

2010 MEDALS & AWARDS

BIGGS AWARD FOR EXCELLENCE IN EARTH SCIENCE TEACHING

Presented to
Michael C. Rygel



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SUNY College at Potsdam

Citation by Robert L. Badger

I am very pleased that the Geological Society of America has chosen to honor Michael Rygel with the 2010 Biggs Earth Science Teaching Award. Mike came to our department at the State University of New York at Potsdam a little over four years ago and immediately infused a sense of energy and enthusiasm that was contagious to both students and faculty. He has had a significant impact on our program of study, has proved to be an exceptional teacher, has led outstanding field trips for his classes, involved students in top quality research, and continued his own research at an extraordinary level.

Mike was raised in a steel mill town outside of Pittsburgh by a single parent who struggled to put food on the table. After high school, he joined the National Guard for lack of anything better to do, and later used the GI bill to attend the University of Pittsburgh at Johnstown. The first in his family to attend college, he did so as a means of escaping the steel mills and a life of working there, but he was clueless about what to study. During freshmen orientation the students were invited to attend open houses at the various departments, so Mike tagged along at the tail end of a group of 50 or so potential biology majors. But a geology professor, with just one interested student, persuaded

Mike to come with him instead. And that has made all the difference. One caring faculty member at an opportune point of time, a small department that nurtured their students to grow and prosper, and an escape from a steel mill town into the international scientific world. A geologist was born that day, and a fire was lit that continues to burn vigorously.

Mike is very aware that it is the field of geology, and a few very fine and caring faculty, who have allowed him to develop into the person he is today. Now he is paying that forward, trying to be the caring faculty member to make a difference in the lives of the students he teaches. He sees a lot of himself in some of our students, about half of whom are the first in their family to attend college. He does his best to show the care and concern for their wellbeing that he was once shown, and to offer life-changing academic opportunities.

In and outside of the classroom, Mike is a terrific teacher. His method of teaching is to have constant interaction between him and the students, to maintain a very flexible schedule that can weave and bob in whatever direction the class takes, and to use assessable learning goals. I think he actually goes into each class thinking, "What do I want them to learn in this class?" Followed by, "How will I know they have learned it?" Students respond very positively to his teaching style; in four years I have heard nothing but praise from them. A few quotes from student evaluations:

"Very concerned with student performance."

"The best I've EVER had."

"Professor Rygel is a great instructor and clearly has a passion for his field."

"Always around to answer questions, give extra help Very fast email responses."

"Dr. Rygel did an excellent job of bringing the material to life. He invested a lot of personal effort and initiative in making sure students were learning and involved."

While using this very student-friendly teaching style, he has high expectations for their quality and quantity of work. The high standards that Mike sets for the lower level courses that he teaches have a four-fold benefit for our students and program. First, it gives the students an outstanding background preparing them for upper level work. Second, it teaches them workload expectations for our major, so they are fully prepared to exert the necessary effort to succeed in upper level coursework. Third, it acts to weed out students, at a very early stage, who are not willing to commit the time and energy to a rigorous major course of study. And fourth, because hard working students usually rise to his challenge, it acts

as a recruiting tool for students into our program. Since Mike's arrival, our list of majors has grown from about 40 to 75, in large part due to his influence.

During Mike's second year at SUNY Potsdam, he wrote a successful ACS three-year grant to fund student research in Nova Scotia. This project is at the World Heritage Joggins Site. Three students accompanied him for a month during the summer of 2008, and they were featured in a half hour documentary on CTV the following winter on the Joggins site. All three presented their research at the northeast GSA in Portland, Maine in the spring of 2009. After that first summer of research in Nova Scotia, he was so excited about the geology that the next summer he led a dozen students on a ten day trip there. At the end of the trip, he and four of the students remained for a month of fieldwork. All four of these students accompanied him, with costs covered by his grant, to the national GSA in Portland, Oregon last fall to present their research. These opportunities he is providing to our students are incomparable to anything we have ever offered. He will be leading another ten day trip to Nova Scotia in the spring of 2011.

Mike's teaching role extends beyond the walls of our university. In 2005, the Canadian Society of Petroleum Geologists voted his Ph.D. dissertation the best in all of Canada, even though it had nothing to do with oil. In the fall of 2007, this same group flew him to Calgary to give the keynote talk at a luncheon for their annual meeting. In February of 2008, and again in January of 2009, the Canadian Society of Petroleum Geologists sponsored him to spend a week on tour, giving talks at various universities. His first tour took him to five universities in the Canadian Maritime Provinces; the second tour was to five universities in Ontario. Just as visiting speakers to my university when I was an undergraduate geology student 40 years ago influenced my career, I am certain that Mike's speaking tours are influencing dozens of young geologists today. He is a dynamic speaker and a marvelous role model.

As you can gather, Mike's a pretty special guy. Our dean has likened our hiring him to the drafting of Willie Mays. And to think, we almost didn't hire him. One of his letters of recommendation referred to him as a "perfect gentleman." But he's overcome that flaw and developed into an incredibly fine colleague and teacher, well worthy of the Karen Biggs Excellence in Earth Science Teaching Award.

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Response by Michael C. Rygel

I am honored to receive the 2010 Carolyn Biggs Earth Science Teaching Award. I would like to thank Robert Badger for being a great mentor, nominating me, tenaciously writing letters on my behalf, and his unwavering support of my academic experiments — regardless of the amount of paperwork that they create. I would also like to thank Galen Pletcher, Jack Beuthin, Glenn Simonelli, Martin Gibling, and the students who wrote letters of support.

I chose a career in academia primarily because of the quality education that Jack Beuthin, Uldis Kaktins, and Bill Brice gave me at the University of Pittsburgh at Johnstown. Their influence as teachers, mentors, and role models inspired me and remains the standard by which I judge my own performance. In particular, I owe special thanks to Jack Beuthin for introducing me to undergraduate research, particularly the reading, writing, and planning that underpins a successful project. He challenged me to live up to my full potential and supported me every step of the way; for that I am eternally grateful.

I owe special thanks to Martin Gibling, my Ph.D. advisor at Dalhousie University. Although my tuition and stipend were funded

wholly from his NSERC Grant, Martin allowed me to teach labs and to take a leave of absence in the spring of 2002 to do a sabbatical replacement at the University of Pittsburgh at Johnstown. Thankfully, Martin believes in developing the individual and was willing to take a risk by allowing me to explore my career choices. Chris Fielding and Tracy Frank sponsored my post-doc at the University of Nebraska-Lincoln. They helped me mature as a scientist and researcher which made me a better teacher, undergraduate research mentor, and allowed me to “hit the ground running” in a tenure-track position.

Although teaching is my main responsibility as a professor at a primarily undergraduate institution, I have had very little formal training as an educator. To help remedy this situation, Glenn Simonelli allowed me to audit his “Elementary Science Education Methods” class in 2007. Glenn’s class forced me to rethink every aspect of what I do in the classroom and profoundly influenced my teaching style. I would also like to thank the organizers of the NAGT *On the Cutting Edge* project and countless colleagues (especially Neal O’Brien and Bill Kirchgasser) for sharing their teaching experiences, philosophies, and materials with me.

Although the education and arts programs have the largest enrollment at SUNY Potsdam, the natural sciences have large enrollments and play an important part in the overall framework of a liberal arts education - especially given the number of future teachers at our school. Our administration, particularly former Dean of Arts and Sciences Galen Pletcher, recognizes the special challenges that the natural sciences face (equipment, lab space, the large number of contact hours associated with labs, etc.) and has stood by us throughout the present financial crisis.

I would like to thank all of my present and former students for their time, hard work, and patience. Making improvements to my teaching requires experimentation; thanks for putting up with long days in the field, countless hours in the vans, failed technology, new labs that flop, and the repercussions of my newfound role as a father.

Perhaps most importantly, I would like to thank my wife, Adrienne, for her support during the decade-long pursuit of my dream job.