

THE SCHLIEREN

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Fall 2010

Faculty Spotlight: Dr. Thomas Smith

Interview by Victor Murcio '14

With more than 30 years of experience in the chemical industry and 8 years in academia, Dr. Thomas Smith is now taking a new position in one of the most active and promising fields of science as Interim Academic Director of the Golisano Institute for Sustainability.

Dr. Smith attended the Ohio University for 2 years as an undergraduate before transferring to the John Carroll University of Cleveland. While studying as a night student, he worked as an oil technician at a company called Lubrazol. There he learned how to produce and synthesize several polymers such as latex and resins. After 7 years of hard day-time work and arduous night-time study, he received his B.S. and decided that for his graduate studies he would focus in polymer and organic chemistry. He earned his Ph.D. from the University of Michigan.

In 1973, Dr. Thomas Smith moved to Rochester to work at Xerox where he performed, in his own words, "fun chemistry". He made optical disks, nanoparticles, and synthesized materials that could store, display, and/or write information. After many years of hard work, Dr. Smith became a Research Fellow at Xerox, the company's highest level of recognition. In 2002, after 29 years at Xerox, Dr. Smith decided to use his expertise in academia and join the

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Students in the Hood:

Joy Snyder '13 and Breanna Kalmeta '12

Interview by Michael Madaio

Joy Snyder and Breanna Kalmeta are 2nd year Biochemistry majors currently working in Dr. Michel's research lab. Here's what they had to say:

Michael Madaio: Can you first tell me a little about the research you've done since joining the lab?

Joy Snyder: We're currently wrapping up our research on evaluating the usefulness of the protein candidate P6 for the creation of a nontypeable Haemophilus influenzae (NTHi) vaccine. Basically we found that although P6 had some interesting qualities, it was not a suitable candidate for a vaccine.

Breanna Kalmeta: As for this upcoming year, there's a possibility that we'll be looking into other protein candidates for the vaccine, since our lab is partnered with Rochester General Hospital (RGH) and they are very interested in working on this vaccine.



MM: How did you get involved in Dr. Michel's lab in the first place?

JS: Before I was even a freshman I did research in polymer chemistry with Dr. Miri as part of the summer research program here at RIT. That got me interested in research in general. Eventually Dr. Michel came to our Freshman Biochemistry Symposium to talk about her research and the research opportunities here at RIT for undergraduates, and I was really interested in working on a vaccine since I eventually want to go into pharmacy.

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ranks of RIT. Since his arrival at RIT, Dr. Smith has taught various courses in chemistry and has engaged students of all levels (high school through doctoral students) in conducting independent research in his lab.

Now, in addition to his appointment in both the chemistry department and microsystems engineering, Dr. Smith has accepted the position as Interim Academic Director of the Golisano Institute for Sustainability. He is thrilled with this opportunity since sustainability is a growing area in science. Given that sustainability is such an interdisciplinary field, Dr. Smith is excited by the prospects of building the PhD program for sustainability at RIT; a signature program. He explained that sustainability highly relates to chemistry because of the imperative need for energy balance. He also feels that chemists are better prepared to tackle sustainability-related problems because chemists are trained to think in toxicological terms, as well as in predicting the repercussions of a reaction, and the economic impact of such reactions.



We applaud you Dr. Smith and we wish you all the best in the upcoming year in your new role!

During the more informal part of the interview, ChemClub asked Dr. Smith more philosophical questions. Our questions and his responses follow:

Victor Murcio: Do you think that the statement, “In order to be a good chemist, you must be a good cook as well” is true?

Dr. Smith: Even though I can cook, I believe that in order to be a good chemist one must be a good dishwasher.

Vic: What is the most dangerous chemical you have worked with?

Dr. Smith: All chemicals can be very dangerous. Thus, we must always treat chemicals with due respect. However, if I must choose a chemical, it would be a metal carbonyl or TNPhenol.

Vic: What advice do you have for young aspiring chemists?

Dr. Smith: You are in an enduring field of study. Enjoy it. I have had the pleasure to not come to work every day but to come to play. It is hard but it is fun. You get to see molecules in a way that no one else can. So enjoy it.

Where Are They Now?

Steven Pellizzeri BS '07 passed his second year oral exam and is now officially in the PhD program at Syracuse. His committee was pleased with his research progress and his independent research proposal. Using concepts he learned while an undergraduate doing research in Dr. Chris Collison's lab, he was able to expand his knowledge and submit the proposal to his committee. Go Steve!

Brandy Pappas BS '08 recently earned an NSF fellowship for her research as a graduate student in single particle electron microscopy. Brandy is attending Harvard University and is studying under Andres Leschziner in the Biophysics department. Congratulations Brandy!

Tim Liwosz BS '09 is currently attending University at Buffalo and has joined Dr. Sherry Chemler's group and is really enjoying it. Tim earned a fellowship last year that allowed him to concentrate on his research and classes without having to TA. Tim tells us that, “Dr. Chemler's research is focused on copper-catalyzed reactions. I am having a blast and hope all is well at RIT. Hopefully I can come and visit sometime but Dr. Chemler keeps me busy.”

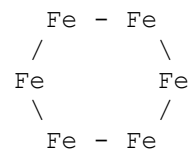
Ryan Walvoord BS '07 writes from his PhD program in organic chemistry at UPenn. He joined the Marissa Kozlowski group and he informs us that, “chemistry is going surprisingly well... at the moment.” He reports that he has built up two projects from the ground up, and is one of the senior lab members, since the senior students all graduated over this past summer. One of the new first years is under his training now, and he's also helping to manage 2 other students' experiments.

Katarina Malatova MS '05 arrived back in Rochester from her stint in Port-au-Prince during the earthquake and is ok. Since the quake she has been staying away from the city with family. Conditions in the entire country are dire and she was evacuated with her old son Samuel. Her husband remained behind doing relief work.

Chemistry Humor

Q: What do chemists call a benzene ring with iron atoms replacing the carbon atoms?

A: A ferrous wheel:



CHEM CLUB

ChemClub was organized as an open network for those interested in chemistry to meet and share ideas and experiences. Our goals are to support and publicize the scholastic achievements of the faculty and students and alumni from the RIT Chemistry Department. Our club also aims to form both social and professional connections among students and alumni of the department.

We welcome all incoming and transfer chemistry/biochemistry majors. However, we are not an exclusive club. ChemClub is responsible for publishing this quarterly departmental newsletter called "The Schlieren" and welcomes all who have an interest in gathering information, conducting interviews, or even being interviewed, to join our crew.

E-Board 2010

Dr. Tina Collison (advisor)
Jacob Freyn '14
Sofiya Hlynchuk '14
Michael Madaio '13
Victor Murcio '14
Katherine Valentine '14

CHEMISTRY NEWS AND EVENTS

A TRIBUTE TO PROFESSOR BOB GILMAN

Stay tuned for the next issue of the Schlieren in which a memorial to Professor Bob Gilman will be featured. We are currently soliciting memories and pictures, letters and tributes, of Professor Gilman who passed away on Tuesday, February 2, 2010. Please send your memories to: cgcsch@rit.edu

SEMINAR: DR. TODD KRAUS

PLACE: 08-1305

TIME: 4-5PM, FRIDAY NOVEMBER 5TH

Associate Professor of Biophysics, Structural, and Computational Biology at the University of Rochester will present his work on "Nanotechnological approaches to Biomedicine."

SEMINAR: DR. JAMES FARRAR

PLACE: 08-3265

TIME: NOON-1PM, WEDNESDAY DECEMBER 15TH

Professor of chemistry at the University of Rochester will be presenting on "Gas Phase Ion Chemistry: Clusters and Collisions."

BK: I got involved pretty much the same way Joy did. I met Dr. Michel at the symposium and really liked her personality and the chance to conduct undergraduate research. It really prepares you for your future in a real lab.

MM: What does a typical week in the research lab look like?

BK: We usually spend about 4 hours a week in the actual lab, with an additional hour for a group meeting. When we are working on certain parts of a project, we can be in the lab a lot longer, sometimes up to 5 hours at a time.

JS: For instance I'm going to RGH to carry out some of my research tomorrow, and I'll probably be there for 4-5 hours. But it never seems that long since you end up having so much fun that the time flies by.

MM: If you could choose your favorite thing about the lab that keeps you coming back for more every week, what would it be?

BK: The atmosphere and the people. We all get along so well and have such a good time together. We laugh a lot.

JS: I love knowing that what we're doing is helping people in the world. Even though P6 didn't prove to be useful in creating a vaccine, our findings will prevent other research labs from looking into P6 so we can get to a vaccine faster.

MM: What do you like the least about working in the lab?

JS: Long experiments! Cleaning up! It's boring when you're just waiting for results to come in.

BK: I agree, some of our column chromatographs take forever to complete.

MM: Does anything funny ever happen in the lab?

BK: Sometimes we sing to our plates.

MM: You sing to your plates?

BK: Yes, to make them grow faster.

MM: Finally, what advice do you have for other RIT students looking to get into undergraduate research?

JS: Do it! It's a great experience!

BK: Definitely, here at RIT you actually get to take part in the research, not just watch it or clean glassware. It's a tremendous opportunity of which everyone should take advantage!

MM: Thanks for your time, and good luck with the rest of your research!