Curriculum Vitae

Ruth E. (Mumaugh) Nalliah, Ph.D.
Department of Chemistry
Huntington University

Professor of Chemistry, Huntington University (2008 - present)
Chair of the Department of Chemistry (2012 – present)
Chair of the Division of Natural and Mathematical Sciences (Fall 2006 – Spring 2013)
Associate Professor of Chemistry, Huntington University (2002 - 2008)
Assistant Professor of Chemistry, Huntington College (1995 - 2002)

I. Educational Background

A. Ph.D. in Chemistry, The University of Toledo (August 1995). Emphasis in physical chemistry. GPA 3.879/4.00.
B. B.A. in Chemistry, Bluffton College (May 1989). Teaching certification in high school chemistry, physics, mathematics. GPA 3.88/4.00.
C. Undergraduate Research Assistant, The Ohio State University (June-August 1988). Theoretical physical chemistry with FORTRAN programming.

II. Teaching Activities

A. Experience
1. Assistant/Associate/Full Professor of Chemistry, Huntington University (1995-present). Courses taught:
CH111/L Chemistry in Contemporary Society
CH161/L Principles of Chemistry I
CH162/L Principles of Chemistry II
CH 233 Team taught Integrative Chemistry III
CH 331/L Quantitative Analysis
CH 333/L Instrumental Analysis
CH 361/L and 371/L Physical Chemistry I and II
CH 396 Practicum in NMR Instrumentation
CH 441 Advanced Inorganic Chemistry
CH 445 Advanced Laboratory Analysis
CH 451 Senior Seminar in Chemistry
CH 490 Independent Study
CAP475 Capstone Seminar (Liberal Arts)
Freshman Orientation Groups
Liberal Arts Capstone
January Term Electives

2. Teaching Assistant, The University of Toledo (1989-1995). Teaching assistant for Physical Chemistry Laboratory; Chemical Kinetics; Chemistry for nonmajors; Chemistry for Life Sciences Laboratory.

3. Student teaching, Elida High School (September-November 1988). Classes taught included Chemistry and Physics.

B. Pre-medical advising
   1. Co-advisor for the Pre-Health-Professions Organization at Huntington University, 2011 – present. Assist students with organization startup, organizational structure, and event coordination.
   2. Attended the Premedical Advisors' Conference at the Indiana University School of Medicine most alternating years since Fall 2000.

III. Scholarship

A. Publications at Huntington University
   1. Ruth E. Nalliah, "Oxone/Fe^{2+} Degradation of Food Dyes: Demonstration of Catalyst-Like Behavior and Kinetic Separation of Color" *Journal of Chemical Education* **2015**, *92*, 1681-1683. Photography from this article appeared on the journal cover.
   2. R E Nalliah. "Petroleum Ether." *Encyclopedia of Toxicology*, 3rd Edition. Ed. Philip Wexler. Vol. 3. New York: Academic Press, **2014**. Print. This article was a result of a collaboration with the Manchester University College of Pharmacy.
   3. Daniel King, Jorge Fernandez, and Ruth Nalliah, "Writing Instrument Profiles for Mastery of Instrumental Analysis" *Journal of Chemical Education* **2012**, *89*, 728-731. This publication was a collaborative work with my former student Dr. Dan King of Taylor University on a teaching technique which he experienced in my Instrumental Analysis class as a student and implemented at his own institution.
   4. Ruth E. Nalliah, Jordan S. Phillips, Abby J. Gaier, Kristen E. Gochenaur and David R. Bell, "Experimental *in vitro* arterial reactivity and tissue culture solutions alter the time dependent stability of anthocyanins from elderberry, chokeberry, and bilberry extracts" *International Journal of Food Sciences and Nutrition* **2009**, *60 (S1)*, 209-219. The work was completed with HU undergraduates in collaboration with the Indiana University School of Medicine, Ft. Wayne, and was funded by the Huntington University Hammel Research Endowment as well as several external grants.
   5. J. Wesley Akers, Anna P. Gensic, and Ruth E. Nalliah, "Solvent Effects on the Electronic Transition Energies of Porphyrins in Binary Solvent Mixtures" *Proceedings of the Indiana Academy of Science* **2001**, *110*, 28-34. The work was completed with Huntington College undergraduates and funded by the Huntington College Ferne and Audry Hammel Research Fund.

B. Publications prior to Huntington University
   1. Larsen, R.W.; Findsen, E.W.; Nalliah, R.E., "Ligand Photolysis and Recombination of Fe(II) Protoporphyrin IX Complexes in Dimethylsulphoxide" *Inorg. Chim. Acta* **1995**, *101*, 102. Publication of doctoral dissertation research investigating heme photodissociation timescales through laser Raman spectroscopy.
   2. Nalliah, R.E.; Findsen, E.W.; "Photodissociation of $(DMSO)_2Fe(II)PPIX$ to Form a Transient Five-Coordinate Complex As Studied Using Transient Resonance Raman Spectroscopy" *J. Raman Spectrosc.* **1993**, *24*, 867. Publication of doctoral dissertation research investigating heme ligand photodissociation using laser Raman spectroscopy.
   3. Singer, Sherwin J.; Mumaugh, Ruth. "Monte Carlo Study of Fluid-Plastic Crystal Coexistence in Hard Dumbbells" *J. Chem. Phys.* **1990**, *93*, 1278. Publication of undergraduate research on computational chemistry techniques.

C. Institutional recognition (public talks, nominations)
1. Selected for Honors Program Lecture in 2018: "A Case for Sustainability: What You Don't Know About Your Drinking Water." Feb. 5, 2018.
2. Selected for Honors Program Lecture in 2015. Title of lecture: "Women, Society, and the Church: When God Was a Woman, and Other Stories." Oct. 26, 2015.
3. Selected for the annual Forester Lecture in 2008. Title of lecture: "From Monsters to Tree Trunks: Exploring Relationships between Faith and Science," April 29, 2008.
4. In top five nominees for Huntington College Professor of the Year, Spring 2005.

D. External recognition
1. Invited reviewer for the *Journal of Chemical Education*, *Proceedings of the Indiana Academy of Science*, *Chemical Engineering Journal*, and Oxford University Press (2015-present)
2. Photography for chemical demonstration article featured on the cover of the *Journal of Chemical Education* (2015, Volume 92, Number 10)
3. 2005 Chemist of the Year Award, Northeastern Indiana American Chemical Society

E. Research conference presentations and posters from Huntington University
1. "Research in General Chemistry Laboratories: Pharmaceutical and Dye Degradation Using an Oxy-Catalyst" by Ruth E. Nalliah, Indiana Academy of Science Annual Meeting, Indianapolis, Indiana, March 24, 2018.
2. "Comparison of the Effectiveness of Hydrogen Peroxide and Sodium Percarbonate in the Catalyzed Degradation of Dyes and Pharmaceuticals" by Ruth E. Nalliah, Audrey R. Ackley, Nicholas R. Beery, and Lukas J. Kaylor, Indiana Academy of Science Annual Meeting, Indianapolis, Indiana, March 25, 2017.
3. "A research project for freshman chemistry lab: Degradation of pharmaceutical pollutants" by Ruth E. Nalliah, Indiana Academy of Science Annual Meeting, Indianapolis, Indiana, March 26, 2016.
4. "Arterial tissue culture medium accelerates anthocyanin degradation and polymeric formation in extracts from chokeberry, bilberry and elderberry" by R.E. Nalliah, Scott J. Cressman, Andrew J. Schwartz, Haley Moon, David R. Bell (Ron Prior, USDA, Little Rock, AK, sponsor) Experimental Biology 2010 National Meeting, Anaheim, CA, April 2010.
5. "Experimental *in vitro* Arterial Reactivity and Tissue Culture Solutions alter the Time Dependent Stability of Anthocyanins from Chokeberry, Bilberry and Elderberry" by Ruth Nalliah, Jordan Phillips, Abby Gaier, Francis Jones, Kristen Gochenaur, and David Bell (Ron Prior, USDA, Little Rock, AK, sponsor), Experimental Biology 2008 National Meeting, San Diego, CA, April 2008.
6. "Investigation of the Stabilities of Anthocyanins in Physiological Salt Solutions Using UV-Visible Spectroscopy, Part 2" (authors Abby J. Gaier, Jordan S. Phillips and Ruth E. Nalliah) presented by undergraduate student Abby Gaier at the Indiana Academy of Science Fall Meeting at Saint Mary-of-the-Woods College, Terre Haute, Indiana, October 2005.
7. "Investigation of the Stabilities of Anthocyanins in Solutions Using UV-Visible and NMR Spectroscopy" (authors Jordan S. Phillips, Ruth E. Nalliah, David R. Bell) presented by Ruth Nalliah at the Fall Meeting of the Indiana Academy of Science at Anderson University, October 2003.
8. "Solvent Effects on the Electronic Transition Energies of Porphyrins in Binary Solvent Mixtures" (authors Anna P. Gensic, J. Wesley Akers, Ruth E. Nalliah) presented by Ruth Nalliah at the Indiana Academy of Science Annual Meeting, Indiana University East, Fall 2000.

9. "Solvent Effects on the UV-Visible Absorption Spectra of Porphyrins in Binary Solvent Mixtures" (authors Anna P. Gensic, J. Wesley Akers, Ruth E. Nalliah) presented by undergraduate student Anna Gensic at the American Chemical Society First Annual Indiana Local ACS Poster Session, University of Indianapolis, Fall 2000.
10. "Solvent Effects on the Absorption Spectra of Porphyrins in Binary Solvent Mixtures" (authors J. Wesley Akers, Ruth E. Nalliah) presented by undergraduate student Wes Akers at the Twelfth Annual Undergraduate Research Conference at Butler University, Spring 2000.

F. External grant proposals funded while at Huntington University:
1. Was invited to submit a grant proposal to fund student summer research projects involving the analysis of pigments in berry extracts to aid in the determination of their cardiovascular effects, Fall 2004. Resulted in Drs. Beth Burch (biology) and Ruth Nalliah (chemistry) receiving $4200 and $4300, respectively, from a Lutheran Foundation grant from the Indiana University School of Medicine, Ft. Wayne.
2. Wrote and received an Indiana Academy of Science grant of $2650 for an undergraduate student research stipend for the continuation of a collaborative research project with Dr. David Bell of the Indiana University School of Medicine, Ft. Wayne, Fall 2003.
3. Wrote and received a Pittsburgh Conference Memorial National College Grant for $7000 toward the purchase of a gas chromatograph for laboratory teaching in the Department (2001).

G. Internal grant proposals funded at Huntington University:
1. "Engaging Students in Research Early and Often: Exploring Pharmaceutical Degradation with a Catalyst from Canada," Emeriti Fellows Research and Artistic Creation Fund, laboratory supplies, Summer 2017.
2. "Research in Freshman Chemistry Lab: Pharmaceutical Degradation Testing by UV-Visible Spectroscopy," Emeriti Fellows Research and Artistic Creation Fund, laboratory supplies, Summer 2015.
3. "Part 1: Stability of Anthocyanins in Tissue Culture Solutions and Part 2: Investigation of Solvent Effects on Quantum Dots," Ferne and Audry Hammel Research Fund, faculty / student stipends and supplies, Summer 2009.
4. "Investigation of the Stabilities of Anthocyanins in Biological Assay Solutions," Ferne and Audry Hammel Research Fund, partial faculty stipend, Summer 2005.
5. "Investigation of the Stabilities of Anthocyanins in Solutions Using UV-Visible and NMR Spectroscopy," Ferne and Audry Hammel Research Fund, faculty / student stipends and supplies, Summer 2003.
6. "Solvent Effects on the Electronic Transition Energies of Porphyrins in Binary Solvent Mixtures," Ferne and Audry Hammel Research Fund, faculty / student stipends and supplies, Summer 2000.
7. "Solvent Effects on the Electronic Transition Energies of Porphyrins in Binary Solvent Mixtures," Ferne and Audry Hammel Research Fund, faculty / student stipends and supplies, Summer 1999.

H. Professional organizations and offices held
   1. American Chemical Society Northeast Indiana Section, Chair, 2018-present; Exams Coordinator, 2014 – 2016; National Councilor 2013 – 2015; Webmaster 2002 – 2012; Alternate Councilor 2009-2011; Chair 2002 – 2005; Chair-Elect, 2001
   2. Alpha Chi National College Honor Society, Region V President, 2018-19; Region V Vice-President, 2017-18.
   3. Council on Undergraduate Research, Member from 2003 - 2012
   4. Midwest Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC), Member since 1995
   5. Association of Managers in Magnetic Resonance Laboratories, Member since 2003
   6. National Association of Advisors for the Health Professions, Member 2010 - 2012
   7. Indiana Academy of Science, Member 2000-2005, 2012-present; Chemistry Section Chair, 2001

IV. Institutional Service

A. Chair of the Division of Natural and Mathematical Sciences, Fall 2006 – Spring 2013; Interim Chair Fall 2004 and Fall 2014
   1. Established an endowed lecture series in the natural and mathematical sciences
   2. Established a student award in mathematics and computer science
   3. Established guidelines for the Ferne and Audry Hammel Research Endowment
   4. Worked with the Nursing Department through program startup, initial curriculum development, and accreditation processes
   5. Arranged external laboratory safety consultant visits; coordinated Division efforts for a successful EPA Peer Audit in Fall 2009
   6. Worked with Admissions in coordinating two Math/Science/Nursing Visit Days per year and establishing guidelines for competitive entrance scholarships in the sciences

B. Campus committees and offices (representative)
   1. Faculty Sponsor, Alpha Chi National College Honor Society (2015 - present)
   2. Committee of Faculty Representatives (2016 – present)
   3. Assistant Faculty Sponsor, Alpha Chi National College Honor Society (2008 – 2014)
   4. Academic Concerns Committee (2006 - 2013)
   5. University Leadership Team (2011 - 2013)
   6. Academic Dean Search Committee (2013, 2003)
   7. Core Curriculum Committee (formerly Core Review Task Force) (2000 – 2008)
   8. Assistant Faculty Marshal (2004 – 2008)
   9. Diversity Task Force (2005–2006)
   10. Organized and chaired a Laboratory Safety Committee within the Science Division (Spring 2001 - 2003)
   11. Council for Planning and Assessment (2003)

C. Academic and professional leadership training (representative)
   1. Independent Colleges of Indiana workshop, "Environmental Compliance Peer Audit Training," June 4-6, 2008 at Taylor University. Audited two local institutions for EPA compliance and gave ongoing assistance in preparing HU science faculty for an institutional peer audit in Fall 2009.
   2. Council on Undergraduate Research Institute, "Beginning a Research Program in the Natural Sciences at a Predominantly Undergraduate Institution" November 21-23, 2008 at Calvin College.

3. Council of Independent Colleges' Annual Department/Division Chair Workshop, "Essential Tools for Leading the Academic Department," St. Paul, MN June 5-7, 2007.
4. American Chemical Society Local Section Leadership Conference (a training conference for chairing the Northeast Indiana Section), Boston, April 26-28, 2002.

D. Educational outreach
1. Hosted the NE Indiana American Chemical Society Scholarship Exam and National Chemistry Olympiad Exam on the Huntington University campus, 2014 – 2016
2. Collaborated with Huntington North High School to offer a concurrent credit chemistry course, 2014 - present
3. Distributed awards for Huntington University at the Northeast Indiana Regional Science and Engineering Fair Awards Ceremony recorded for public television, IPFW, March 2007 – 2013, 2016
4. Performed annual chemistry demonstration shows for elementary school classes, 2002 – present