TEACHING DOSSIER

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Teaching Statement

I have taught in a university setting for over 12 years and have 65 hours of formal training. I enjoy teaching because it challenges me, allows me to be creative, and is extremely rewarding. My style is largely a reflection of my desire to engage students and make learning both enjoyable and rewarding. However, I also expect my students to work, and encourage them to make mistakes (e.g., through self-directed exploration, by deploying "lab mines"). I employ a diversity of teaching styles to reflect the diversity of my students: classroom discussions, question-answer sessions, tutorials, and field and lab components that simultaneously provide hands-on experience while inspiring, challenging, and motivating each student to learn, to think independently, and to be passionate about a topic.

Today's complex problems require successful collaboration and a multidisciplinary approach. So that students are competitive for employment, I design courses that encourage them to interact outside of the university. For example, in Analysis of Population (see syllabus below), student groups are "contracted" by external stakeholders to analyze real-world data. Similarly, I am developing an aquaponics course in which groups work with local producers to identify knowledge gaps and then design and carry out experiments. I like students to work in groups because it teaches them to work together, organize their time, think creatively, synthesize data and information, interact in a professional manner, and communicate verbally and in writing.

I am also training the scientists of tomorrow by supervising the research and development of undergraduate and graduate students. I have mentored 9 undergraduate researchers (e.g., Moe and Venturelli, in prep), many of which have gone on to grad school. I am also supervising three graduate students (1 PhD and 2 MSc); four if you include the visiting PhD student from Denmark with whom I am writing a paper (Mosgaard et al. in prep). My first MSc student is on pace to graduate in just two years with two papers. Our lab meets twice a month (journal club, project help, practice talks, etc. – or just to socialize)

and one-on-one approximately once a week (depending on the student and deadlines). To foster network-building and exposure to new ideas, I preferentially take on students who are from outside of the lab or department, promote collaboration inside and outside of the university, and encourage graduating lab members to look outside of the lab for future research and employment opportunities.

University Courses Taught

As a Professor

FWCB 5051: Analysis of Populations – co-instructor, 5 hr/week, 40 students (2013) University of Minnesota

ESPM 4096: Experience and Training in a Field Setting – co-instructor, 1 hr/week, 25 students (2013) University of Minnesota

FWCB 5601: Fisheries Population Analysis – instructor, 3 hr/week, 11 students (2011) University of Minnesota

As a Lab Teaching Assistant

BIO 150: Organisms in Their Environment – lab coordinator, 3 hr/week (responsible for 5 instructors, 120 students, 2 administrators, and 2 lab technicians) (2008) University of Toronto

BIO 150: Organisms in Their Environment – lab instructor, one 3-hr lab/week, 25 students (2004-2008) University of Toronto

ENV 234: Environmental Biology – lab instructor, one 2-hr lab/week, 30 students (2004-2007) University of Toronto

BIO 108: Organisms in Their Environment – lab instructor, one 3-hour lab/week, 20 students (2000 and 2003) University of Alberta

ZOO 351: Aquatic Invertebrates of Alberta – lab instructor, one 2-hour lab twice a week, 7 students (2002) University of Alberta

Guest Lectures

"*Reproductive Value vs. Economic Value*" (2012) Environmental and Natural Resource Economics, 3rd year course in Department of Applied Economics, University of Minnesota

"*Fisheries Modeling*" (2012) Economic and Social Aspects of Conservation Biology, graduate course in Conservation Biology, University of Minnesota

"*Fish Ecology and Habitat*" (2012) Introduction to Stream Restoration, graduate course in Civil Engineering, University of Minnesota

"*Fisheries Management*" (2012) Issues in the Environment, 1st year course in the Department of Environmental Sciences, Policy, and Management, University of Minnesota

"*Fisheries Management in Minnesota*" (2012) Nature Management (visiting class of seniors from Nord Trondelag University College, Norway)

Curricular Development

Aquaponics (for 2014) via a competitive, $34,696 college-level grant with three others, University of Minnesota (4th th year course)

Analysis of Populations (2013) via a competitive, $63,000 college-level grant with three others, University of Minnesota (4th year course)

Fisheries Population Analysis (2011), University of Minnesota (4th year course)

Organisms in Their Environment (2009), University of Toronto (as summer lab coordinator) (1st year course)

Teaching Awards

Department of Ecology and Evolutionary Biology Outstanding Teaching Assistant Award, University of Toronto, 2008-2009

BIO150Y Oustanding Teaching Assistant Award, University of Toronto, 2008-2009

Letter of Commendation for Teaching, University of Alberta, 2002-2003

Advising and Mentoring

K. Chezik (2011-present) MSc, UMN

G. Loppnow (2011-present) PhD, UMN

T. Mosgaard (2012) visiting PhD student from the Technical University of Denmark

J. Papenfuss (2012-present) MSc, UMN

M. Burgess (2011-present) PhD committee, UMN

J. Koch (2012-present) MSc committee, UMN

E. Sanft (2012) BSc honours committee, UMN

L. Bauslaugh (2008-2009) BSc independent study, U of T

T. Brendzel (2012) summer lab volunteer (BSc) from Indiana University Bloomington

A. Cho (2004) BSc independent study, U of T

K. Desousa (2008-2009) BSc independent study, U of T

T. Gabriel (2012) BSc independent study, UMN

S. Kerr (2008-2009) BSc independent study, U of T

B. Moe (2012) BSc independent study, UMN

F. Carbini-Araujo (2012-present) research assistant at UMN

Activities in the Community

Guest lecturer on fisheries: Ontario high schools via the Virtual Researcher On Call initiative, 2006-2008 (http://www.vroc.ca/)

Guide and aquatic invertebrate specialist: Activity Science Camp With Hispanic Youth, Toronto, 2007

Guest lecture on aquatic food webs at S. Bruce Smith Junior High School, Edmonton, AB – grades 7 – 9 science, 2002

Guest lecture on aquatic food webs at Georges P. Vanier Elementary Catholic School, Morinville, AB – grade 5 wetlands and ecology unit, 2002

Science Fair Judge at Kirkness Elementary School and the Edmonton Regional Science Fair, Edmonton, AB, 2002

Activities Undertaken to Improve Teaching

The following courses have added greatly to my effectiveness as an instructor. They are divided into courses taken through the University of Alberta's University Teaching Services program (http://www.ualberta.ca/~uts/) and the University of Toronto's Teaching Assistant's Training Programme (http://www.utoronto.ca/tatp/).

University of Alberta (University Teaching Services)

Classroom Dilemmas	09/2000
Effective Laboratory Teaching in the Biological Sciences	09/2000
Leading Discussions	09/2000
Marking Lab Reports for the Biological Sciences	09/2000
Peer-Reviewed Microteaching	09/2000
Successful Lecturing	09/2000
Cheating and Plagiarism	10/2000
Contract-Based Learning	10/2000
Lecturing Creatively	10/2000
Issues and Techniques for Marking	11/2000
Mentor-Reviewed Microteaching I	11/2000
Technology and Inclusivity	11/2000
Writing Creative Learning Objectives	02/2001
Don't be Roadkill on the Evaluation Highway	03/2001
Teacher Autobiography: The Personal is Professional	03/2001
Using Humour in the Classroom	03/2001
Course Design: A constructionist Approach	10/2001
Managing Student Marks with MS Excel	10/2001
PowerPoint for Beginners	03/2002
Mentor-Reviewed Microteaching II	03/2003

University of Toronto (Teaching Assistant's Training Programme)

Criterion-Based Assessment	01/2004
Labs in Sciences	01/2004
Preparing the Teaching Dossier	01/2004
Introduction to WebCT: the Essentials	02/2004
Teaching to Large Classes	02/2004