

DEPARTMENT NEWS

Towson University Department of Chemistry

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Spring /Summer

A Message From The Chair

Welcome to Towson Chemistry students, faculty, staff, alumni and other visitors!!

In the previous newsletter, I reported on our renovation of the Physical and Inorganic Laboratories. The first phase of this project has been completed and our new 400 MHz NMR has been installed in one of the new rooms. The magnet has been supercooled to 4 K with liquid nitrogen and liquid helium and faculty and research students have started to collect spectra.

The second phase of the project is being carried out this summer, to create a new research laboratory and teaching spaces for the Physical Chemistry (Intermediate Lab) and Inorganic Chemistry Lab courses.

Meanwhile, a building-wide renovation and expansion is scheduled to begin in 2013, twenty years after the East ("Old Smith") Wing was renovated. Brand new classrooms, teaching labs and research labs will be constructed.

Message from the Chair continued next column

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A Message from the Chair – continued

A team of consultants was hired in January to conduct the programming phase for the project. Groups from the departments of Biological Sciences, Chemistry and Physics, Astronomy and Geosciences met with the consultants in an intensive series of discussions to guide the planning process. The next phase, to begin in the summer of 2011, will develop detailed designs for each room.

All in all, this is a very exciting time to live and work in the Department of Chemistry.

We welcome all visitors to the Department. It would be great to see or hear from our alums!

Richard Preisler, Chair Chemistry Department

Faculty Profile

Dr. Clare Muhoro

Dr. Clare Muhoro was born and raised in Nairobi, Kenya and moved to the US for her post-secondary education. She received a scholarship to attend St Lawrence University in New York where she received a magna cum laude undergraduate degree in Chemistry in 1993. Dr. Muhoro proceeded to Yale University for her doctoral studies, working under the mentorship of Professor John Hartwig. Her research involved synthetic and mechanistic studies on



transition metal catalysts focusing on early transition metal hydroboration systems. After receiving her Ph.D. in 1999, Dr. Muhoro lectured at the University of California, Santa Barbara before joining Shippensburg University of Pennsylvania as assistant professor, and rising to the rank of associate professor in 2004. In 2005, Dr. Muhoro moved to Towson University and is currently associate professor of Chemistry.

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At Towson, Dr. Muhoro teaches organic chemistry and conducts research in organic, organometalli and environmental chemistries. Her research explores the use of highly efficient homogeneous catalysis to synthesize phosphanyl(organyl)borane compounds, and apply these molecules as ligands in the synthesis of transition metal complexes. In addition, Dr. Muhoro is interested in investigating the pathways of decomposition of organic pesticides under tropical environmental conditions.

This research involves travel to study sites, located in Ecuador and Kenya, to characterize the aquatic environments in which organic pesticides are found. The fieldwork is followed by laboratory studies involving kinetic studies on pesticide degradation. Dr. Muhoro works closely with undergraduate researchers and has published research papers on both these projects with Towson University undergraduate co-authors. She has secured extramural funds to support this research from Research Corporation (\$57,603), the Maryland Higher Education Commission (\$20,000) and Towson University (\$8,570). Further, Dr. Muhoro is the principal investigator on an NSF grant (\$303,323) that provided the Department of Chemistry with a 400 MHz NMR spectrometer for both teaching and research. She also is the principal investigator on an internal grant (\$66,000) for two microwave digestion systems for both teaching and research purposes within the department of Chemistry.

Dr. Muhoro is married to Dr. Pablo Irueta, a biology professor at Georgetown University, and has a one year old daughter, Vera.

Faculty News

Dr. Sonali Raje reviewed a manuscript for the Journal of Chemical Education.

Dr. Sonali Raje gave birth to a son, Anish born on March 24, 2010.

Dr. Cindy Zeller spent the day teaching genetics, probability and forensics to about 120 seventh graders at North Harford Middle School on January 27.

Dr. Cindy Zeller served as an expert forensic DNA witness in a homicide trial in Worchester County on March 10.

Dr. Ryan Casey reviewed a manuscript for Science of the Total Environment.

Dr. Jim Saunders-M BBB received a five Year Service Award.

Dr. Shirish Shah hosted the Cambridge Who's Who visit to the Chemistry Department on May 18, 2010. Visitors consisting of Camera Crew and Video Technicians took pictures and made videos of Dr. Shah's workplace.

Dr. Jill Discordia received a ten-year Service Award.

Dr. Ellen Hondrogiannis and Dr. Shannon Stitzel attended The Redesign Alliance 4th Annual Conference in Orlando, Florida this spring. They attended as Department Delegates to learn about using technology to improve learning while reducing the cost of teaching.

Dr. Shanon Stitzel, married Mr. Michael Ingram on Saturday, June 19th.

In Memoriam

Dr. Alfred Amah



Dr. Alfred Ndebe Amah, Sr. passed away suddenly on Friday, February 26, 2010 in Monrovia, Liberia.

A son of Lofa, Liberia, Dr. Amah was a graduate of Cuttington University College, Liberia (B.Sc.), Ball State University in Muncie, Indiana (M.A.), and Iowa State University in Ames

Iowa (Ph.D.) He was a man fond of knowledge and a master in his field of Organic Chemistry. With patience and expertise, he taught what he knew to grateful students near and far for over 25 years. After a lot of thought and a sincere desire to return to Liberia and serve the land of his birth, Dr. Amah began a new chapter in his life and was working diligently in Monrovia as director of the Environmental Protection Agency when he was abruptly snatched from this world.

Dr. Amah was known to everyone here in the United States, to Europe, and in Liberia as "Doc"---Teacher, Statesman, Gentle Giant and an all-around wonderful man to know. He was the epitome of the very definition of his name: "Wise counselor."

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He could simplify the most complex organic equations and tell the funniest parables about human behavior. He was an anchor for his children, an excellent provider--a man of substance and of sound moral judgment.

Dr. Amah served as Professor of Organic Chemistry at Towson University, Stevenson University, Coppin State College and formerly, the University of Liberia. He was member of several local and worldwide scientific organizations--including, American Chemical Society (ACS)

(Third World Academy of Science (TWAS), International Foundation for Science (IFS), Pan African Union of Science and Technology (PUST) and chair of the Minority Section of the American Chemical Society The (Chesapeake Chemist) for the State of Maryland. His passing is an immense loss that will be felt in academia, in our community and in the country known as Liberia. We will miss him beyond comprehension, beyond any measure of human thought. He was our Rock. He was our Rose.

Staff News

Ms. Leetta Abner, Accountant Associate celebrated her five-year anniversary with the Department of Chemistry.

Mr. Rodney Dixon, Lab. Manager of the Department Chemistry, presented "Industrial Chemical Safety in the 1980's, Before and After Bhopal, A Personal Commentary" and "Teaching Professional Ethics for Scientists" at the March 18 meeting of the Chesapeake Chapter of the American Industrial Hygiene Association (Shirish Shah, president-elect).

Mr. George Kram, Lab. Manager of the Department of Chemistry celebrated his Tenth-Year Anniversary at the 26th Annual Service Awards and Breakfast.

Grants and Publications

Dr. David Ownby, Dr. Joel Snodgrass (Biology) and their two REU students Mr. Evan Gray (Western Washington '10) and Mr. Schyler Nunziata (Towson '09) had a paper titled "Predation on Green Frog Eggs (*Rana clamitans*) by Ostracoda" accepted for publication in Copeia.

Dr. Sonali Raje co-authored an accepted manuscript: Stieff, M., & Raje, S., "Expertise and problem solving in advanced chemistry."Spatial Cognition & Computation.

New Endowments

& Fellowships

Dr. Linda Sweeting (Professor of Organic Chemistry 1970 - 2003) has established an Endowed Fellowship. The Fellowship supports undergraduate student to do research during the summer under the mentorship of a faculty member in either the Biology, Chemistry, Physics and Astronomy and Geoscience Departments. The Fellowship was awarded for the first time this summer and carries a stipend of \$4000. The first awardee is Mr. Travis Poulsen, who will be working under the mentorship of Dr. David Hearn, Assistant Professor in the Department of Biological Sciences.

Dr. Alan Wingrove (Professor of Organic Chemistry 1973 - 2007) has established the Alan and Eileen Wingrove Scholarship for Chemistry and Forensic Chemistry Majors. The scholarship is for one year and covers a student's tuition and fees. The first scholarships will be awarded for the 2010--2011 academic year.

Student News

Ms. Stephanie Stanley will be attending Michigan State College of Osteopathic Medicine (class of 2014) starting this June!

Mr. Gordon Crews and Mr. Carlo Mercado are this year's Ronald and Linda Raspet Summer Research Fellows. Mr. Gordon Crews is doing research under the direction of Dr. Ana Maria Soto and Mr. Carlo Mercado is doing research under the direction of Dr. Cynthia Zeller. The Fellowships carry a stipend of \$4000.

Events

Seminar

Dr. Edward (Ed) Turos, Professor of Chemistry, in the Department of Chemistry at the University of South Florida gave a seminar entitled, "Antibiotics and Nanobiotics for Overcoming Deadly Drug Resistant Bacteria" to the department on April 6th, 2010. Dr. Turos is an Alumni of the Chemistry Department (class of 1982).

Open House and Awards Ceremony

The Department of Chemistry's award ceremony and research showcase was held on Wednesday, March 31, 2010. The department's annual student awards were presented by Dr. Richard Preisler. Following the awards ceremony, students and faculty attended a research showcase featuring posters by undergraduate research students in the Department.

The following were the awards and recipients presented in 2010:

Kaitlyn Grosso was the recipient of the *Maryland Section of the American Chemical Society Achievement in Chemistry Award*

Amy Smith was the recipient of the *Greater Washington Institute of Chemists Student Award*

Loren Fierstein was the recipient of the *CRC Press Freshman Chemistry Achievement Award*

Elliot Glotfelty was the recipient of the *PolyEd Undergraduate Award for Achievement in Organic Chemistry*

Allison Yager was the recipient of the *Merck Award in Organic Chemistry*

Ben Roembke was the recipient of the *Analytical Division, ACS, Award in Analytical Chemistry*

Stephanie Stanley was the recipient of the *Gibbs Award in Chemistry*

Natalie Sigwart was the recipient of the *Floyd Blankenship Memorial Award*

Stephanie Stanley and Amy Smith were the recipients of the *Ronald and Linda Raspet Summer Research Fellowship*

BriAnne Bentivegna and Brittany Eberly were the recipients of the *Student Affiliates of the ACS Scholarship*

Phuong Ha was the recipient of the *Frank R. Milio Book Endowment*

Forensic Science Symposium

Masters candidates in the Forensic Science Program presented talks and posters on their research at a Symposium held in the department on May 11, 2010. Ms. Susan Huynh, Ms. Dana Picco and Ms. Sarah Cavanaugh gave talks: posters were presented by Ms. Julie Baylis, Ms. Sarah Melchoir, Ms. Laurie Ngo, Ms. Ashley Warren, Mr. Michael Whitmore, Ms. Sarah Ellis and Ms. Ebony McMillian.

Forensic Science Symposium

The keynote speaker was Dr. Dana Kollman from the Department of Sociology, Anthropology and Criminal Justice at Towson University whose talk was entitled "Identification of Haiti Disaster Victims".

Chemistry Forensic Students in Vermont

Mr. Mark Profili, Director of the Forensic Science Programs and Dr. Dana Kollmann from the Anthropology Department led 34 Towson University students comprised of graduate students in the Master's Program in Forensic Science (MSFS) and undergraduates in the Forensic Chemistry and Criminal Justice Anthropology programs traveled to Vermont in May on a four day forensic expedition to search for the remains of a young man who disappeared 5 years ago. Last November a deer hunter came across a human skull and part of a jaw which contained teeth in a wooded area that were used to identify the missing victim.

The Vermont State Police investigated the case but found few of his remains and were unable to determine a cause or manner of death.

The victim's parents, with permission from the Vermont State Police, called upon the Towson forensic students who, armed with rakes, shovels, hand tools, metal detectors and their eyes and inquisitive minds went to work. Unbelievably they were able to recover 42 items of potential evidence in a heavily wooded and swampy area. The items found included skeletal remains (ribs, arm bones and vertebra), teeth, hair, remnants of clothing and some personal effects (apartment keys, cigarette lighter, and water bottle).

The students were given and took advantage of a unique opportunity to experience real life forensics. This project was supported by the SGA, GSA and Dean David Vanko. Lowe's donated gloves, bags and other materials used in the search and the Prince George's County Crime Laboratory allowed one of its employees (who is also a graduate student in the MSFS program) to use some of their professional equipment to mark, record and collect the material that was found.

WCAT-TV in Vermont and the Rutland Herald provided media and newspaper coverage of the search. WBAL-TV met the group upon their return to Towson and broadcast the event that night. If anyone is interested in viewing the WBAL broadcast, it can be found on the MSFS web page. <http://grad.towson.edu/program/master/frsc-ms/>

Contributing Editors

Dr. David Larkin

Ms. Valerie Smith

Mrs. Renee' Watkins

Research Experience for Undergraduates

The NSF-funded Research Experience for Undergraduates (REU) program in Urban Environmental Biogeochemistry is in its third year. Currently in Summer 2010, there are 8 students participating in the program; two from Towson University and six from other institutions across the country. The students are each conducting an independent research project, often working with multiple faculty mentors who are collaborating on the research. The projects vary from the development of chemical sensors to evaluations of road salt impacts on amphibians. This year, mentors include Dr. Ryan Casey (CHEM, program director), Dr. David Ownby (CHEM), Dr. Shannon Stitzel (CHEM), Dr. Steven Lev (PAGS) and Dr. Joel Snodgrass (BIOL)

Alumni News

Ms. Valerie A. Schmidt (Class of 2007) recently co-authored a paper with Dr. Erik J. Alexanian on the Oxygenation of Alkenes in *Angew. Chem. Int. Ed.* Ms. Schmidt is a PhD. Candidate working in Dr. Erik J. Alexanian's laboratory at the University of North Carolina at Chapel Hall. A summary of the paper appeared in the May 24th issue of C&E News.

Ms. Sonia Mallory and Ms. Wendy Player, local Chemistry Alums, recently visited the Department. We were very pleased to see them both.

We welcome all visitors to the Department. It would be great to see or hear from our alums!

A Facebook site is open. To access, search for "Towson Chemistry".

Due to technical difficulties, chemalum@towson.edu (published in the Winter Issue of the Chemistry Department Newsletter) for alums to contact us was not able to receive messages. The has now been corrected but the email address changed slightly. Its is now, chemalums@towson.edu. Let us hear from you, either on *facebook* or at chemalums@towson.edu,

