Greetings from all of us in the Chemistry Department at Wright State University and I hope that 2011 is bringing the best of health and happiness to you all. Of course, by the time you receive this it may be more appropriate to wish you all the best for 2012. My excuse (at least, one of many) is that I was waiting for the governor’s budget to see if we could afford to send out the newsletter (late newsflash – we can’t)!  

The department faculty, staff and students enjoyed a productive 2010 as we settled into our remodeled spaces. We welcomed new faces, new equipment, new courses, new awards and a complete revamping of our website (fully online as of March 16) and, concurrently, continued to wrestle with the challenges presented by the University’s change over to semesters in Fall 2012 as well as the fear of what cost-cutting measures the state might introduce. For the semester changeover, the WSU mandate to departments was to “think out of the box” and use this as an opportunity to find new approaches to pedagogy and student engagement. After dozens of meetings, only a few of which involved invoking the Marquis of Queensbury’s rules, we came up with an innovative approach, viz. that if we took the number of quarter credit hours per course, multiplied by two thirds, and submitted the result, the meetings would stop! Actually, joking aside, I felt that everyone pulled together really well to try to address the challenges presented by this change. There are still many uncertainties, but one thing we know for certain is that we won’t have to wait long for them to surface since this transformation takes place in August 2012!

The department, along with the university as a whole, has experienced huge enrollment increases in the past couple of years and we have worked hard to accommodate as many students as possible, however, the past two quarters (especially Winter 2011) presented some sterling challenges. We agreed boldly to open more laboratory sections in several courses to meet the demand and then had to deal with the reality that we were substantially understaffed. Faculty members have been very successful recently in obtaining funding for their research endeavors (and associated students) and the upshot was that, combined with graduations, we had ten graduate teaching assistants (GTAs) removed from the teaching rolls. Given that, in a typical quarter, we utilize 22-23 GTAs, you can imagine that there was considerable agitation on my part. After wheedling, cajoling, begging and threatening (actually, maybe next time for the latter!), we were able to meet the needs. I was extremely grateful to Regis Komperda (our new Instructor), Joe Solch and Garrett VanNess (our equipment specialists) and Kirby Underwood (our Freshman Laboratory Manager) for “volunteering” to act as laboratory section TAs for several of our Freshman Chemistry laboratories. It’s fair to say that they may never “volunteer” for anything again!

As I alluded to above, in large part due to the enrollment increases, the Provost provided funds to allow us to hire a year-to-year Instructor and we were delighted to welcome Regis Komperda to the department in Fall 2010. Regis has added another breath of fresh air to the department with her enthusi-
asm, hard-work and “can do” attitude. We’ve loaded her up with courses and it’s rare indeed to pass her office and not see students camped out within. Through it all, she has managed to maintain a positive, sunny demeanor though, of course, we still have time to work on that!

Our faculty members and students were again recognized with various awards for excellence in teaching, research and service during 2010. On the faculty side, Dave Dolson (the Meryl Streep of the Chemistry Department) received the sole College of Science and Mathematics Outstanding Faculty Teaching Award for 2010. I’m sure that faculty members in other departments are grateful that an individual can receive this award only every 4 years! Dave is getting a “run for his money” within our department, though, in the form of Ioana Pavel. Ioana, now in her third year with the department, was the recipient of a 2010 General Education Excellence in Teaching Award for her efforts in CHM 121. In general, the honorees for this award are faculty members in departments such as English, History and Religion so, in that light, Ioana’s achievement is all the more remarkable. Further, one of the benefits of my sluggish production of this newsletter is that I can report that both Ioana and Regis Komperda were recipients of 2011 General Education Excellence in Teaching Awards, though you’ll have to wait until next year’s newsletter to hear the full details!

Once again, we received good news on the alumni front when we learned that the College of Science and Mathematics (CoSM) Outstanding Alumni Award Winner for 2011 was a Chemistry Graduate, Dr. Russell Gaudiana, (M.S., 1969)! Our fourth winner in six iterations (Prof. Marc Porter (2006), Prof. Jeanne McHale (2008) and Dr. Shelley Coldiron (2010) were previous awardees). Dr. Coldiron was honored at a university-wide reception on February 13, 2010 and, since I am writing this in June 2011, I can reveal that Dr. Gaudiana was recognized at the 2011 event in February 2011. Unfortunately, due to his sudden promotion to President of his company (don’t you hate it when that happens?), Dr. Gaudiana was unable to attend but we are hopeful that we can bring him to campus for a seminar and recognition event in the Fall. The Outstanding Alumni Award is an annual event, which presents a wonderful opportunity to showcase the successes of our alumni. We appreciate the nomination suggestions that we received in the past year and while, unfortunately, there can be only one winner, it is likely that the depth of the pool we presented helped to secure the win. For the 2012 award, we would appreciate your nominations and/or suggestions, so please drop us an e-mail at chemistry@wright.edu or directly to me at kenneth.turnbull@wright.edu.

As I mentioned in last year’s newsletter, due to scheduling issues, we could not hold the fifth iteration of our signature Procter and Gamble Lecture in 2009, so we were delighted that our honoree, Professor Nathan Lewis from the California Institute of Technology, was able visit the department on October 8, 2010. Professor Lewis, a world authority on renewable energy, solar energy and clean energy technology, presented two, well-received talks, one, a research-based presentation on sunlight-driven hydrogen formation and the other, a more broad-based seminar, on the challenges of renewable energy technologies. Once again, Chemistry Department graduates [Suzanne Noffsinger (Miami Valley Crime Lab), Beth Reno (Procter and Gamble) and Diane (Brooker) Needham (Chemical Abstracts Services)] volunteered as speakers in our CHM 319 (Chemical Literature) course and Greg Schaaf (GlaxoSmithKline) presented an interesting talk on the discovery of a clinical oncology candidate. More recently, as part of the Winter Quarter 2011 seminar program, Paul Seybold hosted several WSU Chemistry graduates as guest speakers, however, that will be a topic for next year’s newsletter (which I’ll be writing in a few weeks!).

One of our most successful, potential recruiting endeavors has been the development of an internship
program with The University of Applied Sciences in Utrecht, Netherlands. To date, we have completed the second iteration of such a relationship and, at the time of writing, we are negotiating the visit of a fifth Dutch undergraduate. To date, in the first two iterations of the program, two Dutch students undertook one-year research projects with Eric Fossum and Steve Higgins and two completed 6-month projects with Bill Feld and Eric Fossum. Our hopes with this endeavor are multi-fold: to bring in well-trained individuals to help with our research projects, to further internationalize our program, with the attendant benefits for our local students, and, hopefully, to expand our M.S. recruitment pool by word-of-mouth. It is still too early to determine whether or not any of the aforementioned initiatives will bear fruit in the long-term (though, doing nothing, clearly will not). The program director and assistant director are planning a visit from the Netherlands this month and this will provide an opportunity to discuss both continuation and expansion of this program (such as my visit to Utrecht!).

On the instrumentation front, we continued to update our holdings, once again bringing in a small but useful group of new instruments (see below and pictures). In addition, we enjoyed another full year with the services of Joseph Solch and Garrett VanNess. Their efforts ran the gamut, from the repair of older instruments, to the writing of usage protocols for several instruments, to training students on the large number of instruments available in the department, to helping develop and implement laboratory experiments (in several different venues), to completely redesigning our departmental websites and, generally, acting as stewards for our new instrumentation and equipment laboratories. The redesign of our website was a mammoth task and all of the technical and design work, photography, liaison with the college and beyond, along with the vast majority of the text, was developed by Joe and Garrett (so you know who to blame). Our complete listing of educational (and some research) instrumentation can be viewed interactively through our website: http://www.wright.edu/cosm/departments/chemistry/facilities/index.html.

Once again, our students amassed an impressive collection of awards during the year, some of which are delineated later in individual faculty “write-ups”. Of the remainder, at the annual Dayton Section of the ACS / SAS research poster competition, students from our department [Michael Mante (Higgins) and Jennifer Monahan (Pavel)] gathered 2 of the 6 awards, continuing our long-standing success in that arena. Jennifer Monahan also was recognized as our Outstanding Graduate student, Jeff Fogle (a student with Bill Feld) won the College of Science and Mathematics Outstanding GTA Award and Kelsey Miles (an undergraduate student with Dan Ketcha) won a WSU Presidential Award for Co-curricular Activities. Congratulations to these students (and those not mentioned here) and to their faculty advisors.

We appreciate also the other e-mail updates that we have received (often in response to last year’s newsletter). The information that you have approved is available on our website at http://www.wright.edu/cosm/departments/chemistry/alumni/alumninews.html and we have been endeavoring to use this as an informational ‘clearing house’ for both ourselves and all of our alumni. To provide updates, professional and personal, please log onto our website, www.chm.wright.edu and click on the Alumni link, followed by the Information link then the Alumni Update Request Form link. Alternatively, you may e-mail us at chemistry@wright.edu (or regular mail to: Chemistry Department, Wright State University, Dayton, Ohio 45435; phone (937)775-2855). We very much enjoy hearing from you. Also on our website, you can view the latest department goings-on, including our annual department picture, class
offerings, recent M.S. theses, seminar schedule and pictures from the Procter and Gamble Lecture and an ongoing accumulation of archival pictures (especially through the Archive link on the main webpage). We are very grateful to all of you who have been so generous in providing funds for scholarships and other Department initiatives. In this latter regard, in part thanks to your donations, in the last year we have been able to purchase an Agilent GC/MS and an Agilent LC/MS system, both, predominantly for upper-level teaching laboratory use. Coupled with our recent (last 5 years) purchases of new AA, DSC, FTIR, HPLC, ICP, microwave synthesizers, TGA and XRD instruments, we feel that we are extremely well-positioned to offer a timely educational experience for our students, especially in the instrument-intensive courses and research activities. Thank you again for your help.

Best wishes to you all for a happy and productive 2011 - Ken Turnbull

**Faculty Frolics**

**Rachel Aga:** This year, research in the Aga group went well and was marked by a number of presentations and publications. Undergraduate student Kristy Wickman and graduate student Jared Duncan coauthored presentations at the local and regional ACS meetings in Dayton. Along with valuable collaborators, Rachel had publications in Applied Physics Letters, the Journal of Chemical Physics and the MRS Proceedings. That said, she is hopeful for more positive reviews for other submitted work!

**Bill Feld:** What a broad set of activities and backgrounds in the group this year – Nora Hunter finished her MS thesis (entered ES PhD program at WSU), Arnoud van Duijn came from the Netherlands as an intern in Organic Chemistry (6 months), Jeff Fogle and Rachel Sayers were the rock solid veterans (both WSU BS 2009), Sarah Bragg came from a WPAFB Security detachment (AFA BS 2002, part-time, spent time in Afghanistan), Devin Anderson from CAS Columbus (WSU BS, part-time MS), Bill Barrow from his business in Springfield (part-time MS), Josh Jacobson entered medical school in July, Mark Hess is applying to medical school (BS Theater 2005) and Mark Duffy (senior chem. major) is thoughtfully considering the future in view of the current economy. Although it is, as they say, somewhat like “herding cats,” the group was productive, engaged and I think we pushed back the frontiers of science a little bit more.

**Eric Fossum:** The year 2010 was a somewhat quiet, but quite good year for the Fossum lab. Four M.S. students, John Buquoi (Air Force Academy), Chad Skidmore (West Virginia Medical School), Raghu Kotha (Purdue University), and Angela Campo (AFRL) successfully researched, wrote and defended their theses. Thankfully, all of them are either gainfully employed or are pursuing further graduate and professional training as noted in the brackets. Last year also saw Eric’s first successful NSF proposal, with the grant actually starting in July. Many thanks go out to all of the past and current students, without whom this would not have been possible. For the next three years we are now able to support two M.S. students on GRA’s and two undergraduates. On a personal note, the twins have spent much of the past year as two year olds, what fun that has been. The girls are now almost nine and four, making them most helpful with the cause of simply surviving the zoo at home.

**David Grossie** continued as Assistant Chair this year, carrying on the scheduling, certification, and inventory duties in the department. Research moved ahead with occasional virtual trips (ed's note: the department budget thanks you DAG for the latter!) to Youngstown to collect diffraction data and external collaboration using the department’s Rigaku MiniFlex II (now with a diffracted beam monochromator). A poster titled “Lithium Ion Pathways in Lithium Phthalocyanine Electrolytes” was presented at the 2010 American Crystallographic Association meeting in Chicago.

**Steve Higgins** was an organizer of the symposium entitled “Pushing Experimental and Computational Limits: A Prospective Look at Mineral-Fluid Interfaces” at the 2010 V.M. Goldschmidt Conference held in Knoxville, Tennessee in June. At that same meeting, Steve presented his research in the area of scanning
probe microscopy applications to geochemical research. His students and postdoc gave oral and poster presentations of their research on mineral-water reactions at the National ACS meeting in San Francisco, at the American Geophysical Union Conference in San Francisco and at the local Dayton ACS Section poster session. In his spare time, Steve has been visiting colleges and universities with his oldest son who is graduating from high school in 2011.

Regis Komperda has enjoyed her three quarters at Wright State despite Ohio welcoming her with both a tornado and a snowstorm. She eased into her teaching duties with CHM 102 and 121 and a supporting role in CHM 125 under the leadership of Dave Dolson in the fall. Having the opportunity to TA her own lab sections for CHM 102 in Winter quarter was enlightening and she enjoyed revamping some of the labs. She taught CHM 245 and 246 in both Winter and Spring quarters, which she found to be extremely fun classes due to the abundance of hands-on activities and interaction with future educators. In addition, Regis has been signing up for as many workshops as possible through the Center for Teaching and Learning in the hopes that she can become familiar with all the educational technology available at WSU. She continues to travel between Wright State and the University of Illinois under the guise of attending workshops with the Institute for Chemistry Literacy through Computational Science (but really she just misses driving through cornfields).

Suzanne Lunsford and Bill Slattery (Earth and Environmental Science) collaborated on a program called Science Teaching for Ohio’s New Economy (STONE). This program, funded by a grant from the Ohio Board of Regents, provides 6 quarter hours of graduate credit for Ohio, in-service teachers and is tailored to meet the state and national science standards for teachers of grades 4-12 and to allow them to experience the integration of earth and physical science in inquiry-based field, lab. and distance learning settings. Field trips helped the teachers understand the integration between geology and chemistry for the analysis of materials utilized in building roads and bridges. Further professional development will be carried out by web conferences between participants and facilitators to generate further curriculum development needed to meet the state and national teaching standards in STEM. Also, Suzanne helped run the STEMM visit day where middle school students from around the Dayton area performed interactive experiments on “what is the unknown sample?” and “what is a polymer?” Suzanne presently has one ES Ph.D. student, Vincent Nguyen, and two MS students, Amber Yeary and Paul Dombrowski, working on electrochemistry projects studies in her lab.

Audrey McGowin was on sabbatical leave for the 2009-2010 academic year. During her leave she developed DNA identification methods for sea turtle leeches; a family of marine invertebrates about which very little is known. Leeches could be involved in spreading the virus that causes fibropapilloma tumors that grow on sea turtles’ skin and eyes. This tool for identifying the species of leech on affected turtles could shed light on disease etiology. She is also investigating the relationship of this disease to poor water quality conditions where turtles are afflicted.

Ioana Pavel and her research group had a blessed and prolific second academic year at WSU. Jennifer L. Monahan was the first master student to graduate under Ioana’s supervision, and she accepted a Ph.D. position at Northeastern University, Boston, MA. Jennifer received both Excellence in Teaching and Research Awards from the Chemistry Department in 2010. During this past academic year, Ioana’s students’ research work was honored with several other awards and scholarships: the Best Master Student Platform Award (Marjorie Markopoulos) at the 2010 Annual Meeting of the Ohio Valley of Toxicology, the SAS Award for an Outstanding Poster (John Trefry) and the Best ACS Graduate Student Platform (Jennifer Monahan) at the 2010 Annual Meeting of the Dayton Section of the American Chemical Society and the Ohio Valley Section of the Society for Applied Spectroscopy, a WSU Summer Undergraduate Scholarship (Jessica Dagher), a Women in Science Giving Circle Scholarship (Diane Iragena), and the Ken
Lutz Memorial Scholarship Award (Tai Lam). New, excellent graduate students joined Ioana’s group: Nora Hunter (Ph.D. in Environmental Sciences), Sesha Lakshmi Paluri (M.S. in Pharmacology and Toxicology), Adam Stahler, Jessica Dagher (M.S. in Environmental Sciences), Joshua Baker, and Catherine Anders (M.S. in Chemistry). Welcome all! Our first Journal of the American Chemical Society research manuscript written in collaboration with Dr. Dawn Wooley’s group (Boonshoft School of Medicine at WSU) is now available online. We are extremely grateful and would also like to acknowledge the help of our other collaborators: Dr. Zofia Gagon at the Marist College in New York, Dr. Daniel Felker and Dr. Larry Burggraf at the Wright Patterson Air Force Base in Dayton, Ohio.

Paul Seybold continued his research into the modeling of complex chemical systems and applications of quantum chemistry. Outside of school, Paul and his wife tried to keep active, and managed to fit in a trip to Utah and a two-week biking tour in France before Paul returned for a long-scheduled knee operation that kept him out of circulation for a month in the fall.

We are very grateful to the following adjunct professors, who continued to render great service to the Department: Edward Kennedy (MS 2009; CHM246, Spring 2010) and Laura Sennet (MS 2006; Springboro HS, CHM102, Spring ’10). Jon Grieb, our Organic Chemistry Lab. Coordinator, taught several sections of the Organic Chemistry Laboratories, CHM 215, 216 and 217, on top of his other duties and continued to teach CHM 102 (Winter and Fall ’10) on an adjunct basis. Similarly, Kirby Underwood, our Freshman Lab. manager, in addition to his usual duties, taught CHM 105 in the Fall Quarter, CHM 246 in the Winter and CHM 107 in the Spring. He’s still recovering! During 2010, Kirby continued as adviser for the resurgent Chemistry Club.

Rubin Battino and Charlotte celebrated their 50th anniversary (January 2010) with a gift to themselves of an extended trip in the west in the summer. They traveled to Colorado Springs and, while there, Rubin attended the Calorimetry Conference meeting where he presented a technical paper and was the banquet speaker, doing a presentation entitled "A FUN Approach to Thermodynamics." He then spent some time hiking in the Rockies, the Gran Tetons, and Yellowstone. Rubin continued to do the chemistry demo shows with John Fortman and co-authored (with Emmerich Wilhelm) a chapter in an IUPAC book on the subject of heat capacities. He and Paul Seybold have a paper accepted for a Festschrift issue of the Journal of Chemical and Engineering Data honoring John Prausnitz. Rubin continued his private practice and taught workshops at WSU on various topics in counseling each quarter. Recently, he self-published (via Lulu.com) a book on healing language for health-care professionals and he continued as one of the co-facilitators of a support group in Yellow Springs for people who have life-challenging diseases and their caregivers. Aside from the above, he leads a pretty dull life.

Mark Bogard completed his first year in the Chemistry Department and though he faced many new and different challenges, most of his own making, he believes things went very smoothly. We had a very successful Procter and Gamble Lecture Series, the Chemistry Demonstration Shows went off without a hitch and the annual Chemistry Department picnic had a great turn out, though a rain storm cut short the festivities. He can say honestly that his move from the Registrar’s Office to the Chemistry Department was a smart one. He has gotten to know the great faculty and many of our undergrad and grad students. A lot of the daily operational routine was new to him but everyone was so patient and understanding while he tried to find his way. Mark did not take a summer vacation this past year but instead took many weekend road trips, visiting state parks, lakes and hiking trails. There really are a lot of beautiful sites in Ohio. This past summer also marked the first time in 10 years where he wasn’t able to plant a garden but he was fortunate to have a neighbor who plants a huge garden every year and he was able to help himself to any-
thing ........................................... once she had retired for the evening!!!!

**Kelly Burcham** splits her work day between the physics and chemistry departments and has been with WSU for just over one year. She served four years in the army as an animal technician. She moved back to Ohio in 1999 and attended Sinclair Community College receiving an associate degree in Business Management. She is currently taking one class a quarter in hopes of getting her BS in Organizational Leadership.

**John Fortman** continued to be one of the ACS’s most traveled speakers doing Chem demo shows in North and South Carolina in January; Washington and Oregon in May; and Kansas, Oklahoma, Nebraska, Iowa, Minnesota, North and South Dakota in November. His newest topic is Energy from Chemistry through the Ages. Since the national ACS will no longer organize speaker tours it already looks to be a much less busy year in 2011. He will continue to do the Tech Fest shows at Sinclair Community College in February and, with **Rubin Battino**, the WSU Shows in December and March. He has been selected to give the Reg Friesen lecture at ChemEd 2011 in Kalamazoo MI in July. He and Margie will need to schedule more vacation tours and cruises around babysitting their three grandsons.

**Ashley Marshall** has maintained a bright smile at the front desk, reordered the keys/organized the printer cartridges, changed the way we do evaluations, and baked the most beautiful Christmas cookies you’ve ever seen for the faculty and staff (soon for the TA’s as well)! She has worked in the office since before she started taking classes as a freshman in Fall 2008. She is majoring in Bioinformatics and is in her junior year. She is also the master teacher/curriculum developer for the first year seminar courses as part of Wright State’s learning communities program where she teaches and mentors peer instructors (who teach the freshman courses). In the beginning of this year she won the Outstanding Innovation in Teaching award from University College above even other staff members. Some day she hopes to conquer organic chemistry!

**Olivia Rubin’s** journey with the Chemistry Department began at the end of her first academic quarter on November 30, 2009. The department’s move from Allyn to Oelman Hall reminded her of the transition from her quaint hometown of Monticello, Illinois to the booming city of Dayton. Over the past year and a half she has concentrated on her studies as an English, with an emphasis in Creative Writing, major and Spanish minor. Aside from sorting the mail, assisting her boss in the office décor, keeping the conference room sparkling clean and greeting Chemistry professors and graduate students with a friendly face, she enjoys relaxing with her family, friends, and boyfriend, Eric. She is also an active member of the student advisory board for the Office of Service-Learning and the Asian Student Association. This past December she studied Spanish in Costa Rica for three weeks; upon returning to the Ohioan tundra, she brought gifts of chocolate-covered goodies and life-sustaining coffee for the office. In the coming years she hopes to expand her love for writing and publish her first book!
Tai, Jessica, Austin, Allie, Prakhar, Zachary, and Dr. Pavel.

Master Griller, Mark Bogard

Olivia, Eric, Paul, Kelly, Regis, Mann, Ashley, and Hilary.

Michael, Dr. and Mrs. Feld, Jeff, Rachel, and Andrew.

Ryan, Andria, Mark and Andrea Burns