

I. Distinctive Contributions and Achievements

Teaching and Mentoring Excellence

- NSF CAREER Award Recipient (1999-2004)
- Biological Sciences Outstanding Teaching (four) and Advising (two) Awards (2002-2017)
- College of Science Certificate of Teaching Excellence (2004 & 2007)
- Advisor of the Year, Univ. Student Leadership Award, Dept. of Student Activities (2009)
- Virginia Tech Alumni Teaching Award, Member Academy of Teaching Excellence (2009)
- Most Influential Professor, Biological Sciences senior class (2010)
- CIDER Teacher of the Week (2011)
- College of Science Outreach Excellence Award, with others (2013)
- Virginia Tech Academy of Faculty Service (2014)
- College of Science Outstanding Graduate Student Mentoring Award (2017)
- Virginia Tech Scholarship of Teaching and Learning Award (2017)

Contributions to Teaching Mission

- Led efforts to revise undergraduate curriculum for Microbiology (1999-present)
- Co-led efforts to create a new undergraduate degree/major in Microbiology (1st class in 2015, >100 students enrolled/yr); academic advisor for students in program (~30-40 students/yr)
- Developed and taught two new courses, BIOL 4634 & 5634: Microbial Physiology, a model for dual-level courses involving interdisciplinary graduate education
- Developed (with others) and taught new BIOL 2104: Cell and Molecular Biology course
- Incorporated inquiry-based learning into BIOL 2614: General Microbiology Laboratory
- Mentored 47 undergraduates involved in research and 8 serving as teaching assistants
- Major advisor or co-advisor to 13 M.S. & 10 Ph.D. students, and one Postdoctoral Associate; >150 professional presentations and >50 peer-reviewed papers, most with student authors
- Member of 38 Ph.D. and 20 M.S. committees at VT (10 departments in four colleges)
- Engaged in VT diversity programs (e.g. Advance VT, B2B, MAOP and VT-PREP)

Educational Grants and Scholarship of Teaching and Learning (SoTL)

- NSF CAREER Award Recipient (1999-2004), \$500 K for educational and research aims
- CEUT Teaching/Learning Grants for new microbiology laboratory manual, ~\$5K
- Co-authored (11) SoTL posters/talks at national meetings (presented nine) in past five years
- Co-presenter of three American Society for Microbiology (ASM) teaching workshops
- Corresponding (2 articles) or co-author (3 articles) of peer-reviewed educational publications
- Co-author of one published laboratory activity and a course laboratory manual
- Under contract to write a Microbial Physiology textbook for ASM Press (2015-2020)

Teaching Service and Outreach

- Advisor or co-advisor to Microbiology Club of Virginia Tech (2003-present); actively engaged in community educational outreach
- Chair or co-chair Gilbert Linkous Elementary School Science Fair (2008-present)
- Chair ASM Task Force; example learning outcomes for curriculum guidelines (2013-2014)
- Member ASM Task Force to develop national Microbiology Concept Inventory (2014-2017)
- ASM Microbe (national meeting) program committee, Profession of Microbiology (includes education) subcommittee (2016-2019)

Distinctive Contributions and Achievements

I. Classroom Excellence over 22 Years

- Alumni Teaching Award and induction into the Academy of Teaching Excellence (2012)
- Certificates of Teaching Excellence (2009 and 2003)
- Panhellenic Council of Virginia Tech's Teaching Excellence Award (2003)
- American Council on the Teaching of Foreign Languages Oral Proficiency Training
- Taught 18 different courses
- SPOT overall rating of 5.76 on the 6-point scale and 3.8 on the 4-point scale

II. Undergraduate Curriculum Innovation

- Created first online course for the department (SPAN/HUM 2744)
- Created 4 new, interdisciplinary SPAN 34XX culture/history/literature courses
- Re-designed the curriculum for the 2 Advanced Grammar courses (SPAN 3105-3106)
- Created new content with diversity focus for 6 SPAN 4XXX Special Topics seminars
- Revised and shepherded through governance 5 undergraduate courses for Pathways
- Revised curriculum for VT in Spain (2014-16) for more rigor, diversity, interdisciplinarity

III. Graduate Curriculum Innovation

- Co-created the new Hispanic Studies M.A., which began in 2008-9
- Created and taught 6 graduate classes for the Hispanic Studies M.A., Area Studies M.A., and M.Ed. (taught as 4XXX for graduate credit before Spring 2010)
- Revised and shepherded through governance 3 graduate SPAN courses
- Chaired and/or served on 15 Master's Committees (our department does not have a PhD)

IV. Leadership in Teaching through Service, Outreach, Mentoring

- Spanish Advisor to ~100 majors and minors per year (1999 - present)
- Director of Graduate Studies, Department of MCLL (2020 - present)
- Director of VT in Spain study abroad (2013-16)
- Director of the Intensive Second Language Institute at Virginia Tech (2010-14), an outreach program of Spanish immersion for high school teachers and graduate students
- Director of the Spanish Program (2007-2011; 2012-13); Assoc. Director (2011-12)
- Shaped the direction of teaching in the department by serving as Chair of 17 Spanish search committees; Member of 3 additional Spanish search committees; Chair of a Japanese search committee; and Member of the Personnel Committee while hiring 10 faculty in 7 other languages; I mentor the faculty following hire
- ATE Exec. Committee (2012-14); Vice Chair (2013-14; resigned due to family tragedy)
- Alumni Teaching Award Selection Committee (2012-14)
- Chair and/or member of MCLL Teaching Awards Committee (2016-19)
- Speaker on faculty teaching and mentoring in venues across the university (2005-present)

V. Leadership in Teaching through Research

- International conference paper on the pedagogy of teaching disability studies in literature (University of Valencia, Spain, July 2019)
- Scholarly publication of 2 books and 14 articles on texts and theoretical issues taught

Distinctive Contributions and Achievements

Honors and Awards Recognizing Excellence in Teaching and Learning

- 2006—National Science Foundation CAREER Award. The educational component of this award improved the curriculum in Hispanic-Serving Institutions.
- 2007—Cottrell Scholar Award from the Research Corporation for Science Advancement. The educational component brought computational chemistry to the undergraduate curriculum of primarily undergraduate institutions serving underrepresented minorities. 11 awardees in 2007 from all Assistant Professors in all Chemistry and Physics departments across the US.
- 2011, 2016, 2018—Virginia Tech Favorite Faculty Award.
- 2015—Jimmy W. Viers Teaching Award. Presented to a faculty member in recognition of outstanding teaching within the Department of Chemistry.
- 2014, 2015, 2016, 2019. Exemplary Department Award. Contributed to the nomination.

Pedagogical and Curricular Innovations to the Undergraduate Teaching Mission

- 2015. Wrote the textbook: "[Physical Chemistry for the Life Sciences](#)" for students in CHEM 4615 and 4616. 613 pages. There is a 222-page companion [solution manual](#) to the 224 problems. The book is free and aims to reduce underprivileged student debt. The book is used by other faculty when I am not the instructor of record in those courses.
- 2016. Created the College of Science "Undergraduate Research Mixer" targeting the participation of underrepresented undergraduate students in research. The mixer is now semiannual.
- 2018-2019—Developed a program to engage freshman students in CHEM 1055 and CHEM 1056 in undergraduate research from their first week in college.
- 2020. Wrote the textbook: "[Chemical Thermodynamics](#)" for students in CHEM 3615. 385 pages. A 235-page [solution manual](#) to the 184 problems accompanies the book. The book is free and also aims to reduce underprivileged student debt and improve engagement.

Excellence in the Classroom

- Lifetime average SPOT score of 5.73 in CHEM 1056, including a section with a 6.00 score (Department Average in the same years: 4.93)
- Lifetime average SPOT score of 5.61 in freshmen General Chemistry for majors, (Department Average in the same years: 4.91)
- Average SPOT score of 5.58 in all undergraduate courses since Fall 2016. (4.89 Dept. average)
- Received 20 unsolicited notes from students in 2020 highlighting the success of the online transition of my instruction.

Teaching Outreach

- 2007—Worked to improve the undergraduate curriculum of Texas A&M University, Kingsville, a Hispanic-serving Institution, by training their faculty on-site to incorporate computational-chemistry exercises in their laboratory courses.
- 2014-2021—I have maintained an educational youtube channel. ~500 chemistry videos at all levels, viewed 700,000+ times from 100+ different countries.
- Advised faculty in other departments about creation and management of educational videos.
- 2019. Taught the Virginia Tech Lifelong Learning Institute course: "Feasting on Plants"

Grants

- 2019—Undergraduate Research Faculty Grants. Chemistry Department winning idea creator PUREMOLS, Portal for Undergraduate Research Experiences in the Molecular Sciences