Curriculum Vitae: Ashley E. Ross

CONTACT INFO
Email: Ashley.ross@uc.edu
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POSITIONS:

Associate Professor, Department of Chemistry, University of Cincinnati 2022-present
Faculty in Neuroscience Graduate Program & Member of the Center for Pediatric Neuroscience and UC Cancer Center

Assistant Professor, Department of Chemistry, University of Cincinnati 2017-present

Postdoctoral Scholar, University of Virginia (Advisor: Rebecca Pompano) 2014-2017

EDUCATION:

Ph.D., Analytical Chemistry, University of Virginia 2014
Dissertation: Optimization of adenosine detection and characterization of adenosine function using fast-scan cyclic voltammetry (Advisor:Jill Venton)

B.S., Chemistry, *Magna Cum Laude*, Christopher Newport University 2009

CURRENT GRANTS AND FUNDING:

Research Corporation for Science Advancement (RCSA), Scialog: Microbiome, Neurobiology, and Disease Collaborative Award
07/15/2022-07/14/2023, $55,000
“Unraveling the effect and mechanism of enteric microbiota-neuron communication in aging”
Role: PI, Co-PI: Dr. Yanjiao Zhou (UCHC)

Hans Jaffe Faculty Award, University of Cincinnati
04/25/2022-04/25/2024, $10,000

Alfred P. Sloan Fellowship
09/15/2022-09/14/2024, $75,000

National Science Foundation
01/01/2022-12/31/2026, $675,001
“CAREER: Tunable graphene microelectrodes for real-time biological sensing” Award 2143520
Role: PI

RCSA, Scialog: Microbiome, Neurobiology, and Disease Collaborative Award
07/01/2021-06/30/2023, $55,000
“Engineering enteric neuron activity to enhance antimicrobial immunity in the gut”
Role: PI, Co-PI’s: Drs. Maayan Levy (UPenn) and Kai Zhang (UIUC)

National Institutes of Health, National Institute of Neurological Disorders and Stroke (NINDS)
02/2021-01/2026, $1,906,984
“Monitoring rapid guanosine signaling during ischemia” R01NS121426
Role: PI

National Institutes of Health, National Institute of Allergy and Infectious Diseases (NIAID), 09/2020-08/2025, $1,931,010
“Monitoring neurochemical signaling dynamics in the lymph node” R01AI151552
Role: PI

HONORS AND AWARDS:

Top 40 Under 40 Power List-Analytical Scientist	2022
Hans Jaffe Faculty Award	2022
2022 Alfred P. Sloan Fellow	2022
OoR 1st Time Sponsored Research Awardee	2021
ChemComm Emerging Investigator	2020
Finalist, Bioanalysis Zone Rising Star	2020
RCSA Scialog: Microbiome, Neurobiology, and Disease Fellow	2020
MUACC James W. & Caroline L. Taylor and	2019
Division of Analytical Chemistry at ACS Travel Funds to MUACC	
Analyst Emerging Investigator	2018
American Association of Immunologists Careers in Immunology Fellowship	2016
New Horizons Travel Grant, University of Virginia	2016
Robert J. Huskey Travel Fellowship, University of Virginia	2014
Robert J. Huskey Travel Fellowship, University of Virginia	2012
Christopher Newport University Chemistry Departmental Honor Award	2009
ACS Division of Environmental Chemistry Undergraduate Award	2009
NASA Group Achievement Award for the Surface Ozone Protocol for the GLOBE Project	2009

PUBLICATIONS:

Peer-reviewed journal articles (while at University of Cincinnati):

26. N.Delmo, B. Mostafiz, **A.E. Ross**, J. Suni, and E. Peltola. Developing an electrochemical sensor for the in vivo measurements of dopamine (tutorial review). Submitted.

25. B.J. Ostertag and **A.E. Ross**. Wet-spun porous carbon microfibers for enhanced electrochemical detection. In Review.

24. R. Jarosova, B.J. Ostertag, and **A.E.Ross**. Graphene oxide fiber microelectrodes with controlled sheet alignments for sensitive neurotransmitter detection. Under Review.

23. L.M. Delong and **A.E. Ross**. Open multi-organ communication device for easy interrogation of tissue slices. In Revision.

22. M.E. Weese-Myers, M.T. Cryan, C.E. Witt, K.C.N. Caldwell, B. Modi, and **A.E. Ross**. Dynamic and rapid detection of guanosine during ischemia. In Revision.

21. M.E. Weese-Myers and **A .E. Ross**. Electrochemical characterization 17β-estradiol with fast-scan cyclic voltammetry. In Revision.

20. M.T. Cryan, Y. Li, and **A.E. Ross**. Sustained delivery of focal ischemia coupled to real-time neurochemical sensing in brain slices. *Lab on a Chip,* 2022, 22, 2173-2184. https://doi.org/10.1039/D1LC00908G

19. A.L. Keller, S.M. Quarin, P. Strobbia, and **A.E. Ross**. Platinum nanoparticle size and density impacts purine electrochemistry with fast-scan cyclic voltammetry. *J. Electrochem. Soc*. 2022, 169, 046514. https://doi.org/10.1149/1945-7111/ac65bc

18. Y.Li, R. Jarosova, M.E. Weese-Myers, and **A.E. Ross**. Graphene-fiber microelectrodes for ultrasensitive neurochemical detection. *Analytical Chemistry*, 2022, 94 (11), 4803-4812. https://pubs.acs.org/doi/full/10.1021/acs.analchem.1c05637

17. B.J. Ostertag, M.T. Cryan, J.M Serrano, G. Liu, **A.E. Ross**. Porous carbon nanofiber-modified carbon-fiber microelectrodes for dopamine detection. *ACS Applied Nano Materials*, 2022, 5(2), 2241-2249. https://pubs.acs.org/doi/10.1021/acsanm.1c03933

16. M.E. Weese-Myers and **A.E. Ross**. Characterization of electroactive amino acids with fast-scan cyclic voltammetry. *J. Electrochem. Soc.* (**SEAC Themed Collection),** 2021, 168, 126524. https://doi.org/10.1149/1945-7111/ac4187

15. A.J. Syeed*,†, Y.Li†, B.J. Ostertag, J.W. Brown*, and **A.E. Ross**. Nanostructured carbon-fiber surfaces for improved neurochemical detection. *Faraday Discussions*, 2022, 233, 336-353. DOI: 10.1039/D1FD00049G
†Co-first authors

14. Y. Li, A.L. Keller, M.T. Cryan, and **A.E. Ross.** Metal nanoparticle modified carbon-fiber microelectrodes enhance ATP surface interactions with fast-scan cyclic voltammetry. *ACS Measurement Science Au* (**invited)**, 2021, 2(2), 96-105. https://doi.org/10.1021/acsmeasuresciau.1c00026

13. A. Perry, M.T. Cryan, and **A.E. Ross**. Extended sawhorse waveform for stable zinc detection with fast-scan cyclic voltammetry. *Analytical Bioanalytical Chemistry*, 2021, 413(27), 6727-6735. (**Electrochemistry for Neurochemical Analysis themed collection**) https://pubmed.ncbi.nlm.nih.gov/34268588/

12. Yuxin Li and **A.E. Ross**. Amine-functionalized carbon-fiber microelectrodes for enhanced ATP detection with fast-scan cyclic voltammetry. *Analytical Methods*, 2021, 13, 2320-2330. https://doi.org/10.1039/D1AY00089F

11. G.N. Lim and **A.E. Ross**. Subsecond spontaneous catecholamine release in mesenteric lymph node ex vivo. *Journal of Neurochemistry*, 2020, 155(4), 417-429. 10.1111/jnc.15115

10. Y.Li, C.M. Fleischer*, **A.E. Ross**. High Young's modulus carbon fibers are fouling resistant with fast-scan cyclic voltammetry. *Chem. Commun*. 2020, 56, 8023 – 8026. (**invited publication, ChemComm Emerging Investigators Issue 2020 and selected for Back Cover**). 10.1039/d0cc02517h

9. S.L. Regan, M.T. Cryan, M. Williams, C.V. Vorhees, and **A.E. Ross**. Enhanced transient striatal dopamine release and reuptake in *Lphn3* KO rats. *ACS Chemical Neuroscience*, 2020, 11(8), 1171-1177. https://doi.org/10.1021/acschemneuro.0c00033

8. M.C. Belanger, A.W.L. Kinman, M.A. Catterton, A.G. Ball, B.D. Groff, S.J. Melchor. J.R. Luckens, **A.E. Ross** and R.R. Pompano. Acute lymph node slices are a functional model system to study immunity ex vivo. *ACS Pharmacology & Translational Science*, 2021*,* 4(1), 128-142. https://doi.org/10.1021/acsptsci.0c00143

7. L.M. Delong, Y.Li, G.N. Lim, S.G. Wairegi*, and **A.E. Ross**. A microfluidic electrochemical flow cell capable of rapid on-chip dilution for fast-scan cyclic voltammetry electrode calibration. *Anal. Bioanal. Chem*. 2020, 412 (24), 6287-6294. https://doi.org/10.1007/s00216-020-02493-z (**invited publication, Female Role Models in Analytical Chemistry Themed Issue**).

6. Yuxin Li and **A.E. Ross**. Plasma-treated carbon-fiber microelectrodes for improved purine detection with fast-scan cyclic voltammetry. *Analyst,* 2020, 145, 805-815. https://doi.org/10.1039/C9AN01636H (**invited publication, Analytical Science in Neurochemistry Themed Issue**)

5. M.T. Cryan and **A.E. Ross.** Scalene waveform for co-detection of guanosine and adenosine with fast-scan cyclic voltammetry. *Anal. Chem*. 2019, 91(9), 5987-5993. https://doi.org/10.1021/acs.analchem.9b00450 **(Featured in the 2020 Advisory Board Members Collection)**

4. M.E. Weese*, R.A. Krevh*, Y.Li, N.T. Alvarez, **A.E. Ross**. Defect sites modulate fouling resistance on carbon-nanotube fiber electrodes. *ACS Sens*. 2019, 4 (4), pp 1001–1007. (**Featured in Rising Stars in Sensing Virtual Issue**). https://doi.org/10.1021/acssensors.9b00161

3. G.N. Lim and **A.E. Ross.** Purine functional group type and placement modulate the interaction at carbon-fiber microelectrodes. *ACS Sens*., 2019, 4(2), 479-487. https://doi.org/10.1021/acssensors.8b01504

2. M.T. Cryan and **A.E. Ross**. Subsecond detection of guanosine using fast-scan cyclic voltammetry. *Analyst (Emerging Investigator Series*), 2019, 144, 249-257. https://doi.org/10.1039/C8AN01547C

1. A.L. Hensley*, A.Colley*, and **A.E. Ross.** Real-time detection of melatonin using fast-scan cyclic voltammetry. *Anal Chem.* 2018. 90 (14), 8642-8650. DOI: 10.1021/acs.analchem.8b01976.

*Indicates undergraduate researcher

Work prior to UC:

11. **A.E. Ross** and R.R. Pompano. Diffusion of cytokines in live lymph node tissue using microfluidic integrated optical imaging. *Analytica Chemica Acta*, 1000, 205-213, 2018. **Invited publication.**

10. **A.E. Ross**, M. Belanger, J. Woodroof, R.R. Pompano. Spatially resolved microfluidic stimulation of lymphoid tissue ex vivo. *Analyst*, 142, 649-659, 2017.

9. M.D. Nguyen, **A.E. Ross**, M. Ryals, S.T. Lee, and B.J. Venton. Clearance of rapid adenosine release is regulated by nucleoside transporters and metabolism. *Pharmacology and Research Perspectives* 3(6), e00189, 2015.
8. **A.E. Ross** and B.J. Venton. Adenosine transiently modulates dopamine by A1 receptors in the caudate putamen. *J. of Neurochem*, in 132(1), 51-60, 2015.

7. A.G. Zestos, C.B. Jacobs, E. Trikantzopoulos, **A.E. Ross**, B.J. Venton; Polyethylenimine carbon nanotube fiber electrodes for enhanced detection of neurotransmitters. *Anal. Chem*., 86(17), 8568-8575, 2014.

6. **A.E. Ross** and B.J. Venton. Sawhorse waveform voltammetry for selective detection of adenosine, ATP, and hydrogen peroxide. *Anal. Chem*. 86(15), 7486-7493, 2014.

5. **A.E. Ross**, M.D. Nguyen, E. Privman, and B.J. Venton. Mechanical stimulation evokes rapid increases in extracellular adenosine concentration in the prefrontal cortex. *J. of Neurochem*, 130 (1), 50-60, 2014.

4. M.D. Nguyen, S.T. Lee, **A.E. Ross**, M. Ryals, V.I. Chaudhry, and B.J. Venton. Characterization of spontaneous, transient adenosine release the caudate-putamen and prefrontal cortex. *PLOS one*, 9(1): e87165.

3. H. Fang, M. L. Pajski, **A.E. Ross**, B.J. Venton. Quantitation of dopamine, serotonin, and adenosine in a single brain slice using capillary electrophoresis with fast-scan cyclic voltammetry. *Analytical Methods*, 5, 2704-2711, 2013.

2. **A.E. Ross** and B.J. Venton. Nafion-CNT coated carbon-fiber microelectrodes for enhanced detection of adenosine. *Analyst*, 137 (13), 3045-3051, 2012.

1. M.J. Peairs*, **A.E. Ross***, and B.J. Venton. Comparison of Nafion- and overoxidized polypyrrole carbon-nanotube electrodes for neurotransmitter detection. *Analytical Methods*, 3, 2379-2386, 2011.
*Equal contribution

Book Chapters:

A.E. Ross and B.J. Venton. Electrochemical detection of adenosine *in vivo.* In, "Advances in real-time molecular neuroscience. Compendium of In Vivo Monitoring in Real-Time Molecular Neuroscience (Volume 1)". World Scientific Publishing Co: Singapore, Editors: G.S. Wilson and A.C Michael, 2014.

PRESS RELEASES:

1. Zeiss Microscopy Feature Story: https://www.zeiss.com/microscopy/en/resources/insights-hub/life-sciences/brain-immune-communication.html
2. ACS Spring 2022 Press Release on "Coffee Electrodes" Project www.acs.org/coffeeelectrode and https://www.acs.org/content/acs/en/pressroom/newsreleases/2022/march/waste-coffee-grounds-could-someday-help-detect-brain-waves.html
3. UC News Article on Sloan Fellowship: https://www.uc.edu/news/articles/2022/03/uc-researcher-named-a-2022-sloan-fellowship-recipient.html?utm_source=cerkl&utm_medium=email&utm_campaign=newsletter-03162022&cerkl_id=15458111&cerkl_ue=ZL%252BlRMUhJRs%252Fmn22zWC24abpx%252F%252BWGKkzz5E8YIarqCo%253D
4. UC News Article on Funding: https://www.uc.edu/news/articles/2021/03/for-good-health-trust-your-gut.html

INVITED TALKS:

Michigan State University, Department of Chemistry, TBD, **Fall 2023**.

Fall 2023 American Chemical Society (ACS) National Meeting in the "Nano- and Microstructured Materials and Interfaces for Human Health" Symposium. TBD, **August 2023**.

University of Texas Austin, Department of Chemistry, **July 2023**.

The Electrochemical Society Spring Meeting, "Microfluidic Electrochemistry" Symposium, Boston MA, **May 2023**.

Pittcon, Philadelphia, PA, TBD. **March 2023**

Colorado State University, Department of Chemistry, TBD, **March 2023.**

Virginia Tech, Department of Chemistry, Pushing the limits of neurochemical detection, **February 2023**.

IUPUI, Department of Physics. TBD. **February 2023.**

2022 AES Electrophoresis Society Annual Meeting at SciX, **October 2022**, TBD

Gordon Research Conference Electrochemistry, Ventura CA, **September 2022**, Pushing the Limits of Neurochemical Detection with Nanoengineered Carbon Surfaces

73rd Annual Meeting of the International Society of Electrochemistry (ISE), 2022 Virtual Meeting (originally Xiamen, China), Nanoengineered Carbon Surfaces for Ultrasensitive Neurochemical Detection, **September 2022**

Institute of Neuroscience and Medicine (INM), Jülich Forschungszentrum and TWTH Aachen University (Germany), TBD, **June 2022**.

Collaborative for Research on Acute Neurological Injuries (CRANI) 2022 Meeting, UC Health, **April 2022**.

Wright State University, Department of Chemistry, **March 2022**.

Ball State University, Department of Chemistry, New analytical approaches to measure brain-immune communication, **February 2022.**

Faraday Discussions on “Next Generation Nano-Electrochemstry”, Nanostructured carbon fibers for enhanced neurochemical detection, **November 2021**.

MicroTAS, Invited presenter for “Sensor Integration for Microsystems” workshop, Palm Springs, CA, **October 2021**.

Case Western Reserve University, Department of Chemical and Biomolecular Engineering, New analytical approaches to measure brain-immune communication,, **October 2021**

University of Michigan, Department of Chemistry, **September 2021**, “New analytical approaches to measure brain-immune communication”

Tufts University, Department of Chemistry, **September 2021**, “New analytical approaches to measure brain-immune communication”

University of Illinois Urbana Champaign, Department of Chemistry, **September 2021**, “New analytical approaches to measure brain-immune communication”

Wayne State University, Department of Chemistry, **September 2021**, “New analytical methods to stimulate and detect brain-immune communication”

Cleveland State University, Department of Chemistry, **September 2021**. “New analytical approaches to measure brain-immune communication”

ACS National Meeting Fall 2021, “Analytical approaches to detect neuroimmune signaling” in the “Celebrating Underrepresented Chemists in Analytical Chemistry” symposium. **August 2021**, *invited symposium presider.*

The Electrochemical Society Spring Meeting (Invited to the Advances in Organic and Biological Electrochemistry Symposium in honor of Dennis Peters”, Chicago IL, **May 2021**, “Investigations of the purine-electrode interface with fast-scan cyclic voltammetry”, *Symposium co-chair*

University of Illinois Chicago, Dept. of Chemistry, **February 2021**, “Combining electrochemistry and microfluidics to study neuro-immune communication”

Brigham Young University, Dept. of Physiology and Developmental Biology, **January 2021**. “Developing tools to measure dynamic guanosine signaling during focal ischemia”

University of Arkansas, Dept. of Chemistry, **December 2020**. “Developing tools to measure neuro-immune communication”

George Mason University, Dept. of Chemistry, **October 2020**. “New analytical approaches to probe communication between the gut and the brain”

University of Iowa, Dept. of Chemistry, **October 2020**. “Using electrochemistry to measure signaling along the gut-brain axis”

American University, Dept. of Chemistry, **September 2020**. “New analytical approaches to probe communication between the gut and the brain”

ACS Fall 2020 National Meeting. Invited to ACS Sensors Emerging Investigators Symposium (Virtual), **August 2020**. "Novel carbon surfaces for real-time neurochemical detection."

Monitoring Molecules in Neuroscience International Meeting (Invited Symposium), Lyon, France, **June 2020**. **postponed to June 2022 due to COVID19**

ACS CERM Regional Meeting, Columbus OH, **May 2020.** **postponed to Nov 2020 due to COVID19**

Pittcon, Chicago, IL. **March 2020** "Improving FSCV detection: Novel carbon surfaces and microfluidic platforms for controlled detection."

University of Cincinnati, Oesper Symposium to honor Mark Wightman, **September 2019,** "Subsecond detection of neuroimmune communication in the lymph node"

University of Cincinnati, University of Bordeaux Plenary Talk. **May 2019**, "Real-time detection of neuro-immune communication"

Wright State University, Dept. of Chemistry, **September 2018**. "Unraveling the mechanism of melatonin signaling in the immune system using fast-scan cyclic voltammetry."

3rd Annual Sensors Retreat, University of Cincinnati. **January 2018**, "Rapid electrochemical sensing in the brain and immune system"

University of Cincinnati College of Medicine: Neuroscience Seminar, **September 2017**, "Rapid neurochemical sensing within the brain-immune system"

Huntington University, Dept of Chemistry, **November 2017**, "Spatially and temporally resolved electrochemical detection of brain-immune interactions on-chip"

Prior to UC:
A.E. Ross and R.R. Pompano. Transport analysis of cytokines in live lymph node tissue on-chip. American Chemical Society National Meeting, Washington DC, August 2017.

A.E. Ross and R.R. Pompano. Spatially discrete targeting of lymph node slices on a microfluidic chip. Annual Post-doctoral Symposium University of Virginia, May 2015.

CONFERENCES/SYMPOSIUMS: (While at University of Cincinnati)

A.E. Ross. Investigating neurochemical interactions at the electrode surface. MUACC 2021.

A.E. Ross Pittcon 2021 **(2 talks)**

A.E. Ross. Analyte-specific tuning of the carbon electrode surface for improved detection with fast-scan cyclic voltammetry. GRC Electrochemistry, Poster. Ventura, CA. January 5-10, 2020.

A.E. Ross. Microengineered platforms to monitor gut-immune communication. MUACC at IUPUI 2019.

A.E. Ross. Subsecond monitoring of neurotransmitters in the lymph node. Pittcon, Philadelphia, PA March 2019.

A.E. Ross. Analytical tools to investigate neurotransmitter regulated immunity. MUACC at MSU 2018.

A.E. Ross. Detection of melatonin dynamics in the immune system using fast-scan cyclic voltammetry. ACS National Meeting. Boston 2018

M. Cryan and **A.E. Ross**. Optimizing subsecond guanosine detection using fast-scan cyclic voltammetry. ACS National Meeting. Boston 2018

M. Cryan and **A.E. Ross**. Subsecond guanosine detection in the brain using fast-scan cyclic voltammetry. UC Gardner Neuroscience Institute/Neuroscience Research Center Research Day. Cincinnati Children's Hospital. April 17th, 2018.

A. Hensley*, A. Colley*, and **A.E. Ross.** Rapid electrochemical monitoring in the immune system. SEAC poster session at PITTCON, Orlando FL, March 2018.
*undergraduate researchers

TEACHING EXPERIENCE:

University Experience:

Survey of Biochemistry Lecture and Lab (CHEM 2030/2030L)	2018-2021
Special Topics in Analytical Chemistry: Bioanalytical methods (CHEM 8029)	2017

Pre-K and Primary Education Experience:

Brain Sensors Outreach events (Dr. Ross's Brain Blast) at Downtown Cincinnati Library	2019-2020
STEM Outreach at Indian Hill Primary	May 2018
Volunteer instructor for Fairview-Clifton outreach event	March 2018
Volunteer science instructor for the UVA chemistry LEAD program	2013-2016

Teaching professional development:

Course Design Institute "Designing Engaging Courses" 4-day workshop	May 2018
Documenting effective teaching for RPT workshop	January 2018
GATE: Models of Teaching excellence (MOTE)	January 2018
CET&L Brownbag on Active learning and Evidence-based practices	July 2017
Process oriented guided inquiry learning (POGIL) 2-day workshop	2014

SERVICE

(1) ACADEMIC SERVICE:

- Research and Lab Culture Mini-Group, Spring 2023-Present
- Community and Camaraderie (w/ DEI) Mini-Group, Spring 2023-Present
- Chair of Graduate Admissions, Fall 2022-present
- Departmental Executive Committee, Fall 2022-present
- Member of Departmental Head search committee, Spring 2022
- Chair of faculty search committee, Fall 2021-Spring 2022
- Early career panel member for faculty orientation (Office of Research), Winter 2021 and Fall 2021
- UC Women in Science and Engineering (WISE) mentor, Summer 2021
- Search committee member-VAP/Teaching Post doc, Spring 2021
- PR1ZE Mentorship Program Student Affairs- Mentor 2020-present
- Diversity, Equity, and Inclusion (DEI) in Research Advisory Council Member, Fall 2020-Current
- Equity and Inclusion Task Force, Department of Chemistry, Fall 2019-Current
- Aspire IChange Team, Diversity University-wide Committee, Fall 2019-Fall 2020
- Graduate admissions committee, 2018-2022
- Search Committee member for Bioanalytical Chemistry tenure-track position, Fall 2019
- Organized the Annual Oesper Symposium to honor Dr. Mark Wightman, September 2019
- Organized Graduate Recruitment Weekend, March 2019
- Headship Committee, 2018
- Organized Summer Research Program, 2018

- Dissertation committee member for Samantha Regan (Neuroscience graduate student)
- Current committee member on 16 pre-doctoral students (Scott Abernathy, Chethani Ruhunage, Artur Huseinov, Hope Kumakli, Mennatullah Mokhtar, Essraa Khalil, Waruni Senanayak, Sanduni Abeykoon, Audrey Pumford, Rabin Siwakoti, Sumedhi Jayasekara, Maryum Irshad, Krishan Walpalage, Sushila Thapa, Swankita Lnu, Alaa Hassan)
- Elected member, RPT Committee, 2018 and 2020

(2) ELECTED/INVITED SERVICE:

- Chemical Society Reviews Advisory Board, Royal Society of Chemistry, 2022-2024
- Analyst Advisory Board, Royal Society of Chemistry 2022-2024
- Invited to the Paul G. Allen Frontiers Group "Big Ideas" Session, December 2021
- Guest editor, themed collection "Electrochemistry for Neurochemical Analysis" in Analytical Bioanalytical Chemistry (Springer Journal), 2020-2021
- Elected to the Society of Electroanalytical Chemistry Board of Directions, 2020-2025
- Editorial Advisory Board (Features Panel) for ACS Analytical Chemistry. January 2019-December 2022
- Chair of the "Advances in Electrochemistry Session" for Analytical Division at Fall ACS meeting in Boston August 2018.

(3) PROFESSIONAL SERVICE:

- Co-organizer of MUACC 2022 at University of Cincinnati
- Co-Organizer of SEAC Student Meeting at Pittcon, (Postponed to March 2023)
- Panel Reviewer, Special Emphasis Panel in NIH ISD Study Section Fall 2021
- Co-organizer of DEI in Analytical Chemistry's ACDC Virtual Seminar Series, Fall 2020-Present
- Founder and organizer of Diversity, Equity, and Inclusion in Analytical Chemistry Slack June 2020-present
- Panel Reviewer, NIH CMT Study Section Fall 2020
- Reviewer for: Journal of Immunological Methods, Journal of the American Chemical Society, Journal of Neurochemistry, ACS Advanced Materials, ACS Analytical Chemistry, ACS Chemical Neuroscience, RSC Analytical Methods, RSC Analyst, Analytica Chemica Acta, RSC Analytical Methods, Journal of Electrochemical Society (ECS), Electrochemical Society Journal, Angwandte Chemie, Electrochemica Acta
- Judge for UC Undergraduate Scholarly Showcase 2018-present
- Reviewer for Neuroscience Research Day at UC-poster session 2018-present

PROFESSIONAL TRAINING AND DEVELOPMENT:

Recognizing depression/anxiety in students, CAPS	Spring 2020
NSF CAREER Workshop, Washington DC	May 2019
Writing Winning Grant Proposals-NIH Workshop	April 2018
Early CAREER Proposal Workshop	April 2018
UC Accelerator: Process, Opportunities, and Mini-workshop	March 2018
How to work with program officer's session	November 2017
Taking control of the RPT Process workshop	November 2017
Building a strong dossier: RPT Preparation by AAUP	October 2017
Communicating your research OoR session	October 2017
Proposal Development: UC Infrastructure	October 2017
How to find funding opportunities	September 2017

PROFESSIONAL AFFILIATIONS:

International Society of Electrochemistry Member 2020-present

American Chemical Society	2016-present
American Heart Association Member	2018-present
Society of Electroanalytical Chemistry (SEAC)	Lifetime member
American Association of Immunologists	2016-present
Society of Neuroscience	2019-present
Alpha Chi Honor Society, Virginia Zeta Chapter	2008-present