

# ELEMENTS

*The Alumni Magazine of the Department of Chemistry at Virginia Tech*



## From the Department Chair - Dr. Larry Taylor

Dear Chemistry Alum:

Spring 2003 semester is well underway, but I see few signs of spring outside my office window. It has been a cold and wet winter in Blacksburg! The Commonwealth and Town have exhausted their snow/ice clearing budgets. In spite of (1) the weather, (2) no salary increase for staff and faculty, and (3) the threat of additional budget reductions, the Department of Chemistry is moving to bigger and better 'things'. Faculty morale is high, the number of graduating seniors with a major in Chemistry may set a record this May, and our graduate students are being nationally recognized, and sought-after for employment. The activity in the Department has reached the level where we feel a newsletter at six month intervals is now justified as opposed to an annual newsletter. I hope you will agree.

*See Department Chair, Page 10*

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## William J. Madia

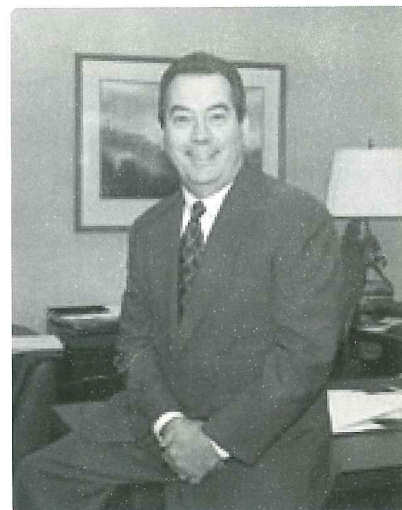
Ph.D. Chem '75

*Graduation Speaker - Spring, 2003*

### "Learning What Is Important!"

Born in Pittsburgh in 1947, Madia grew up in a working-class Italian neighborhood. The first in his family to attend college, he worked his way through Indiana University of Pennsylvania, where he earned bachelor's and master's degrees in chemistry. He had entered a doctoral program in nuclear engineering at Texas A&M University when the draft board caught up with him.

Madia says he was "literally on my way to Vietnam" when he was issued secret orders to report to Washington, D.C. The Army had recognized his talents and training, and put him to work writing a handbook on nuclear engineering. He won an Army Commendation Medal for the handbook, which was used for



many years by the Army's Engineer Reactors Group to train reactor operators.

After completing his Army service, he finished his doctorate at Virginia Polytechnic Institute and joined Battelle Memorial Institute in 1975. Asked how he made the transition from research chemist to project manager to executive vice president of Battelle, he shrugs: "They kept trying to find something I was good at."

*See Madia, Page 2*

## Madia Continued From Cover Page ....

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His management assignments have included Battelle's laboratories in Columbus, Ohio, and its European laboratories in Frankfurt, Germany, and Geneva, Switzerland. In 1994, he was named director of the Pacific Northwest National Laboratory in Richland, Washington, which is managed by Battelle for the U.S. Department of Energy.

Today, he is director of another DOE laboratory: the Oak Ridge National Laboratory, in Oak Ridge, Tennessee, a job he says he was "assigned" while working with UT-Battelle, a company created by Battelle and the University of Tennessee to bid on the contract for management of ORNL. He also serves as president and CEO of UT-Battelle and, as a Battelle executive vice president, he is responsible for the company's multibillion-dollar business with DOE.

His travel schedule is, he concedes, "unbelievable. I spend an awful lot of time on airplanes." His preferred mode of travel, though, is via motorcycle, and when the weather is good he sometimes rides his Harley Davidson "Fat Boy" to work.

At ORNL, Madia presides over a \$1 billion enterprise that conducts cutting-edge research in science, carried out by 3800 staff members. From his office window, he can watch the progress of a major construction project that combines state, federal and private financing in a unique approach that is giving ORNL a modern research campus.

This modernization of the lab's facilities is a major priority for UT-Battelle and for Madia. As a graduate student at IUP, he visited ORNL and conducted experiments at the Van de Graaff Accelerator. "The surprising thing about coming back to Oak Ridge," he says, "was that it looked pretty much the same after 30 years, only more dilapidated." Under his leadership, that situation is changing fast. "The dust, the noise — I love it," he says.

At another construction site, a few miles away, the \$1.4 billion Spallation Neutron Source, the nation's largest science project, has reached the halfway mark. This research facility "will put us at the center of 21st century science," Madia predicts. But he is quick to link it to ORNL's historic role in neutron scattering, calling the SNS "the grandchild of the Graphite Reactor," which produced the first neutrons for science experiments.



He is also generous with praise for the five national laboratories that are ORNL's partners in designing and building this mammoth project. Congressman Zach Wamp has called Madia's leadership critical to the success of this partnership, but Madia compares being a lab director to being a football quarterback: "You probably get too much credit and too much blame."

He knows a good deal about quarterbacks, too. A dedicated Pittsburgh Steelers fan, Madia occasionally manages to attend a game. More often, he watches them on television — frequently while talking on the telephone and answering e-mail on his laptop computer.

He sometimes conducts a little business on the golf course, too. Both his residence in Oak Ridge and a recently completed vacation home in Palm Springs, California, are adjacent to professionally designed golf courses.

The vacation home includes a workshop for a hobby that Madia values for its ability to accommodate his schedule: stained glass. "If all I have is a few minutes, I can do a little work on a piece, then set it aside until the next time I get a break." He has constructed several large windows for family and friends.

Madia enjoys fixing things but complains that his wife, Audrey, won't let him buy a lawn mower. "She figures I'd mow the grass once or twice a year, and the rest of the time she'd have to make sure it was taken care of, just like she does now."

Their three sons, Will, Ben, and Joe, are grown, but a golden retriever named Mattie "gives me someone besides Audrey to yell at."

What's next? Madia won't speculate, saying that he could never have predicted that he'd be where he is today. "When I think back to where I started in Pittsburgh — from there to being director of Oak Ridge National Laboratory — it would seem impossible to even consider, like a bad movie."

But clearly, he has spent some time distinguishing between what is important and what is insignificant, and the actions he has taken to address what is important have led him to a major role in the nation's research establishment. Words to live by, indeed.

# What's New In Chemistry



## THE CARNEGIE FOUNDATION



The Chemistry Department has been selected to participate in The Carnegie Foundation for the Advancement of Teaching's Initiative on the Doctorate. Professor

Jim Tanko prepared the document and spearheaded the department's application. Partner Departments will analyze all aspects of their doctoral programs and link specific activities to desired outcomes. Departments will begin this analysis by clarifying their goals for doctoral education in their respective disciplines, and will commit to programs, to document and analyze the character to those initiatives and, working with these innovative departments, to help the disciplinary community create models and evidence of success to inform others in the field.

## OPEN HOUSE FOR REGIONAL SENIORS

The Department of Chemistry at Virginia Tech hosted a 2002 Invitational Open House for regional college seniors. Members of the Virginia Tech Chemistry faculty contacted leading scientists and educators throughout our region to identify the top college seniors who are planning on graduate study in Chemistry. The purpose of the Open House was to provide an opportunity for those seniors to visit the campus and learn about the graduate program and department in a relaxed, informal event. One of the ways that Virginia Tech's chemistry department excels is by fostering a network of research collaborations that enable us to stand at the frontier of emerging, interdisciplinary areas. Thirty-five students attended the Chemistry Open House, 17 of which were African-American from Clark Atlanta, Howard and NC A&T.

## GLASSBLOWER

Tom Wertalik has accepted the position of glass fabrication specialist in the Chemistry Department. Tom worked at Q-Glass in New Jersey where he was the shop foreman. He has 14 years experience as a glassblower. He joined the department on March 7, 2003.

## DID YOU KNOW?

John R. Eoff, Jr. (B.S., Chem, 1904) contributed more to the then-modern knowledge of winemaking than anyone since Pasteur Robert M. Thomas (BS, Chem, 1929) was the co-inventor of butyl rubber, a synthetic that became famous during World War II. Thomas is credited with 73 patents.

James M. Smith (BS, Chem, 1936) and his colleagues developed methotrexate as a cancer chemotherapeutic agent. He received 22 patents for his inventions and co-inventions.

William H. Starnes Jr. (PhD, 1960) was named to the Plastics Pioneers Association's history and artifacts program. Starnes, the Gottwald professor of chemistry at the College of William and Mary, was honored as one of fewer than 1,000 people who have had the greatest impact on the history of plastics.

Professor Harry Gibson has had approximately 30 undergraduate researchers working under his direction during the past 13 years. Nineteen of these students have gone on to graduate schools; to date 11 have received Ph.D. or M.D. degrees.

Stewart P. Lewis (B.S. Chem. 1996) will soon receive his PhD in Polymer Science from the Polymer Science Division of University of Akron.



The Virginia Tech STEM (Science, Tech-nology, Engineering, and Math) education seminar series kicked off its fall schedule with a seminar by Ketan Trivedi of the Department of Chemistry. The seminar was entitled "Instructional Material via Interactive Multimedia Technology on CD and DVD ROM's".

## MOBILE CHEMISTRY LAB

In five semesters of MCL operation 25,300 experiments have been performed on the MCL by students around the Commonwealth. Six summer teacher workshops have been conducted in which over 60 teachers participated. This Fall marks the beginning of the ChemKits program, where complete experiments not requiring instrumentation have been removed from the truck and are shipped free of charge to participating schools. As a result, the experiments performed on the MCL are almost totally computer-driven and utilize some form of instrumentation such as GC, UV -Vis, radiation monitors, etc. This merging of science and technology is being provided to students at schools in (generally) economically deprived areas, where perhaps the "MCL experience" is the definitive science experience for the students.

# People In The News



Jim McGrath enjoys a National Science Foundation Partnership for Innovation (PFI) contract, "Advanced Materials for PEM-Based Fuel Cell Systems". Partnerships at Virginia Tech include Prof. Michael von Spakovsky of Mechanical Engineering and Prof. Judy Riffle from the Dept. of Chemistry, and Prof. Gary Wnek of the Department of Chemical Engineering at VCU.

Industrial partners include large firms such as General Motors, Motorola, United Technologies, and small companies include Nanosonic and Acadia Polymers in Blacksburg and Hydrosize in the Research Triangle.

Jim McGrath has been elected Vice-President of the Pacific Polymer Federation for the period January 1, 2002 – December 31, 2003. The purpose of PPF is to encourage and facilitate interaction between polymer organizations involving the Pacific rim.



Daniel Crawford, an assistant professor of chemistry, has received a Faculty Early Career Development Program (CAREER)

Award from the National Science Foundation (NSF) for his research in theoretical and computational quantum chemistry. CAREER awards are presented annually to a select roster of young faculty members nation-wide who have the potential to make significant contributions to engineering and scientific research and instruction.



Gordon Yee's NSF proposal for "Acquisition of a Superconducting Quantum Interface Detector (SQUID) Magnetometer" was approved for funding.



Prof. Harry Gibson presented an invited lecture entitled "Self-Assembly with Macromolecular Building

Blocks via Pseudorotaxane Formation" at the International Conference on Polymer Synthesis, University of Warwick, UK, July 2002.



Larry Taylor has been recognized for educational excellence by being named to "Who's Who Among America's Teachers".

Taylor was in the group chosen by the community as the most influential educators.



James F. Wolfe has been named president of the newly established, not-for-profit, postgraduate institution – Edward

Via Virginia College of Osteopathic Medicine (VCOM). VCOM is affiliated with but not a part of Virginia Polytechnic Institute and State University. Wolfe is emeritus professor of chemistry at Virginia Tech and formerly served the university as chemistry department chairman and vice provost for academic affairs. He holds a B.S. in chemistry from Lebanon Valley College, Annville, Pa., and a Ph.D. in chemistry from Indiana University, Bloomington.



Timothy E. Long has joined international collaborators (E. W. Meijer and U.S. Schubert, Eindhoven, Netherlands) to assemble an international symposium entitled "Non-Covalent Bonding in Polymer Design". This symposium will be held in conjunction with the American Chemical Society (ACS) national meeting in New Orleans, March 2003.

Tim was also invited to present a lecture entitled "Functionality and Branching in Polyesters" at an international conference "Polycondensation 2002" in Hamburg, Germany.

Tim Long was elected as the American Chemical Society Division of Polymer Chemistry chair-elect for 2003-2005. He follows in the footsteps of other Virginia Tech chairs including Profs. McGrath and Riffle.



## Rancourt - President of Polymer Solutions, Inc.



David Kingston has an ongoing partnership with the University of Istanbul and Istanbul Technical University (ITU), Turkey. At the University of Istanbul he has a joint International Research Grant from NSF to carry out collaborative studies on Turkish medicinal plants with Professor Gulaçti Topcu in the College of Pharmacy. In the ITU collaboration, Mr. Bekir Karliga, a graduate student at ITU, spent several months in Dr. Kingston's laboratories in 2000, and he and Dr. Kingston coauthored a poster at the American Chemical Society's National Meeting in Boston in August 2002. Dr. Kingston is also hosting Dr. Edith Ajaiyeoba, a Fulbright Fellow from the University of Ibadan, Nigeria, for the period October 2002-April 2003.

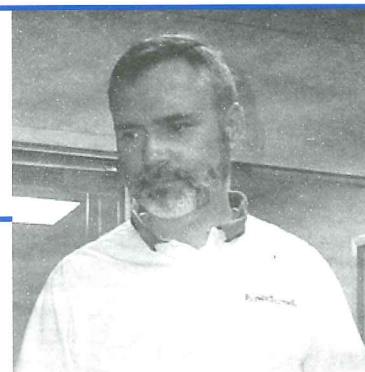


Dr. Donald M. Burland, Executive Officer – National Science Foundation, was in Highlands in Chemistry speaker in November on the topic "American Science Policy: How the Sausage is Made".



Dr. Alan Esker, Assistant Professor of Chemistry, has been extended an NSF CAREER Award. The proposal is entitled "Biomolecule-Macromolecule Interactions at Surfaces and Interfaces" and the amount is \$510K over five years.

Jim Rancourt (Ph.D. Chemistry, 1987) is President of Polymer Solutions in the Corporate Research Center. Polymer Solutions does chemical analyses and materials testing for companies whose products range from credit cards to football helmets and contact lenses to lotions. The company has been in business since 1987. The company has eight employees and occupies about 5,000 square feet at the Virginia Tech Corporate Research Center. The CRC did not exist when the company started, but Polymer Solutions became its 10th tenant in April 1990. In its early years, most of Polymer Solutions' work was tied to government contracts. Revenues have increased every year and the company has slowly made the transition into a private-sector contractor. Now, government-sponsored projects account for less than 20 percent of the gross revenues of the company.



**FULLERENES.** In a study that could bring medical applications of fullerenes closer to reality, Harry C. Dorn and coworkers synthesized and characterized the first organic derivative of a  $C_{80}$  metallofullerene (J. Am. Chem. Soc., 124, 524 (2002); C&EN, Jan. 28, page 15). Such structures are potentially water-soluble, suggesting they may be useful as contrast agents, tracers, and even anti-cancer agents. (Work noted in Chemistry 2002 highlights C&EN, December 16, 2002.)



John R. Morris, assistant professor of chemistry, received a 2001 National Science Foundation CAREER Award for \$502,000 over five years. His research project was entitled, "Reaction Dynamics of Hydrogen Halides on OH-Functionalized Surfaces and Development of Guided-Inquiry Experiments for Analytical Chemistry".



## Staff Spotlight

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James (Jim) M. Hall has worked in the Department of Chemistry Electronics Shop for 30 years, first, as a Laboratory Instrument Maker, then a Computer Systems Analysis A, and now Computer Systems Senior Engineer. During this period there has been a dramatic shift in the nature of the services performed by Jim for the Department of Chemistry. The shift has been away from maintenance and repair of conventional

electronic instrumentation to that of computer controlled instrumentation and the development and implementation of laboratory and department wide computer networks. This shift has resulted in a substantial upgrading of knowledge by Jim through attendance at seminars and short courses as well as through self-study. Jim had the motivation to learn the new technology. He had the ability to lead the Department of Chemistry into the computer age. He had the talent to teach staff, students, and faculty the merits of computing both in the laboratory and in the office. He now continues to exhibit the patience to keep the computers of our 100 graduate students, 40 faculty, and 30 staff "up and running". Without his easy style, generous nature, and forgiving spirit, the Department of Chemistry would be much less "computer literate and savvy". Jim is no 8 am to 5 pm staffer. He reminds me of some medical doctors – he is on call all the time and never becomes exasperated by the dumbest of questions. Everyone knows if you have a computer problem the response is "have you called Jim Hall!" Jim is also a ready resource of computer-related information. If you are going to make a computer purchase, chemistry folks ask Jim Hall's advice first. Jim's work ethic and style have been translated to the Electronics Shop that he supervises. All the staff, which he supervises, is just as supportive and almost as knowledgeable as he is. Jim Hall has truly enhanced the work of all people working in the Department of Chemistry for the past 25+ years. The many students passing through chemistry each year are much the better for Jim Hall's experience and guidance. Faculty and staff have gained confidence with computing to go further than imagined. With Jim's leadership, the Department of Chemistry has truly changed the way it does business over the last ten years.

## Davidson Relics

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*Do You  
Remember?*

# Student News



Astrid C. Rosario, Ph.D., 2002, gave the "Closing Reflections" during the graduation ceremony in December. Astrid is a Fellow, National Consortium for Graduate Degrees for Minorities in Engineering and Science, Inc. She currently holds a chemistry teaching position at the University of South Carolina-Spartanburg.

Afia Karikari, a doctoral student in polymer chemistry, received a \$100,000 scholarship from The David and Lucille Packard Foundation. The foundation supports graduates of historically Black colleges and universities (HBCUs) who are admitted to doctoral programs in the sciences and engineering at any United States university. Nominees are sought once a year from some 40 HBCUs. The president of Clark Atlanta University, where Karikari was a student, nominated her for the award.

The ACS Division of Organic Chemistry Graduate Fellowship was presented to Erick B. Iezzi, a fourth-year graduate student of Harry C. Dorn's. Erick is engaged in research investigating functionalizations of trimetallic nitride endohedral metallofullerenes. He received a B.S. degree in chemistry magna cum laude from Duquesne University, Pittsburgh. The sponsor of his fellowship is Aventis Pharmaceuticals.

Keeper of the Chemistry Department Fish Aquarium – Brian Hoffman – Ph.D. Candidate in the Taylor Research Group.



During the Fall 2002 semester, the Gamma Iota Chapter of the Alpha Chi Sigma Fraternity initiated eleven new brothers, including two members of the Department of Chemistry staff, Claudia Brodtkin and Mike Johnson. Brothers tutored students from various departments, primarily Chemistry and Chemical Engineering, for a total of 185 hours. Over 45 undergraduate students received free tutoring, many in the form of group sessions with multiple brothers present. Joshua Brady is the President of the organization.



Karen Brewer's research group has developed new trimetallic supra-

molecules that can be positioned in exact parts of cancer cells and excited by a therapeutic wavelength at which light propagates efficiently through tissue. Only when the light hits the supra-molecules do they become toxic to the cancer cells. Researchers Shawn Swavey and Alvin Holder, along with students Lee Williams and Nathan Toft, working in the Brewer Laboratory, developed the new mixed-metal supra-molecular complexes (medicines) that Brewer and Brenda Winkel of biology have proven are capable of photo-cleaving DNA, a normal therapeutic target in cells. The complexes are novel molecules whose chemistry allows the researchers to append them to other units. "We can attach the delivery vehicles, change the light we need, change the biological target in the cells, and design a molecule that reacts with that part," Brewer said. The research is being done within the Photodynamics Mini-center under the Optical Sciences and Engineering Research Center, a joint effort between the Carilion Biomedical Institute and Virginia Tech.

Scott Trenor, a Virginia Tech graduate student, shows off the gooey properties of an acrylic adhesive. Tech's Center for Adhesive and Sealant Science was asked as part of a NASA project to find an adhesive for a proposed asteroid mission. NASA was interested enough in the idea to approve more than \$300,000 for the two-year project, but the agency is not guaranteeing that the adhesive will ever get off the launchpad. "Virginia Tech is known for being able to do this," Professor Tim Long said. For instance, he and his group are working on "smart" adhesives that stick until you tell them not to. That research, funded by a medical company, really would make a better Band-Aid.

Amy L. Shober (B.S. Chem '98) received an M.S. in soil science from Pennsylvania State University in May. She is pursuing a Ph.D. in soil science at the University of Delaware (2714 Squirrel Dr., Bear, DE 19701).

## BIG CLASS OF 2003

45 seniors list Chemistry as their first major; 15 Biochemistry seniors list Chemistry as their second major; 6 Biology seniors list Chemistry as their second major; 5 Chemical Engineering seniors list Chemistry as their second major; 1 Engineering Science and Mechanics senior lists Chemistry as their second major; 1 Human Nutrition, Foods and Exercise senior lists Chemistry as their second major.



Kevin Schug (PhD 2002) has assumed a post-doctoral position under Prof. Dr. Wolfgang Lindner at the Institute of Analytical Chemistry in the University of Vienna performing work with electrospray ionization mass spectrometry.



# *Adjunct Faculty Profile*

## REFLECTIONS OF ALLAN R. SHULTZ

My first acquaintance with Virginia Tech (then VPI) was the Spring Semester 1969 when Tom Ward invited me to give a talk in the Chemistry Department (Highlands in Chemistry Seminar Series). Upon joining the faculty in 1991, my initial input involved acting as the coordinator of the PMIL Seminar Series. (Esther Brann and Sandy Simpkins have actually done most of the work.) I have attended every Industrial Affiliates Review of PMIL since the introduction of the review in 1978. In 1978, I was a member of a five-man independent committee of industrial scientists and managers asked by Alan Clifford and the Chemistry Department to examine the Department's programs and facilities. The committee's report was used as support material in petitioning the state legislature for funds to build Hahn Hall. Also, in 1978, I began annual visits to Virginia Tech (1978-1990) to interview doctoral candidates in Chemistry and Chemical Engineering for possible employment by GE.

The principal thrust of my efforts (1991-present) has been concentrated on interacting with graduate students. These interactions have involved my formal participation as a member of the students' research/dissertation committees and substituting for absent

committee members at proposal and dissertation defenses, and informal participation in discussions and laboratory research.

I have served on 22 graduated doctoral and masters candidates' committees. During the past eleven years I have regularly participated in the Research Group Meetings of Prof. McGrath and of Prof. Riffle. My participation in the Research Group Meetings of Prof. Ward, Prof. Marand, and Prof. Long has been on a non-regular basis.

Research articles, book chapters and reviews, prepublications, presentations, and meeting session chairs from 1992 to the present, have involved students, postdoctoral research associates and faculty. My travel and meeting costs were partially defrayed by PMIL and other funding sources. I have personally had no direct university, departmental or project funds available. The provision by the Chemistry Department of office and laboratory facilities and of secretarial assistance during the past eleven years has been greatly appreciated.

### GIVING TO THE DEPARTMENT: YOU CAN HELP

Your gift to the Chemistry Department can help us move forward in our quest for excellence. Your generosity can help fund student scholarships, faculty and graduate student research fellowships, program initiatives, and related activities. Please join us by contacting our chair, Professor Larry Taylor (ltaylor@vt.edu or 540-231-6680) or visiting [www.chem.vt.edu](http://www.chem.vt.edu). If you are interested in making a substantial gift, you may wish to speak with Kylie H. Johnson, Director of Development for the College of Science (540-231-7517 or [ebohnen@vt.edu](mailto:ebohnen@vt.edu)).

# Faculty Spotlight

## Barbara B. Bunn

*"Traveling Teacher"*

Barbara was reared on a citrus grove in Clearwater, Florida, a very sleepy southern town in the 40's and 50's. She attended Radford College for two quarters, during which she met and married George, an Episcopal priest, and settled down to raise a family. She vowed that when the last kid went off to college, she would try again, and this time give it all she had and graduate. She started school at East Tennessee State University, and was granted a degree in chemistry (BS, 1986), and the master's degree (MS, 1988).

George convinced Barbara that she should get a Ph.D. in chemistry. She arrived in Blacksburg in September, 1990, at the age of fifty, rented the loft of a barn on top of a mountain in Giles county and went to work for Brian Hanson, studying water-soluble catalysts. Barbara discovered that Brian had all the qualities necessary for dealing with a graduate student almost as old as his mother: patience, sympathy, empathy, good humor and organization. In the middle of her research, Barbara was diagnosed with Parkinson's Disease. Adjusting to the medicine was difficult, but George was very supportive of the decision to work on the degree. During this time as a teaching assistant she taught a lecture section and realized that her love was teaching.



In 1994 Barbara returned to Tech as a sabbatical replacement for the Director of General Chemistry.

Upon taking up the duties, Barbara went to Derring Hall to see the labs. What a horrifying sight! She called President Torgersen and asked him to go with her to see the labs. Dr. Gandour, head, Dr. Graybeal, Assoc. Head, President Torgersen and Barbara went and looked at them—he was also horrified and moved the new chemistry teaching building from 11<sup>th</sup> on the list of buildings to be built to 3<sup>rd</sup>. It is a joy to see that building almost finished.

After a year as Director of General Chemistry, it was back to ETSU to teach. I taught my first love, general chemistry, and also organic chemistry. My first two grandchildren were born during this time.

In 1998, Larry Taylor, called and told me there was an opening for a COTA coordinator (Center for Organizational and Technological Advancement). I would be the coordinator for chemistry, biology, physics and geology. I accepted and started on Jan. 10, 1999.

One of my dreams has been to have a completely self-contained mobile chemistry laboratory in a tractor-trailer. Volvo Trucks North America was asked to give us a van. To our surprise they gave us a road tractor worth \$135,000! I went to Featherlite Corp. in Cresco, Iowa to try to talk them into giving us the trailer as well as to design it. An engineer and I spent the rest of one day and part of the next designing the interior. It has an aluminum exterior and the inside was plumbed for water in

both sinks and a safety shower. The President of Featherlite, Conrad Clement agreed to a \$50,000 discount, after arguing with the sales manager and engineers. They were excited about it, because it was the first unit of this type in the country!

On August 23, 1999, our tractor came off the assembly line. I was the first person who drove it! Meanwhile, Featherlite finished the trailer and delivered it to Fontaine Modification (next to Volvo) on Sept. 22, 1999 ("my birthday! What a present!!") Volvo had a "commissioning ceremony" for our new "Virginia Tech Mobile Chemistry Laboratory" on October 15.

We spent the first nine months showcasing at various schools. Ron Bierman drove for the first month, then we found a driver at Volvo, Danny McCoy, who drove until September 2000. We held our first workshop in the MCL at Abingdon in August 2000. Seventeen teachers attended. The MCL team was beginning to take shape with the addition of Gary Long as Project Director, Vera Good as Administrative Assistant and Mike Johnson as Laboratory Manager. Hunter Clayton became driver and operations manager in September, 2000. The first trip was to Pocahontas, on the WV border. Shad Derozier came on board in September 2001 as a traveling teacher, and our team was complete. We have had over 25,300 experiments performed on the MCL, all of which were hands on, done by students all over the Commonwealth. More than 60 teachers have participated in the program. It continues to be a "great ride"!





Maybe you have never thought about the uniqueness of the Chemistry Department on campus. The following observations may cause you to be even more proud of your Hokie degree.

- (a) The Department employs over 250 persons.
- (b) The only stockroom on campus resides in Chemistry.
- (c) The Department leads the University in research expenditures.
- (d) The last three faculty hired in the Department at the assistant professor level have all won NSF CAREER awards.
- (e) The only "glass shop" on campus is in Chemistry.
- (f) Of the eight campus-wide University Distinguished Professors, Chemistry has two.
- (g) Four Chemistry faculty have been named Virginia Scientist of the Year.
- (h) Four undergraduate research participation programs involving more than 50 students will operate in the department this summer.
- (i) In 2004, all chemistry teaching laboratories will move into a spacious new building. This building is unique in that it is financed totally by public funds and it is 100% devoted to undergraduate teaching.
- (j) We now have chemistry outreach to the entire Commonwealth via the Mobile Chemistry Laboratory and Professor Gary Long's ChemKit program. Hopefully, you will agree that our drive to even greater excellence is well underway.

As you can see from this newsletter, we are accomplishing great things in the Department of Chemistry. However, we could do so much more with your help. When Virginia Tech calls or writes you during its annual fund drive, please consider designating your gift to the Department of Chemistry by checking the "other" box and writing in "Department of Chemistry". Your gift can help in many ways. Please consider the following.

Undergraduate or Graduate Scholarships – The interest from a donation of \$25,000 (payable over 5 years) will provide significant scholarship support on a yearly basis. Also, gifts of \$500 or more provide annual scholarships to worthy recipients.

Graduate Student Travel – We like to encourage our graduate students to go to national conferences to both learn from experts in their field and to share their own developing areas of expertise. A gift of \$500-\$1000 for student travel will make it possible for one or more graduate students to go to professional conferences.

General Foundation Account – A gift to the department's foundation account will allow the department to support a wide range of initiatives, such as minority student recruitment, stipends for outside speakers, and faculty/student teaching awards.

Please know the Department of Chemistry values you as an alum and is proud of your accomplishments. We are now holding Alumni-Faculty dinners wherein we hope to meet many of you and share the latest in Virginia Tech Department of Chemistry news. I trust you will sign-up to attend when faculty and I show up in your locality.

If you would like us to come to your area, please notify me <ltaylor@vt.edu>.

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### COMMENTS FROM ALUMNI:

Walter M. Duncan, Ph.D., Texas Instruments Incorporated, Dallas, TX, BS Chemistry '74, - "I received Vol. 6, Issue 1, Fall 2002 of Elements today. It is exciting to see the Chemistry Department at Virginia Tech continuing to make significant strides forward in terms of overall academic programs and research as well as getting the much needed improvements in infrastructure."

Kurt Winkelmann, B.S. Chemistry '95 - "I attended Auburn Univ., Auburn, AL, for grad school. While at Auburn I married Catherine Brown, also a 1995 VT Chemistry major graduate. Received Ph.D., then headed to chilly Chicago for a postdoc at Northwestern. Now I'm enjoying 2nd year as an assistant professor at Florida Tech in sunny Melbourne, FL. The only bad part is that I don't get to see the leaves change in the fall."

Shigeo Mori, MS Chemistry 1995 - "Currently I am working for Eagle Ottawa LLC, as a technical coordinator between US headquarters and Japanese automotive OEMs."

Christopher P. Roy - "Currently an instructor at Duke University."

Jason Rolland - "I am currently a graduate in chemistry at UNC Chapel Hill pursuing my PhD under Prof. Joe DeSimone."

# Donors

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Appreciation is extended to all alumni, friends and organizations that have contributed to the Department of Chemistry at Virginia Tech over the years. Your gifts make a difference and can be designated for general department needs or specific programs and scholarships. The following names are donors for the period July 1, 2002 to December 31, 2002.

## GENERAL FUND

### Alumni

Frank Akers  
Carolyn Barker  
Leo Bares  
Jerry Bass  
Ed Boudreaux  
Elizabeth Calvey  
John Charkovdian  
Gerard Donahue  
Michael Furness  
Jody Goad  
Stanley Gonsior  
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James Smith  
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Larry Taylor  
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