

Anahita Izadyar

Associate Professor
 Chemistry and physics department
 Arkansas State University
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Education

Shiraz university of Iran	Chemistry	B.S. 1994
Shiraz university of Iran	Analytical Chemistry	M.S. 2000
Shiraz university of Iran	Analytical Chemistry	Ph.D. 2008

Appointments

2018- present- Associate Professor of Chemistry, Arkansas State University (A-State)
 Department of Chemistry and Physics

2012- 2018- Assistant Professor of Chemistry, Arkansas State University (A-State)
 Department of Chemistry and Physics

2009–2012- Postdoctoral fellow, The University of Pittsburgh
 Department of Chemistry, Advisor: Professor Shigeru Amemiya

2006-2008- Visiting scholar, The University of Texas at Austin Center for Electrochemistry,
 Department of Chemistry and Biochemistry, Advisor: Professor Allen J. Bard

Institutional Responsibilities

Teaching duties at the undergraduate and graduate levels.
 Advising of undergraduate and graduate researchers.
 Service duties at the department, college and university level.
 Leading of an independent research group.

Teaching Activities

General chemistry I: bachelor freshman level course, fall (2013, 2014, 2015), spring (2 sections in 2015, 2018) and summer (2014, 2015, and 2016) semesters, 3 credits per semester.

General chemistry II: bachelor freshman level course, fall (2012, 2013), spring (2015, 2016, 2018) and summer (2013, 2017, 2018) semesters, 3 credits per semester.

Quantitative Analysis: bachelor junior and senior level course, spring (2013, 2014, and 2017), 3 credits lecture and one credit laboratory per semester.

Instrumentation: Senior level course and Masters level course (2015, 2016, and 2017), 3 credits lecture and one credit laboratory per semester.

Advanced Analytical Chemistry: Masters level course, fall (2012, 2014, 2016, 2017, and 2018) semester, 3 credits per semester.

Green Chemistry: Ph.D. and Masters level course, spring (2017) semester, 3 credits per semester. I developed Green Chemistry (ESCI 6343) as a new course, a graduate course for the Environmental Science Ph.D. (EVS) program. The interdisciplinary nature of this course helps students recognize how to apply principles and methods from one field to another. Moreover, students understand how the future can be different by identifying the appropriate reagents, reactions and technologies that should be and realistically could be replaced by green alternatives.

Peer- Reviewed Publications

1. **Izadyar A.**, Hershberger J. C., Robert R. “Voltammetric Assessment of Ions Transfer at Ionophore-Graphene Based Polymeric Membranes” *Electroanalysis Short Communication, Electroanalysis 2018*(published 4th of the September) DOI: 10.1002/elan.201800535,
2. **Izadyar A.**, Hershberger J. C., Rogers R. Cooper S. Z., Michael L. Henning M. L., “Using Nuclear Magnetic Resonance Spectroscopy, Gas Chromatography-Flame Ionization Detector, and Gas Chromatography-Mass Spectrometry to Study Boronic Esters: A Qualitative Multi-Instrument Experiment in an Upper-Division Undergraduate Instrumental Analysis Laboratory “ Submitted to *Journal of Chemical Education Laboratory Experiment*.
3. **Izadyar A.** Stripping Voltammetry at the Interface between Two Immiscible Electrolyte Solutions: A Review Paper *Electroanalysis*. 2018, 30, 1 – 13
4. Guzinski M., Jarvis J. M. D’Orazio P., **Izadyar A.**, Pendley B. D., and E. Lindner E. “Solid Contact pH Sensor without CO₂ Interference with a Super Hydrophobic PEDOT-C14 as Solid Contact: the Ultimate “Water Layer” Test”. *Analytical Chemistry*, 2017; 89 (16), 8468–8475.
5. **Izadyar A.**, Al-Amoody F., Ranawaka Arachchige D. Ion transfer stripping voltammetry to detect Nanomolar concentrations of Cr (VI) in drinking water, *J. Electroanal. Chem.* 2016; 782, 43–49.
6. **Izadyar A.**, Ranawaka Arachchige D., Cornwell H., and Hershberger J. L. “Ion Transfer Stripping Voltammetry for the Detection of Nanomolar Levels of Fluoxetine, Citalopram, and Sertraline in Tap and River Water Samples” *Sens Actuators B Chem.*, 2016; 223: 226-233.
7. Kim J., **Izadyar A.**, Shen M., Ishimatsu R., Amemiya S. “Ion Permeability of the Nuclear Pore Complex and Ion-Induced Macromolecular Permeation as Studied by Scanning Electrochemical and Fluorescence Microscopy.” *Anal. Chem.* 2014; 86: 2090–2098.
8. Amemiya S., Kim J., **Izadyar A.**, Kabagambe B., Shen M., Ishimatsu R. “Electrochemical Sensing and Imaging Based on Ion Transfer at Liquid/Liquid Interfaces.” *Electrochim. Acta*. 2013; 110, 836-845.
9. Kim J., **Izadyar A.**, Nioradze N., Amemiya S. “Nanoscale Mechanism of Molecular Transport through the Nuclear Pore Complex as Studied by Scanning Electrochemical Microscopy.” *J. Am. Chem. Soc.* 2013; 135, 2321–2329.
10. Kabagambe B., **Izadyar A.**, Amemiya S. “ Stripping voltammetry of nanomolar potassium and ammonium ions using a valinomycin-doped double-polymer electrode.” *Anal Chem.* 2012; 84, 7979-86.
11. **Izadyar A.**, Kim Y., Ward Muscatello M.M., and Amemiya S. “Double-Polymer- Modified Pencil Lead for Stripping Voltammetry of Perchlorate in Drinking Water.” *J. Chem. Educ.* 2012; 89, 1323–1326.
12. Ishimatsu R., **Izadyar A.**, Kabagambe B., Kim Y., Kim J., Amemiya S. “Electrochemical Mechanism of Ion–Ionophore Recognition at Plasticized Polymer Membrane / Water Interfaces.” *J. Am. Chem. Soc.* 2011; 133,16300–16308.
13. **Izadyar A.**, Liu S. T., Chou P. T., Bard A. J. “ Electrogenerated Chemiluminescence (ECL) of 2-Oxa-bicyclo [3.3.0] octa-4,8-diene-3,6-dione (OBDD).” *J. Electroanal. Chem.* 2009; 635, 7–12.
14. **Izadyar A.**, Omer K. M., Liu Y., Chen S., Xu X., Bard A. J. “ Electrochemistry and Electrogenerated Chemiluminescence of Quinoxaline Derivatives.” *J. Phys. Chem. C*. 2008; 112 50, 20027–20032.
15. Abbaspour A., **Izadyar A.** “Platinum Coated Electrode Based on Bentonite Carbon Composite for Lead Detection as an Environmental Sensor” *Talanta*, 2007; 71 , 887– 892.

16. Abbaspour A. **Izadyar A.**, “Multi Wall Carbon Nanotube Composite Coated Platinum Electrode as a Sensitive Sensor for Detection of Cr (III) in Natural Waters” *Anal. Bioanal. Chem.* 2006, 386 , 1559–1565.
17. Abbaspour A. **Izadyar A.**, Shargei H., “Carbon Composition PVC Based Membrane in a Highly Selective and Sensitive Coated Wire Electrode for Silver Ion” *Anal. Chim. Acta.* 2004; 525, 91–96.
18. Abbaspour A. **Izadyar A.**, “Chromium (III) Ion Selective Electrode Based on Dimethylamin Azobenzene.” *Talanta*, 2001; 53,1009–1013.
19. Abbaspour A. **Izadyar A.**, “Highly Selective Electrode for Nickel (II) Ion Based on 1-5 Diphenylthiocarbazon ,” *Microchem. J.* 2001; 69, 7–11.

Synergistic Activities (Memberships in panels, boards, and individual scientific reviewing activities)

- Article Reviewer for the Journal of Sensors (2018)
- Article Reviewer for the National Conference on Undergraduate Research (NCUR) (2017)
- Article Reviewer for the Journal of Electroanalytical Chemistry (2017, 2018)
- Article Reviewer for the Journal of Electrochimica Acta (2017, spring 2018, fall 2018)
- Reviewer of Food Analytical Methods Journal (2015)
- Proposal Reviewer for the Student Undergraduate Research Fellowship (SURF) program (2017, 2018)
- Proposal Reviewer for the Swiss National Science Foundation (SNSF) (2017)
- Thesis Chair of two Graduate Students (A-State) (2016)
- Thesis Chair, Honor Undergraduate Student (A-State) (2015)
- Judge at Symposium of Research, Scholarship and Creativity (A- state) (2016)
- Member of A-State Shared Governance Committee (2015-2018).
- Hiring Committee Member for various positions at Arkansas state university (Member of Organic Faculty Search Committee (A-State) (2012), Member of Organic chemistry instructor search (A-State) (2013)
- Member of various university committees (Member of Graduate Program in Environmental Sciences (A-State) (2012- present), Member of Analytical Chemistry Curriculum Committee (A-State) (2012- present), Member of General Chemistry Committee (A-State) (2012- present), Member of Materials Sciences Group (A-State) (2013-2015), Member of two Comprehensive Examination Committee (A-State) (2013).
- Summer Institute for Research Development (SIRD) workshop (A-State) (June 2014)
- Member, American Chemical Society (2007-present)
- Member, Arkansas Academy of Science (2013- present)

Awards and Honors

- Nathan Deutsch Faculty Development awards (A-State) (2018)
- GRADES-SR Award from College of Science and Mathematics Dean's office (A-State) (2014) and (2016)
- Provost Scholar Award (A-State) (2014)
- Faculty Research Award (A-State) (2013)
- Shiraz University Scholarship for Top graduate student (2006-2008)

Supervision of undergraduate and graduate Researchers

Graduate student Research and Thesis Advisors

- Dinusha Ranawaka Arachchige (MSc), current position (Ph.D student)
- Fatma Al-Amoody (MSc), current position (chemistry instructor at A-State)
- Amanda Pillow (MSc), current position (High school teacher)

Honors Thesis Advisor (Undergraduate)

- Hayden Cornwell

Research Advisor (Undergraduate)

- Tanner Horton,
- Hayden Cornwell (Recognized as outstanding undergraduate students in the College of Sciences and Mathematics (A-state), graduate Magna Cum Laude)
- Cody Anderson (Recognized as outstanding graduating students in the College of Sciences and Mathematics (A-state), Chemist at Unilever company)
- Anna Pittman,
- Giang Truong Hoang (A-State Student Research Ambassador for 2017-2018)
- Anaiya Lowe,
- Robert Rogers (1th place winner undergraduate poster presentation)

Research Collaborators

Professor Alireza **Abbaspourrad**, Assistant Professor of Food Chemistry and Ingredient Technology, Department of Food Science. Cornell University; **Aquamatrix** Water Analytics, Inc.; Professor Alexander **Biris** (Center for Integrative Nanotechnology, University of Arkansas at Little Rock); Professor Mark **Draganjac** (Department of Chemistry and Physics, Arkansas State University); Professor Elizabeth E. **Hood** (Department of Agriculture at Arkansas State University); Dr. John C. **Hershberger** (Department of Chemistry and Physics, Arkansas State University); Professor Erno **Lindner** (Department of Biomedical Engineering, The University of Memphis); Professor Tanja **Mckay** (Director of Environmental Sciences, Professor of Entomology, Arkansas State University); Professor Shanlin **Pan** (The University of Alabama). Mark **Spencer** President of Water Analytics, Inc.

Presentations

Presentation (oral) #1 Ultrasensitive Electrochemical Sensors for Trace Ions:

Environmental Analysis and Beyond Learned Forum: Science Departmental Seminar
April 10, 2013, Arkansas State University, AR

Presentation(oral) #2 Discovering new ion selectivity using pencil lead electrodes to enable detection of various pharmaceutical drugs as environmental contaminants Learned Forum: **34th annual undergraduate research conference** 22 February, 2014, University of Memphis, Memphis, TN

Presentation (poster) #3 Pencil lead ion selective electrode to detect fluoxetine drug as pharmaceutical environmental contaminant (poster presentation) Learned Forum: 4 April, 2014, 98th **annual meeting Arkansas Academy of Science**, Harding University, University of Central Arkansas, AR

Presentation (oral) #4 Ion transfer stripping voltammetry for detection of drugs in real samples. Dinusha U. Ranawaka Arachchige. The Memphis section of the American Chemical will host the 2015 Combined Southwest Region Meeting and the **Southeastern Regional Meeting of the American Chemical Society**.

Presentation (poster) #5, “Ion Selective Electrodes to Detection Water Contaminants” Dinusha U. Ranawaka Arachchige, spring 2016, **Arkansas Soil & Water Conference**

Student Poster Competition.

Presentation(oral) #6 Sensitive Electrochemical Sensor to Detect Fluoxetine, Sertraline, and Citalopram in Environmental Samples, Hayden Cornwell, spring 2016, **Symposium of research, scholarship &creativity at A-state**

Presentation (oral) #7 Ultra-sensitive electrochemical detection of Cr (VI) using double polymer membrane and Beyond, **The 68th Southeastern American Chemical Society** , Columbia, SC, 2017

Presentation (poster) #8 Development Electrochemical Sensors using Graphene Based Ionophore-doped Double Polymeric Membrane to Monitoring Heavy Metals, Hoang, Giang Truong , spring 2017, **National Conference on Undergraduate Research (NCUR)** at the University of Memphis.

Presentation (poster) #9 Applying Nano Sensors Using Reduced Graphene Oxide to Detect Phosphate, fall 2017,by Robert Rogers, **Arkansas STEM Posters at the Capitol Instructions for Presenters** at the Little Rock, AR

Presentation (poster) #10 Nano Sensors modification for phosphate ion detection, spring 2018, by Robert Rogers , **Symposium of research, scholarship &creativity at A-state**, Arkansas state university, AR, 1th place winner undergraduate poster presentation.