



Message from the Chair

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Greetings to all Griffin Chemists and Biochemists!

It has been two years since our last newsletter and a lot has changed in that time at the department and at the college. Fortunately the editor of this newsletter did not change and Peter Schaber continues to volunteer in editing the newsletter. Thanks, Pete!

The Department continues to thrive producing around 20 graduates annually in the last three years, 19 graduates in 2010 (7 in biochemistry and 12 in chemistry), 23 in 2011 (12 in biochemistry, 10 in chemistry, and one double major in chemistry and biochemistry), and 19 in 2012 (8 in biochemistry and 11 in chemistry). There are more details about our graduates and their future careers later in the newsletter.

Without any doubt the most important news in the newsletter is the arrival of three new faculty members to the department. Dr. Sarah Evans, a biochemist, replaced Dr. Jessica Disney, who moved to Florida to join her husband there, while Dr. Jeremy Steinbacher, an organic and materials chemist, replaced Dr. James Van Verth, who retired in 2000. In addition, Dr. Roberto Gregorius, who has been a member of the Department of Adolescence Education, became a joint member of that Department and our Chemistry and Biochemistry Department. Roberto's research interests

are in the field of chemical education, so it is natural that he split his duties between both departments. There is more information about all three new members of the faculty later in this newsletter. The Department now has 8 full-time faculty, Krit Marohn (our full-time general chemistry lab instructor), Dr. James Maul (who continues to play a vital role by teaching the organic lab classes), Tom Stabler (Director of Chemistry Laboratories), and Alice Steltermann (Dept Administrative Associate). Additionally, with our younger colleagues the "Department family" includes a total of 13 babies and young children, who join us for Christmas parties and other activities.

In the last newsletter I wrote "...even though the economy went through such drastic changes in the last two years, the Department continued to function normally..." Unfortunately this cannot be said again. The College, together with many other colleges, began to experience the financial repercussions of the economic crisis. In addition, the number of high school graduates in Upstate New York will continue to decrease by almost 15% in the next 10 years. Consequently Canisius finds itself competing more strongly than ever before for a decreasing group of local high school students in a very price-sensitive market. As a result our financial discount rate continues to increase, lowering net tuition revenue. This has led to a significant reduction of all departmental budgets, including the budget of our department. In the meantime the college has increased its recruiting efforts outside of Upstate New York, and Northern Pennsylvania and Ohio.

Therefore, please spread the news about the great quality of a Canisius education in any part of the United States where you reside. We are all looking forward to seeing new chemistry and biochemistry majors from all states in the USA.

While our majors continue to be actively engaged in a wide diversity of research projects with all faculty in the Department, the amount of funding available to students for research and travel to present at meetings has been significantly reduced. It is only thanks to donations from some alumni that we can still support students to conduct summer research. For two years in a row Dr. Jerry Zon (class of '67) has supplied significant funds to help pay student summer stipends, while the Class of 1960 fund (established by Dr. Maul) helps pay expenses for students to present at national ACS meetings. Please keep our summer student research program in mind when you make donations to Canisius, and consider earmarking your donations for the Chemistry and Biochemistry Department.

As always, thank you for continuing to support the Department by sharing your experiences and spreading the word about our Chemistry and Biochemistry programs. Thanks to all who were able to financially support our Department. Please consider supporting our student research and academic scholarships, as well as equipment for our new location in Science Hall. Also, thanks to all of you who sent me their congratulations for winning the 2010 Kenneth Koessler Distinguished Faculty Award. I truly appreciate your kind words and wishes.

The Department would not exist as a community without the wonderful interactions we have with our alumni, so please continue to keep us up to date with

events in your lives and consider submitting information that you would like to include in the Departmental Newsletter, to share with members of the Griffin Chemists and Biochemists community.

Keep in touch!

Mariusz Kozik, Professor and Department Chair

New Faculty

We are delighted to welcome two new members to the chemistry and biochemistry faculty:

Assistant Professor Sarah E. Evans, Ph.D.



Dr. Evans' teaching interests include biochemistry and bioinorganic chemistry. Her research interests include metal regulatory pathways in bacterial cells. Of particular interest is determining the metal- and DNA-binding properties of a vital transcription factor from *Borrelia burgdorferi*, the bacteria that causes Lyme disease. Evans' research also employs the use of metal complexes as tools to model biological events. Such complexes will be used to produce oxidative conditions and study crosslinks formed between DNA bases and modified amino acids. Prior to Canisius,

Dr. Evans served as a post-doctoral fellow in the Department of Pharmaceutical Sciences for the University of Maryland's School of Pharmacy. Evans obtained a doctorate in chemistry from the University of Maryland, Baltimore County, and a bachelor's degree in chemistry from the State University of New York College at Geneseo.

Representative Publications:

A. L. West, S. E. Evans, J. M. González, L. G. Carterb, H. Tsurutab, E. Pozharski, S. L. J. Michel, "Ni(II) coordination to mixed sites modulates DNA binding of *HpNikR* via a long range effect" *Proc. Nat. Acad. Sci.*, **2012**, accepted.

S. E. Evans, A. Grigoryan, V. A. Szalai "Oxidation of Guanine in Double-Stranded DNA by [Ru(bpy)₂dppz]Cl₂ in Cationic Reverse Micelles" *Inorg. Chem.* **2007**, *46*, 8349-8361.

Assistant Professor Jeremy L. Steinbacher, Ph.D.



Dr. Steinbacher's teaching interests are in general, organic, and material/biomaterials chemistry. His research interests include the development of advanced materials for the treatment of cancer, in particular, particle-based drug-delivery agents, "smart" contrast agents for magnetic resonance imaging (MRI) that are also capable of delivering chemotherapeutic agents directly to

cancerous cells, bio-nanoscience and functional polymers with novel architectures. Prior to Canisius, Steinbacher was a National Institutes of Environmental Health Sciences Post-doctoral Fellow for the Department of Chemistry and Environmental Pathology at the University of Vermont. Steinbacher obtained a doctorate in chemistry and chemical biology and a master's in material science and engineering from Cornell University. He also holds a bachelor's degree in chemistry from Franklin & Marshall College

Representative Publications:

J.L. Steinbacher, Y. Lui, B.P. Mason, W.L. Olbrich, and D.T. McQuade. "Simplified Mesofluidic Systems for the Formation of Micron to Millimeter Droplets and the Synthesis of Materials." *J. Flow Chem.*, **2012**, *in press*.

J.M. Hillegass, S.R. Blumen, K. Cheng, M.B. MacPherson, V. Aleexeva, S.A. Lathrop, S.L. Beuschel, J.L. Steinbacher, K.J. Butnor, M.E. Ramos-Nino, A. Shukla, T.A. James, D.J. Weiss, D.J. Taatjes, C.C. Landry, and B.T. Mossman, "Increased Efficacy of Doxorubicin Delivered in Multifunctional Microparticles for Mesothelioma Therapy." *Int. J. Cancer* **2011**, *129*, 233.

Collaboration Faculty: Roberto M. Gregorius, Ph.D.



Dr. Roberto Gregorius joined Canisius College in August of 2008. While his home department is Adolescence Education where he teaches science education methods for prospective high school teachers, he also participates in the Department of Chemistry and Biochemistry, teaching CHM 109, 111 and 112 and, soon, Polymer Chemistry. Dr. Gregorius is particularly interested in developing advanced methods of teaching science and is collaborating with other faculty members at the college, including Phil Sheridan and Steve Szczepankiewicz. They are looking into developing effective learning modules (using Flash) to allow students to guide themselves, teach each other, and focus on conceptual learning in General Chemistry.

Recent Promotions:



Congratulations to Drs. Timothy Gregg and Phillip Sheridan on their promotion to Associate Professor with tenure effective September 1, 2011 and September 1, 2012 respectively.

Student Chapter of the American Chemical Society

The Canisius Student Chapter of the ACS has continued to organize and sponsor a number of exciting and well-attended departmental activities. Students and faculty have participated in the annual Buffalo-

Niagara Riverkeeper beach sweep, lost the SCACS vs. $\beta\beta\beta$ football game, hosted invited speakers, reveled in the indecent antics associated with the Christmas party gift exchange, excited younger scientists with chemical demonstrations, toured area chemical facilities, and celebrated the end of the academic year with a delightful repast. The chapter has received recognition for its activities, including a Chemluminary Award in 2010 for the best student National Chemistry Week event. This award was presented at the 240th National Meeting in August 2010 in Boston, MA and again at Canisius College in September 2010. In addition the chapter was recognized with a Commendable Chapter Award for the 2009-2010 academic year, presented at the 241st National Meeting in March 2011 in Anaheim, CA and again with a Commendable Chapter Award for the 2010-2011 academic year, to be presented in March 2012 at the 243rd National Meeting in San Diego, CA.



Dave Nalewajek '74 presents the Chemluminary Award for best student National Chemistry Week event to Rob Stewart '11, Andrew Forrestel '12, Jessica Stachowski '12, Phil Sheridan (SCACS advisor), and Mike Brignone '11 at Canisius in September 2010.

Student Chapter of the American Chemical Society; Facebook

The Student Chapter of the American Chemical Society has a Facebook page to keep all Canisius College Chemistry and Biochemistry alumni better connected and informed of departmental events. If you are on Facebook, please consider adding SCACS Canisius as a friend.

Canisius Chemistry and Biochemistry Students' Presentations at the 241st American Chemical Society Meeting in Anaheim, CA, March, 2011

Jessica Stachowski, Derek Zemla, David Fortman, and Matthew DiStasio, (Drs. S. Szczepankiewicz and M. Kozik) "Direct NMR evidence for dimer formation by transition metal substituted polyoxometalates in nonpolar solvents".

Furqan Hassan, Robert J. Stewart, John R. Frost (Dr. T. Gregg) "Electronic control of intermolecular allene cyclopropanation mediated by a chiral dirhodium catalyst".

Class of 2010

Anderson, Carl: BS (CHM HT) currently a student at the SUNY at Buffalo medical school.

Campagna, Ryan: BS (BCH) is attending medical school at The Ohio State University.

Casas, Jacqueline: BS, (BCH) seeking a graduate program in forensics, and later

plans to apply to medical school to become medical examiner (pathologist).

Folaron, Sarah: BS, (BCH, MAT Minor) currently employed at Contract Pharmaceuticals Limited (CPL) while taking classes in the nursing program at SUNY at Buffalo.

Garas, Carolynn: BS (CHM HT) attending medical school at SUNY at Buffalo.

Gatrone, Erin: BS (CHM ACS) continuing her studies as a graduate student, master of science program, at the University of Scranton.

Krull, Stephanie: BS (CHM ACS, Music Minor) is seeking available opportunities in chemistry.

Lupejkis, Kimberly: BS (BCH, BIO) no information available.

Makar, Mark: BS (CHM ACS) currently working as a Chemical plant Operator at Honeywell in Buffalo, NY.

Meisenburg, Jacob: BS (CHM HT) is continuing his studies in medical school in Pomona, CA.

Mekelburg, Christopher: BS (CHM HT EDAD) is teaching chemistry at St. Joseph's Colligate Institute, Buffalo, NY.

Saleh, Khadeeja: BS (CHM HT) is attending pharmacy school at SUNY at Buffalo.

Saric, Mark: BS (CHM HT) currently enrolled in dental school at SUNY at Buffalo.

Shields, Kelly: BS (BCH, BUS minor) is seeking employment as a sales representative.

Skoczynski, Julia: BS (CHM HT) continuing her studies in osteopathic medical school at Rocky Vista University in Colorado.

Sweeney-Jones, Anne: BS (CHM HT) no information available.

Thomas, Conor: BS (CHM ACS) currently a graduate fellow in material science, PhD program, at Princeton University.

Trueman, Sheryl: BS (BCH) currently enrolled in the PhD program at SUNY at Buffalo in pharmaceutical science.

Westerholt, Kyle: BS (BCH) continuing his studies in medical school at SUNY at Buffalo.

Class of 2011

Angeline, Phillip: BS (CHM HT) has accepted a marketing position at Chiro One Wellness Centers in Chicago, IL.

Balkin, Sean: BS (CHM HT) currently enrolled at Canisius College in the MBA program; accepted to SUNY at Buffalo Law School.

Barczak, Aaron: BS (BCH) there is no information available.

Brignone, Michael: BS (CHM ACS) continuing his studies in a master of science program at Bucknell University in PA.

Donovan, Brian: BS (CHM ACS) pursuing a Ph.D. in polymer science at the University of Southern Mississippi.

Derrico, Nicholas: BS (BCH) currently a laboratory assistant at the Erie County Medical Center (ECMC) in Buffalo, NY.

Edd, Thomas: BS (BCH) accepted and will be attending SUNY Upstate medical school.

Graczyk, Matthew: BS (BCH) no information available.

Grove, Heather: BS (BCH) continuing her studies in pharmacy school at the SUNY at Buffalo.

Gutschow, Melissa: BS (BCH) enrolled in pharmacy school at D'Youville College, Buffalo, NY.

Hassan, Furqan: BS (BCH) no information available.

Kauffmann, Andrew: BS (BCH, CHM ACS, PHY Minor) currently in a PhD program in Chemistry at the University of Rochester.

Kiripolsky, Jeremy: BS (BCH) enrolled in a master of science program in biotechnology at SUNY at Buffalo.

Lewis, Megan: BS (CHM HT) currently on a service trip to Poland.

Loftus, Caitlin: BS (BCH) pursuing a degree as a physician assistant at D'Youville College, Buffalo, NY.

Lorenzo, Gabrielle: BS (BCH, BUS Minor) currently enrolled in a master of science program in Biotechnology at Northwestern University.

McCulloch, Andrew: BS (CHM HT, CLS Minor) currently attends medical school at SUNY at Buffalo.

Rybak, Craig: BS (CHM HT) currently a laboratory technician at Crescent Manufacturing, North Collins, NY

Sennett, Michael: BS (CHM ACS) currently enrolled in the PhD program in chemistry at Pennsylvania State University.

Stewart, Robert: BS (CHM ACS, PHY Minor) continuing his studies in the PhD program in chemistry at Pennsylvania State University.

Valdes, Hannah: BS (BCH, PHI Minor) continuing her studies in medical school at Albert Einstein College of Medicine on an Air Force Scholarship.

Velarde, Jeffrey: BS (CHM HT) working at the Honeywell Corporation, Buffalo, NY.

Vito, Cassandra: BS (BCH) seeking employment as a dental hygienist; future plans include applying to dental school.

Recent Peer-reviewed Publications (* students)

Journal: *Tetrahedron Letters*

Title: Substituent effects on rates of rhodium-catalyzed allene cyclopropanation.

Authors: Timothy M. Gregg, Russell F. Algera*, John R. Frost*, Furqan Hassan*, Robert J. Stewart*.

Citation: *Tetrahedron Lett.* **2010**, *51*, 6429-6432.

Journal: *Proceedings of the National Academy of Sciences of the USA.*

Title: Design and control of acetylcholine receptor conformational change.

Authors: Snehal V. Jadey, Prasad Purohit, Iva Bruhova, Timothy M. Gregg, Anthony Auerbach.

Citation: *Proc. Natl. Acad. Sci. U. S. A.* **2011**, *108*, 4328-4333.

Journal: *Journal of the American Chemical Society.*

Title: On the mechanism and selectivity of the combined C–H activation/cope rearrangement.

Authors: Jørn H. Hansen, Timothy M. Gregg, Stephanie R. Ovalles, Yajing Lian, Jochen Autschbach, Huw M. L. Davies.

Citation: *J. Am. Chem. Soc.* **2011**, *133*, 5076–5085.

Journal: *Journal of Chemical Education.*

Title: Juicing the Juice: A Laboratory Based Case Study for an Instrumental Analytical Course.

Authors: Peter M. Schaber, Frank J. Dinan, Michael St. Phillips*, Renee Larson*, Harvey Pines and Judith Larkin.

Citation: *J. Chem. Educ.* **2011**, *88*, 496-498.

Journal: *Journal of Chemical Education.*

Title: The Case of Nut Poisoning (or Too Much of a Good Thing?). Implementation and Assessment.

Authors: Peter M. Schaber, Harvey A. Pines, Judith E. Larkin, Lori A. Shepherd*, and Elizabeth E. Wierchowski*.

Citation: *J. Chem. Educ.* **2011**, *88*, 1012-1013.

Journal: *Journal of Undergraduate Chemical Research.*

Title: Determination of Six Quality Standards in Water Samples Collected Along the Appalachian Trail.

Authors: Peter M. Schaber, Kelly A. Burke*, Veronica Maher*, and Scott Gordon*.

Citation: *J. Und. Chem. Res.* **2011**, *10*, 42-49. This article was featured as the lead article and made the cover of the journal's spring issue.

Journal: *Journal of Chemical Education*.
Title: Canisius College Summer Science Camp: Combining Science and Education Experts To Increase Middle School Students' Interest in Science.

Authors: Phillip M. Sheridan, Steven H. Szczepankiewicz, Christopher R. Mekelburg*, and Kara M. Schwabel.
Citation: *J. Chem. Educ.*, **2011**, *88*, 876–880.

Journal: *Journal of Chemical Education*
Title: Another Look at the Fizz Keeper: A Case-Study Laboratory Exercise for High School Students.

Authors: Christopher R. Mekelburg*, Steven H. Szczepankiewicz, and Matthew Hellerer.
Citation: *J. Chem. Educ.*, **2010**, *87*, 705–707.

Journal: *Journal of Molecular Spectroscopy*
Fourier Transform Microwave Spectroscopy of LiCCH, NaCCH, and KCCH: Quadrupole Hyperfine Interactions in Alkali Monoacetylides.

Authors: P. M. Sheridan, M. K. L. Binns*, M. Sun, J. Min, M. P. Boccino, D. T. Halfen and L. M. Ziorys.
Citation: *J. Mol. Spec.*, **2011**, *269*, 231-235.

Other Publications of Note:

Joseph F. Bieron, Professor Emeritus in the Chemistry and Biochemistry Department at Canisius College has recently completed writing the history St. Joseph's Collegiate Institute. The title of the book is:

The 150 Year History of St. Joseph's Collegiate Institute, 1861-2011.

The proud legacy of St. Joe's is documented in this book with a mix of both narrative and photographs. Featured in the book are some of the school's more prominent alumni,

outstanding athletic teams, the visual performing arts, and other points of interest.

New Instrumentation:

High Performance Liquid Chromatograph-Mass Spectrometer (HPLC-MS)



This \$170,000 instrument provides the capability to separate compounds by HPLC, detect and to quantify analytes, and characterize molecules by their molecular weight, isotope content and fragmentation patterns. Several students and faculty have already employed these capabilities to study research samples with boiling points too high for our Gas Chromatograph-Mass Spectrometer (GC-MS). Students taking Spectroscopy Lab have used the HPLC-MS instrument to separate and identify components from mixtures of amino acids. This instrument was acquired via a federal government grant written by Dr. Steven Szczepankiewicz.

Keep in touch

Your classmates and former teachers would like to know what you are doing these days. Please send us a brief report on your activities, accomplishments, career, lifestyle, etc. and any address changes. You may use the form on the next page, or e-mail to the address given on that page.

Canisius Chemistry/Biochemistry Alumni Information Form

You may use the form below for address changes and to keep us informed of your activities. Please provide us with this information even if you have already sent it to the Canisius Alumni Office, since we are making an effort to maintain an accurate independent database of all chemistry and biochemistry alumni. Return to: Peter M. Schaber, Department of Chemistry and Biochemistry, Canisius College, 2001 Main St., Buffalo, NY 14208-1098, or send e-mail to: schaber@canisius.edu.

Name _____
(Include any title and/or degree you would like us to use for mailing)

Name while at Canisius, if different _____

Is your address correct? If not, what is your preferred mailing address?

Please provide your E-mail address: _____

Canisius degree(s) and years(s) _____

Other degree(s), year(s), and granting institution(s)

Most recent position and company (indicate if retired)

What news do you have for the next issue of the newsletter? Keep us in touch with your activities, accomplishments, career, lifestyle changes, avocations, news of classmates, etc.

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