster has also set aside funds for undergraduate research. These have been especially beneficial to chemistry concentrators interested in conducting research at the Virginia Institute of Marine Science.

The Chemistry Department has received financial support from DuPont and the Dow Foundation for a number of years which directly benefits our undergraduate research program. William and Mary has recently been awarded three different external grants that expand undergraduate research opportunities across the sciences. William and Mary was one of only



Arnold and Mabel Beckman Foundation Scholar Anne McNeil ('99) attended the First Annual Beckman Scholar Symposium this summer in Irvine, CA, where she had the opportunity to meet inventor and entrepreneur Arnold Beckman, at left.

30 institutions to receive Beckman Scholar Program Awards in 1998. Beckman Scholar Anne McNeil ('99) received an academic scholarship and stipends for the past two summers to conduct chemistry research. In 1998 the College also received \$200,000 from GTE for support of science concentrators. Approximately half of this award will be used to offer academic scholarships to underrepresented minorities interested in science concentrations as freshmen. The remainder of the award is targeted for summer research fellowships and sponsorship of the Annual Undergraduate Science Research Symposium. Six of the ten 1999

GTE Summer Fellowships went to Chemistry concentrators. More recently the college was awarded \$1.6 million by the Howard Hughes Medical Institute Undergraduate Biological Sciences Education Program. Over a third of this award is devoted to support of undergraduate research related to the biological sciences. Four chemistry students received scholarships from this program for research this past summer. In addition, approximately 10 freshman will be awarded a \$500 supply budget to conduct independent research with faculty in place of the first general chemistry laboratory this fall. The Hughes program also provides funding for student travel to scientific meetings to present their research.

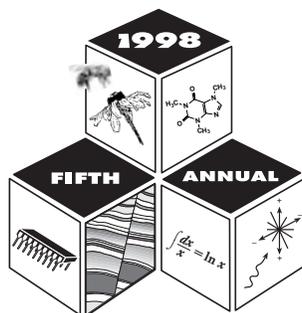
The strength of our unique undergraduate research program depends on our ability to continue to attract external support

as well as talented students. Furthermore, the success of our alumni in their individual pursuits after leaving William and Mary is an extremely important facet of our ability to harness additional funding. Special thanks to all of you who have excelled in graduate school, medical school, the chemical industry and many other positions based on the educational foundations provided by the Chemistry Department!

Undergraduate Research Symposium

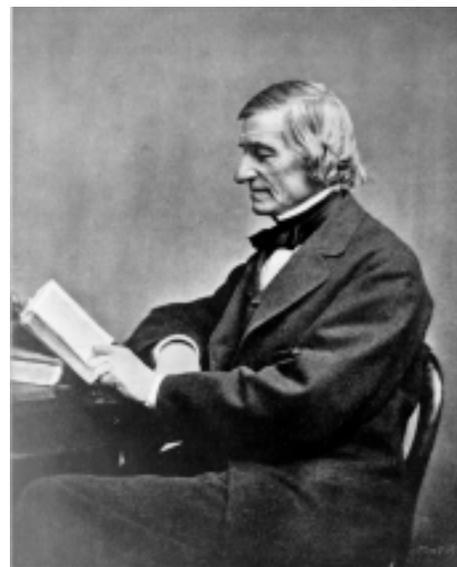
The 5th Annual William and Mary Undergraduate Sciences Research Symposium was held on September 18, 1998 in the University Center. The Symposium was supported by a recent grant from GTE. Students from each of the natural science and the mathematics departments contributed talks and posters. Concurrent talk sessions covering the molecular and cellular sciences, organismal and environmental sciences, and physical and computational science were well attended. Sixty seven posters were presented afterwards to a large audience of students, faculty, administrators and local high school teachers. Almost all of the undergraduates participating in the 10 week summer research program in Chemistry were able to contribute to the Symposium. As a result, over half of the 83 presenters were chemistry concentrators.

Debbie Bebout once again organized and ran the Symposium, although she needed a little more help than in the past since she gave birth to David Alexander Dawnkaski on August 4 (hence the block motif for the logo).



Old Rogers Recollections

(Trevor submitted this report a couple of days before he and Shirley took off in their RV with their dog Minerva for parts north and Canada.)



William Barton Rogers, in an undated photograph from the College's archives.

The "Old Rogers Recollections" column was started up in our Chemistry Newsletter a few years back; and a reader (William Simpson, chemistry '63) suggested we might write a piece about Rogers himself. While the excellence of this idea seems more or less self-evident, I don't know of anyone who has thought of this until now!

William Barton Rogers was born Dec. 7, 1804 in Philadelphia, the second of four brothers, all of whom developed into distinguished scientists. He was educated in the high schools of Baltimore and under the tutelage of his father, Patrick K. Rogers. Rogers graduated from William and Mary, where his father had become professor of natural philosophy and chemistry in 1819. William assumed his father's position at William and Mary on his father's death in 1828, and in 1835 he was called to the chair of natural philosophy at the University of Virginia. After twelve years at Virginia he became dissatisfied with his position, and although persuaded by his colleagues to remain another five years, he moved to Boston in 1853 (he had married Emma Savage, a Bostonian, in 1849).

His enthusiastic ideas in expanding the pedagogy of American education from the ivory tower to the pragmatic were brought to the attention of the Massachusetts legislature. Although two of Roger's proposals failed, in 1861 the legislature agreed to grant a charter for a polytechnic school (Boston Tech) after Rogers persuaded benefactors to donate \$100,000 to the cause. [Boston Tech was renamed the Massachusetts Institute of Technology (MIT) in 1916.] The Civil War delayed early school construction, but in 1865 Boston Tech's first classes began in a rented section of the downtown Boston Mercantile Building, with William Rogers as its first president and professor of physics and geology. He was active in administration and research, publishing 93 papers and two books on geological subjects, twenty-eight papers on physical subjects and twenty-one in chemistry. Rogers died while addressing the graduates of the class of 1882.

It appears that Rogers was thinking ahead of his time, as one of the few to recognize the importance of higher learning in technology and the application of science education to industry and real world problems. In his early twenties he taught at Baltimore's Maryland Institute, and his lectures in astronomy, chemistry, mathematics and physics were accompanied with excellent demonstrations often resulting in spontaneous applause from his students. He was a firm believer in laboratory and field instruction. During his (pre-Civil War) years in Virginia he was commissioned state geologist, and convinced the state legislature to provide funds for the Virginia Geological Survey. With the aid of his brothers Robert and James, he compiled six annual reports useful for agriculture, fertilizer sources, railroad beds, coal and mineral resources. Funding was discontinued by the Virginia legislature after a few years and only a few copies of his reports were printed; his final report never published. (Jed Hotchkiss compiled his reports into a single volume in 1884.) He and his brothers did extensive geological work on the Appalachian Mountain chain, providing theories (sometimes controversial) as to its formation, and their geologic efforts were recognized by both the Association of American Geologists and Naturalists as well as the British Association.

Rogers believed in learning by doing and practical illustration, which reflects MIT's early antithetical nature toward the ivory tower of academe. In 1879 Thomas Edison unveiled to Boston Tech his incandescent lamp and accompanying dynamo for electric power, and Roger's efforts were fulfilled through recognition by Edison who wrote, "I have found the graduates at Boston Tech have a better, more practical, more useful knowledge as a class than graduates of any other school in the country." Edison, who was self-educated, was oftentimes at odds with academic people; however he donated equipment to MIT to start a school of electrical engineering in the 1870s.

A more detailed account of Rogers' life and activities may be found in the several sources found in the Dictionary of American Biography (Scribner) from which much of this account was extracted. An interesting account of MIT is found in the International Dictionary of University Histories (Fitzroy Dearborn).



This brass plaque hung for years in Old Rogers Hall and was relocated to New Rogers upon its completion.



◀ Dr. Hinkle and Mr. Rob ▶

After a year of watching the Colonial Road Runners practicing on Barksdale Field through his Rogers Hall office window, Rob Hinkle decided it was time to start balancing the demands of being an Assistant Professor with his skills as a runner. Rob was an extraordinary high school athlete, winning the tri-state championships and state championships twice in New Hampshire in the 800- and 1000- meters and running on the state championship 1,600-meter relay team. He ran a few races during his first two years in graduate school but then abandoned the adrenaline rush of racing for the thrill of scientific discovery.

The running regimen that Rob started two years ago has made him very competitive in his age group. In the short time that he has been seriously training—and despite a mountain bike riding accident that broke his collarbone and sidelined him for seven weeks—he has dropped his time from 19:01 minutes to a personal best of 15:07 in the Newport News Beautification 5K run in May. Rob finds that running complements his professorial career by giving him time to clear his head and think about teaching and his research in hypervalent iodine compounds.



Other Departmental Pastimes

Chris Abelt tees up for eighteen holes whenever he can find some partners.

Carey Bagdassarian both makes and plays drums.

Debbie Bebout enjoys all types of board and card games.

Randy Coleman is a naturalist at heart who enjoys birdwatching and hiking.

Gary DeFotis enjoys reading, music and chess tournaments.

Cirila Djordjevic, Dick Kiefer, Steve Knudson and **Bob Orwoll** meet monthly to play bridge.

Peggy Greene does needlepoint and collects coins, stamps, music boxes and porcelain dolls.

Katherine Hazelwood is an outdoors person, and especially enjoys the beach and boating.

Trevor Hill enjoys traveling in both his sailboat and “land yacht”.

Dave Kranbuehl likes to garden, play golf and travel.

Louise Menges sews and is always on the lookout for interesting wild plants.

Tanya Peyton plays raquetball and likes video games.

Bob Pike recently played bass guitar for a CD with Joshua Thompson (English, '99).

J.C. Poutsma plays bass guitar and drums.

Ted Putnam enjoys home remodeling and yard work.

Gary Rice coaches youth soccer and softball.

DerHong Shieh likes to read cookbooks and bake desserts.

Bill Starnes enjoys playing the piano and travelling.

Linda Stitzel likes to sew and do puzzles.

Kathy Sturgeon is in real life an artist whose work has been exhibited locally and in New York.

Dave Thompson enjoys being a grandfather.

Meet Our Staff

The Chemistry Department is fortunate to benefit from the contributions of six professional staff members. Their contributions to the Chemistry Department are multi-faceted and it is largely due to their assistance that faculty are able to spend considerable time in the research laboratories working with individual students.



Our secretarial staff: Peggy Greene (right) and Tanya Peyton.

The secretarial staff are primarily responsible for assisting the Chair with departmental administration. In addition they frequently assist faculty with preparation of tests and other materials for courses. On occasion they have time to type grants and manuscripts for faculty. The secretarial staff is currently headed by **Peggy Greene**, who has been with the

department since she moved to the area six years ago. She was originally hired in a dual position in which she worked directly with Bill Starnes in the morning and in the department office in the afternoon. She was promoted in 1994 when the head position became available. The dual position has been held by three individuals over the last five years, and **Tanya Peyton** has been with us since November, 1998. This is Tanya's first secretarial position and she finds that the variety of assignments associated with her position make it interesting. She plans to start taking classes at Thomas Nelson Community College in administrative support technology to further her career.



Sarah Dodson

The Department employs one part-time fiscal technician who works directly with Ted Putnam keeping track of purchase orders and invoices. In May, **Sarah Dodson** retired from this position to her new home on Lake Gaston after eight years of enthusiastic service. The department recently hired **Katherine Hazelwood** to fill this position. We are very fortunate that Katherine was willing to move from a full time position with Capitol Outlay so she could spend more time with her infant daughter.



Katherine Hazelwood

The technical staff are primarily responsible for preparing materials for the teaching laboratories. **Lynda Stitzel** has earned the title "fairy godmother of the undergraduate labs" for rotating the organic and general laboratories through the three first floor Rogers teaching laboratories every week for the past nine years. This job requires a tremendous amount of organizational acumen, since the enrollments in these labs have been 300—400 students each the last few years. Lynda had originally intended to work at William and Mary for just one year, and then just long enough to send her kids through college, but she has recently bought a new house, which may keep her working here for a few more years. (The rest of us hope so.) **Derhong Shieh** assists Lynda with the lower level labs and is also responsible for setting up the Biochemistry laboratory in the spring. Derhong had to apply for this position twice due to a State hiring freeze in 1993. She provided her son with a sister before the position became available again a year later. The third member of the technical staff is **Louise Menges**. She has worked in the department for 26 years, which is longer than most of the faculty! Louise is in charge of preparations for the upper level physical chemistry, instrumental analysis and polymer laboratories. The appearance of the department laboratory manuals and newsletter also benefit from her special skills in desktop publishing. Louise enjoys her job tremendously because every day she has the opportunity to learn something new about chemistry, while the rest of us benefit from her interest in mushroom taxonomy.



Chemistry's technical staff, from left: Derhong Shieh, Louise Menges and Lynda Stitzel

Some news from our alumni—we hope to have more next time!

Scott Andrews ('93) received his Ph.D. in Chemistry from UVA and has a postdoctoral appointment in the UVA Health Sciences Center.

Maria Argiriadi ('93, M.A. '94) received her Ph.D. in chemistry from U Penn and will join her sister **Pam** ('98) in the Big Apple for a postdoc at Rockefeller University this fall.

Jeff Bergman ('97) has received a M.S. from Cornell and is now working as a technical advisor for a law firm in Houston.

Chris Bibeau ('96) and **Dave Soles** ('96) are having a great time teaching high school chemistry in Northern Va. Chris has applied to grad school at U. Penn for Fall 2000.

Bill Bryant ('94, M.A. '95) completed his Ph.D. in Chemistry at Virginia Tech and is working for Specialty Minerals in Bethlehem, PA.

Sharon Fitzhenry ('93, M.A. '96) left Hoechst two years ago for Pharm-Eco in Lexington, MA as a Process Development Chemist. She is now co-inventor on two patents.

Scott Forrest ('90, M.A. '92) is an ob/gyn resident at MCV.

Ahmed Hafez ('97, M.S. '98) is enjoying the doctoral program in chemistry at Johns Hopkins University but finds time to haunt the Abelt lab regularly.

After many years at William and Mary, **David Hood** ('90, M.A. '91, Ph.D. Applied Science '96) is now a Research Chemist at International Specialty Products in Wayne, NJ.

Derek Jackson ('94, M.A. '97) is now employed as a developmental research analytical chemist at Parke-Davis in Ann Arbor, MI.

Kristi Joslyn ('97) has received a M.S. from Yale and is now working for the CombiChem group at Bayer Chemical in New Haven, Connecticut.

Ed Katz ('36, faculty '47-'80) is staying active in his retirement by biking, camping in the mountains, visiting the beach and playing with his granddaughters.

Pete Kourtesis ('94, M.A. '97) recently began the Ph.D. program in Biochemistry at American University.

Eric Remy ('88) is now the Director of the Chemistry Learning Center at Virginia Tech.

The Army is putting **Phil Smith** ('90, M.A. '91) through graduate school at UVA. Both he and his wife **Kirstin Adams** ('94) passed their UVA qualifiers with distinction.

Leslie Sombers ('97, M.A. '98) started graduate school this fall at Penn State after a year of teaching high school chemistry and physics.

Scott Thompson ('96) recently published a paper in *Macromolecules* from his graduate work at the University of Illinois.

Ivana Verona ('96) and **John Yang** ('95, M.A. '96) will be married this fall. They are both still in graduate school at UNC-Chapel Hill.

Thomas Wong ('83), whose dragon plaque hangs in our conference room, has lived for more than ten years in Hong Kong, where he is a Certified Sports Chiropractic Physician.



The chemistry faculty have apparently been very busy lately. Student producers recently posted the following movie preview...



CHEM WARS

Episode 6.022 E 23
THE PHANTOM LATTICE

Turmoil has engulfed the Chemistry Department. The taxation of reagent orders from T-Hall labs is in dispute.

Hoping to resolve the conflict with a blockade of deadly sulfuric acid, the greedy Rogers labs have stopped all shipping to the isolated labs of T-Hall.

While the Chemistry Club endlessly debates this alarming chain of events, the President has secretly dispatched two Chemi Knights, the guardians of peace and justice in the Chemistry Department, to settle the conflict...

--STARRING--

Qui-Gon Jinn--Dr. Starnes
Obi Wan Kenobi--Dr. Pike
Darth Maul--Dr. Hinkle
Jar Jar Binks--Dr. Bagdassarian
Queen Amidala--Dr. Morgan
Palpatine/Darth Sidious--Dr. DeFotis
Annakin Skywalker--Mini-Abelt
Yoda--Dr. Hill
Sebulba--Dr. Coleman
Boss Nass--Dr. Thompson
R2D2--Dr. Abelt (Mr. Fix it)
C3PO--Dr. Kiefer
Shmi Skywalker--Ms. Menges
Jabba the Hutt--Dr. Hood
Watto--Mr. Putnam

--IN FUTURE EPISODES--

Darth Vader--Dr. Knudson
Obi Wan Kenobi--Dr. Orwoll
Luke Skywalker--The New Guy
Han Solo--Dr. Rice
Princess Leia--Dr. Bebout
Chewbacca--Dr. Kranbuehl

Chemistry Invites you to our reception during Homecoming '99!

The Department is having a wine and cheese reception for chemistry graduates in Rogers Hall on Friday, October 29, starting at 5:15 p.m. We would be delighted to see you there. If you can join us, please fill out this form and mail it by Oct. 15 to:

Trevor Hill
Chemistry Department
College of William and Mary
P.O. Box 8795
Williamsburg, VA 23187-8795

Yes, I plan to attend the Chemistry reception on Friday, Oct. 29, 1999, at 5:15 pm.

Name _____ Class of _____ No. of guests _____

Any Comments?

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