REZA FARASAT, Ph.D.

Associate Teaching Professor | Assistant Department Head
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ACADEMIC APPOINTMENTS AND LEADERSHIP

Associate Teaching Professor, Department of Chemistry
Drexel University | September 2025–Present

Assistant Teaching Professor, Department of Chemistry
Drexel University | 2020–August 2025

Departmental Leadership and Academic Coordination

- Assistant Department Head, Department of Chemistry | Fall 2024–Present
- Coordinator of Physical Chemistry Laboratories, Department of Chemistry | Fall 2020–Present
- Coordinator of CHEM 101, General Chemistry | Winter Terms

EDUCATION

Postdoctoral Fellowship, Chemistry
Center for Polymer Reaction Monitoring and Characterization (PolyRMC), Tulane University, New Orleans, Louisiana | 2015–2016

Ph.D., Chemistry
University of Alabama at Birmingham | 2010- 2015

M.S., Chemistry
University of Alabama at Birmingham

M.S., Applied Chemistry
Azad University of Tabriz

B.S., Chemistry
Urmia University

TEACHING EXPERIENCE AND ACADEMIC CONTRIBUTIONS

Courses Taught at Drexel University

Polymer Chemistry (Undergraduate and Graduate Levels)

- Polymer Chemistry I (CHEM 465/CHEM 561) – Fall Term
- Polymer Chemistry II (CHEM 466/CHEM 562) – Winter Term
- Polymer Chemistry III (CHEM 467/CHEM 563) – Spring Term

Physical Chemistry and General Chemistry

- Thermodynamics and Kinetics (CHEM 253) – Fall and Spring Terms
- Physical Chemistry Laboratory Lecture for Non-Majors (CHEM 356-A) – Fall and Spring Terms
- Physical Chemistry Laboratory Lecture for Chemistry Majors (CHEM 357-A)
- Physical Chemistry II Laboratory Lecture for Chemistry Majors (CHEM 358-A) – Fall and Spring Terms
- General Chemistry I (CHEM 101) – Course coordination and lecture instruction

Laboratory Instruction, Recitations, and Student Support

- Physical Chemistry Laboratories for Chemistry Majors and Non-Majors (CHEM 356 and CHEM 357)
- General Chemistry Laboratory (CHEM 151)
- General Chemistry Laboratories and Recitations (CHEM 102 and CHEM 103)
- General Chemistry tutoring and student academic support

Curriculum Development and Faculty Professional Development

Selected Faculty Participant, University-Wide High-Enrollment Course Redesign Workshop
Drexel University | Spring 2026

Selected to participate in an intensive, university-wide faculty development workshop focused on evidence-based redesign of high-enrollment courses. Collaborated with faculty teaching the same course, including a colleague in General Chemistry I, to evaluate and develop strategies for course design, learning outcomes, assessment, and instructional practices.

Previous Teaching Appointments

- Adjunct Faculty, Trenholm State College
- Science Faculty, The Montgomery Academy | 2018–2020
- Chemistry Teaching Experience, University of Alabama at Birmingham | 2010–2011 and 2013–2014

RESEARCH INTERESTS

- Polymer chemistry and polymer science
- Polymer synthesis, characterization, and reaction monitoring
- Polymer phase behavior and kinetics
- Thermal analysis and phase transitions in confined materials
- Size exclusion chromatography (SEC) and gel permeation chromatography (GPC)
- Nanoconfined materials and dimensional effects on physical and chemical properties
- Polymer composites and materials for environmental and energy applications
- Analytical chemistry and advanced characterization techniques

RESEARCH EXPERIENCE

Research Collaboration
Center for Nanobiotechnology and Life Science Research, Alabama State University.

Polymer Research Consultant
Universities, National Laboratory, and Industry Collaborations | 2016–2017

Provided consulting and technical research support for polymer research projects, with an emphasis on analytical method development and polymer characterization. Specialized in

multi-detector gel permeation chromatography (GPC), incorporating refractive index, UV, light scattering, and viscometric detection.

Postdoctoral Fellow
Center for Polymer Reaction Monitoring and Characterization (PolyRMC), Tulane University | 2015–2016

Conducted research on polymerization kinetics, polymer characterization, and solution-state polymer analysis using advanced techniques, including:

- Automatic Continuous Online Monitoring of Polymerization (ACOMP)
- Automatic Continuous Mixing (ACM)
- Multi-detector Size Exclusion Chromatography (SEC)

Doctoral Researcher
University of Alabama at Birmingham | 2010–2015

Investigated the phase transitions and thermal and kinetic properties of materials confined within nanoporous structures. Prepared nanoparticles of selected materials, including polymers, through nanopore confinement and examined the effects of dimensional reduction on phase behavior and material properties. The research explored potential applications in controlling the physical properties of solids, chemical reactivity, and drug delivery.

Master's Researcher
Azad University of Tabriz | 2002–2005

Synthesized functionalized polyacrylonitrile polymers and investigated their applications in preparing metal complexes of Group IIB elements under different pH conditions. Evaluated the metal absorption capabilities of the synthesized polymers, with an emphasis on their potential applications in the removal of toxic heavy metals.

SCHOLARLY PUBLICATIONS AND RESEARCH OUTPUT

Peer-Reviewed Publications

1. McLaughlin, J., **Farasat, R.**, and Dean, D. (2026). A Review on the Synthesis and Applications of Selected Thermoset–Matrix Composites in Green Energy. *Advances in Polymer Technology*, 2026, Article 8639495. (Corresponding Author). https://doi.org/10.1155/adv/8639495

2. **Farasat, R.**, and Vyazovkin, S. (2015). Solid-Solid transitions in nanopores: Attempt to separate the size and surface effects. *The Journal of Physical Chemistry C*, 119, 9627–9636.
3. **Farasat, R.**, and Vyazovkin, S. (2014). Coil-to-globule transition of poly(N-isopropylacrylamide) in aqueous solution: Kinetics in bulk and nanopores. *Macromolecular Chemistry and Physics*, 215, 2112–2118.
4. **Farasat, R.**, Yancey, B., and Vyazovkin, S. (2013). High temperature solid-solid transition in ammonium chloride confined to nanopores. *The Journal of Physical Chemistry C*, 117(26), 13713–13721.
5. **Farasat, R.**, Yancey, B., and Vyazovkin, S. (2013). Loading salts from solutions into nanopores: Model and its test. *Chemical Physics Letters*, 558, 72–76.

Technical Reports and Research Projects

1. **Farasat, R.** (2017). Study of the Effects of Sample Preparation on the Degradation of Polyolefins. Technical research report.
2. **Farasat, R.**, Reed, W., and Drenesky, M. (2016). Study of p-Phenylene Ether (PPE) Polymerization by the Automatic Continuous Mixing (ACM) Technique. Research project/report.

Conference Proceedings

1. **Farasat, R.**, and Arsalani, N. (2006). Preparation and Study of Metal Complexes of Group IIB with Functionalized Polyacrylonitrile. 12th Seminar of Organic Chemistry, March 2006.

CONFERENCE PRESENTATIONS

Oral Presentations

1. **Farasat, R.** (August 2026). Polymer Phase Behavior and Kinetics: From PNIPAM Coil–Globule Transitions to Continuous Mixing and Solution-State Polymer Characterization. North American Thermal Analysis Society (NATAS) Conference, Georgia Institute of Technology, Atlanta, Georgia.
2. **Farasat, R.** (October 2016). Fundamentals of Triple Detection in Both Ambient and High-Temperature GPC Analysis. Csaba Symposium, Yale University, Connecticut.

3. **Farasat, R.** (August 2013). Developing and Testing a Model for Loading Salts from Solutions into Nanopores. North American Thermal Analysis Society (NATAS) Conference, Bowling Green, Kentucky.

Poster Presentations

1. **Farasat, R.** (March 2017). Determination of Molar Mass Averages and Polydispersity of Polypropylene Random Copolymers Using a High-Temperature GPC System. PITTCON Conference, Chicago, Illinois.
2. **Farasat, R.** (November 2016). Reproducible Size Exclusion Chromatographic Analysis of Composite Polymers. Eastern Analytical Symposium, Somerset, New Jersey.
3. **Farasat, R.** (August 2014). The Turnbull-Fisher Model as Applied to the Kinetics of Solid-Solid Phase Transitions. 248th American Chemical Society (ACS) National Meeting & Exposition, San Francisco, California.
4. **Farasat, R.** (March 2014). High-Temperature Solid-Solid Transition in Ammonium Chloride Confined to Nanopores. American Physical Society (APS) Meeting, Denver, Colorado.
5. **Farasat, R.** (March 2006). Preparation and Study of Metal Complexes of Group IIB with Functionalized Polyacrylonitrile. 12th Seminar of Organic Chemistry.

Webinar Presentations

1. **Farasat, R.** (December 2016). Application of Advanced Multi-Detection Principles for SEC Analysis. Technical webinar.

UNIVERSITY AND PROFESSIONAL SERVICE

Service to the Department of Chemistry, Drexel University

- Search Committee Member, Department Chair Search | 2025
- Search Committee Member, Assistant Teaching Professor Search | 2023
- Member, Chemistry Department Awards Committee | 2020–Present

Service to the College of Arts and Sciences

- Member, College of Arts and Sciences Faculty Senate Caucus Committee | Fall 2024–Present

Service to Drexel University

- **Chair, Graduate Subcommittee, Senate Committee on Academic Affairs** | Fall 2026–Present
- **Elected Member, Senate Committee on Academic Affairs** | Fall 2026–Present
- **At-Large Member, Senate Committee on Academic Affairs** | Fall 2023–Present
- Alternate Faculty Senator | 2024–Present
- Reviewer, Faculty Promotion Case, Department of Epidemiology and Biostatistics, Dornsife School of Public Health, Drexel University | 2026. Reviewed a faculty promotion case for advancement to Associate Teaching Professor.
- Reviewer, National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Proposals, Drexel Campus Review.
- Student Professional Support: Provide recommendation letters for students pursuing employment, graduate and professional education, fellowships, and other career opportunities.

External Professional Service

- Manuscript Reviewer, *Journal of Cleaner Production* | 2026–Present
- External Reviewer, NSF-Funded Research Project, University of Louisiana at Lafayette | 2025
- Reviewer/Panelist, National Science Foundation Graduate Research Fellowship Program (NSF GRFP) | 2024

GRADUATE STUDENT MENTORING AND ADVISING

- M.S. Thesis Committee Member, Department of Chemistry, Drexel University | 2025–2026. Served on the thesis committees of two M.S. students, including serving as committee chair for one student.
- Ph.D. Dissertation Committee Member, Department of Chemistry, Drexel University | 2024–Present.
- Graduate Student Committee Member, Department of Materials Science and Engineering, Drexel University | 2023–2024 and 2024–2025.

PROFESSIONAL EXPERIENCE

Chemistry Laboratory Manager
Gibraltar Laboratories | 2017–2018

Managed laboratory operations in an FDA-approved laboratory operating under Good Manufacturing Practice (GMP) and Good Laboratory Practice (GLP) conditions. Led a multidisciplinary team of scientists, including Ph.D.-level personnel, supporting the pharmaceutical industry through the analysis of raw materials and finished products.

Key responsibilities included:

- Directing analytical method development and validation.
- Developing, reviewing, and implementing Standard Operating Procedures (SOPs).
- Supervising laboratory personnel and coordinating analytical activities.
- Ensuring the quality and reliability of laboratory testing.

Analytical Chemist
Petroleum Company (Oil Refinery) | 2008–2010

- Participated in research and development projects and performed non-routine analytical testing.
- Collaborated with the quality control laboratory.
- Trained new employees and internship students.

Chemist / Senior Chemist
Jam Petrochemical Company | 2003–2008
Chemist: 2003–2005 | Senior Chemist: 2005–2008

Worked in a major petrochemical manufacturing environment producing high-density polyethylene (HDPE), low-density polyethylene (LDPE), polypropylene (PP), and butadiene rubber.

Key responsibilities and contributions included:

- Conducting and supervising analytical testing and method development to evaluate polymer properties and product performance.
- Supervising laboratory personnel, including chemists, senior technicians, and technicians.
- Managing laboratory budgets and procurement of materials and supplies.

- Performing non-routine testing and troubleshooting analytical challenges.
- Training chemists and technical staff in analytical procedures and ASTM testing standards.
- Participating in technical training programs and workshops to maintain current knowledge of analytical methods.

AWARDS, HONORS, AND PROFESSIONAL CERTIFICATIONS

Academic Awards and Certifications

- Outstanding Graduate Student Award, American Chemical Society (ACS) | 2015
- Travel Grant, American Physical Society (APS) Conference | 2014
- College Teaching Certification, Center for the Integration of Research, Teaching, and Learning (CIRTL) | 2013
- Online Teaching Certification | 2020
- American Chemical Society Funding for Research Course Development | 2018
- Multi-Detector Gel Permeation Chromatography (GPC) Workshop Certification, Tulane University Polymer Center | 2015

Selected Industrial and Technical Training

International and Industrial Workshops

- Lurgi and BASF Chemical Company Workshop, Germany | June 2008
- Mettler Toledo Workshop on Thermal Analysis Instruments (DSC, TGA, and DMA) | November 2005 and November 2007
- Mettler Toledo Workshop on Titrators, Moisture Analyzers, and Dispersers | July 2007

Laboratory Quality Management and Instrumentation

- ISO/IEC 17025 Laboratory Quality Management System: Fundamentals and Documentation | July 2007
- Estimation of Measurement Uncertainty in Testing and Calibration Laboratories | August 2007

- Internal and External Quality Control in Testing and Calibration Laboratories | August–September 2007
- Principles of Calibration | September 2007
- Eco Chemie Workshop on Potentiostatic-Galvanostatic Instrumentation for Electrochemistry, Corrosion Studies, and Heavy Metal Determination | April 2007
- Metrohm Workshop on Ion Chromatography | April 2007
- Gulf Scientific Corporation Workshop on Varian Atomic Absorption Spectroscopy (Flame and Graphite Furnace): Principles, Operation, and Maintenance | May 2006

End of Curriculum Vitae