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EDUCATION

- B.S. (Physics), Rose-Hulman Institute of Technology (Terre Haute, IN), May 1993
- Ph.D. (Biophysics), The Ohio State University (Columbus, OH), December 1999
Doctoral research in computational biology and photosynthesis; dissertation entitled "Brownian dynamics study of the interaction between cytochrome *f* and mobile electron transfer proteins"; advised by Dr. Elizabeth L. Gross
- Postdoctoral Fellow, University of Alabama-Birmingham 1999-2000
in the laboratory of Stephen Harvey (now Professor Emeritus at Georgia Institute of Technology)

FACULTY EMPLOYMENT

- *Assistant Professor of Physics, Middle Georgia College (Cochran, GA) 2000-2003*

Teaching of general education science courses, freshman level courses in chemistry, and freshman/ sophomore level courses in physics (courses including both traditional college students and students in the Georgia Academy of Mathematics, Engineering and Sciences – GAMES).

- *Assistant Professor of Physics and Chemistry, Shorter College (Rome, GA) 2003-2009*
- *Associate Professor of Physics and Chemistry, Shorter University* 2009-2011*

Teaching of freshman/sophomore level courses in physics (and upperclassman courses in physical chemistry through 2010) and online courses in general science; additional teaching responsibilities as needed to fill holes in course coverage; undergraduate research and independent study mentoring; various faculty mentoring responsibilities.

*Name change to Shorter University on June 1, 2010

- *Assoc. Professor of Chemistry and Physics, Virginia Intermont College (Bristol, VA) 2011-2014*

Sole faculty in charge of teaching of service courses in general chemistry, organic chemistry and physics in support of biology and physical education/pre-physical therapy majors; maintenance and inventory of all stock and equipment relevant to teaching of chemistry and physics laboratories; member of Honors Council and additional teaching in service to the Honors Program (2012-2014); chair of Honors Council (2013-2014).

- *Instructor of Physics, Tennessee Technological University (Cookeville, TN) 2014-2016*

Algebra-based physics teaching specialist; duties associated with algebra-based physics lectures – including instruction in Tennessee Tech's novel Learning Environment for Algebra-Based Physics (LEAP) curriculum – and algebra- and calculus-based introductory physics labs.

CURRENT FACULTY EMPLOYMENT

- *Associate Professor of Natural Sciences, Tusculum University (Greeneville, TN) since 2016**

Diverse responsibilities over teaching and curriculum in major discipline courses in chemistry (general chemistry, biochemistry, physical chemistry), service courses (general physics), and general education courses (general biology, physical science); further teaching responsibilities as dictated by institutional needs.

*Name change from Tusculum College to Tusculum University on July 1, 2018

ADJUNCT EMPLOYMENT

- *Adjunct Instructor in Chemistry, Virginia Highlands Community College (Abingdon, VA), June 2013.* (Teaching a single month-long lecture/lab in general chemistry)

For all scholarship, links are provided when they are available, even if the actual work is paywalled.

REFEREED PUBLICATIONS

- D.C. Pearson Jr., E.L. Gross, and E.S. David. 1996. [The electrostatic properties of cytochrome *f*: implications for docking with plastocyanin](#). *Biophysical Journal* 71:64-76.
- D.C. Pearson Jr. and E.L. Gross. 1998. [Brownian dynamics study of the interaction between plastocyanin and cytochrome *f*](#). *Biophysical Journal* 75:2698-2711.
- E.L. Gross and D.C. Pearson Jr. 2003. [Brownian dynamics simulations of the interaction of *Chlamydomonas* cytochrome *f* with plastocyanin and cytochrome *c6*](#). *Biophysical Journal* 85:2043-2059.
- L. Gogia and D.C. Pearson Jr. 2018. [A connected learning approach to general STEM education: design and reality](#). In C. Sorensen-Unruh and T. Gupta (eds.), *Communicating Chemistry through Social Media*. Washington, DC: ACS Books.

OPEN PUBLICATIONS

- ["Just Listen: Empathy and Science Pedagogy."](#) In *The Open Faculty Patchbook*. 2017: Fleming College Learning Design and Support Team, Peterborough, ON, CA.

PROFESSIONAL PRESENTATIONS

- "Using common learning management systems for online homework design in mathematics and physical sciences." October 26, 2013; Appalachian College Association Summit XVI, Knoxville, TN
- "Open educational practices and course redesign in the sciences." September 29, 2017; Appalachian College Association Summit XX, Kingsport, TN

PROFESSIONAL PRESENTATIONS (cont'd)

- With Keegan Long-Wheeler: "[Online Lab Science: Curriculum and Open Conversation](#)." April 19, 2018; Online Learning Consortium Innovate 2018, Nashville, TN
- "[Open online laboratory science](#)." May 22, 2018: Transforming Teaching and Technology at St. Norbert College, De Pere, WI
- "Open online laboratory science: Designing online science teaching for openness, exploration and permanence." September 28, 2018: Appalachian College Association Summit XXI, Kingsport, TN
- "Designing physical science instruction online for openness, permanence and exploration." October 1, 2018: Open Education Southern Symposium, Fayetteville, AR

TEACHING EXPERIENCE

- *Interdisciplinary Science sequence* (SCIN 1105/1106 at Middle Georgia College)
- *Survey of Natural Science* (NAS 1510 at Shorter, taught online, solely responsible for curriculum development and addition to catalog)
- *Physical Science one-semester survey* (NSCI 105/105L at Tusculum, responsible for development of online offering, launched Spring 2018)
- *Physical Science sequence* (PHYS 1011/1012 at Middle Georgia College)

- *Survey of Chemistry sequence* (CHEM 1151/1152 at Middle Georgia College)
- *General Chemistry I* (CHEM 1211 at Middle Georgia College; CHEM 101 at Virginia Intermont, CHM 111 at Virginia Highlands, CHEM 101/101L at Tusculum)
- *General Chemistry II* (CHEM 1212 at Middle Georgia College, CHEM 102 at Virginia Intermont, CHEM 102/102L at Tusculum)
- *Environmental Chemistry* (CHEM 211 at Virginia Intermont)
- *Organic Chemistry sequence* (CHEM 311/312 at Virginia Intermont; CHEM 203/203L/204/204L at Tusculum)
- *Physical Chemistry I* (CHE 4010 at Shorter; CHEM 411 at Tusculum)
- *Physical Chemistry II* (CHE 4020 at Shorter; CHEM 412 at Tusculum)
- *Physical Chemistry Laboratory* (CHEM 411L at Tusculum)
- *Biochemistry, senior-level non-laboratory sequence* (CHE 4110/4120 at Shorter)

- *General Biology I* (BIO 1010 at Shorter, BIOL 110/110L at Tusculum)
- *Cellular and Molecular Biology* (BIOL 315/315L at Tusculum)
- *Biochemistry, one-semester survey* (BIOL 321/321L or CHEM 301/301L at Tusculum, taught 2016-2017 with lab and currently without)

- *Astronomy* (now PHY 1500, previously as Special Topics in Physics; PHY 1990 at Shorter; taught online, solely responsible for curriculum development and addition to catalog)
- *General/Algebra-Based Physics sequence* (PHYS 1111/1112 at Middle Georgia College; PHY 1030/1040 at Shorter; PHYS 201/202 at Virginia Intermont; PHYS 2010/2020 at Tennessee Tech)
- *Calculus-Based Physics sequence* (PHYS 2211/2212 at Middle Georgia College; PHYS 2111/2121 (lab only) at Tennessee Tech)
- *Modern Physics* (2 credit hours, no lab, for secondary education; PHY 2100 at Shorter)

COLLEGE AND ACADEMIC SERVICE

at Tusculum University

- Pioneer Launch project coordinator (August 2019)
- Instruction of 1-credit hour service courses (Tusculum Experience – OREN 105 in Fall 2017, Honors Seminar – HUM 240 in Fall 2018)
- Admissions and Standards Committee (from August 2017; appointed representative of A&S to College of Health Sciences from February 2019)
- Online Learning Task Force (from January 2019)

for Virtually Connecting (as Tusculum faculty)

- Onsite support for livestreamed conference conversations at the Open Education Conference (Richmond, VA) in November 2016 and at Innovate OSU (Columbus, OH) in April 2017
- Social media support for livestreamed conference conversations consistently in 2017, inconsistently since (see bio at virtuallyconnecting.org/short-buddy-list/)

at Virginia Intermont College

- Long-Range Planning Committee (2012-2014)
- Honors Council – one of a group of four governing faculty for the Virginia Intermont Honors Program, specific role in academic policies and advising (2012-2014; chair from Fall 2013)
- Faculty search committee for mathematics (Summer 2012)
- Student Activities Director search committee (Summer 2013)
- Assistant to provost for transfer and teach-out support (Spring 2014)

for the Appalachian College Association (as Virginia Intermont faculty)

- Nominated as instructional faculty, ACA Teaching and Learning Institute (2014; unable to fulfill owing to deteriorating institutional status)
- Chair/Summit organizer, Science Group of the ACA (2013; co-chair, 2012)

for OpenStax/Connexions (as Virginia Intermont faculty)

- Expert reviewer, OpenStax College Physics OER textbook (released 2012)

at Shorter University (selected)

- Pre-pharmacy advisor (2006-2011)
- Teaching/Learning Technology Roundtable; periodic faculty trainer for Moodle (2009-2011)
- Educational Policy Committee (2010-2011)
- Evaluations Committee (2004-2007; chair 2005-2007)
- Professional Development and Evaluations Committee (2007-2008)
- Liberal Arts Council (2008-2009)
- Freshman advisor (2004-2006; additional freshman advising support as required)
- Beta-testing for Moodle LMS adoption (Summer/Fall 2007)
- Organizer of a workshop for seniors preparing to present their capstone/senior seminar presentations (2005-2007, 2009-2010)

at Middle Georgia College (selected)

- Faculty search committees for computer science and chemistry positions (2002)
- Pre-medicine advisor (2001-2003)
- Curriculum committee (2000-2001, 2002-2003)

COMMUNITY INVOLVEMENT

- Involvement within the greater scholastic bowl/quiz bowl community at local, regional/state and national levels
 - Staffer for National Academic Quiz Tournaments (NAQT) High School National Championships, consistently since 2015 (most recently in Atlanta, May 2019)
 - Staffer for Partnership for Academic Competition Excellence (PACE) National Scholastic Championship (most recently in Reston, VA, June 2019)
 - Staffer, IQBT National All-Star Academic Tournament, inconsistently (served as general reading staff at University of Kentucky in June 2019, served as statistics coordinator (and Tennessee representative) at the Ohio State University in June 2015)
 - Staffer for NAQT Middle School National Championship (Dallas, TX), since 2017 (most recently in Chicago, May 2018)
 - Member, PACE, August 2018-July 2019 (elected Vice President of Outreach in August 2018 but did not serve)
 - Staffer, Tennessee Science Bowl (in affiliation with ORAU/ORISE), consistently since February 2016 (most recently in February 2019, Pellissippi State/Friendsville, TN)
 - Tournament director and editor-in-chief, Tusculum High School Science Singles individual quiz championship (planned, January 2020)
 - Consistent engagement with faculty advisors for scholastic bowl throughout Region 2D (formerly Region 2A-West or Region 1D) of the Virginia High School League since Fall 2011; statistics coordinator for 2018/2019 Mountain 7 District/Southwest District/Region 2D seasons
 - Selected as quizmaster for Virginia High School League (VHSL) State Championship, February 2014 (one of twelve selected across the state of Virginia)
 - Science instructor and staff for ACE Quizbowl Camps, July 2013 (compensated)
 - Faculty host for VHSL Clinch Mountain District Tournament at Virginia Intermont College, January 2013
 - Faculty host for elementary and middle-school quiz bowl for Floyd County Schools at Shorter College, 2004-2011
 - Regional coordinator for Professional Association of Georgia Educators (PAGE) Academic Bowl Region 1 middle school tournament, 2009-2011; member of PAGE Academic Bowl advisory board, 2010-2011
 - Tournament director for Shorter College High School Invitational, 2007-2009
 - Tournament director for Southeast Regional site of ACF Fall (collegiate) at Shorter College, November 2007
- Chancel Choir member (bass), Asbury United Methodist Church, Greeneville, TN (from January 2017)
- Worship production, Refuge Church, Cookeville, TN (October 2014 – May 2016)
- Other worship/church leadership responsibilities consistently throughout adult life
- Homeschool science teaching support on multiple levels (from free one-time tutoring to teaching full high school-equivalent chemistry course during 2005/2006, 2007/2008, and 2009/2010 in Rome, GA; during 2012/2013 in Bristol, VA)

- Youth Capture the Colorful Cosmos astrophotography outreach program in cooperation with the Harvard-Smithsonian Center for Astrophysics, the Birthplace of Country Music, Virginia Middle School (Bristol, VA) and Vance Middle School (Bristol, TN), 2012/2013
- Rome City Schools Young Scholars' Program for science enrichment; Shorter College faculty host, June 2006, June 2007, June 2008