

Example of Teaching Portfolio

I have achieved Excellence in Teaching through my teaching, mentoring, and educational leadership efforts at UAB, nationally, and internationally. Driven by enthusiasm of enlightening students and my research interests, I have eagerly taught classes in molecular and cellular fundamentals such as cell molecular biology, as well as in areas of my expertise including the molecular and cellular mechanisms that enable vision, G-protein coupled cell signaling, and cellular neurobiology.

At UAB, I have taught these topics to all levels of students in formal classes and in small group sessions. Of note since my promotion to Associate Professor with tenure in 2011 include the following: I served as the Course Director and lecturer of *Ocular Biochemistry* for over 10 years in the School of Optometry until I transitioned to the School of Medicine in 2019. I co-wrote, obtained, and developed a supplement for all the UAB NIGMS training grants on campus. I co-created a class on the *Art of Reproducible Science* for all NIGMS T32 trainees while serving as co-Director and teaching in the course. Additionally, I have been moderating/teaching a section of PCL 2215 *Neuroscience: The "Brain" Module* for second year medical students every year since 2017. I recently took on the role of Course Director for GBS709 *Basic Biological Organization*, the first year Graduate Biomedical Science (GBS) student required cell biology class held in their first semester. As mentioned in my Service Portfolio, I led the Cellular, Molecular, and Developmental Biology (CMDDB) theme in the Graduate Biomedical Sciences for 10 years, starting in the SOO with 4 years as co-Director, and 6 years as Director through my transition to HSOM.

Nationally, I have been an invited lecturer at the University of Houston, where I taught and engaged with biomedical engineering students in BIOE 4311-01 and BIOE 6311-01 on *The Advances in Vision Research* in the Cullen College of Engineering. I am setting up a faculty:faculty mentoring program in the HSOM, and I am currently taking the Entering Mentoring Workshop through the Center for the Improvement of Mentored Experiences in Research group through the University of Wisconsin. Internationally, I was invited to teach a *Xenopus laevis transgenesis lab*, as well as teach *Phototransduction* for several years to a highly competitive international group of students in the course "*Fundamental Issues in Vision Sciences*" at the Marine Biological Laboratories (MBL) at Woods Hole, Massachusetts until the course ended with the University of Chicago's restructuring of the MBL. More recently, I was honored to be an invited international instructor at the enTRAIN (European Network for integrated TRAINing on innovative therapies for vision restoration) in their Vision Summer School in June 2022 held in person in Vanajanlinna, Finland. I am honored to have been one of the only instructors in the Vision Summer School who hails from the United States.

I am very proud and humbled by the student evaluations of my teaching ability, and of the honors bestowed upon me because of my teaching. Comments from students include the following: "Dr. Gross is the best professor I have ever had;" "Dr. Gross was FANTASTIC. She truly had a passion for teaching and her area of study;" "Dr. Gross is my favorite teacher in my entire career, and I do have other degrees!" and "Dr. Gross is a wonderful teacher and really engaged us well... She also definitely cares about our learning as she would re-explain everything that was confusing in different ways so everyone could understand." Indeed, I have been very honored to receive the UAB President's Award for Excellence in Teaching for my work in the classroom, but most touching for me is that I have been honored by the students themselves by being awarded the American Optometric Student Association Teaching Award twice for my "dedication and excellence in Basic and Vision Science Instruction" for the two years of my eligibility.

For undergraduate students in my laboratory, it is my primary responsibility to provide a productive, inclusive laboratory environment and intellectual encouragement that enables their transition to independence. I am honored to have mentored Mr. Seth Hubbard with research in my lab, but also with applications for awards. Through diligence and hard work, Seth was awarded a summer fellowship to work in my lab from the Fight for Sight Foundation in 2021. Additionally, Seth was recently honored as a National Barry Goldwater Scholar; this is an extremely competitive national award that recognizes and supports the development of scientific talent. For graduate students, it is my responsibility to direct all aspects of scientific training, including technical and intellectual development, as well as provide a safe and inclusive environment for all. This is my directive for graduate students within my lab, and for dozens of graduate students that have invited me to serve on their dissertation committees, as well as those in the CMDDB theme that I directed/co-directed for a decade. Toward this end, I earned a Global Awareness Certificate from the UAB Center for Teaching and Learning and have been Safe Zone certified from the UAB Office of Equity, Diversity, and Inclusion. I have recently been honored by the graduate students in my lab who nominated me for the UAB Dean's Award for Excellence in Mentorship, which I was awarded in 2019.

Honors and Awards

UAB

- UAB President's Award for Excellence in Teaching, 2014
- UAB Graduate Dean's Award for Excellence in Mentorship, 2019

National

- American Optometric Student Association Excellence in Basic/ Vision Science Instruction Award, 2015
- American Optometric Student Association Excellence in Basic/ Vision Science Instruction Award, 2018

Intramural Classroom Teaching

- *Course Director*
 - VIS113: Ocular Biochemistry (08/2008 – 12/2019; extensively revamped curriculum)
 - GBSC 733: The Art of Reproducible Science (co-Director, 08/2012 – present; co-developed curriculum)
 - GBS 709: Basic Biological Organization (08/2022 – present)
- *Lecturer*

PCL 2215 Neuroscience: The "Brain" Module (12h), GBS 709: Basic Biological Organization (2h), GBSC 733: The Art of Reproducible Science (4h), CMB5: Cell and Molecular Neuroscience- Gene Therapy in the Eye (1.5h), BME690: Quantitative Physiology- Cell Signaling (2h), NEUR704 (1h), OPVS111: Basic Science and Clinical Optometry- Importance of Enzymes in Vision (2h), IBS703 (2h), NBL712 (1h), DENT/OBHS 131: System 1 Neuroscience- Early Visual Processing (1.5h), PY/NBL355: Introduction to Neurobiology- Sensory Transduction (1h)

Educational Grant Funding

- co-Principal Director, NIH-NIGMS T32GM008111. Title: T32 Predoctoral Training in Cell and Molecular Biology. Annual direct costs \$240,324 (09/01/1984 – 06/30/2022; NCE 06/30/2023).

Mentorship

- Member, Members-in-Training Advisory Committee, ARVO 2022 – present
- Mentor, ARVO Global Mentorship Program 2020 – present
- Mentor, Neuroscience Roadmap Scholars (RMS) Program at UAB, 2016 – present
- Research Mentor, Center for Community OutReach Development (CORD), UAB, 2011 – present
- Research Mentor, Summer Program in Neuroscience (SPIN), UAB, 2021 – present

Mentored Postdoctoral Fellows: 4

Member, Dissertation and Thesis Advisory Committees: 42

Mentored Graduate Students: 15

Mentored Undergraduate Students: 9

Mentored Faculty at UAB: 10

Mentored Faculty outside of UAB: 5

Extramural Teaching Activities

National and International

- *Invited International Instructor*, Marine Biological Laboratories Special Topics Course "Fundamental Issues in Vision Research" transgenesis lab, Woods Hole, MA, 2008 – 2016
- *Invited International Instructor*, Marine Biological Laboratories Special Topics Course "Fundamental Issues in Vision Research" didactic lecture (2h) "Phototransduction", Woods Hole, MA, 2012 – 2016
- *Invited National Instructor*, BIOE 4311-01 & BIOE 6311-01 "Advances in Vision Research", University of Houston, Department of Biomedical Engineering 2h, 2020
- *Invited International Instructor*, enTRAIN (European Network for integrated TRAINing on innovative therapies for vision restoration) Vision Summer School, Vanajanlinna, Finland: "Biochemistry of Vision" 2h, 2022

Boards

- UAB Medical Scientist Training Program Advisory Board, 2018 – 2022