chemistry *distillations*

The Newsletter of the Department of Chemistry, The College of William and Mary **Fall 2008**
www.wm.edu/chemistry

"*Really* Final" Remarks by the Chair

Roughly three years ago I "claimed" that would probably be my last letter as chair of the department. Although the administration believed me, many members of the department thought otherwise and convinced me to stay on through the completion and relocation to the new building. This year I proclaim to all parties interested (or not) that this will absolutely be my last letter as chair of the department. While I have been honored to lead the department through some rather tumultuous as well as rewarding times, I truly feel that it is in the best interest of the department to move forward and generate greater visions through a new department chair. In reality, I simply want my life back, or to use the phrase common to retiring politicians and sports figures, I want to spend more time with my family (or is it homebrewing).

At the time of this writing, I can count on one hand the number of days I have taken off during the week since the winter break, and two of those were national holidays! The move to the new building and all of the trials and tribulations that accompany such a daunting task have been extremely time consuming, not only for me but many of the faculty and staff I have been privileged to be associated with over the years. Nevertheless, I can honestly say it has been worth the time given the beautiful facility and amenities provided in the new Integrated Science Center (see article on page 4). Yes, we actually have lobbies, with real chairs and tables, instead of the linoleum seats (floors and stairs) provided in the cinderblock halls of Rogers for many of our alumni over the years. A beautiful display case of chemistry relics, as well as the seven foot long slide rule that hung in old Rogers Hall, now adorn the first floor lobby as well.

I took a group of the Class of 2008 through the new building right before graduation (we were still required to wear hardhats at that time even though we had started moving three weeks earlier!). The one word that continuously seemed to come out of most of these students throughout the tour was ***WOW***. The 25 teachers attending the AP institute this summer were totally in awe of the facility, which is now completely functional (well, at least the two chemistry floors are).

The only recognizable part of Rogers Hall that now remains is Rogers 100, where we will still continue to hold many of our lectures, accompanied by the occasional and sometimes unusual construction noise on the other side of the walls. The rest of Rogers is essentially gone with the exception of the exterior walls. Of course we were saddened to see the mural on the stairwell destroyed, as well as the wall of grout jokes in the first floor men's room that I'm sure some of our recent male alumni remember (*Oscar the grout, have a grout day, Groutcho Marxs*, etc.). We hope that many of our alumni will be able to join us at the homecoming reception in late October to get a first-hand look at our new facility, or if you can't make that, please drop by anytime to take a look at a truly modern academic teaching and research facility. I do believe we are the envy of many on campus.

As is the norm for the department, we continue our commitment to excellence in undergraduate research and education. Roughly 50 undergraduates elected to stay this past summer for our ten week research program to break in the new building (although there were a few days when we felt like the new building was trying to break us in). Many of these students are paid through faculty grants and contracts, to the extent that an investment of over $117,000 was made by the faculty from their grants for this past summer alone, with other stipends being supported internally or by endowments from alumni. The weekly liquid nitrogen ice cream socials continue to draw out the creative nature in our students, with a myriad of flavorful offerings being made throughout the summer. If you search the William and Mary News archives on their web site, you'll find a very nice article about this weekly event, and about treating the Governor to our frozen delicacies.

The very creative and industrious nature of our current students and alumni certainly makes our job a little easier each day, and provides the momentum for our faculty to remain highly productive throughout their careers at William and

Mary. This past year alone, a record $1.8 million in new or continuing external funding was awarded, with 19 publications in peer reviewed journals and 39 student-coauthored contributions. In addition, a number of our faculty have received well-deserved awards over the past year in recognition of their contributions to teaching and/or research (see article on page 6). We currently have no untenured faculty, although that will change within the next academic year, as we will be seeking a replacement for the Gottwald Chair vacated by Bill Starnes last year and a tenure track position with the retirement of Dave Kranbuehl in Spring, 2009.

We were also extremely fortunate to have been awarded a matching grant from Shimadzu Scientific Instruments, Inc. towards the purchase of one of their LC-MS systems (see article on page 3). The only missing link to keeping us competitive with our peer institutions with respect to instrumentation at this point is the need for a new NMR. The current 400 MHz system is now ten years old and heavily used by a number of faculty. We felt very fortunate that it survived the move! The ability to attract new faculty in the upcoming years will be strongly impacted by our ability to provide sufficient NMR support.

At last count, the department had roughly 1940 living alumni who graduated with a degree in chemistry, based on the number of newsletters we send out annually. While this may seem like a small number, in reality it's a phenomenal number given the size of the undergraduate body at William and Mary (there are many major universities with a far smaller chemistry undergraduate alumni base). Over the past 25 years alone, we have averaged 45 graduating majors per year. Roughly 70–75% of our majors enter (or eventually enter) graduate or professional programs, and we continue to rank highly nationwide for the number of ACS certified degrees conferred on our graduates.

Stepping down as the big Kahuna after eight years will take some getting used to (probably at least an hour or so), but I still plan to make every effort to know as many of our wonderful majors as possible. You are the essence of our success. You continue to provide the roots through which we can grow. You have been the reason we look forward to getting up every morning and actually enjoying what we have chosen as a career (well, maybe not *every* morning). Your education here was just a small passage of time, but I hope we provided some of the necessary tools to continue that education through a lifetime. As always, it has been my utmost privilege to have been a part of this department over what is now many years, and the 1100+ majors I have met and enjoyed over that time as well.

Cheers, Gary Rice

Current Faculty

Chris Abelt, organic — *cjabel*@wm.edu
Carey Bagdassarian, biophysical — *ckbagd*@wm.edu
Debbie Bebout, biochemistry — *dcbebo*@wm.edu
Randy Coleman, organic, biochem — *racole*@wm.edu
Gary DeFotis, physical — *gxdefo*@wm.edu
Elizabeth Harbron, organic — *ejharb*@wm.edu
Rob Hinkle, organic — *rjhink*@wm.edu
Steve Knudson, physical — *skknud*@wm.edu
Dave Kranbuehl, physical, polymer — *dekran*@wm.edu
Lisa Landino, biochemistry — *lmland*@wm.edu
Coco Faculty Fellow
Bob Orwoll, physical, polymer — *raorwo*@wm.edu
Bob Pike, inorganic — *rdpike*@wm.edu
Garrett-Robb-Guy Professor
J. C. Poutsma, analytical — *jcpout*@wm.edu
Margaret Hamilton Professor
Ted Putnam, dept. administrator — *tdputn*@wm.edu
Gary Rice, analytical, chair — *gwrice*@wm.edu
Dave Thompson, inorganic — *dwthom*@wm.edu
Chancellor Professor

Emeriti

Ed Katz, 1980
Cirila Djordjevic, 1992
Dick Kiefer, 2003 — *rlkief*@wm.edu
Bill Starnes, 2006 — *whstar*@wm.edu

On leave for 2008–2009

Debbie Bebout Fall 2008, Spring 2009
Elizabeth Harbron Fall 2008, Spring 2009
Bob Pike Fall 2008

Adjunct faculty, 2008–2009

Homer Smith Fall 2008, Spring 2009
Sirisoma Wanigatunga Fall 2008

Mystery pipet
*This old **27mL** pipet was was discovered during unpacking. Does anyone know for what purpose it was intended?*

Graduate fellowship established

We were honored this year to be able to enhance graduate studies in chemistry through the establishment of the Kranbuehl-Thompson Graduate Fellowship to attract high quality graduate students into our master's program. Jean Takeuchi, Master's Class of '76, established the endowment with additional matching monies through Eli Lilly, her long- time employer. The fellowship is in recognition of Professors David Kranbuehl and David Thompson, her research and spiritual mentors, respectively, during her time at William and Mary.

After completing her Master's degree in chemistry at William and Mary and an MA in Bible and Missions at Columbia International University, Jean received a Ph.D. at the University of South Carolina before joining Eli Lilly in 1988.

Jean has remained very close to William and Mary's heart, serving as an active member of the William and Mary graduate advisory board over the past five years and as a regular contributor to chemistry, including a seminar two years ago on her work at Eli Lilly. She was one of several alumni recognized at a reception this past spring for her contributions to the graduate advisory board and promoting graduate education at William and Mary.

The establishment of this endowment will ultimately provide us with additional resources to attract the most promising of our master's program applicants by augmenting the standard stipend with this honorary fellowship. We are extremely grateful to Jean for making such a generous contribution to the department, and trust that the fellowship will strengthen our commitment to the success of the master's program and the students we serve.

Dave Kranbuehl, Jean Takeuchi and Dave Thompson after the reception in the Muscarelle.

Grant from Shimadzu provided for LC-MS system

So what do you do when the College provides funding for the purchase of a new liquid chromatography system? You find an instrument company generous enough to provide matching monies through a competitive grant program to purchase a new liquid chromatography-mass spectrometry system instead. That dream became a reality this past year when sales representatives for Shimadzu Scientific Instruments, Inc., a leading manufacturer of a wide variety of analytical instrumentation, invited the department to apply for what eventually became a $65,000 grant towards the purchase of a new Shimadzu LC-MS system, complete with binary solvent system, UV-VIS detector and MS detection with electrospray and atmospheric pressure ionization systems for a single quadrapole mass analyzer.

The Shimadzu sales representatives were confident that the strengths of our research programs and the numerous faculty who could take advantage of such a system would make the department very competitive for such an award, which was granted in March of this year. Additional generous support by the college, as well as matching department monies through private funds from alumni donations, allowed us to meet the full costs of securing this highly advanced instrumentation.

Shimadzu representative Paul Macek, right, made several visits to train users after installing our new instrument. Here he explains its intricacies to JC Poutsma and Debbie Bebout, left, and Najiba Murad '09.

The system was installed in early July, with Paul Macek of Shimadzu (and Class of 1980) providing extensive onsite training to faculty and students on the operation of the system. A number of faculty are looking forward to the advantages that LC-MS will provide in their research areas. We are extremely grateful to Shimadzu for the grant funds, the College for their generous support, and certainly to all the alumni who provide donations to the department which give us the flexibility to advance into new directions through the acquisition of this state-of-the-art instrument.

We have moved!

Yes, after years of plans, revisions, cuts (and gains), our dreams of a new home for the department became a reality at the end of the spring semester with our move to the Integrated Science Center. The move actually began the last week of classes with the lower division labs, and finished with the offices and chemicals after graduation. A tremendous effort was necessary on the part of both the faculty and staff, but by the beginning of the summer sessions after Memorial Day we were essentially operational. The down side for many of us is that we had very little time to rest since the beginning of the spring semester in preparing for such an onerous move.

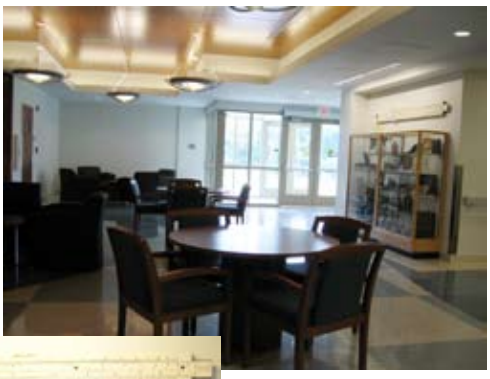
The difference, as they say, between night and day, is apparent in the spacious and bright offerings that can now be provided to our faculty, staff, and students. Louise Menges, a long-time staff member, probably stated it best, saying that only after spending a day in the new building did she realize just how drab a place she had worked in over the past 30 years or so. And for good reason, as the new building has unobtrusive indirect lighting and numerous places for students to actually sit besides the floors in the hallways or stairs in the stairwells. There are spacious lobbies with comfortable seating on the first and second floors occupied by chemistry. Numerous areas along the corridors (what we call colloquium areas) have additional seating as well. We anticipate finishing the installation of numerous whiteboards in these areas so that students and faculty can meet and discuss research or classes virtually anywhere in the building.

The teaching labs are state-of-the-art facilities with air handling systems that should never allow for the smelly intrusions often experienced in the corridors of Rogers Hall. All labs have central vacuum, air, and gas service as well as sufficient hoods in each of the lower division labs for each pair of students. Research labs for every experimental chemist are roughly 900 sq. ft., initially designed to meet current individual needs, but with the capacity for modifications as our faculty change. A liquid nitrogen closet is available on every floor, piped in from the 1500 gallon tank on the loading dock. Separate instrument rooms are available for the NMR lab, x-ray diffractometer lab, mass spectrometry lab, polymer characterization lab, laser lab, and spectroscopy and chromatography lab. The second floor conference room and first floor reading room overlook the Crim Dell area of campus with beautifully accented wood paneled ceilings.The building also has sufficient emergency power to maintain air handing systems and vital instrument functions in the event of a long term power outage, and is equipped with safety, environmental, and security features we didn't even know existed until now.

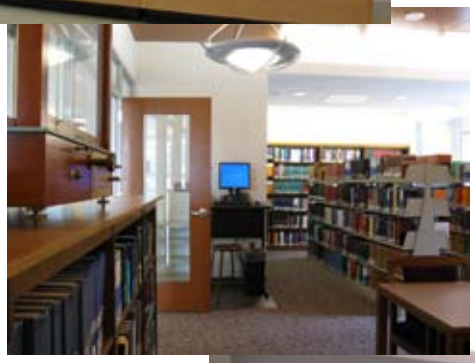
Most people didn't even realize we were moving since the move occurred directly from Rogers through the connecting hallways to the ISC. Whereas we had always been sealed off

New spaces…

Our lobby, facing Barksdale Field

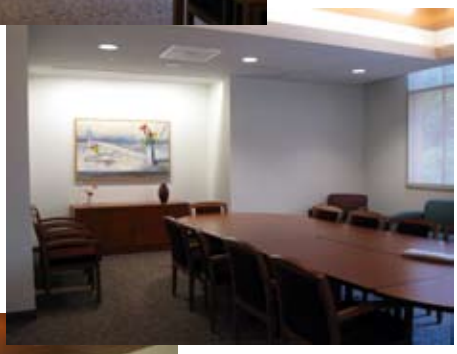


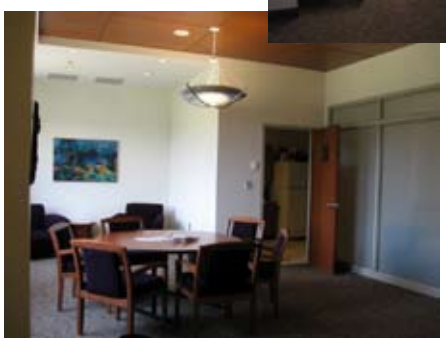
We had been putting aside "antiques and curiosities" for some time prior to our move, and now have a place to display them.



Reading room

Conference room





Chemistry's lounge, with a separate kitchen visible through the door.

from the construction up until the time of the move, *now* we find ourselves on the other side of a new sealed wall during the renovation of Rogers (which right now is nothing more than what appears to be a completely gutted shell). That space will eventually be taken over by biology research labs on the second floor and psychology on the first floor.

The NMR was (temporarily) renamed!

As with any new home, we have had our share of frustrations with the little things that take time to reconcile, but overall the new space has been a wonderful boost to our morale, and certainly will be a tremendous gain for the numerous students who grace our research and teaching labs. If you are ever in the area and would like a tour, please drop in at anytime. If you plan on attending this year's homecoming reception, please keep in mind that the reception will be held in the beautiful second floor lobby of the ISC, and never again in the small conference room and uninviting hallways of Rogers Hall.


Students at work in Chem 354 during the summer session.


The instrument room on the second floor. There are also instrument rooms for mass spectrometry, x-ray, laser, and polymer characterization.


The Landrum side of the ISC.


Members of the Class of '08 stop for a photo in the lobby of the ISC during their tour of the new building in late April. It was not yet certified for occupancy, thus the hard hats and goggles.

From left: Matt Jones, ('07, M.S. '08), Joe Tucker, Alex Gade, Deanna Scheffel, Jordan DeButts, Meghan Moynihan, Katie Fox, Sarah Bennett, Katie Hogan, Whitney Conroy, Zach Fitch, Ian Webb, Ryan Wong and Laura Johannes.

Chemistry faculty gain recognition

A number of chemistry faculty were provided with well deserved rewards over the past year in recognition of their contributions in research and/or teaching.

Most significant was the awarding of tenure to the last assistant professor in the department, **Elizabeth Harbron**. A product of Grinnell College for her undergraduate degree and the University of North Carolina for her Ph.D., Elizabeth has been a growing influence in providing outstanding teaching within the organic curriculum as well as meaningful research opportunities for an increasing number of undergraduate majors. In recognition of her achievements, she will be one of five faculty campus-wide to receive an ***Alumni Fellowship Award*** this fall from the William and Mary Alumni Association. This award is in recognition of contributions in teaching excellence and "classroom work that has achieved notoriety amongst students, colleagues, and staff."

J.C. Poutsma was awarded a ***Margaret Hamilton Professorship*** this spring from an endowment established in honor of Margaret L. Hamilton, a former faculty member of the Government Department. The award, provided to three associate professors annually, is in recognition of faculty whom have demonstrated excellence in teaching and scholarship in the early stages of their career.

Randy Coleman was recognized by Campus Technology magazine as a ***2008 Campus Technology Innovator*** for his leadership in introducing tablet PC technology into the classroom. Randy's utilization of tablet PCs was the only submission from William and Mary of over three hundred applications nationwide, for which only fourteen received this prestigious award. He was recognized at the Campus Technology 2008 conference in Boston in July and featured in Campus Technology's August issue.

Randy uses a tablet PC during his Biochem lecture last spring.

Lisa Landino was appointed a ***Coco Faculty Fellow***, an award made possible by a gift from alumnus Edward Coco, as part of the Dean's Distinguished Lecturers for 2008–09. In addition to a research stipend, Lisa will present a talk as part of the Town and Gown Series sponsored by the Christopher Wren Society.

Finally, the most recent recognition came to **Carey Bagdassarian**, who will be receiving a ***University Professorship for Excellence in Teaching***, the second to be awarded to a chemistry faculty since its inception. This award is given every three years to three faculty campus wide who have demonstrated extraordinary achievements in teaching, and holds a three-year term.

We introduce Governor Kaine to liquid nitrogen ice cream

On the afternoon of August 20, Governor Kaine and his Cabinet toured the newly opened Integrated Science Center with President Reveley and College administrators.

JC Poutsma and Lisa Landino coordinated our portion of the event. The group was given a tour of Chemistry's new space, and the Governor also visited JC's research lab and spoke with JC and Matt Bernier '09 about their current project.

Matt Bernier describes the Poutsma group's research to Governor Kaine.

Speeches and pronouncements were made, but for us in Chemistry, one of the highlights of the visit was the Governor's participation in making liquid nitrogen ice cream (along with its consumption afterward). Lisa Landino and students Christina Davis '10, Brooklynd Saar '09 and Lee Speight '09 had assembled ingredients for two flavors, and entertained the large crowd gathered in the second floor lobby with their ice cream production, after which samples were offered to everyone.

Lisa Landino works the crowd as liquid nitrogen ice cream production is about to get under way. Lisa is assisted by, from left, Lee Speight, Christina Davis (in doorway), Brooklynd Saar and the Guv.

2008 Chemistry Concentrators and Their Destinations

[H] **Jefferson Earl Bates**	graduate studies in chemistry, UC Irvine
Sarah Ray Bennett	development consultant for Kappa Delta Sorority
Timothy Porter Brewster	*(chem/math)* graduate studies in chemistry, Yale
[M] **Scott Edward Call**	undecided
[M] [H] **Justin Grant Connell**	graduate studies in materials science and engineering, Northwestern
Whitney Anne Conroy	pharmacy school, VCU
Sarah Kathryn Cotts	master's program in chemistry, W&M
Roy Arthur Crumrine	undecided
Jordan Collier deButts	undecided
[H] **Nicholas John Economou**	graduate studies in chemistry or materials, UC Santa Barbara
Zachary William Fitch	*(bio/chem)* not reported
Kathryn Michelle Fox	graduate studies in food science and technology, NC State
[H] **Colin Wyatt Fuller**	graduate studies in biomedical science, U. North Texas
[ϕ] [H] **Alexandra Moore Gade**	work as researcher at University of Oslo before grad school in 2009
Laura Jean Gilbert	scribe, Mary Immaculate Hospital
[H] **Emily Grace Harbert**	master's program in chemistry, W&M
[M] **Katherine Elizabeth Harris**	graduate studies in chemistry, U. Montana
Katherine Mary Hogan	undecided
[M] **Laura Elizabeth Johannes**	law school, Washington U. in St. Louis
[H] **Lauren Angela Katkish**	emergency room scribe, Inova Fairfax Hospital, before med school '09
Brian Edward Lee	medical school, Jefferson Medical College
Mi Jung Lim	work for a year before graduate studies in chemistry, U. Penn
Katelynn Zane Moir	undecided
Meghan Frances Moynihan	high school math teacher, Teach for America
Justin Sungmin Park	undecided
Mary Disa Mallard Raulfs	*(chem/music)* dental school, MCV
[H] **Aakarsh Saxena**	graduate studies in chemistry, U. Manchester, UK
Leslie Diane Scanlon	master's of divinity, Lutheran Theological Seminary at Philadelphia
Deanna Marie Scheffel	divinity school at Lutheran Theological Southern Seminary
Laura Marie Steadman	*(anthro/chem)* wait/housekeeping staff, Gros Ventre River Ranch, Moose, WY
Henrik Paul Teuber	work for Orphan Therapeutics before med school '09
Joseph Walter Tucker	graduate studies in chemistry, Boston U.
John Andrew Vanderson	undecided
[H] **Jordan Thomas Walk**	master's program in chemistry, W&M
[H] **Ian Kilby Webb**	graduate studies in analytical chemistry, Purdue
Benjamin Yana Winer	*(chem/interdisp)* graduate studies in biophysics, Johns Hopkins
Ryan Kouicheung Wong	pharmacy school, VCU
Michael Joseph Yakovac	not reported
Seung Hee Yoon	graduate studies in physiology, VCU

[ϕ] **PBK** [M] **Monroe Scholar** [H] **Honors in Chemistry**

2008 Chemistry Master's Candidates and Their Destinations

Luke Michael Davis	*(August '08)* graduate studies in chemistry, U. Illinois
Matthew Hobson Jones	*(August '08)* medical school, UVA
Alexander George Zestos	*(August '08)* medical school

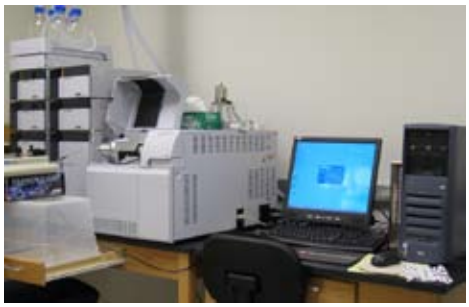
Annual Giving Challenge Provided to the Chemistry Department

Our society has made substantial efforts to ensure that you have had the opportunity to achieve goals fostered by a higher education. But even more important as you continue through your career paths is to contribute back to society, whether in the form of volunteering your time or through monetary contributions. Over recent years, the College of William & Mary has strived to maintain the highest quality education and research that can be afforded to our students, not only through appropriations from the State of Virginia and other funds provided by the College, but through highly competitive monies garnered by our faculty from external proposals and contracts. Our commitment to undergraduate education and research has led to the Chemistry department being recognized as one of the premiere undergraduate programs in the country, an honor that we strive to maintain.

Nevertheless, the ability of the department to sustain that level of excellence is becoming increasingly difficult with each passing year. While we are truly fortunate to have a new state-of-the art facility to teach our students and conduct meaningful research, escalating costs in our general operations are far above conventional inflation rates. Only one M&O increase for the department has occurred over the past eight years. Coupled with decreasing support from the state for the operational costs incurred by the College, these factors will ultimately impact our ability to achieve higher goals and effective long term planning for the continued success of the department relative to our peers. A number of alumni have periodically made donations over the years to help the department, with some establishing endowments that can guarantee some long term stability in some areas. Currently, expendable private monies from annual contributions or proceeds from endowments currently amounts to roughly $25-30,000 annually. Over the next 5-10 years we would like to see yearly private support to the department exceed $100,000 from annual giving and expendable endowment funds.

Dr. David Kranbuehl, a distinguished professor within the department for the past 38 years, will be retiring at the end of the Spring, 2009 term (although he will remain active in the department over the next three years in the phased retirement program instituted by the College). Professor Kranbuehl's generosity to the College over the years has been exceptional to say the least, including the establishment of the Hillger-Roberts-Kranbuehl Endowment to support expenses for the chemistry seminar program. Now he wishes to present a challenge to our alumni by generously agreeing to match up to $5000 annually in new donations for other needs of the department beginning this fiscal year. This could ultimately generate a minimum of $10,000 (but hopefully more) in new monies annually for the department.

There are numerous examples where your donations truly make a difference in the opportunities that we can provide in undergraduate chemistry education. A significant donation made last year was vital in negotiating the purchase of a new liquid chromatography-mass spectrometry system that was installed this summer. This instrument will be of substantial benefit to at least five of our faculty (all with NSF or NIH funding) and their research students. A new laser lab, complete with a ND-YAG and dye laser systems has been developed for teaching in the upper division labs, with over a third of the cost covered through private donations. Significant improvements in the quality of equipment used in the teaching labs, at every level, have partially been the result of expendable private monies. Several undergraduate students are annually supported for the summer research program through endowed or expendable donations.



Our new LC-MS

Annual giving provides a high level of predictable financial security and allows the department to consider long term plans and goals. If you are interested in contributing to the needs of the department on a regular/annual basis through this matching challenge, there are several funds already established for this purpose, including the unrestricted Chemistry Fund (Account 2967) and the Alfred Armstrong Memorial Fund (Account 2020). There are two mechanisms through which you can make such contributions:

To contribute by mail, make your check payable to *The College of William and Mary Foundation*. Please be sure in your check's memo area to note how you are designating your gift. Mailing address: The College of William and Mary, P.O. Box 1693, Williamsburg, VA 23187-1693

In addition, on-line donations can easily be made as well by going to the chemistry web site at www.wm.edu/chemistry and clicking ***private giving*** contained within the left navigation bar.

Endowment Opportunities

In addition to the need for annual giving, larger donations to establish endowments would be very beneficial to support larger needs, any of which can be established in honor of the alumni making such donations or any designate preferred. There are several areas of vital significance that can be considered for such contributions:

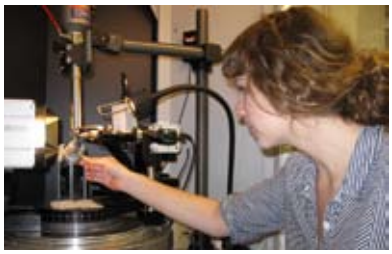
Scholarships The rising cost of higher education is making it far more difficult for highly talented individuals to attend the college of their choice. Over the past three years, two endowments have recently been established, one to provide an annual partial scholarship to undergraduate chemistry majors, and a second as a fellowship award for the most talented master's students entering our program. Endowments to support such scholarships or fellowships will allow us to remain more competitive in attracting such talent.

Undergraduate Summer Research Fellowships The summer research program continues to flourish, with an average of 45-50 W&M chemistry majors staying every summer to conduct research with our faculty. Numerous students are annually cited as co-authors on publications and presentations based on the work that they perform in our research labs. Several of these fellowships are annually supported through endowments provided by alumni or through annual contributions. The space afforded in the new ISC facility for faculty research expands even further our capabilities of providing summer opportunities to even more deserving undergraduates. Endowments or annual giving at a level that would support such fellowships would greatly enhance the productivity and continuity of our research programs.

Research is fun—just ask Seniors Norah Bate, Rachael Brickey and Sarah Milam!

Gary Rice explains operation of a UV/VIS spectrometer to Chem 309 students this fall.

Instrumentation Maintaining state-of-the-art instrumentation is critical for the department to remain competitive for research grants as well as productivity, to the extent that many instruments should be replaced every 6-7 years due to age (and costly repairs for upkeep) or simply to maintain innovations that students should be exposed to upon leaving W&M. The Equipment Trust Fund provided by the state provides some support for these needs as well as College and external support for expensive items such as the new x-ray diffractometer. Our next large purchase will hopefully be a new 500 or 600 MHz NMR. The increasing versatility of our current faculty, coupled with their research interests, has resulted in a department requiring a far more diversified inventory of instrumentation relative to as little as 20 years ago, and this need will undoubtedly expand in the future.



Ashley Butland '10 uses the x-ray diffractometer to look at how Hg and Zn complex with a variety of ligands.

There are several ways through which you can make substantial contributions beyond monetary donations:

Securities Gifts of securities, such as stocks and mutual funds, can be a strategically effective way to support the programs of the College of William and Mary. Please contact the Gift Accounting Office at 757-221-1080 to make your gift using securities.

Deferred Gifts We encourage you to consult the Gift Planning Office when making a bequest provision in your will, retirement plan, or other estate plan. This office can provide the appropriate legal name and language to ensure that your bequest can be used the way you intend. They can also provide information about a number of deferred options such as annuities and trusts that can benefit the department.

For more information To further explore giving options that will be meaningful and beneficial to you, please contact Andrew Barry, Executive Director of Development, Arts & Sciences, at 757-221-3712 or by e-mail at *acbarr@wm.edu*.

Gifts supporting the departments and programs of Arts & Sciences at the College of William and Mary are tax-deductible according to regulations governing section 501(c)(3) of the IRS code.

2007 Chemistry Reception

Here are some photos we took during the reception:

Les Hoffman '72 *and Dave Kranbuehl have a discussion. Listening are Les' wife and his father,* ***Harmon Hoffman, Jr. '49****.*

Gary Rice entertains ***Marga Larson Bales '60*** *and her husband Bill.*

Charlie Wilkes '76 *and his wife Charlotte Galson with their daughter Catherine '09, a neuroscience major*

Rob Hinkle and ***Jon Harper '03***

Emily Harbert '08 *(now a master's student) talks to Bob Orwoll and* ***Sam Marcusen '72****.*

Rob Kravitz '82 *and Randy Coleman*

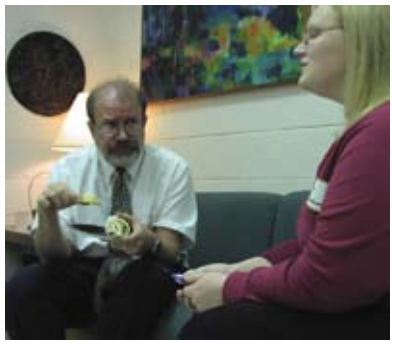
Tomas Fridinger '62 *talks to* ***Emily Hall*** *and* ***Andrea Emauuele*** *(both '07).*

Dick Kiefer visits with ***Mike Clark '04****.*

David Haden *and his wife Mae brought their daughter Katherine.*

Randy Coleman, Bob Orwoll and ***Ellen Moore Walk '77*** *are treated to a story by Dave Thompson.*

John Quagliano '85 *shares a laugh with Lisa Landino.*



David Haden '82 *and Lissa Anderson '09*

Bob Orwoll and ***Ellen Moore Walk '77*** *react to something off-camera.*

2007 Chemistry Reception

Dick Kiefer chats with ***Brent Justus '97*** *and his wife Jayda.*

Jan Jones '99

Sam Marcusen '72 *and Bob Orwoll*

Somebody *said something funny—Eileen Aquino, Steve Knudson and Lisa Landino.*

Eugene Aquino '88 *introduced us to his employer, Russell Churchill.*

Chris Almond '92 *and Bob Orwoll snack as they catch up.*

Tomas Fridinger '62 *and his wife Eileen are talking to* ***Rob Kravitz '82****.*

News of Our Alums

It is wonderful to hear from you—please continue to keep us up to date with what is going on in your lives! Information about how to contact the Department is on the back page of this newsletter (or you can contact your favorite professor, who will forward the message).

Class of '48

When Tom Melton, a mechanical engineer for Facility Dynamics, the firm commissioning the ISC, mentioned to us one day that his father, **Thomas M. Melton**, graduated from W&M in 1948 with a degree in chemistry, we asked for some news of his dad, and here it is:

The winner of a competitive exam for Virginia high school seniors sponsored by the ACS, he received a $300 scholarship to William and Mary, enrolled in the summer of 1944 and continued his studies through the fall and winter, but dropped out to join the Navy in April 1945. He returned to William and Mary in September 1946 and graduated in August 1948, having gone to summer school in 1947 and 1948 as well as worked as a student lab assistant in organic labs for two years. He credits Dr. Kenneth Gordon, his organic professor, for helping him get his first job at Sterling Winthrop Research. He later worked at Virginia Carolina Chemical Co. and at Mobil Chemical, retiring in 1989 after 41 years as a chemist.

Class of '56

Martin Damsky was the subject of an April *VA Gazette* article. He retired eight years ago from his dentistry practice of 38 years in Newport News, and now volunteers as a dentist at Old Towne Dental Clinic in James City County one day each week. Martin indulges in a lifelong interest in trains at Busch Gardens, where he serves as the railroad engineer 2 to 4 days a week on the train carrying thousands of visitors around the park each year.

Class of '75

Patricia Metzger Cotts was a Chemistry Seminar speaker this last spring. Pat, a senior research associate at Dupont in Wilmington, Delaware, gave a talk entitled "Applications of Light Scattering for Polymers and Nanomaterials in Industry". Pat's daughter Sarah '08 has just begun her master's in chemistry, working with Dave Kranbuehl.

Class of '77

In an email to Gary Rice, **Ellen Moore Walk** wrote: "I am looking forward to attending the Chemistry Department Reception on Friday, October 26. This is the first time I've made it down to homecoming from Richmond on a Friday afternoon, as my husband John Walk '77 and I usually come down to homecomings on Saturday morning. I hope to re-connect particularly with Bob Orwoll, Randy Coleman, and Dave Thompson. They probably won't remember me, but I was in the same graduating class of '77 with Ginny Youngblood and Paula Solensky. I received a Ph.D. in Information Systems, with minors in Management Science and Computer Science, from Virginia Commonwealth University. I have been on the faculty at the University of Richmond ever since. I remember well the learning environment at William and Mary, as well as the teaching methods and personalities of faculty like Bob Orwoll, Randy Coleman, Dave Thompson, Cirila Djordjevic, Alfred Armstrong, and Trevor Hill. So even though my career took a different path, I think of you all often, and rest assured you have had an influence on my teaching as well".

Class of '82

James Comey delivered the address at Charter Day this past February. Jim, a former U. S. Deputy Attorney General, is now senior vice president and general counsel of Lockheed Martin and a newly elected member of the Alumni Association's Board of Directors.

Charlie Kendricks lives in Williamsburg and is now a German teacher in the Hampton school system. While he was working as a conservator for CW, Charlie returned to take Instrumental Analysis again, this time with more modern instrumentation than had been used in Dr. Tyree's course.

Class of '83

Melanie Snyder Hoff dropped by in July with her daughters Shannon, 17, and Casey, 12. Shannon, a senior, was visiting in-state colleges before applying, and they had just finished a tour of W&M. Melanie continues to work for the EPA analyzing Superfund site data, and her husband Jim works for the Coast Guard. The Hoffs live in Falls Church.

*Tom Wong sits for a photo with the plaque he made for us 25 years ago; it now hangs on the wall in our **new** lounge.*

Tom Wong visited us in March. This year marks 25 years since his graduation. He entered the University of Toronto in the Graduate Program in Chemistry, in 1988 graduated from Los Angeles College of Chiropractic as a Doctor of Chiropractic, and completed studies to become Doctor of Chinese Medicine. Tom was chief negotiator in establishing recognition of Chiropractic in Hong Kong, and in 1993 was the only doctor registered in both Chiropractic and Chinese Medicine in Hong Kong. In 1996 and 2000, he served as Doctor-in-Chief of the Gambia National Team in the Olympic Games in Atlanta and Sydney. Tom and his wife Flavia were married in 2000 and live in Hong Kong.

***Warren Koontz** '83 (now an internist in Richmond), Randy Coleman and* **Tom** *in a picture probably taken their senior year.*

Class of '85

Arthur and his boys, Isaak, 9, and Jared, 7, in Bob's office.

Arthur Lyons and his two sons paid Bob Orwoll a visit in late August. Arthur received his Ph.D. in organic chemistry from U. of Iowa in 1990 and an M.D. there in 1995. He became a staff physician at Walter Reed Medical Center in 1998, and has been Chief of the Clinical Research Unit in the Viral Diseases Division at Walter Reed Army Institute of Research since 2006.

Class of '94

From **Derek Jackson** (BS '94, MA '96) to Gary Rice:
"Dr. Rice, not sure if you remember me, but we worked together a little bit last year on the first and last Pfizer Ann Arbor Chemistry Research Awards! Well, my wife, **Allison Choy** ('94) and I have settled in the Boston, MA area, had our second child (Robert, born in September) and landed jobs (quite a year!!). Allison is continuing her research in antibacterial medicinal chemistry with Astra-Zeneca and I am now working for a research division of Johnson and Johnson, called TransForm Pharmaceuticals. My focus is on Early Drug Product Development, specifically analytical chemistry with some work in formulations and solid form characterization."

Class of '95

Suzy Mi-yun Kim started teaching English and (maybe) chemistry and studying in Beijing, China, this September.

Class of '97

Waughn Hughes, who led W&M to a Colonial Athletic Association championship in each of his final three seasons of soccer and remains our all-time leading scorer, was named to the William and Mary Hall of Fame in November 2007.

Dan Kopp is now in law school at George Washington and working full time. He and his wife Karen Jupiter have two sons.

An email from **Shawn Mulvaney**: "Things are going well for me. My research interests remain in biosensors and biodefense and we look forward to a promising year in 2008. My research team is currently performing unamplified detection of proteins and DNA at aM levels in >30 min total assay time.

Since completing my Post Doc in 2004, I have remained at NRL as a contractor with Nova Research, Inc. Nova helps to staff several facilities around the DC area, in particular NRL, and up in southern New Jersey. Our staff's research interests cut across all areas of basic and applied research, ranging from biology through physics. We are always looking for well trained and enthusiastic individuals to support our programs. Having passed through your halls, I remain a staunch supporter of the individuals W&M's chemistry department helps to mold."

Leslie Sombers (MS '98, Ph.D. Penn State) wrote in February to let us know that she has been offered a position as assistant professor in chemistry at NC State.

Class of '98

We heard that **Maria Argiriadi D'Angelo** and her husband Tony are now the parents of a second son, Anthony John, born in Boston on September 18, 2007. Congratulations!

An email from **Pete Coyne**: "I just received your note and invitation to the Chemistry department homecoming bash! My wife and I will be in town for homecoming, but probably won't be able to make the reception due to our work schedules that week. If we can get there in time, we will definitely stop in.

As for what I am up to, I am married to Kerry O'Hanlon Coyne and working for Saw Mill Capital, a $325 million private equity firm in Westchester, NY. (I guess I am one of the few Chem majors that didn't go into industry, research or medicine.)"

From **Jen Johnson**: "I wish that I could make it to the reunion! I am now an assistant professor of math at the University of Idaho—this is my second year. I also have two kids now...Kaleb is 9 years old, and Claire is 1 year old. I met my husband, Fok-Yan Leung, in graduate school at Caltech. I hope to make it back to Williamsburg before too long.

Be sure to give Dr. Rice my regards!!"

Class of '99

Jan Jones, aka Biochemnerd2000@yahoo.com, attended the reception last fall; she is currently postdocing at UNC-Chapel Hill.

Class of '02

We had a visit last October from **Jeny Lim**, who graduated from St. Louis University School of Medicine in May 2007 with her MD, and is doing a residency in Emergency Medicine at Wright State University in Dayton, OH. Jeny was married this past June in Madison, WI to Kevin Morgan, whom she met in medical school.

Class of '03

James Cahoon, at UC-Berkeley, writes that he sees a light at the end of his graduate school tunnel within the coming year.

From **Kady Dendramis**: "It's been a little while since I've sent an update, and I have some things to update on finally! I really enjoyed my visit back in February. It was nice to see Rogers one last time before the renovation (I hope that the move went/is going well, btw). I can't wait to come out and see the new facilities, though that will have to wait awhile.

Since I've been back in Seattle, I managed to win a travel grant and free registration to the micronano breakthrough conference in Vancouver, WA. I'll be presenting work on our progress towards developing a retinal prosthetic there Sept. 8th, 9th, or 10th. I was also awarded an IGERT fellowship, so I'm supported on an NSF grant for the next year. And lastly, my first author paper finally made it through reviewer process and is now available under Chemical Communication's "advanced articles" on the web."

Rob Knowles, a Ph.D candidate at Princeton, was one of the speakers in our Spring Seminar Series this year. His seminar talk was entitled "Towards the Total Synthesis of Diazonamide A".

Michael Simulescu graduated from Kirksville College of Osteopathic Medicine in June of 2007, and is a Pediatrics Resident at the University of Nebraska in Omaha.

Class of '04

The October 22, 2007 issue of *C&E News* featured a cover story titled *Chemistry Behind Bars*, which looks at a chemistry course taught to inmates at San Quentin. "The prime mover behind the chemistry course is **Chip Crawford**, a fourth-year chemistry graduate student at University of California, Berkeley", the author states. "Crawford says he never asks the students about the crimes they committed. 'I want to think of my students as students,' he says. 'I'd be afraid that knowing what they did would really influence how I interact with them. I would like them to have a place where for four hours, they're students, and that's all they are.'"

Mirth Hoyt and **Diana West** are both doing their graduate research in Paul Hergenrother's group at the University of Illinois. Mirth will be presenting a Friday seminar to our department this fall.

Bryn Reinecke graduated in May with an MS in inorganic chemistry from the University of South Carolina, and is now a research associate at Zeus Industrial Products, working in polymer chemistry.

Class of '05

Hillary Huttenhower writes from Georgia Tech that she expects to complete her Ph.D. within the next year.

Michael Hurt (MS '07) visited in July, on the eve of his wedding; he and **Natalie Stinton** ('07) were married in Wren Chapel on July 12. Natalie has just finished her first year of dental school at U. Penn, and last fall Michael began work at Keystone Industries, a cosmetic manufacturer located in New Jersey, where he is now doing research. Michael reported that he was very impressed with the new building. Congratulations, Michael and Natalie!

Eric Schluederberg missed Gary Rice when he dropped by in February to say hello, but left a note to let us know that he has been accepted to medical school at Western University College of Osteopathic Medicine of the Pacific in Pomona, CA. (Eric's next stop was the Greenleafe for martinis.)

Class of '06

From **Kay Pharr**: "I just graduated with a MS in Chemistry from Wake Forest University, my specialty being Analytical Chemistry. I determined the levels of Cd and other toxic metals in urine samples from migrant workers in the area. I also used solid phase extraction coupled with ICP-AES and with W-coil AAS to determine Cd levels in urine. It's been a wonderful experience, and I will be very sad to say good-bye to Winston-Salem.

However, I've gotten a wonderful opportunity that I'm really looking forward to. On August 11th, I will be leaving for Haifa, Israel and doing something very different from the lab work I've become accustomed to.

I am going to Israel to work for Archbishop Chacour. The position has a three month trial period, and if that goes well (which I have every reason to believe it will) I will be there for about a year. Needless to say, I'm now going to be seriously studying my Hebrew, which began to exist just a few weeks ago. I'll worry about Arabic once I get there.My job is to do his English correspondence for the Archbishopric: reports, memos, letters to diplomats, etc. and to greet those people who come into the Archbishopric. I'm pretty psyched! I finally get to use all those skills of grammar that I've retained. I can pretend I was an English major! Okay, maybe not... my memory isn't good enough to quote 'famous' authors sporadically".

Received this past February from **Justin Williams**, who was doing graduate studies in forensic science with an emphasis in chemistry at Marshall U:

"It seems like the past two years have flown by in graduate school. In just 10 more weeks I will be graduating, but I have to pass 7 comprehensive finals first! This past summer I had the opportunity to participate in a research internship with the West Virginia Office of

the Chief Medical Examiner in Charleston, WV. I looked at postmortem oral fluid swab samples as an alternative matrix for the detection of cocaine. The results were really favorable and I was able to present the findings at the 2007 Society of Forensic Toxicologists conference in Raleigh, NC this past October. I have been applying for jobs for the past few months and received a call last Friday from the F.B.I. in Washington. I actually have an interview with them."

Class of '07

Chelsea Finch has been working since graduation as a legal assistant in pharmaceutical litigation, and writes that she has learned three things: that she has no intention of ever becoming an attorney, that "disorganized" is a relative term, and that she would like to head back to graduate school. She has decided to combine her love of science (and obvious science background) with an interest in health and is applying to public health master's programs.

Jamie King wrote Gary Rice: "Thank you for your recommendation for medical achool. I have been accepted to VCU School of Medicine and will attend this fall. I could not have made it without your guidance and, of course, pV = nRT. I continue to hope there is not too much mercury in the fish and not too many strange alcohols in the whiskey, and I thank you again."

From **Robert Lewis**: "Good Afternoon Dr. Rice! I hope all is well within the chemistry department and that this year's seniors are just as fun as we were. I wanted to send you an email to let you know how things have been going post-graduation. I am still here at the Virginia DOT as an analytical chemist and enjoying every minute of it. I really can't believe that it has almost been 8 months since I've been employed here. My specialization here at the Materials Division is heavy metals analysis, particularly in cement and concrete samples. They were really impressed and excited that I had previous experience in sample handling and preparation in your research laboratory focusing on mercury concentrations in various aquatic organisms and sediment samples. In working here, I have become intimately involved with many types of instrumentation. I work with the FAAS constantly and when our instrument has been down and out, troubleshooting abilities become just as important as the analysis itself."

Katie McCarthy expects to complete her masters degree in public health at Tulane University in December. As part of that program she spent the summer in Kenema, Sierra Leone, assisting with medical assessments for an NGO.

Class of '08

Emily Harbert, after receiving her B.S. this spring, is staying on in our masters program. As an undergraduate Emily participated in the College's Alan Bukzin Memorial Bone Marrow Drive. This summer she received a call informing her that she is a match. In September she checked into MCV where they harvested some of her marrow, which was given to a 18-year-old cancer patient.

We remember Trevor Hill

Roger Schultz, MD, Hampton Roads Urology:

I too am very saddened at the loss of Dr. Hill. He was a patient for many years. He survived several cancers and endured a host of different treatments (radiation, chemotherapy), yet he always kept his chin up and never seemed depressed. I enjoyed his inquisitive visits at my office—seemed as if he were always trying to reinvent my specialty to make it better—but I could never take offense because the line of inquiry was dead on—he asked the right questions and clearly had a very active mind. Finally, I remember what a nice fellow he was—always managed to ask me how I was doing, how my family was doing—a true gentleman. He must have been one amazing professor of chemistry.

Excerpts from a letter sent to Shirley Hill and to the Department from T. Alec Rigby, a friend since childhood:

Ms. Louise, this will probably be what you call a disjointed memorandum, as it is not every day I write a professor at William and Mary College *(Louise has been promoted!)*, because when Trevor Hill went to what we called in Canada a Cram School in Niagara Falls, Ontario, I went to work at the age of 17. And I don't believe I've ever been inside a school since..

We knew each other as young boys because Trevor's family was quite close to my mother and father, and we used to visit Trevor amongst the apple and peach orchards that his beautiful family house was located in. I believe they had about a hundred acres of orchards. About five years ago I tried to locate the property, but in what they called progress, it was long gone, along with the orchards.

Trevor was quite a card; he was funny and he really was what I considered as a young boy an expert with the bow and arrow, and with knife-throwing into trees. He used to ride a little black pony bareback and hang on with the hair from the horse's mane (not me of course).

Our families would always gather on New Year's Eve; I remember Trevor had a brother called Peter and a sister called Muriel. His father was president of the Chamber of Commerce besides being an businessman owning a large tool and die company.

I lost track of Trevor for a number of years because, as I said, I went to work and he stayed in school, and the next I heard from him he was at Dupont, and I believe he once owned a patent he had with du Pont Chemical.

He knew I had sailed the Atlantic a few times, and had spent a few years above the Arctic on my sailboat, and he told me of his exploits up and down the Eastern seaboard in his sailboat; some of his stories were quite harrowing.

During the last 10 years of Trevor's life we used to talk about every six months on the telephone. He always asked me about

my sisters and friends that we had in common and we both enjoyed talking about our early days in that wonderful small town called St. Catherine's.

Pat Hilger, Administrative Assistant

Trevor had already retired when I started working in the department in 2000, so I didn't know him as long as many of the faculty and staff. He was, however, still teaching some of the organic labs and whenever he had a task for me, he would always preface it with "my good woman…." Another phrase he used often whenever I did something for him was "bless your heart". I can still picture him walking down the halls of Rogers in his "Indiana Jones"-like leather hat, carrying a large tin of Virginia peanuts, which he always brought to the office at Christmas time, and which never lasted more than one day! Trevor was definitely one of a kind, and I believe his spirit will always be a part of the Chemistry Department at W&M.

Chris Abelt

Trevor formed my first impression of William and Mary. He picked me up from the Norfolk International Airport in his big old Cadillac with an aluminum engine. When I later found out that he owned not only a boat, but a condo in Wintergreen, it made the story that he was independently wealthy seem true. Well, he did work on Lucite at DuPont, but he didn't make a fortune in patent royalties.

Trevor did teach me some valuable life lessons. Two of these involved the game of golf, for which we shared a passion. The first is that if you play in the fall when the yellowjackets are particularly pesky, it is important to check your soda can before taking a gulp. The second is a derivative of Murphy's Law. If your ball lands next to a sprinkler head, it will turn on (with tremendous force I might add) with dead aim right in the middle of your backswing.

We also shared a passion in gaming ("gambling" makes it sound a little crass). Trevor taught me about the importance of persistence. If your betting scheme doesn't work, keep coming up with new and better ones. I am not sure Trevor ever found the perfect system, but he did have some incredible lucky streaks.

Gary DeFotis

Trevor Hill and I, by our respective constitutions, simply could not be best friends. Very early on here I had remarked to one faculty member someth ing like, " the white-haired fellow is a bit peculiar." Trevor, in turn, found me, I am sure, far too serious and engrossed in my work, someone who walked too fast as well, and who did not have much charm. And yet I look back on Trevor very fondly. A true character, he possessed some of the defects (e.g.. a more than merely casual interest in horse racing) of certain of my family members. He was devoted to this place and its students, and performed an outstanding service in organizing one-semester academic/industrial seminars for quite a number of years.

Bill Starnes

I always considered Trevor to be one of my best friends in the Chemistry Department. We hit it off well when I first arrived on the campus, and in response to his invitation, we soon started a joint research project that produced some interesting results. Among the students, he was a legendary figure because of his extraordinarily entertaining lectures and the persistent rumor, which resisted every attempt to squelch it, that he had invented Teflon while working in the chemical industry. I still remember the day when he showed up in the department wearing his Australian bush hat and explained, while laughing uproariously, how he been able to use the hat to convince a group of strangers that he was the "real" Crocodile Dundee. The world, and especially the higher educational part of it, would be greatly enriched if it had more people who were as genuinely likeable and as colorful as Trevor Hill. I have missed him greatly.

Gary Rice

Aside from my admiration for Trevor's classroom skills (although in his modest way he would have never referred to them as skills), my fondest memories of Trevor were when he participated in the Chemistry Club Magic Shows, even after retirement. Most students were never aware that Trevor was what I would call a professional/amateur magician, and he served wonderfully as the entertainment during the middle of some of the shows while the rest of us caught our breath. These were no magic tricks out of the box; they were indeed the type of things you would actually see at close to the professional level. Of course the best part of the act was Trevor acting like he had no clue what he was doing, something he was very good at, but for those who knew him well, Trevor pretty much always knew what he was doing. Before college campuses frowned on promoting anything to do with alcohol, one of our best tricks was a bar skit where we took an innocent looking solution through several "mutations" until it ended up appearing to be a mug of beer, a beverage that Trevor truly enjoyed. Trevor's personality played extremely well into this skit, and entertained everyone to no end.

So Trevor, with all the respect in the world, ***this Bud's for you***.

Trevor was a fixture in our annual Magic Show. This black and white photo was taken in 1988 during his famed "bar skit".

Make our Chemistry reception part of your Homecoming 2008!

The Department is having its wine and cheese reception for chemistry graduates in the Integrated Science Center on Friday, October 24, starting at 5:30 pm in the second floor lobby (above the Barksdale Field entrance). We look forward to showing off our beautiful new building and hope to see you there. If you can join us, please try to let us know by October 19.

You can e-mail us at pxhilg@wm.edu, give us a call at 757-221-2540, or return this form to:

Patricia Hilger
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. 24, 2008, at 5:30 pm.

Name _____ Class of _____ ___ No. of guests

Even if you're unable to come, consider using this space to let us know what you're doing and mailing this form to us at the above address. We'd love to hear from you.

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