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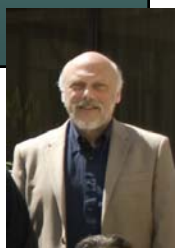
DEPARTMENT OF BIOCHEMISTRY

SUNY AT BUFFALO

Letter from the Chair



It's been another exciting year in the department, and despite the travails of the NIH budget the faculty research portfolio remains strong. Together with their students and collaborators, our faculty published over 60 peer-reviewed articles in well-regarded journals. A multi-disciplinary center for stem cell research, funded by NYSTEM and directed by Rich Gronostajski, will formally launch on August 1 and promises to have a major impact on all aspects of molecular regenerative medicine in the local biomedical research community. Jennifer Surtees did a terrific job organizing our seminar program, which brought in nationally prominent speakers in several key areas. Dr. Laura Feltri, whose research focuses on Schwann cell signaling and mechanisms of myelination, joined the department as Professor on July 1, and we look forward to her participation across the spectrum of departmental functions. Dr. Larry Wrabetz, the founding Director of the Hunter J. Kelly Research Institute and also an expert in myelin-related pathologies, has received an adjunct appointment in Biochemistry, and his graduate students will be members of our graduate program.

The department granted 6 Ph.D. degrees during the 2010-2011 academic year, and we congratulate these graduates on their achievements. While these students will be difficult to replace, we have recruited 4 new students from the 2010 IGPBS class, and will be working hard to attract additional students in the coming year. An outstanding cohort of undergraduate biochemistry majors received their bachelors degrees in May, seven of whom were elected to Phi Beta Kappa and one, Ms. Felicia Cao, received the SUNY Chancellors Award for Academic Excellence. Ms. Cao's selection marks the third consecutive year that one of our students has received this award. Clearly, our undergraduate program, ably directed by Gail Willsky, continues to attract and educate a group of highly talented students. Congratulations are in order for all of these students, as well as to Lee Ann Garret Sinha, who was promoted this year to Associate Professor with tenure, and Marc Halfon, recipient of this year's UB Award for Teaching Innovation.

Of course, the big news for the medical school, and the department, relates to relocating the School to the downtown Buffalo Niagara Medical Campus, a move targeted for completion in 2015. Planning is already underway, and the project has been approved by SUNY and the state government. When complete, this move will strengthen our relationships with our colleagues in clinical departments and will also reunite the department geographically. More news on what is an exciting development for the department, the school, and the city of Buffalo in future issues of the newsletter.

Please let us hear what's new with you: we'd like to include a "where are they now" section in future newsletters. And, of course, the next time you're visiting Buffalo, please drop in to say hello.

Ken Blumenthal
Professor and Chair

Departmental Awards & Honors

Undergraduate

- John F. Moran Memorial Award 2011: ***Alex Sunshine***
- Deborah, Christopher & Adam White Memorial Award 2011: ***Emmanuel Effah-Appiah***
- 2011 Outstanding Senior in Biochemistry: ***Felicia Cao***
- Elizabeth Olmsted Ross Award For Outstanding Undergradate Poster 2011: ***David Wolff***
- Zonta Club 2011 Nominee for the Young Women in Public Affairs Award: ***Caitlyn Chiari***

Medical Student

- The Edward L. Curvish, M.D. Award for Excellence in Biochemistry 2009/2010**:** ***Mamie Higgins***
- The Edward L. Curvish, M.D. Award for Excellence in Biochemistry 2009/2010 Runner Up: ***Chantel Bartels***

Graduate

- Elizabeth Olmsted Ross Award for Outstanding Oral Presentation: ***Jason Rizzo***

CONGRATULATIONS!

- Elizabeth Olmsted Ross Award for Outstanding Graduate Poster 2011: ***Wei Luo***
- Biochemistry Dissertation Research Recognition Award 2011**:** ***Thomas Hohle***

University at Buffalo
The State University of New York

Meet the Faculty: Dr. Alastair Brownie, By Jason Rizzo, MD/Ph.D. Student

Having worked as a researcher and medical educator for sixty years now, Dr. Alexander Brownie never lacks interesting information to deliver. Whether it is recounting key enzymatic steps in metabolic pathways with flawless ease or telling an anecdote about the time he spent learning to isolate $NADP^+$ in Hans Adolf Krebs' lab (of Krebs Cycle fame and a true story!), Dr. Brownie always knows how to keep a listener's attention. Dr. Brownie has participated in the education of thousands of medical and dental students throughout his tenure here, and is one of the medical school's most memorable professors.

Throughout his time at UB, Dr. Brownie has enjoyed great success as a researcher and educator. He is an elected fellow of the Royal Society of Edinburgh, a Stockton Kimball Research awardee, a Dean's award recipient, and was the first recipient of a 10-year NIH Merit Award at UB for his research on hypertension, among many other accomplishments. Additional recognition includes the Siegel Distinguished Teaching Award and enrollment in the Alpha Omega Alpha medical honor society. Perhaps more telling is the fact that it is nearly impossible to find a student trained at UB who has not been touched by his influence.

Certainly a lot has changed in Biochemistry since the days when a young Alexander was getting his PhD in Scotland; however, much has stayed the same. Recently I had the pleasure of chatting with Dr. Brownie about his career at UB and his time with the department. Never one short for a story, Dr. Brownie had plenty of information to share with me.

Can you walk us through your career in science?

I'm a graduate of Edinburgh University in Scotland. I got my honors degree in Biochemistry there and then I was successful in getting into the PhD program in Biochemistry. The department, led by Professor Gut Marrian, FRS, was famous for steroid biochemistry and I worked under him and Dr. James Grant in that very field. I got my PhD in 1955 having studied steroid 11b - hydroxylation and culminating in the discovery of the role of NADPH in that critical reaction. I was then given the chance to go to the Pharmacology and Therapeutics Department at Dundee University and that worked out brilliantly. I was there as a research associate for six years and for the last four of these years did clinical endocrinology research. Very applied stuff and it really made it easy for me later on to teach endocrinology to medical and dental students.

Following my post-docs, I left to go to a NIH-sponsored Steroid Training Program at the University of Utah. At Utah I helped to work out a method for measuring testosterone in plasma by gas-liquid chromatography with electron capture, which was THE method at the time until competitive binding assays came along. It was a terrific experience in Utah. We had a world renowned research group but we still could take advantage of the best skiing in the world at Alta! We'd go out onto the slopes most Fridays.

What drew you into science?

I found it exciting. Everybody assumed I was going to be a mathematician because I excelled in math, but it didn't really turn me on at all. I wanted something to do with life.

Why steroid metabolism?

The biochemistry department where I did my PhD was famous as a center for steroid biochemistry. I wanted to do biochemistry research because I was interested in metabolism from my coursework and here was the opportunity to study it.

How did you find your way to UB?

I was asked to come look at a job here in

1963 by the chairman of Pathology, Dr. Floyd Skelton, a terrific experimental pathologist who discovered several experimental models of hypertension. So I was hired as a research assistant professor in Pathology and had an adjunct appointment in Biochemistry. Skelton and I were very successful and when he passed away I took over running our research program as well as the graduate program for graduate students in Pathology.

How has the Biochemistry department evolved since you've been here?

I came here in 1963 and we had an excellent chair and excellent senior faculty members such as Willard Elliott and Ben Sanders. Richard Winzler really set high standards for the department. When I became chair (1977-1989) I was given the opportunity to recruit at least 6 or 7 people and I had great colleagues like Dan Kosman, Murray Ettinger and Ed Niles. Several of these new faculty are now in senior positions at other universities but Gail Willsky, Mary Taub and Mark O'Brian were in the group as well. I think we're back to 20 or so faculty now. At one point we were down as low as 8 (explaining why I returned to teach). Dr. Blumenthal has had the opportunity to recruit, and we've really come along under his leadership. He also recognized the importance of starting and keeping a departmental presence downtown which is the soon-to-be home of the medical school. I also think Dean Michael Cain is doing a terrific job. He has made a significant difference in several departments through new recruitment. He certainly recognizes Biochemistry is a department worth putting resources into.

How many students have you trained?

I've trained about 8 graduate students here between Pathology and Biochemistry. I've also taught thousands of medical and dental students.

You left UB for a while?

I thought it would be good to go back to Scotland, so my wife, son and I went back there in 1993, a few years after I finished my chairmanship. I served as a consultant at the University of Dundee for four years. Dundee is a great place – they recruited me to help teach medical and dental students. They had a new integrated curriculum that they had developed which I helped them implement. I was basically commuting back and forth because my merit award was still active in Pathology. I would also come back to teach Endocrinology & Metabolism to medical students. I went back and forth like that for a few years and in 1997 I decided to come back to this country for good.

Tell us about your life outside of science.

I got married in 1984 to Willy Bakhuizen, the assistant to the chair in the Department of Biochemistry at Erasmus University, Rotterdam, Holland. Her boss was the Dutch scientist I worked with in Salt Lake City in 1962-63. We've been married 27 years and have a 24 year old son, Alec. My wife had a lot of experience in running international meetings with my old colleague in Rotterdam and she encouraged me in 1984 to start an international meeting on the adrenal cortex because there was not one at the time. So we worked with several of my colleagues to hold the first international adrenal meeting on this very campus in 1984 with support from the NIH and we have held a meeting every 2 years since then. We have helped to run all but three of those meetings, including one in Scotland. It is now held as an official satellite meeting of the Endocrine Society.

What is your favorite part of your job?

I enjoy getting a group of faculty together to produce a product like we did with developing the medical curriculum.

Continued on page 4

NEWS: RESEARCH DAY

The 9th annual Biochemistry Research Day was held on May 9, 2011 at the Buffalo Niagara Marriott in Amherst. Between 75 and 100 of our colleagues, faculty, graduate and undergraduate students, and postdocs attended the day-long event which featured 10 platform talks by our senior graduate students as well as 23 poster presentations by undergrads and more junior graduate students. This year's Ross Awardees were: best undergraduate poster, *David Wolff* (*Genetic Analysis of Site Specific DNA Polymerase IV Mutants*; advisor, Mark Sutton); best graduate poster, Wei Luo (*Ets-1 is Down-Regulated in Lyn Deficiency Induced Autoimmune Model*; advisor, Lee Ann Garrett-Sinha); and best platform presentation, Jason Rizzo (*Matched Chromatin Preparations Reveal Tupl Nucleosome Stabilization and an Open Chromatin Architecture at Transcriptionally Plastic Genes*; advisor, Michael Buck). They've earned everyone's congratulations for their outstanding work. This year's Ross lecture, "DNA Repair Complexes and a Dawn for Mechanistic Systems Biology in Disease Prediction and Intervention" was delivered by Dr. John A. Tainer, Senior Scientist at Lawrence Berkeley, Skaggs Institute for Chemical Biology, and Professor, The Scripps Research Institute. Dr. Tainer is best known for his work on the interfaces between protein structure and key cellular processes.

As usual, thanks are due to the Biochemistry Graduate Student Association, who organized this event and hosted Dr. Tainer, as well as to our office staff and Sat Sinha, who did his usual outstanding, and low-key, job as faculty coordinator of research day.

Research Day 2011

SERVICE AWARDS / FACULTY RECOGNITION

- Congratulations to Dan Kosman who has 40 years of service!
- Congratulations to Randy Adams and Gail Willsky—30 years of service!
- Marc Halfon was named one of the recipients of the 2011 UB Award for Teaching Innovation. Congratulations Marc!

STUDENT RECOGNITION

- Congratulations to Biochemistry Senior Ms. Felicia Cao who was awarded The 2011 SUNY Chancellor's Award for Student Excellence
- Nicole Moore, Jessica Page, Emily Deutschman, and Sarah Popadowski were chosen to present a poster representing the School of Medicine and Biomedical Sciences at the Celebration of Academic Excellence held on April 6, 2011. Congratulations to all!

ADVANCED DEGREES AWARDED FOR 2010-2011

Stacy Amico: Ph.D. (Sept. 2010) Mentor: Gabriela Popescu; Postdoc, Univ. Of Rochester, Neurobiology & Anatomy
Michaelle Chojnacki: MA (Feb. 2011), Mentor: Amy Jacobs; Entering IGPBS Fall 2011
Thomas Hohle: Ph.D. (Feb. 2011), Mentor: Mark O'Brian; Postdoc-SUNY Buffalo Biochemistry
Melinda Haarmeyer: MA (June 2011), Mentor: Jennifer Surtees; Technician, RPCI
Cong Yu: MA (June 2011), Mentor: Piero Bianco
Lisa Russell: Ph.D. (June 2011), Mentor: Lee Ann Garrett-Sinha; PostDoc-SUNY Buffalo Biochemistry
Arsalan Shabbir: MD/Ph.D. (June 2011), Mentor: Teechung Lee; Univ. of Miami, Dermatology Residency Program
Sandra Small: Ph.D. (June 2011), Mentor: Mark O'Brian; Postdoc– FDA
Alaina Terzulli: Ph.D. (June 2011), Mentor: Dan Kosman

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Meet the Faculty (con't): Dr. Alastair Brownie, By Jason Rizzo, MD/Ph.D. Student

What advice do you have for young scientists/aspiring graduate students?
Find a lab that's active, well supported, and where there is an open dialogue. You have to be polite, but you also have to be able to express your opinions! My Ph.D. student, Douglas Paul, suggested to me something critical in cholesterol – cytochrome P-450 interaction the first day in the lab! You've got to be excited about the work you are doing!

Anything else you think we should know?
I will tell you – I never took a biology course in my life. I didn't need to. I never took a physiology course either. Things were less structured in my day. I was actually lucky to get into school in the first place because people were still getting de-mobilized from the Army in 1948. I was one of the best students in chemistry in the first year but I didn't get in initially -- I was wait-listed!

How has science changed throughout your career?
It's a lot more commercial now. For one thing there were no supply catalogs: you had to make everything yourself.

You wrote a textbook on Biochemistry?
Yes – Medical Biochemistry along with my Dundee colleague, John Kernohan. It was designed to be a part of the British medical education core curriculum. I used it to teach dental students in Europe and here.

Do you have any hobbies?
I played badminton for my university. My thesis advisor recommended I take up squash, so I spent the summer between my first and second year of PhD research playing squash and in the fall I tried out for the team and I became a member. It was a 5 member team and 3 of them played for the Scottish national team! I was also a 6-handicap golfer at one time.

What do you find to be the most exciting topic in science today?
I think the hottest topic is the genome-wide studies that are implicating genetic abnormalties in critical diseases such as hypertension and diabetes. The studies are fascinating, however, finding a way to turn them into something practical will be the most difficult challenges.

Is it true you hired Craig Ventor?
When I was chairman of Biochemistry in 1980-81 Craig moved to our department from the Department of Pharmacology. He was a brilliant researcher now everyone knows his accomplishments. If you read his autobiography he mentions getting a job in Biochemistry here – that was my doing with support from my colleagues. He was here recently and I had a nice interaction with him. He gave me a signed copy of his book in which he wrote to me "Thanks Alastair for rescuing me 30 years ago".

We appreciate the response of our readers who have taken the time to let us know that they enjoy keeping up with happenings in the department, and invite those of you who will be visiting Buffalo to stop by and see how things have changed since you were here. We are especially grateful to those alumni who have made contributions to the Department. These funds are of great value to the department, and help to support a wide range of activities including our Research Day, student travel to meetings, and even acquisition of new instrumentation.

NEWS

Congratulations to our 2011 Phi Beta Kappa Inductees:

Felicia Cao, Senior
Emmanuel Effah-Appiah, Senior
Christopher Galac, Junior
Tom Kashiwagi, Senior
Terrence McLaughlin, Junior
Kimberly Stanek, Junior
Karen Dewispelaere, Junior

Irene Kulick retires after 32 years of service!

Visit our NEW website:
http://medicine.buffalo.edu/biochemistry