

Andrew J. Bonham, Ph.D.

Highlights:

Enthusiastic, progress-focused, organized, and visionary leader, with experience in multiple pivotal campus roles. Highly regarded educator; received multiple teaching awards. Extensive, well-cited research publications (>2000 citations). Developed and administered large grant proposals (>\$600K), large budgets (>\$3M), endowments (>\$1.7M), and managed project teams (30+ staff). Strategic, detail-oriented approach, extremely personable, tech-savvy, and focused on equity and inclusive team building.

Administrative Leadership Experience:

- 2016- **Chair of Department of Chemistry & Biochemistry, Metropolitan State University of Denver**
- Organize and lead 30+ direct reports (faculty & staff; \$3M compensation budget).
 - Manage allocation of \$300,000 annual budget and instrumentation base (\$2M equipment).
 - Department size (approximate): 200 majors, 300 minors, and 1600 students enrolled per semester.
 - Established 6 new full-time faculty positions and 1 staff position.
 - Created Biochemistry program and major that now accounts for >50% of department majors.
 - Provide vision and lead biweekly meetings, retreats, and program review workshops.
 - Evaluate and mentor 30+ faculty, including mentorship of 13 new faculty.
 - Established and manage James A. Patton endowment for the Sciences (\$1.7M).
- 2018-2021 **President of Council of Chairs & Directors**
- Served as Vice-President 2018-2019, President 2019-2021.
 - Build relationships between administrators and chairs to provide joint leadership and vision.
 - Biweekly strategic planning meetings with university President and Provost.
 - Spearheaded changes in Faculty Employment contract language to better define role of Chairs.
- 2015-2017 **Vice President of the MSU Denver Faculty Senate**
- Advocated for 900+ faculty; presided over 80 faculty senators.
 - Served on the Executive, Faculty Welfare and Academic Policies committees.
 - Chaired Faculty Welfare committee, focused on diversity and equity concerns and advocated for changes to faculty teaching load.
- 2013-2018 **Co-Director of Denver Metro Chem Scholars NSF grant program**
- Submitted and obtained \$623,000 National Science Foundation scholarship grant.
 - Grant focused on DEI and recruitment of underrepresented students into STEM fields.
 - Organized recruitment, selection, evaluation, and retention of 24 promising undergraduates.
 - Maintained annual program schedule of biweekly invited speakers and seminars.
- 2011- **Principal Investigator, Bonham Research Lab**
- 26 publications with 2000+ citations and h-index 17; 14 invited presentations.
 - Mentored 50+ undergraduate research students (~33% from underrepresented groups): 13 have/are attending PhD programs, 10 have/are attending MD programs.
 - Collaborated with multiple institutions, labs, and hospitals, including grant submissions totaling >\$800,000.

Leadership Skills:

- Mentored numerous faculty and staff at different career stages.
- Advocated for faculty and chair concerns to revitalize faculty training, cost structures, and diversity efforts.
- Negotiated major increases in staffing (faculty and staff). Spearheaded complete restructure of department staff position descriptions to create a more dynamic department with better defined roles.
- Spearheaded a student employee usage initiative that reduced hourly employee costs by 36%.
- Shaped and implemented a united approach to pandemic response as part of university response team.
- Budgeted departmental expenses of \$300K yearly, including during pandemic-related fiscal challenges with no loss of positions and innovative, cohort-based approach to limited in-person teaching.

Awards/Honors:

- 2021 **Outstanding Mentor for Undergraduate Research Award**
University-wide Roadrunners Who Soar award, MSU Denver.
- 2021 **Department Chair of the Year Award**
College of Letters, Arts, and Sciences award, MSU Denver.
- 2019 **Open Education Resources Used in a Course Champion Award**
University-wide Roadrunners Who Soar award, MSU Denver.
- 2017 **National Society of Leadership and Success Excellence in Teaching Award**
University-wide award from an honor society to recognize outstanding commitment to teaching.
- 2015 **Exceptional Achievement in Undergraduate Research Leadership Award**
University-wide award from the Applied Learning Center to recognize outstanding commitment to promoting and enhancing undergraduate research activities.
- 2014 **Golden Key Excellence in Teaching Award**
University-wide award from Golden Key International Honor Society to recognize outstanding commitment to teaching.
- 2013 **Faculty Senate Teaching Excellence Award**
Award given to one tenure-track faculty member university-wide to recognize outstanding rigor, enthusiasm, and commitment to teaching.
- 2010-2011 **Tri Counties Blood Bank Santa Barbara Foundation Postdoctoral Fellowship**
Fellowship to support postdoctoral work on blood-based detection and treatments.
- 2009 **Chang Distinguished Alumni Award**
Award given for the Outstanding Talk in the Most Advanced category of presented research.
- 2008 **ScienceLine Outstanding Answerer Award in Physical Sciences**
Award given for excellence in answering science questions from students K-12.
- 2004-2005 **George and Joy Rathmann Fellowship**
Assists outstanding Ph.D. students in the Biomolecular Sciences and Engineering program.

Education:

- 2010-2011 **Tri-County Blood Bank Postdoctoral Fellow**
University of California Santa Barbara, Advisor: Kevin W. Plaxco
- 2004-2010 **Ph.D. in Biochemistry & Molecular Biology, Biophysics & Bioengineering emphasis**
Biomolecular Science & Engineering program, Advisor: Dr. Norbert Reich
University of California at Santa Barbara
Dissertation: *Novel Optical Techniques for Exploring the DNA Binding Affinity and Specificity of Eukaryotic Transcription Factors and Transcription Factor Complexes.*
- 2000-2004 **B.A. in Chemistry, B.A. in Biochemistry**; Minor in Philosophy
University of Colorado at Boulder; Magna cum laude
Honors Thesis: *Crystallographic investigations of the Foxp2 winged-helix DNA-binding protein.*

Academic Experience:

- 2019- **Professor of Biochemistry, Metropolitan State University of Denver**
Created lesson plans and taught: CHE 4310 – Biochemistry I, CHE 3810 Chemistry Literature & Research Seminar. Served as Director of the Biochemistry program; led undergraduate student researchers on independent research projects in molecular biology and bio-sensor design; organized and ran biochemistry research facility.
- 2015-2019 **Associate Professor of Biochemistry, Metropolitan State University of Denver**
Created lesson plans and taught: CHE 4310 – Biochemistry I, CHE 4320- Biochemistry II, CHE 4350- Biochemistry Laboratory, CHE 2100- Introduction to Organic & Biological Chemistry, CHE 4950- Senior Experience in Chemistry. Served as Director of the Biochemistry program; led undergraduate student

researchers on independent research projects in molecular biology and bio-sensor design; organized and ran biochemistry research facility.

- 2011-2015 **Assistant Professor of Biochemistry, Metropolitan State University of Denver**
Created lesson plans and taught: CHE 4310 – Biochemistry I, CHE 4320- Biochemistry II, CHE 4350- Biochemistry Laboratory, CHE 2100- Introduction to Organic & Biological Chemistry, CHE 4950- Senior Experience in Chemistry. Served as Biochemistry Lab coordinator; redesigned and wrote lab manual, and created youtube-hosted video recitations for laboratory courses. Led undergraduate student researchers on independent research projects in molecular biology and bio-sensor design; organized and ran biochemistry research facility.
- 2013-2018 **Co-Director and Co-Principal Investigator of Denver Metro Chem Scholars Grant**
Write and implemented successfully funded NSF educational grant, awarded \$620,000 over 5 years. Direct scholarship activities and seminars for outstanding Chemistry students.
- 2007 **Instructor / Teaching Associate for CHEM 1C: General Chemistry**
Created and gave daily lectures; wrote and implemented course lesson plan. Wrote homework and exams, held review sessions, proctored, held office hours.
- 2008 **Teaching Fellow for Summer Teaching Institute for Associates**
Led discussions and group activities on teaching strategies, course planning, and effective learning for first-time Associates/Lecturers at a University level.

Teaching Skills:

- Proven ability to successfully mentor students; outstanding rapport with students.
- Comfortable and confident lecturer and speaker.
- Excellent proficiency with modern technology in and out of the classroom.
- Comprehensive knowledge of general chemistry, biochemistry, and molecular biology.
- Consistently excellent teaching evaluations; top 5% of ratings and excellent student comments.
- Experience using and training colleagues on modern pedagogy tools and techniques.

Grants & Patents:

- 2013-2018 **Denver Metro Chem Scholars Grant, Co-Principal Investigator**
NSF educational grant to provide scholarships and opportunities for undergraduate chemistry students. NSF grant #1259336. \$623,063.
- 2012 **Nucleotide-Based Probes and Methods for the Detection and Quantification of Macromolecules and Other Analytes**
Patent publication # WO/2012/071344, describing several related frameworks for macromolecular detection with DNA-based bio-sensor probes.
- 2011-2016 **Letters, Arts, and Science Mini-grant Awards**
Grants to support mentoring undergraduate researchers at MSU Denver. \$8,000.
- 2011-2015 **Provost's Grant Support Awards**
Grants to support starting up an undergraduate research laboratory at MSU Denver. \$5,000.
- 2011 **Tri Counties Blood Bank Santa Barbara Foundation Postdoctoral Fellowship**
Fellowship to support postdoctoral work on blood-based detection and treatments. \$58,000.

Research Experience:

- 2019- **Professor of Biochemistry, Metropolitan State University of Denver**
Practical, scalable implementation of DNA-based electrochemical biosensors for monitoring pathogenic bacteria and proteins to create medical and research diagnostics for infection and disease. Collaborations included CRISPR/Cas9 genome-editing design for precision editing of human iPSCs, mammalian allelic epigenetic methylation analysis, and pathogenic mycobacterial infection diagnosis.
- 2021- **Research Consulting**
 - Planned and performed electron microscopy imaging experiments for commercial clients. Delivered accurate, statistically relevant information on schedule and to client satisfaction.

- Created and analyzed bioinformatic models and structural visualizations of nucleic acid structures. Developed novel software interfaces to address kinetic and thermodynamic binding properties on schedule and to client satisfaction,

- 2015-2019 **Associate Professor of Biochemistry, Metropolitan State University of Denver**
Generated and optimized electrochemical biosensors for monitoring biological toxins and proteins to create medical and research diagnostics for toxicity and cancer.
- 2011-2015 **Assistant Professor of Biochemistry, Metropolitan State University of Denver**
Focus on better understanding of DNA-based fluorescent and electrochemical biosensor design and implementation. Designed sensors for monitoring transcription factor levels to create medical and research diagnostics for cancer, immune rejection, and cellular differentiation.
- 2010-2011 **Postdoctoral Fellow, University of California Santa Barbara** Advisor: Kevin W. Plaxco
Design and implementation of novel bio-sensors based on aptamers and transcription factor:DNA recognition for the detection of renal failure, developmental progress, and oncogenesis.
- 2004-2010 **Graduate Student Research, Biomolecular Science and Engineering program, U.C. Santa Barbara**
Advisor: Norbert O. Reich. Developed novel total internal reflectance and fluorescence (TIRF) and Raman spectroscopic assays for the investigation of multiprotein transcriptional regulatory protein complexes across dsDNA microarrays.

Research Skills:

- Extensive biochemistry and molecular biology background: molecular cloning / DNA mutagenesis; protein interface characterization, structure prediction, and engineering; DNA/RNA structure prediction and design; CRISPR/Cas9 human genome-editing design; protein expression, modification, and labeling; enzyme kinetics and thermodynamics; SPR and TIRF binding affinity measurement; radiation training (H^3 and P^{32}).
- Polymers and nanomaterials: Cross-linking chemistry; hydrogel synthesis and characterization; DNA microarray fabrication; FPLC and HPLC purification; gold nanoparticle and nanorod development; GC-MS analysis.
- Spectroscopy and microscopy: fluorescent confocal microscopy; Raman optical spectroscopy; TEM and SEM microscopy; fluorescent anisotropy; AFM microscopy.
- Analytical Electrochemistry: square wave voltammetry; surface roughening; signal processing.
- Bioinformatics: Python coding for GUI and software development; next-generation sequencing (NGS) data analysis; data science and predictive machine learning; development of Python training materials.
- Experienced and comfortable at scientific writing, proposal writing, scientific presentations, and mentoring scientists at a broad range of experience levels.

Technical Skills:

- Computer programming, scripting, data science, machine learning, and web development. Bioinformatics; GUI and software development. Github profile: <https://github.com/Paradoxdruid>
- Proficient with Microsoft Office, Adobe Photoshop & Illustrator, video-editing, HTML & CSS web design, Wolfram Mathematica, Python and Pandas, and Linux server management.
- Experienced and comfortable at scientific writing, proposal writing, and scientific presentations.

Publications:

https://scholar.google.com/citations?user=_FLoVbkAAAAJ | h-index 17 | 2140 citations as of 2026-03-20

26. Robert H. Batchelor, Yunus A. Kaiyum, Emily Hoi Pui Chao, Nico Tenorio, Christabel Ofori, Stephanie A. Bird, Helen E.A. Brand, Josie E. Auckett, Mohammad Hashemi Karouei, Kelsey Richardson, Vojtech Vlcek, Philip E. Johnson, J. Justin Gooding, Andrew J. Bonham. **The Butterfly Structure of Leucomethylene Blue Results in Weak Binding to Single-or Double-Stranded DNA.** The Journal of Physical Chemistry B 2025. doi:10.1021/acs.jpcc.5c05704
25. Robert H. Batchelor, Essam M. Dief, Andrew J. Bonham, and J. Justin Gooding. **A Review of Methylene Blue's Interactions with DNA and Their Relevance for DNA-Based Sensors.** ACS Sensors 2025. doi:10.1021/acssensors.5c00336
24. Keaton Silver, Andrew Smith, Haley V. Colling, Nico Tenorio, Teisha J. Rowland, and Andrew J. Bonham. **Electrochemical Aptamer-Based Biosensor for Detecting Pap31, a Biomarker for Carrion's Disease.** MDPI Sensors 2024. doi: 10.3390/s24227295

23. Mary Quansah, Lisa Fetter, Autumn Fineran, Haley V. Colling, Keaton Silver, Teisha J. Rowland, and Andrew J. Bonham. **Rapid and Quantitative Detection of Lung Cancer Biomarker ENOX2 Using a Novel Aptamer in an Electrochemical DNA-Based (E-DNA) Biosensor.** MDPI Biosensors 2023. doi: 10.3390/bios13070675
22. Ashlynn M. Barnes, Tessa B. Holmstoen, Andrew J. Bonham, and Teisha J. Rowland. **Differentiating Human Pluripotent Stem Cells to Cardiomyocytes Using Purified Extracellular Matrix Proteins.** MDPI Bioengineering 2022. doi:10.3390/bioengineering9120720
21. Anna B. N. Nguyen, Marcos Maldonado, Dylan Poch, Tyler Sodja, Andrew Smith, Teisha J. Rowland, Andrew J. Bonham. **Electrochemical DNA Biosensor That Detects Early Celiac Disease Autoantibodies.** Sensors 2021. doi: 10.3390/s21082671
20. Teisha J. Rowland, Andrew J. Bonham, Thomas R. Cech. **Allele-specific proximal promoter hypomethylation of the telomerase reverse transcriptase gene (TERT) associates with TERT expression in multiple cancers.** Molecular Oncology 2020. doi: 10.1002/1878-0261.12786
19. Brisa Peña, Marcos Maldonado, Andrew J Bonham, Brian A. Aguado, Antonio Dominguez-Alfaro, Melissa Ronni Laughter, Teisha J Rowland, James R. Bardill, Nikki Farnsworth, Nuria Alegret Ramon, Matthew R. G. Taylor, Kristi S. Anseth, Maurizio Prato, Robin Shandas, Timothy A. McKinsey, Daewon Park, and Luisa Mestroni. **A Gold Nanoparticle Functionalized Reverse Thermal Gel for Tissue Engineering Applications.** ACS Applied Materials & Interfaces 2019. doi: 10.1021/acsami.9b00666
18. Tru Tran, Andrew J. Bonham, Edward D. Chan, Jennifer R. Honda. **A paucity of knowledge regarding nontuberculous mycobacterial lipids compared to the tubercle bacillus.** Tuberculosis 2019, 115, p 96. doi:10.1016/j.tube.2019.02.008
17. Susan E. Jett, Andrew J. Bonham. **Reusable E-DNA Biosensor for the Detection of Water-borne Uranium.** ChemElectroChem 2017, 4(4), p 843. doi:10.1002/celec.201600617
16. Jessica Daniel, Lisa Fetter, Susan Jett, Teisha J. Rowland, Andrew J. Bonham. **Electrochemical aptamer scaffold biosensors for detection of botulism and ricin toxins.** Methods in Molecular Biology, Microbial Toxins: Methods and Protocols 2017. doi:10.1007/978-1-4939-6958-6_2
15. Lisa Fetter, Jonathan Richards, Jessica Daniel, Laura Roon, Teisha J. Rowland, Andrew J. Bonham. **Electrochemical aptamer scaffold biosensors for detection of botulism and ricin toxins.** Chemical Communications, 2015, 51, p 15137-15140. doi: 10.1039/C5CC05933J
14. Stephen R. Schaffner, Kathryn Norquest, Elina Baravik, Jody Stephens, Lisa Fetter, Ryan M. Masterson, Yerelsy Reyna, Andrew J. Bonham. **Conformational design optimization of transcription factor beacon DNA biosensors.** Sensing & BioSensing Research, 2014, 2, p 49. doi: 10.1016/j.sbsr.2014.10.007
13. B. Scott Ferguson, David A. Hoggarth, Dan Maliniak, Kyle Ploense, Ryan J. White, Nick Woodward, Kuangwen Hsieh, **Andrew J. Bonham**, Michael Eisenstein, Tod Kippin, Kevin W. Plaxco, H. Tom Soh. **Real-time, aptamer-based tracking of circulating therapeutic agents in living animals.** Science Translational Medicine, 2013, 5(213), p 165. doi: 10.1126/scitranslmed.3007095
12. Andrew J. Bonham, Nicole G. Padman, Francesco Ricci, and Kevin W. Plaxco. **Detection of IP-10 protein marker in undiluted blood serum via an electrochemical E-DNA scaffold sensor.** Analyst, 2013, 138(19), p 5580-5583, doi: 10.1039/c3an01079a
11. Andrew J. Bonham, Leah M. Osslund, Aaron J. Prussin II, Nikola Wentz, Uwe Vinkemeier, and Norbert O. Reich. **STAT1 DNA-sequence dependent binding specificity modulation by phosphorylation, protein:protein interactions, and small molecules.** Nuc. Acids Res., 2012, doi: 10.1093/nar/gks1085
10. Andrew J. Bonham, Kuangwen Hsieh, B. Scott Ferguson, Alexis Vallée-Bélisle, Francesco Ricci, H. Tom Soh, and Kevin W. Plaxco. **Quantification of Transcription Factor Binding in Cell Extracts Using an Electrochemical, Structure-Switching Biosensor.** J. Am. Chem. Soc., 2012, 134 (7), 3346–3348. doi:10.1021/ja2115663

9. Andrew J. Bonham, Alexis Vallée-Bélisle, Norbert O. Reich, Francesco Ricci, and Kevin W. Plaxco. **Transcription Factor Beacons for the Quantitative Detection of DNA Binding Activity.** J. Am. Chem. Soc., 2011, 133 (35), 13836–13839. doi:10.1021/ja204775k
8. Aaron A. Rowe, Andrew J. Bonham, Ryan J. White, Michael P. Zimmer, Ramsin J. Yadgar, Tony M. Hobza, Jim Honea, Ilan Ben-Yaacov, Kevin W. Plaxco. **CheapStat: an open-source, "do-it-yourself" potentiostat for analytical and educational applications.** PLoS ONE, Sep 13, 2011, doi:10.1371/journal.pone.0023783
7. Aaron A. Rowe, Ryan J. White, Andrew J. Bonham, Kevin W. Plaxco. **Fabrication of Electrochemical-DNA Biosensors for the Reagentless Detection of Nucleic Acids, Proteins and Small Molecules.** Journal of Visualized Experiments, 2011, 52, doi:10.3791/2922
6. Andrew J. Bonham. **Novel optical techniques for exploring the DNA binding affinity and specificity of eukaryotic transcription factors and transcription factor complexes.** Dissertation, 2010: <http://proquest.umi.com/pqdweb?did=2031660581&Fmt=2&RQT=309>
5. Thorsten Neumann, Andrew J. Bonham, Gregory Dame, Bernd Berchtold, Oswald Prucker, Norbert O. Reich, and Juergen Ruehe. **Temperature and time resolved TIRF analysis of reusable DNA hydrogel chips.** Anal. Chem., 2010, 82(14), 6124-6131, doi:10.1021/ac1008578
4. Teisha Jane Rowland, Liane M. Miller, Alison J. Blaschke, E. Lauren Doss, Andrew J. Bonham, Sherry T. Hikita, Lincoln V. Johnson, Dennis O. Clegg. **Roles of Integrins in Human Induced Pluripotent Stem Cell Growth on Matrigel and Vitronectin.** Stem Cells and Development. doi:10.1089/scd.2009.0328
3. Andrew J. Bonham, Thorsten Neumann, Matthew Tirrell, and Norbert O. Reich. **Tracking transcription factor complexes on DNA using total internal reflectance fluorescence protein binding microarrays.** Nuc. Acids Res., 2009, 37(13), e94, doi:10.1093/nar/gkp424
2. Francesco Ricci, Andrew J. Bonham, Aaron C. Mason, Norbert O. Reich, and Kevin W. Plaxco. **Reagentless, Electrochemical Approach for the Specific Detection of Double- and Single-Stranded DNA Binding Proteins.** Anal. Chem., 2009, 81 (4), p 1608–1614, doi:10.1021/ac802365x
1. Andrew J. Bonham, Gary Braun, Ioana Pavel, Martin Moskovits, and Norbert O. Reich. **Detection of Sequence-Specific Protein-DNA Interactions via Surface Enhanced Resonance Raman Scattering.** J. Amer. Chem. Soc., 2007, 129 (47), p 14572–14573, doi:10.1021/ja0767837

Presented Research:

27. **American Chemical Society Fall 2024**
Poster on "Electrochemical aptamer-based (E-AB) biosensor for nontuberculous mycobacterial (NTM) glycopeptidolipids". American Chemical Society, Denver, CO, August 18, 2024.
26. **DiscoverBMB 2023**
Poster on "Techniques and insights on teaching Python programming for chemists". American Society for Biochemistry & Molecular Biology, Seattle, WA, March 28, 2023.
25. **Biennial Conference on Chemical Education 2022**
Invited talk on "Techniques and insights on teaching Python programming for chemists". American Chemical Society, Lafayette, IN, August 3, 2022.
24. **Experimental Biology 2022**
Poster on "Pyllelic, a Software Suite for Examining Allelic DNA CpG Methylation Patterns in Genomic Datasets". American Society for Biochemistry & Molecular Biology, Philadelphia, PA, April 4, 2022.
23. **Conference on Learning and Teaching with Technology 2020**
Invited talk on "Techniques and insights on teaching Python programming for chemists". University of Colorado, Boulder, August 5, 2020.
22. **Biennial Conference on Chemical Education 2020**
Invited talk on "Techniques and insights on teaching Python programming for chemists". Abstract accepted March 31, 2020. Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of

Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.

21. **Quantitative Biosciences & Engineering Seminar**
Invited talk on "Strategies for Electrochemical DNA Biosensing of Biological and Environmental Toxins". Colorado School of Mines, February 21, 2020.
20. **Experimental Biology 2019**
Invited talk on "Electrochemical Biosensor Targeting the Cancer Biomarker Human Ecto-NOX Disulfide-Thiol Exchanger 2 (ENOX2)". American Society for Biochemistry & Molecular Biology, Orlando, FL, April 8, 2019.
19. **Aptamers in Boulder 2018**
Poster on "Development of Algorithmic Design Techniques for Electrochemical Conformation Shift DNA Biosensors". Aptamers in Boulder, Boulder, CO, August 3, 2018.
18. **Biennial Conference on Chemical Education 2018**
Invited talk on "Increasing engagement in biochemistry lecture through the chemistry of cooking". American Chemical Society, Notre Dame, IN, August 1, 2018.
17. **Biennial Conference on Chemical Education 2018**
Invited talk on "Exploring NSF S-STEM program student outcomes and benefits to departmental culture". American Chemical Society, Notre Dame, IN, August 1, 2018.
16. **Experimental Biology 2018**
Poster on "Utilizing Design Principles of Electrochemical DNA Aptamer Biosensors in Multiple Optical Assay Methodologies ". American Society for Biochemistry & Molecular Biology, San Diego, CA, April 23, 2018.
15. **Experimental Biology 2017**
Invited talk for spotlight symposium on "Development of Algorithmic Techniques for Designing Electrochemical DNA Biosensors". American Society for Biochemistry & Molecular Biology, Chicago, IL, April 25, 2017.
14. **Experimental Biology 2016**
Poster on "Strategies to Enable Practical Electrochemical Diagnostics for Proteins and Small Molecules". American Society for Biochemistry & Molecular Biology, San Diego, CA, April 4, 2016.
13. **Experimental Biology 2015**
Poster on "Electrochemical DNA Biosensors for Point-of-Care Protein and Toxin Detection". American Society for Biochemistry & Molecular Biology, Boston, MA, March 29, 2015.
12. **Experimental Biology 2014**
Invited talk on "Structure-switching biosensors for the quantitative measurement of protein:protein interactions involved in aberrant transcriptional activity". American Society for Biochemistry & Molecular Biology, San Diego, CA, April 28, 2014.
11. **American Chemical Society National Meeting, Dallas 2014**
Talk on "Structure-switching biosensors for the quantitative measurement of protein:protein interactions involved in aberrant transcriptional activity". American Chemical Society, Dallas, TX, March 16, 2014.
10. **Colorado Learning and Teaching with Technology Conference 2013**
Invited talk on "Avoiding Frankenstein's Monster: Integrated Classrooms Without Tech Running Amok". University of Colorado Boulder, Boulder, CO, August 7, 2013.
9. **AASCU Academic Affairs Summer Meeting 2013**
Invited talk on "Flipping the Classroom: New Strategies for Modern Learning". American Association of State Colleges and Universities, Baltimore, MD, July 27, 2013.
8. **Experimental Biology 2013**

Poster on "Structure-switching biosensors for the quantitative measurement of protein:protein interactions involved in aberrant transcriptional activity". American Society for Biochemistry & Molecular Biology, Boston, MA, April 20, 2013.

7. **Colorado Learning and Teaching with Technology Conference 2012**
Talk on "Transforming Teaching with Technology: A Learning Community". University of Colorado Boulder, Boulder, CO, August 1, 2012.
6. **METROLEADS (MSU Denver Leadership Forum)**
Invited talk on "The Flipped Classroom". MSU Denver, Denver, CO, January 25, 2013.
5. **MSU Denver Teaching and Learning with Technology Symposium**
Talk on "Transforming Teaching with Technology". MSU Denver, Denver, CO, October 26, 2012.
4. **Rocky Mountain Regional Meeting of the American Chemical Society**
Invited talk on "Structure-switching DNA biosensors for protein detection in complex fluids". American Chemical Society, Westminster, CO, October 19, 2012.
3. **International Conference on Biomolecular Engineering**
Invited talk on "Transcription Factor Beacons: Optical Switching Probes Driven by Native Interactions". Society for Biological Engineering, San Francisco, CA, January 15, 2011.
2. **ASBMB Transcriptional Regulation by Chromatin and RNA Polymerase II Meeting**
Poster on "Investigating General Transcription Factor complexes on DNA using total internal reflectance fluorescence protein binding microarrays". American Society for Biochemistry and Molecular Biology, Lake Tahoe, CA, October 18, 2008.
1. **Recent Advances and New Directions in Bio-Nanotechnology Symposium**
Invited talk on "Bio-inspired assembly of functional inorganic materials". University of California Santa Barbara, Santa Barbara, CA, August 8, 2007.