

Gretchen E. Potts, Ph.D.

UTC Chemistry and Physics
615 McCallie Avenue, #2252
Chattanooga, TN 37403

Phone: 423-425-5296
Email: Gretchen-Potts@utc.edu
<http://www.utc.edu/Gretchen-Potts>

Education

University of Florida, Gainesville, FL 2000
Ph.D. in Analytical Chemistry

Miami University, Oxford, OH 1996
BS Chemistry, Minor in Mathematics

Academic Appointments

2015-present UC Foundation Professor of Chemistry, UTC
2008-2015 UC Foundation Associate Professor of Chemistry, UTC
2002-2008 Assistant Professor of Chemistry, UTC
2000-2002 Visiting Professor of Chemistry, College of Charleston
1996-1998 Teaching Assistant, University of Florida

Administrative Appointments

2019-present Co-Director, School of Professional Studies, UTC
2013-present Director, Integrated Studies, UTC
2012-2013 Program Coordinator, Integrated Studies, UTC

Teaching, Research Mentorship, and Outreach

A variety of pedagogical approaches are implemented in the classroom, including traditional lecture, flipped learning, discussion groups, clicker response, and self-reflection. STEM students benefit from classroom experiences that are diverse and require critical thinking. Scientific literature helps to expand beyond the textbook. Real-world applications influence laboratory experiences to support application of theory. Advising is also central to helping guide students on their trajectory through college and beyond. Symposia and workshops are instrumental in refining practice as well as sharing practice. Research mentorship facilitates learning outside the classroom. Volunteer outreach through teaching improves K-12 outcomes and supports recruitment.

Courses Taught (a: face-to-face, b: online)

General Chemistry Lecture ^a & Lab ^a	Chemical Literature ^a
Honors General Chemistry Lab ^a	Chemistry Seminar ^a
First Year Experience for Majors ^{a, b}	Departmental Thesis ^a
Quantitative Analysis Lecture ^{a, b} & Lab ^a	Departmental Research ^a
Methods of Environmental Analysis Lecture ^a & Lab ^a	Individual Studies ^a
Instrumental Analysis Lecture ^a & Lab ^a	Science of Sustainability ^b
Integrated Studies Senior Portfolio ^b	Integrated Studies Internship ^b

Symposiums and Workshops as a(n) Leader, Moderator, or Organizer

2020-present	STEM Pedagogy Active Learning Three Workshop Series, Organizer
2018-2020	Science and Math Conversations, UTC STEM Pedagogy Discussion, Leader
July 2020	Virtual Labs Discussion sponsored by ACS Committee on Professional Training, Moderator
March 2020	Moving Labs Online: The Final Frontier Webinar, Leader
October 2019	Symposium at the 2019 Southeast Regional Meeting of the American Chemical Society, "Incorporating Research into the Analytical Curriculum," Savannah, GA, Co-Organizer
October 2016	Symposium at the 2016 Southeast Regional Meeting of the American Chemical Society, "Reform Pedagogy in Undergraduate Chemistry," Columbia, SC, Co-Organizer
November 2013	Symposium at the 2013 Southeast Regional Meeting of the American Chemical Society, "New Pedagogy and Approaches to Improve Student Learning Outcomes in Undergraduate Chemistry," Atlanta, GA, Co-Organizer
March 2008	Workshop at the 2008 Pittsburgh Conference, "No time? No Money? No problem: Solutions for Innovative Analytical Research at Primarily Undergraduate Institutions", New Orleans, LA, Organizer

Symposiums and Workshops as a Learner

June 2020	How to Manage Large Classes Online Month-Long Cohort
June 2014	AAU&P High Impact Practices Workshop for Student Success
August 2018	General Education Assessment Workshop

- April 2018 AAC&U Signature Work: From First Year to Capstone
- May 2018 UTC Instructional Excellence Conference, Teach Students How to Learn by Dr. Sandra McGuire
- October 2015 Applying the Quality Matters Rubric Certification
- October 2015 Active Learning: Large Classes

Undergraduate Research Mentorship

Undergraduate research mentorship is a fundamental tool to supplement student learning and support achievement of outcomes. Mentorship in the lab emanates from actively engaging students in the classroom. This mentorship, in turn, results in research productivity among undergraduate scholars. Presentations, theses, and papers are detailed under Research and Scholarship.

Potts Research Group Since 2002

31 students mentored in undergraduate research

- 21 females (67.7%)
- 7 minority students (22.6%)
- 11 honors theses (35.4%)
- 21 conference presentations (67.7%)
- 7 published papers (22.6%)
- 10 earned professional degrees (32.2%)
- 6 earned graduate degrees (19.4%)

Outreach

Volunteering and teaching through community outreach have focused on improving grades 6-12 outcomes and program recruitment. Outreach efforts target underrepresented populations including females and minorities.

- 2019 Governor's School on Teaching Workshop for Chemistry (Grades 9-12)
- 2016-2019 STEM High School Reality Check Volunteer (Grades 9-12)
- 2016-2018 Chattanooga Girls Leadership Academy Senior Research Project Mentor (Grade 12)
- 2015 Girls Inc. STEMposium: Show them what you're worth: Why study STEM? (Grades 6-8)
- 2014-present Chattanooga Regional Science and Engineering Fair, co-organizer and judge (Grades 6-12)
- 2014 Coach for Teacherpreneur 48HR Launch for Howard High School team won the competition (Grades 9-12)

2012-2015	Southeast Tennessee STEM Council Board Member (Grades 9-12)
2012	DREAMWORK Nursing Camp, Chemistry Lecture and Lab (Grades 9-12)
2004-2012	Forensic Workshop Instrumentation Demonstration for Girls Preparatory Academy (Grades 9-12)
2012	Chemistry polymer lab for STEM Expo with Girl Scouts of America (Grades 6-9)
2012	Demonstrations for Postsecondary Awareness With Success (PAWS) Program (Grades 6-9)
2002-2012	Chattanooga ACS Local Section Chemistry Olympiad Coordinator (Grades 9-12)
2005	Demonstrations and tours Upward Bound students through CCCE (Grades 9-12)

Recognition for Teaching, Research Mentorship, and Outreach

2018	CHEPS Elizabeth Dalton Award for Teaching, Research, and Service
2017	Southern Conference Faculty Award for UTC
2013	Scrappy Award for Professor of the Year
2012	Supernova Award Finalist
2009	UTC Faculty Advising Award
2007	March Chi Omega's "Professor of the Month"
2005	CCCE Volunteer Service Award

Research and Scholarship

Research and scholarship are focused on undergraduate students. The symbiotic nature between classroom/lab instruction and research productivity cannot be ignored. Funded proposals help support experimental research and travel to conferences. Opportunities to present student research at conferences or publish in research in peer-reviewed journals are paramount for students entering the field. Scholarly engagement ensures students are competitive in obtaining employment and funded academic positions in graduate/professional schools.

*Publications (Undergraduates are underlined, *corresponding author)*

1. *Jejal Reddy Bathi, Shuvashish Roy, Syed Tareq, Gretchen E. Potts, Soubantika Palchoudhury, Samantha O. Sweck, Venkataramana Gadhamshetty, Mechanistic Insights of Dispersion of Aqueous Co-existing Nanomaterials via Tandem Analytical Techniques, *Chemosphere* (Submitted 02/2021)
2. *Jejal Reddy Bathi, Breana Harvell, Faegheh Moazeni, Venkata K K Upadhyayula, Indranil Chowdhury, Soubantika Palchoudhury, Gretchen E. Potts, Venkataramana Gadhamshetty; Behavior of Engineered Nanoparticles in Aquatic Environmental Samples: Current Status and Challenges, *Science of the Total Environment* (Submitted 01/2021)

3. Zuy, Yelyzaveta; Sweck, Samantha O.; Dockery, Christopher R.; and *Potts, Gretchen E. HPLC Detection of Organic Gunshot Residues Collected Through Passive Sampling with Silicone Wristbands, *Royal Society of Chemistry: Analytical Methods*, **2019**, 21, 85-90. DOI: 10.1039/C9AY02305D.
4. *Potts, Gretchen E. Linking Oral Communication in the Chemistry Classroom to the AAC&U VALUE Rubric In *ACS Symposium Series*, **2019**, 1327, 29-39. DOI 10.1021/bk-2019-1327.
5. *Potts, Gretchen E.; DeMailly, Myranda; Thompson, Emily. Undergraduate Research Problem Solving: Using 3D Printing to Extend and Expand Equipment Use, *J. Underg. Chem. Res.* **2018**, 17, 17-19.
6. *Benkert, S., Dell, M., Ford, D.M., and Potts, G.E. (2016). Alternate course delivery as a pathway to excellence for adult learners. The Proceedings of the 12th National Symposium on Student Retention, pp. 24-32. Available at <https://csrde.ou.edu/wp-content/uploads/2016NSSRProceedings.pdf>.
7. Hensley, Sarah A. and *Potts, Gretchen E. Stoichiometric determination of 1-(2-pyridylazo)-2-naphthol complexation with Pb(II) by mass spectrometry, *J. Underg. Chem. Res.* **2014**, 13, 74 – 76.
8. *Potts, Gretchen E. and Dockery, Christopher, R. (Eds) *Addressing the Millennial Student in Undergraduate Chemistry*. ACS Symposium Series 1180, American Chemical Society, Washington, DC, 2014. DOI: 10.1021/bk-2014-1180,
9. Dockery, Christopher, R. and *Potts, Gretchen E. Millennial students and undergraduate chemistry. In *ACS Symposium Series*, **2014**, 1180, 1 – 10. DOI: 10.1021/bk-2014-1180.ch001
10. Moerman, Jessica. W.; *Potts, Gretchen E. Analysis of metals leached from smoked cigarette litter, *Tobacco Control*, **2011**, 20 (Suppl 1) i30-i35.
11. Easparam, Sarah; *Potts, Gretchen E. Elemental Analysis of Shiitake Mushrooms by ICP-OES. *J. Underg. Chem. Res.* **2006**, 5, 83 – 87.
12. Brooks, Timothy; Bodkin, Tom E.; *Potts, Gretchen E. and Stephanie A. Smullen. Elemental Analysis of Human Cremains Using ICP-OES to Classify Legitimate and Contaminated Cremains. *J. For. Sci.* **2006**, 51, 967 – 973. DOI:10.1111/j.1556-4029.2006.00209.x
13. *Gretchen E. Potts. Lecture Notes for "Chemistry, 4th Ed." by Olmsted and Williams. (2005)
14. <http://www.cofc.edu/genchemlab> (2001)
15. G.C. Faber, *E. M. Martin, G. E. Potts and M. L. Tate. (2001) *Introductory Chemistry Laboratory Manual* (3rd Ed.) Pearson Custom Publishing: Boston, MA.
16. *I.B. Gornushkin, B.W. Smith, G.E. Potts, N. Omenetto and J.D. Winefordner, Some Considerations on the Correlation Between Signal and Background in LIBS using Single Shot Analysis, *Anal. Chem.* **1999**, 71 (23) 5447 – 5449. DOI:10.1021/ac990766l.

Presentations by Undergraduate Researchers (Undergraduates are underlined)

1. Samantha Sweck, Christopher R. Dockery, and Gretchen E. Potts, HPLC for Separation and Detection of OGSR Extracted from Silicone PPSD, 71st SERMACS, Savannah, GA, October 20 – 23, 2019.

2. Cintly Guzman Hernandez and Gretchen E. Potts, Cigarette litter: A statistical study of leached elements in fresh water and saltwater, 70th SERMACS, Augusta, GA, October 31 – November 3, 2018.
3. Elizabeth Zuy, Christopher R. Dockery, and Gretchen E. Potts, Study of organic gunshot residues on silicone wristbands by HPLC, 70th SERMACS, Augusta, GA, October 31 – November 3, 2018.
4. Myranda DeMaily and Gretchen E. Potts. Elemental analysis of cigarette butt leachates in seawater, 68th SERMACS, Columbia, SC, October 23 – 26, 2016.
5. Veronica Hubble and Gretchen E. Potts. E-cigarette filling solutions: HPLC optimization and analysis of tobacco alkaloids, 66th SERMACS, Nashville, TN, October 15 – 19, 2014.
6. Jessica Murray and Gretchen E. Potts. Nicotine and what else?: Analysis of nicotinic alkaloids in e-cigarettes. Southern Regional Honors Council Conference, Savannah, GA, March 27 – 29, 2014.
7. Jessica Murray and Gretchen E. Potts. Better nicotine fix?: Analysis of alkaloids in e-cigarette filling solutions by HPLC. 65th SERMACS, Atlanta, GA, November 11 – 14, 2013.
8. Joshua Justice, Amy Balestrino, Christopher Dockery and Gretchen E. Potts. GC-MS, UV-VIS, and HPLC analysis of nicotine in e-cigarette filling solutions. 64th SERMACS, Raleigh, NC, November 14- 17, 2012.
9. Amy Balestrino, Christopher Dockery, and Gretchen E. Potts. Safe Smoking?: An Analysis of Electronic Cigarettes by GC-MS and ICP-OES. The Pittsburgh Conference, Orlando, FL, March 2012.
10. Katherine Thurman and Gretchen E. Potts. Plants Grown in an Ash Tray: Elemental Analysis of Bean Plants by ICP-OES. The Pittsburgh Conference, Orlando, FL, March 2012.
11. Matt Stephens and Gretchen E. Potts. More Than Just Litter: Quantification of Organic Compounds Leached from Cigarette Butts. The Pittsburgh Conference, Atlanta, GA, March 2011.
12. Daniel Burriss and Gretchen E. Potts. Turning An Eyesore Into Art: Analysis of Organic Compounds Leached From Cigarette Litter. Posters at the Capitol, Nashville, TN, February 3, 2010.
13. Daniel Burriss and Gretchen E. Potts. Turning An Eyesore Into Art: Analysis of Organic Compounds Leached From Cigarette Litter. 61st SERMACS, San Juan, Puerto Rico, October 21 - 24, 2009.
14. Jessica Moerman and Gretchen E. Potts. Analysis of Pollutants Leached from Used Cigarette Litter. 60th SERMACS, Nashville, TN, November 12 - 15, 2008.
15. Sarah A. Easparam and Gretchen E. Potts. Spectroscopic Characterization of Lead Complexes of 1-(2-Pyridylazo)-2-naphthol. 59th SERMACS, Greenville, SC, October 25 – 27, 2007.
16. Sarah A. Easparam and Gretchen E. Potts. Determination of lead complexation to 4-(2-pyridylazo)-resorcinol (PAR). 58th SERMACS, Augusta, GA, November 1- 4, 2006.
17. Timothy R. Brooks, Stephanie Smullen, Tom E. Bodkin, and Gretchen E. Potts. Questioning the ash: Elemental analysis of cremains using ICP-OES. 231st National Meeting of ACS, Atlanta, GA, March 26 – 30, 2006.

18. Timothy R. Brooks, Tom E. Bodkin, Stephanie Smullen and Gretchen E. Potts. Ashes to Ashes, Dust for Determination: Elemental Analysis of Cremains by ICP-OES. 57th Southeast / 61st Southwest RMACS, Memphis, TN, November 1 – 4, 2005.
19. Kira G. Shurtz and Gretchen E. Potts. Analysis of Toxic Metals in Lentinus edodes by Atomic Absorption, Flame Emission and Inductively Coupled Plasma – Atomic Emission Spectroscopy. 56th SERMACS, Durham, NC, November 2004. (3rd Place in Analytical Division)
20. Jane A. Dickerson, Chanda K. Price and Gretchen E. Potts. The Use of ICP-AES to Study the Feasibility of Native Plants as Biomonitors in the Tennessee River Valley. The Pittsburgh Conference, Chicago, IL, March 2004.
21. Jane A. Dickerson, Chanda K. Price and Gretchen E. Potts. Biomonitoring: An Analysis of Metals in Plants using ICP-AES. 55th SERMACS, Atlanta, GA, November 2003.

Presentations by Dr. Potts (Undergraduates are underlined.)

1. Gretchen E. Potts and Emily Thompson, "When a great idea just happens: Writing up and publishing the accidental research project", March 6, 2019, WCTL Published Seminar Series, The University of Tennessee at Chattanooga (*invited talk*).
2. Gretchen E. Potts. "Cigarette butts and ecigarettes: a story of STEM research," UTC ASPIRE Students, Chattanooga, TN, February 6, 2019. (*invited talk*)
3. Gretchen E. Potts, Jessica Moerman, Daniel Burriss, Matthew Stephens, and Katherine Adorati. "Not just an eyesore: Analysis of cigarette butt leachates," Miami University, Oxford, OH, September 6, 2018. (*invited talk*)
4. Gretchen E. Potts. "Linking Oral Communication in Chemistry to the AAC&U VALUE Rubric," Biennial Conference on Chemistry Education, Notre Dame, Indiana, July 29, 2018-August 2, 2018. (*symposium talk*)
5. Elizabeth Crawford, Dawn Ford, and Gretchen Potts, "UTC Lunch and Learn: Application and Assessment of Portfolios", June 6, 2018. (organized by Faculty Senate and Provost's Office)
6. Gretchen E. Potts. "Life of a UC Foundation Professor," UC Foundation Finance Committee, October 31, 2017. (*invited*)
7. Elizabeth Crawford and Gretchen E. Potts, "Application Of ePortfolios For Learning Assessment," UTC Instructional Excellence Conference, May 3, 2017.
8. Gretchen E. Potts. Using Google Sites for Tenure and Promotion Dossier Development, The University of Tennessee at Chattanooga, September 24, 2015, October 23, 2015, September 15, 2016, and September 30, 2016. (Professional service)
9. Gretchen E. Potts and Jay Patel. From Lorman to Chattanooga: Elemental analysis of Shiitake mushrooms from Mississippi, Alcorn State University, September 3, 2015 (*invited*).
10. Gretchen E. Potts. Flipping the lab: Preparing instrumental lab students for the workplace, 66th SERMACS, Nashville, TN, October 15 – 19, 2014. (*invited*)
11. Gretchen E. Potts, Jessica Moerman and Daniel Burriss. Not Just an Eyesore: Analysis of Metals Leached from Cigarette Butts, UTC Biology Seminar Series, February 22, 2013. (*invited*)
12. Gretchen E. Potts and Samantha J. Hughey. Analysis of Substituted Benzoquinones: A Quantitative Cyclic Voltammetry Experiment for Instrumental Analysis Lab, The Pittsburgh Conference, Orlando, FL, March 2012.

13. Gretchen E. Potts. Engaging the Millennial Students in Analytical Lecture and Lab, The Pittsburgh Conference, Atlanta, GA, March 2011.
14. Gretchen E. Potts, Jessica Moerman and Daniel Burriss. Not Just an Eyesore: Analysis of Cigarette Leachates, Appalachian State University, September 24, 2010. (*invited*)
15. Gretchen E. Potts and Jessica Moerman. Not Just An Eyesore: Analysis of Metals Leached From Cigarette Litter, 61st SERMACS, San Juan, Puerto Rico, October 21 - 24, 2009. (*symposium talk*)
16. Gretchen E. Potts. Why STEM(M)? And My Research. Girls Preparatory School, Chattanooga, TN, September 2009. (*invited*)
17. Gretchen E. Potts. Environmental research in the analytical lab: Approaches to research on a budget. The Pittsburgh Conference, New Orleans, LA, March 2008. (*invited*)
18. Gretchen E. Potts. It's Never too Early: Integrating A-Page Articles into the Environmental Analytical Classroom. The Pittsburgh Conference, Chicago, IL, February 2007. (*invited*)
19. Gretchen E. Potts, Timothy Brooks, Stephanie Smullen and Tom E. Bodkin. Ashes to Ashes: Dust for Determination. University of Memphis, Memphis, TN, April 14, 2006. (*invited*)
20. Gretchen E. Potts, Timothy Brooks, Stephanie Smullen and Tom E. Bodkin. Ashes to Ashes: Dust for Determination. University of Alabama, Huntsville, AL, March 24, 2006. (*invited*)
21. Gretchen E. Potts. Where is that piece of paper? Research Coordinators' Forum, Erlanger Hospital, Chattanooga, TN, March 14, 2006. (*invited*)
22. Gretchen E. Potts, Timothy Brooks, Stephanie Smullen and Tom E. Bodkin. Ashes to Ashes: Dust for Determination. University of the South, Sewanee, TN, November 17, 2005. (*invited*)
23. Gretchen E. Potts, Jane. A. Dickerson and Chanda. K. Price-Cooper. Combining Creeks with Chemistry in Chattanooga: An Environmental Field Study and Research Project for Undergraduates. The Pittsburgh Conference, Chicago, IL, March 2004. (*invited*)
24. Gretchen E. Potts. Laser-induced Plasma Spectroscopy: On the way to practical applications. University of North Carolina – Greensboro, Greensboro, NC, February 2001. (*invited*)
25. Gretchen E. Potts. Particle Characterization by Laser-Induced Plasma Spectroscopy. Wittenberg University, Springfield, OH, March 2000. (*invited*)
26. Gretchen E. Potts. Mentoring: A Mutually Beneficial Alliance. NSF - ERC National Meeting, Washington D.C., November 1999. (*invited*)
27. Gretchen E. Potts, I.B. Gornushkin and J.D. Winefordner. LIBS: An Alternate Tool for Process Monitoring in Phosphate Mining. Spectroscopy in Process Control Conference, East Brunswick, NJ, June 7-8, 1999. (*invited*)

Presentations by Collaborators (Undergraduates are underlined)

1. Hale CM, Carver EA, Potts GE, Kovach MJ, (2017). The Effect of E-cigarette Exposure on Cell Viability and Gene Expression. Southeastern Biology 64(3):P223.
2. Ethan A. Carver, Marlowe, M., Kovach, M.J., and Potts, G.E. Gene Regulation and Viability of Cell Cultures Exposed to E-Cigarette Refill Solutions (Poster) NIDA Genetics Consortium Meeting. Rockville, MD 20852, December 1-2, 2016.
3. Benkert, Stuart M.; Dell, Madison M.; Ford, Dawn M.; and Gretchen E. Potts (2016, November). Alternate Course Delivery as a Pathway to Excellence for Adult Learners.

Paper presented at National Symposium on Student Retention, Norfolk, VA. Sponsored by the Consortium for Student Retention Data Exchange.

4. Marlowe, M., Potts, G.E., Kovach, M.J., and Ethan A. Carver. Cell Viability and Gene Regulation In Response to Contents of E-Cigarette Refill Solutions. (Student Poster) 77th Annual Meeting, Association of Southeastern Biologists, Concord, NC. March 31– April 3, 2016.

Directed Undergraduate Honors Theses

1. Zuy, E. Departmental Honors Thesis, HPLC Detection of Organic Gunshot Residues with Silicone Wristbands University of Tennessee at Chattanooga, Chattanooga, TN, November 2019.
2. Guzman Hernandez, C. Cigarette litter leachates: A statistical study of elements in freshwater and saltwater, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, November 2018.
3. Adorati, K. Effects of Cigarette Butts on Coastal Waters: An Elemental Analysis of Seawater from St. Simon's Island, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2016.
4. Murray, J. Nicotine and What Else?: HPLC Elution Optimization for the Analysis of Alkaloids Found in Electronic Cigarettes, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2014.
5. Justice, J. Analysis of Nicotine Concentrations in Electronic Cigarette Filling Solutions by Three Instrumental Methods, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2013.
6. Thurman, K. Plants Grown in an Ash Tray: Bioaccumulation of Metals in Bean Plants, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2012.
7. Balestrino, A. Safe Smoking: A Study of Electronic Cigarettes, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2012.
8. Moerman, J. Not Just an Eyesore: Analysis of Elements Leached from Cigarette Litter, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2009.
9. Easparam, S. A. Characterization of Lead (II) Complexes by Spectroscopic Analysis, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2007.
10. Brooks, T. R. Answer in Ashes: Elemental Analysis of Cremains by ICP-OES, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2006.
11. Dickerson, J. A. Biomonitoring: An Analysis of Plants for Metals Using ICP-AES, Departmental Honors Thesis, University of Tennessee at Chattanooga, Chattanooga, TN, March 2005.

Pending External Proposal

NSF-INCUDES, Mbakisy A. Onyango (PI-UTC), Christopher L. Cox (Co-PI-UTC), Jennifer Ellis (Co-PI-UTC), Joseph O. Owino (CO-PI-UTC), Gretchen E. Potts (Co-PI-UTC) NSF INCLUDES Alliance: BRIDGE - BRoadening Inclusion on Diversity and Gender Equity (\$9,612,285, submitted 01/26/2021, pending review)

Funded External Proposals (\$473,195)

1. THEC, Gretchen Potts (PI) Ready to Reconnect Institutional Mini-Grant: Reconnecting with UTC Adult Learners Through Outreach: Providing Scheduling Flexibility and Alternate Course Delivery (\$50,000; August 2015 – July 2016)
2. NSF-MRI, Jennifer Boyd (PI-UTC), Stylianos Chatzimanolis (CoPI-UTC), Joey Shaw (CoPI-UTC), Henry Spratt (CoPI-UTC), Thomas Wilson (CoPI-UTC), Gretchen Potts (Senior Personnel), Hill Craddock (Senior Personnel) MRI: Acquisition of growth chambers for global change biology research and research training at the University of Tennessee at Chattanooga (\$342,945; January 2014 – December 2016, funded)
3. University of Tennessee Research Foundation, Hassan Almoazen (PI-UTHSC), Catherine Crill (CoPI-UTHSC), Gretchen Potts (CoPI-UTC) and Richard Helms (CoPI-UTHSC): Transdermal Delivery of Trace Elements by Nanoemulsion Technology as an Alternative to Parenteral Delivery (\$15,000; 2011, funded)
4. ACS Division of Analytical Chemistry IYC Grant (Co-PI): Chemistry Concepts for Elementary Students: A Hands-on Approach to Bring Science into the Classroom (\$250; 2011, funded)
5. Tennessee Higher Education Commission (Arts & Science Partner), Vocabulary across the Content Areas (\$65,000; 2007, funded).

Funded Internal Proposals (\$29,581)

1. Honors College Student Research Fellowship for the Development of a Pre-Professional Minor, January 2021-May 2021 (\$1000; funded)
2. Honors College Student Research Fellowship for the Development of Alpha Society Digital Archives, January 2019 – April 2019. (\$1000; funded)
3. UC Faculty Development Grant. Participation in the 2018 Biennial Conference for Chemistry Education (BCCE) in South Bend, Indiana, 2018. (\$539; funded)
4. CRISP. Gretchen Potts (PI), Ethan Carver (CoPI), Margaret Kovach (CoPI) In-depth analysis of e-cigarette filling solutions and their biological implications. July 1, 2015 - June 30, 2016. (\$8000; funded)
5. UC Faculty Development Grant. Participation in the 2012 Pittsburgh Conference (Pittcon) in Orlando, Florida, 2012. (\$639; funded)
6. Faculty Summer Fellowship. Analysis of contaminants leached from cigarette litter into surface soils, Summer 2012 (\$2500; funded).
7. UC Faculty Development Grant. Participation in the 2009 Southeastern Regional Meeting of the American Chemical Society in San Juan, Puerto Rico, 2009. (\$653; funded)
8. Faculty Summer Fellowship. Contaminants in the Little Sequatchie River: An environmental water analysis study, Summer 2008 (\$2500; funded).
9. Faculty Summer Fellowship. Elemental Analysis of human cremains, Summer 2005 (\$5000, funded).
10. Grote Faculty Fellowship. Biomonitoring: A study of metal uptake in plants of the Chattanooga River Valley, Summer 2004, (\$5000; funded).
11. Instructional Excellence Grant. Detection of fluoride ion in tea leaves and drinking water: Laboratory exercises for Chemistry 341 and Chemistry 342, 2003, (\$2750; funded).

Funded Student Internal Proposals (\$13,835)

1. SEARCH (Student: Alivia Fann). Determination of OGSR collected from silicone bracelets worn by actual shooters, 2020 (\$977; funded)
2. SEARCH (Student: Robert Donaldson). Determination of Pesticides and Heavy Metals in Tennessee Cannabidiol Products: An Emerging and Unregulated Market, 2020 (\$927; funded)
3. SEARCH (Student: Samantha Sweck). HPLC for separation and detection of OGSR extracted from silicone PPSD, 2019 (\$933; funded)
4. PSRA (Student: Katherine Adorati). Effects of Cigarette Butts on Coastal Waters, 2015 (\$968; funded).
5. PSRA (Student: Jessica Murray). HPLC detection of nicotine and related alkaloids in electronic cigarettes, 2013 (\$968; funded).
6. PSRA (Student: Josh Justice). ICP-OES Detection of Trace Elements Delivered by Nanoemulsion Technology, 2012 (\$905; funded).
7. PSRA (Student: Katherine Thurman). Plants Grown in an Ash Tray: Bioaccumulation of Metals in Pea Plants, 2011 (\$950; funded).
8. PSRA (Student: Amy Balestrino). Safe Smoking: A Study of Electronic Cigarettes, 2011 (\$950; funded).
9. PSRA (Student: Matthew Stephens). More Than Just Litter: Quantification of Organic Compounds Leached from Cigarette Butts, 2010 (\$975; funded).
10. PSRA (Student: Daniel Burriss). Analysis of Organic Compounds Leached from Cigarette Butts, 2009 (\$925; funded).
11. PSRA (Student: Jessica Woods). Analysis of Pollutants Released from Used Cigarette Litter, 2008 (\$900; funded).
12. PSRA (Student: Sarah Easparam). Development of basic media sol-gel sensors, 2007 (\$900; funded).
13. PSRA (Student: Sarah Easparam). Development of chemical sensors, 2006 (\$900; funded).
14. PSRA (Student: Timothy Brooks). Answers from the ashes, 2005 (\$875; funded).
15. PSRA (Student, Kira Shurtz) Analysis of toxic metals in *Lentinus edodes* by atomic absorption spectroscopy, 2004 (\$875; funded).
16. PSRA (Student: Jane Dickerson). Biomonitoring: Analysis of toxic metals in *Chinese privet* by ICP-OES, 2003 (\$875; funded).

Service

Volunteer service supports the department, the university, the profession, and the community. The value is measured by the impact on others including students who benefit from advising, training, and opportunities to engage in service to the field.

Chemistry & Physics (CHPH) Departmental Service

CHPH Assessment Committee (chair, 2020-present, member 2018-present)

CHPH Safety Committee (member, 2016-present)

CHPH Social Media Manager (2016-present)

Chemistry STEM Advisor (2018-present)

Chemistry Pre-med Advisor (2011-present)

CHPH Department Head Search Committee (member, 2019-2020)

CHPH Strategic Planning Committee (2018-2019)

Westbrook Scholarship Committee (member, 2018-2019)
CHPH Vision Committee (chair, 2017)
Visiting Assistant Professor, Analytical Chemistry Search Committee (chair, 2016-2017)
CHPH Webmaster (2002-2013, 2016)
CHPH Summer Undergraduate Research/SERMACS Travel (co-chair, 2014-2016)
Physical Chemistry Hire Committees (member, 2012-2013, 2013-2014)
Chemistry Grote Scholarship Advisor and Chair (2005-2013)
Chemistry Orientation Advisor (2007-2010)
Chemistry Freshmen Advisor (2003-2012)
Advisor, Chemistry Club (2002-2004, 2007-2009)
Department Brochure (2004-2008)

University Service

FA21 Cohort Planning Committee (2020-present)
Course Learning Evaluation (2020-present)
Library PTR Committee (2019-present)
SACS-COC Institutional Assessment and Effectiveness Committee (2019-present)
Pre-medical Society Associate Advisor (2019-present)
Discernment Dinner Planning Committee (2018-present)
ReSEARCH Dialogues Moderator (2018-present)
Assistant Graduation Marshal (2004-present)
CHEPS Curriculum Committee (2015-present)
Diversity Advisory Council (2017-present)
Holmberg Professorship Committee (2019-2020)
Faculty Athletics Committee (2007-2012, 2013-2017, 2018-2020; chair, 2009-2011, 2016-2017, 2018-2020)
Executive Director of OPEIR Search Committee (2019)
Library PTR (2019)
CAS Math and Science PTR (2019)
Institutional Compliance Committee (2016-2019)
Assistant Director of the Walker Teaching and Learning Center Search Committee (2019)
Campus Recreation Facilities Director Search Committee (2019)
Faculty in Residence Search Committee (2019)
Pre-Health Advisor Search Committee (2019)
UTC Advisory Board (faculty representative, 2018-2020)
Student Conduct Board (2018-present)
Associate Dean for College of Arts and Sciences Search Committee (2018)
Vice Chancellor and Provost for Academic Affairs Search Committee (2018)
Faculty Senate Past-President (2018-2019)
Faculty Senate President (2017-2018)
Faculty Senate Executive Committee (2006-2008, 2016-2019; chair, 2017-2018)
Chancellor's Athletics Board (2012-2015, 2016-2019)
FYRE/Read2Achieve Committee (2011-present; chair, 2014-2016)
Vice Chancellor and Director of Athletics Search Committee (2017)
Ad Hoc Mapping Committee (chair, 2017)
Committee on Committees (chair, 2016-2017)

Faculty Senate President Elect (2016-2017)
Pre-Health Advisor Search Committee (2016-2017)
Women's Leadership Planning Committee (2015-2016)
NIH-BRAD Steering Committee (2014-2017)
Peer Review Team for NCURA Site Visit (2016)
Operation Move-In Volunteer (2016, 2017)
Career Services Review Committee (2015)
College of Arts and Sciences Curriculum Committee (2014-2015)
Vice Chancellor for Research and Dean of the Graduate School Search Committee (2014-2015)
Integrated Studies Committee (2012-2015)
Brock Scholar Curriculum Committee (2014)
Ruth Holmberg Professorship Selection Committee (2014)
Flipped Classroom Panelist (2014)
Reviewer for ORAU Internal Competition for Grant Proposal Submission (2013)
Online Task Force (2013-2014)
Brock Scholar Perspective Interview Committee (2012-2014)
Complete College Advisor Search Committee (2013-2014)
Chancellor Search Committee (2012-2013)
College of Arts & Sciences Council (2011-2012)
Ad Hoc EDO Appeals Committee (2011)
Volleyball Coach Search Committee (2011)
NCAA Self Study Steering Committee, Report Coordinator (2010-2012)
Director of Athletics Advising Search Committee (2010)
Faculty Administrative Relations Committee (2009-2012; chair, 2011-2012)
Omega Phi Alpha Service Sorority, Advisor (2005-2013)
Petitions Committee (2008)
Webmaster for Wheeler Odor Center (2008-2012)
Grants and Research Advisory Committee (2008)
Faculty Senate Secretary (2006 – 2008)
Athletic Director Search Committee (2006)
Faculty Senator (2002-2006)
Grade Appeals Committee (2005-2009, chair 2008)
Scholarship Committee (2004-2007, 2012-2013, chair 2004)
Classroom Technology Committee (2003-2005)

UT-System Service

UT-System Student Enrollment and Outcomes Committee (2019-2020)
University Faculty Council (2017-2018)
Tennessee Universities Faculty Senate (2017-2018)
UT-System Board of Trustees Academic Affairs and Student Success (2017-2018)
UT-System Representative to Multi-system New Models, Group II: Credit Transfer (2013)
UT-System Strategic Planning Task Force, Faculty Affairs (2011-2012)

Professional and Community Service

Chattanooga Local Section of the ACS (Chair 2021, 2011; Chair-Elect 2020, 2010;
Treasurer/Secretary, 2015-2016; Treasurer, 2014; Secretary, 2012; Member-at-large, 2006)
2022 National ACS Analytical Exam Committee (Chair, 2020-present)
Rainey Nickel NHCL Organizing Committee (2019-present)
Miami University Department of Chemistry and Biochemistry Advisory Board (2018-present)
Chattanooga Donor Services (2007-present)
2017 National ACS Analytical Exam Committee
Chattanooga Heart Walk Team Captain, UTC Hearts and Sciences (2014, raised \$1685)
Soloist, National Anthem at Hydrocephalus Association of Chattanooga 5K Walk (2013, 2014)
2013 National ACS Analytical Exam Committee
Chair, Oral Session at 2012 Southeast Regional Meeting of the American Chemical
Society, "Analytical II", Raleigh, NC, October 2012.
Soloist, National Anthem at United Way Kick-Off Breakfast (2013)
Volunteer at Interfaith Homeless Network (2012)
Soloist, National Anthem at Southern Conference Basketball Tournament (2011)
Chair, Oral Session at the 2007 Southeast Regional Meeting of the American Chemical
Society, "Environmental", Greenville, SC, October 2007.
Peer Reviewer for *African Journal of Agricultural Research*, *ACS Symposium Series*,
Analytical Letters, *Analytical Methods*, *The Chemical Educator*, *Journal of Chemical
Education*, *International Journal of Environmental Research and Public Health*, *Journal
of Environmental Management*, *Journal of Undergraduate Chemistry Research*
Microchemical Journal, *Spectrochimica Acta A*, *Spectroscopy Letters*, and *Tobacco
Control*

Honors and Awards

2017 University of Tennessee Leadership Institute
2016 Recipient of Affordable Course Materials Initiative Grant
2012 UTC Keep the Stars Shinning Performance Award
2012 Induction into Golden Key International Honour Society
2009 Induction into Alpha Society (secretary 2010-2011, vice-president 2011-2012, president
2012-2013)
2008 University of Chattanooga Foundation Professorship
2004 UTC College of Arts and Sciences Outstanding Service Award
2003 Induction into Sigma Xi Scientific Research Society

Professional Memberships

Council on Undergraduate Research (CUR)
The American Chemical Society (ACS)
Sigma Xi Scientific Research Society (Chapter Secretary, 2004 – 2008)
NSF – RSEC Program at UT-Knoxville (Faculty mentor, 2002 – 2006)
Gamma Theta Phi, Chemistry Honor Society
Mortar Board National Honor Society

Administrative Appointments

2019-present Co-Director, School of Professional Studies, UTC

2013-present Director, Integrated Studies, UTC

2012-2013 Program Coordinator, Integrated Studies, UTC

Co-Director, School of Professional Studies (SPS)

SPS Duties: Along with co-director, responsible for supporting all programs in the School of Professional Studies. Responsible for budget management, curriculum review, faculty and staff evaluation, managing SPS and program budgets and resource allocation, balancing hiring requests with student credit hour production, advocating for individual program needs and developing SPS processes.

Director of Integrated Studies (INTS)

INTS Duties: Responsible for the mission and vision of the program, program planning and assessment, course scheduling, development of new curriculum initiatives, budget management, collaboration with programs across campus, management of prior learning assessment by dossier, advising, supervision of program coordinator, staff development, serving on CHEPS Curriculum Committee, and serving on SPS Rank, Tenure, and Promotion Committee

Select Accomplishments

- Successfully completed 5-year program review (2018-2019)
- Expanded program to more than 50 enrolled majors with 34 graduates (2015-2016) and 25 graduates (2016-2017)
- Led UTC in earning ALFI status – Adult Learning Focused Institution
- Awarded THEC “Ready to Reconnect” grant for adult learners which helped to increase adult enrollment through increased recruitment efforts targeted at adult learners (instant Decision Day for transfer students) and support for the expansion online course offerings in General Education (in collaboration with Dr. Dawn Ford and the WCTL)
- Established process for acceptance of students into the major, including intent form, course planning and detailed application
- Developed SACS Outcomes assessment using Compliance Assist software and mapped the outcomes to UTC mission and goals
- Developed and manage the standard procedure for prior learning assessment by dossier for the university
- Negotiated curriculum agreements with 15 disciplines for pre-approved course plans and overrides
- Developed General Education Science, INTS 1110 – Science of Sustainability (3 hours) which is offered online
- Developed and teach INTS 4900 – Integrated Studies Senior Portfolio, first online course in CHEPS to receive QM certification (internal)

- Organized recruitment and hiring of administrative assistant and program coordinator

President, UTC Faculty Senate, 2017 – 2018

Duties: Elected spokesperson and representative of the faculty with responsibility for presiding at all meetings of the Faculty Senate, full faculty, and executive committee, serve as a non-voting member of the academic affairs committee of the UT-System Board of Trustees, and serve on University-wide committees to represent the faculty.

Select Accomplishments

- Organized viewing and discussion of AAC&U webinar on Signature Work to support UTC’s strategic plan *goal 1a*
- Developed UTC Learn organization to continue discussion on high impact practices (HIPs)
- Planned Lunch and Learn workshop to discuss electronic portfolios for HIPs.
- Collaborated with Student Development to update Honor Code and the Student Code of Conduct
- Led faculty in review and successful approval of new Faculty Handbook, first UT campus with updated handbook.
- Led discussion on online fee use which resulted in new online fee policy developed by Business and Financial Affairs
- Proposed resolutions on Outsourcing, Optional Retirement Program and the 2018 UT Focus Act, which were approved by the Senate
- Implemented financial policy to support faculty committee needs

Chair, UTC Read2Achieve Committee, 2014 – 2016

Duties: Responsible for leading the selection, implementation, and assessment of the first-year common reading selection to support student success initiatives

Select Accomplishments

- Led selection of *The Postmortal* by Drew Magary (2014), *The Circle* by Dave Eggers (2015) *The Immortal Life of Henrietta Lacks* by Rebecca Skloot (2016)
- Managed committee and six sub-committees: Assessment, Book Clubs, Book Selection, Curriculum, Social Media, and Student Steering Committee
- Collaborated with Chancellor’s Office to develop Convocation

University Systems Training

Academic Audit	Concur	Kaltura Course Space
Argos	CPI Electronic Scheduling	Navigate/SSC Campus
Banner User (INB/SSB)	Drupal	OU Campus
Blackboard User	DegreeWorks	Radius
Camtasia	(MyMocsDegree)	Zoom
Canvas	Digital Measures	
Compliance Assist	IRIS	

Annual Evaluations

Distinguished Service (2020)

Exceeds Expectations (2010, 2011, 2012, 2016, 2017, 2018, 2019, 2020)

Distinguished Merit (2014)

Exceptional Merit (2005, 2007)

Meets Expectations (2003, 2004, 2006, 2008, 2009, 2013, 2015)

Professional Development

Managing remote workers (05/20/2020, 0.5 hr)

How to Create a Respectful Workplace (08/22/2019, 2 hr)

How to Overcome Negativity in the Workplace (08/13/2019, 1 hr)

Emotional Intelligence for Managers (04/18/2019, 1.5 hr)

AAC&U Annual Meeting: Raising Our Voices: Reclaiming the Narrative on the Value of Higher Education (01/24/2019 -01/26/2019, 3 days), included all day eportfolio workshop

UTC EOI Search Committee Training (09/25/2018, 1.5 hr)

UTC Active Shooter Training (08/15/2018, 1 hr)

Training for Program for Minors Approval (02/27/2018, 1hr)

UT-System Department Head Training (02/09/2018, 6 hr)

MyMocsDegree Planner Training (01/31/2018, 1 hr)

WCU Leadership Development Workshop (01/05/2018, 8 hr)

UTC Inclusive Excellence Conference: MOC Forward (10/17/2017, 8 hr)

IT Security Awareness Training (2017, 2018, 1 hr each year)

Digital Measures training (09/14/2017, 1.5 hr)

UTC Social Media Training, sponsored by University Relations (06/14/2017, 1 hr)

UT Women's Leadership Conference (06/08/2017, 8 hr)

Provost Leadership Series V: Leading People by Steve Olson (05/03/2017, 8 hr)

CITI training for Research with Persons who are Socially or Economically Disadvantaged (2017, online)

CITI training for Social & Behavioral Research Investigators (2017, online)

Provost Leadership Series IV: Leadership & Happiness by Ken Harmon (12/19/2016, 6 hr)

Leadership in Higher Education, Atlanta GA (October 6 – 8, 2016)

Provost Leadership Series III: Managing Communications and Monitoring Outcomes by Sheilah, F. Clarke-Ekong (08/15/2016, 6 hr)

Socon LEAD Workshop (07/20/2016-07/21/2016)

UT Women's Leadership Conference (06/28/2016)

Provost Leadership Series II: Diversity and Bias by Armers Moncure of Cook Ross (05/10/2016, 6 hr)

Fostering University-Wide Collaborations in the Use of Data to Improve Retention Practices for a so-called "At-Risk" Population Webinar (03/24/2016; 1 hr)

Haven Training: Sexual Misconduct, Relationship Violence and Stalking (02/12/2016; 1 hr)

Provost Leadership Series I: Adventures in Administration by Jose Antonio Rosa (12/11/2015, 3 hr)

Title IX Training (08/25/2015, 0.5 hr)

CHEPS/SPS Program Director IRIS Training (03/02/2016, 1.5 hr)

NIH Grant Workshop (02/02/2016, 8 hr)
Virtual Zoom Training (10/16/2015, 1 hr)
EAB Training (09/23/2015, 2 hr)
Compliance Assist Training (09/16/2015, 2 hours; 02/05/2016, 1 hr)
Academic Audit (09/08/2015, 3 hours)
American Red Cross Adult CPR/AED (certified 12/17/2014, 2 hr)
Safe Zone Training (12/11/2013, 3 hr)
Is it Bias? Gender, Sexual Orientation and Workplace Issues (09/25/2012, 2 hr)