

Sharareh Rezaei

Address: 100 Market Street, Lewisburg, PA, 17837

Email: sr052@bucknell.edu

Phone Number: (310)7485070

LinkedIn: www.linkedin.com/in/sharareh-rezaei

Website: ShararehRezaei.com



Education

M.Sc. in Chemical Engineering

July 2025 (Expected)

Department of Chemical Engineering, Bucknell University

Thesis: Enhancing the Stability and Efficiency of Liposome-based Drug Delivery Systems

GPA: 3.6/4

B.Sc. in Chemical Engineering

April 2018

Department of Chemical Engineering, Golestan University, Iran

Thesis: Application of Polymeric Nanofibers in Medical Designs

Research Experiences

❖ Undergraduate Research

❖ Department of Chemical Engineering, Golestan University, Iran

- Research Advisor: Dr. Ghasem Bahlakeh
- Topic: Analysis of Biopolymer Blends for Advanced Material Applications
- Date: 20/8 hours/week during Summer 2015

❖ Department of Chemical Engineering, Golestan University, Iran

- Research Advisor: Dr. Hanieh Shaki
- Topic: Development and Characterization of Nanofibrous Hybrid Scaffolds for Enhanced Bone Tissue Regeneration
- Date: 12/20 hours/week during Fall and Spring Semesters 2017-2018

❖ R&D Member

❖ Department of Research and Development, Niak Pharmaceutical Company, Iran

- Supervisor: Dr. Fereshteh Safavi
- Topic: Moisture barrier films for herbal medicines fabricated by dry coating
- Date: Full time, November 2022 – June 2023

❖ Graduate Research

- ❖ Department of Chemical Engineering, Bucknell University
 - Research Advisor: Dr. Kenny Mineart
 - Topic: Stability and Efficiency of Liposomal Drug Delivery Systems
 - Date: Full time, August 2023 – July 2025

- ❖ Department of Chemical Engineering, Bucknell University
 - Research Advisors: Dr. Erin Jablonski, Dr. Brandon Vogel
 - Topic: Influence of Bead Downsizing through Extrusion on the Degradation and Swelling of Injectable ETTMP/PEGDA Hydrogels
 - Date: 12/10 hours/week during Summer 2024

Industrial Work Experience

❖ **Position:** R&D and QC Specialist (Full-time)

Location: Niak Pharmaceutical Company, Gorgan, Iran (<http://www.niakpharma.com/index.php/en/>)

Supervisors: Dr. Manouchehr Jnadaghi, Dr. Fereshteh Safavi, Dr. Houman Bayat

Date: August 2019 – June 2023

- Conducted chemical and physical analyses to ensure compliance with USP and BP standards.
- Performed stability testing of pharmaceutical formulations under GMP-compliant conditions.
- Operated and maintained HPLC, UV-Vis, and other analytical instruments for formulation analysis.
- Designed and optimized pharmaceutical formulations, assessing stability and degradation patterns.
- Evaluated the physicochemical properties of APIs and excipients for formulation development.

❖ **Position:** Feasibility Study Specialist (Part-time)

Location: Armin Moshaveran Company, Gorgan, Iran

Supervisor: Dr. Hmaed Akhavan

Date: March 2017 – Sep 2021

- Conducted feasibility assessments for diverse business ventures, analyzing technical, operational, and financial aspects.
- Developed business models, cost-benefit analyses, and risk assessments to support strategic decision-making.
- Organized and managed project-related data in digital databases for comprehensive analysis.

❖ **Position:** Quality Assurance Technical Assistant (Full-time)

Location: Paksaz Shimi Hirkan Company, Gorgan, Iran

Supervisor: Mr. Amin Nabavi

Date: June 2017 - August 2019

- Assisted in developing and maintaining quality assurance systems in compliance with GMP standards.
- Prepared and reviewed SOPs, work instructions, and quality manuals.
- Conducted audits and inspections, identifying non-conformities and recommending corrective actions.
- Collaborated with teams to resolve quality issues and improve process efficiency.

Academic Work Experience

❖ **Position:** Teaching Assistant

Location: Bucknell University

Date: August 2023-Current

- Assisted faculty in lecture and laboratory sessions, providing instructional support.
- Guided students in concept comprehension, experiment execution, and troubleshooting.
- Prepared and calibrated laboratory equipment for hands-on learning.
- Evaluated assignments and lab reports, offering constructive feedback.
- Ensured lab safety by enforcing protocols and maintaining organization.

Technical Skills

- **Analytical Techniques:** DLS, SLS, HPLC, NMR Spectroscopy, TEM, SEM, Peroxidation Assay, UV-Vis Spectroscopy
- **Laboratory Techniques:** Pharmaceutical quality control and stability testing, liposome formulation and characterization, emulsification and filtration techniques, chromatographic separations, physicochemical property evaluation, thermal stress testing
- **Computational & Modeling:** MATLAB, COMSOL Multiphysics, KaleidaGraph
- **Software & Data Visualization:** Microsoft Office (Excel, Word, PowerPoint), BioRender

Professional Skills

- **Scientific Communication:** Technical writing, research presentations, and manuscript preparation
- **Collaboration & Teamwork:** Experience working in interdisciplinary research teams and industry settings
- **Problem-Solving & Decision-Making:** Designing experiments, troubleshooting laboratory issues, and optimizing formulations
- **Project Management:** Planning and executing long-term research projects while meeting deadlines

Publications

Rezaei, S., Blick, E. E., Mineart, K. P., & Kelley, E. G. Linking chemical degradation and physical instability of lipid vesicles. In *Advances in Biomembranes and Lipid Self-Assembly* (Vol. 4. Elsevier). *Edited by A. Inglic, M. Rapplot, and P. Losada-Perez, 2025*

S. Rezaei, K. P. Mineart. Evaluation of Chemical and Physical Stability in Liposomes Composed of Mixed Phospholipids. *In preparation, 2025.*

Presentations

S. Rezaei, K. P. Mineart. Evaluation of Stability in Liposomes Composed of Mixed Phospholipids, **BPS Annual Meeting 2024**, Philadelphia (PA), Poster.

S. Rezaei, K. P. Mineart. Evaluation of Stability in Liposomes Composed of Mixed Phospholipids, **AIChE Annual Meeting 2024**, San Diego (CA), Poster.

References

- ❖ **Name:** Professor Kenny Mineart
Email: kenny.mineart@bucknell.edu
Location: Bucknell University, Chemical Engineering Department

- ❖ **Name:** Professor Erin Jablonski
Email: erin.jablonski@bucknell.edu
Location: Bucknell University, Center for Entrepreneurship & Innovation

- ❖ **Name:** Dr. Elizabeth Kelley
Email: elizabeth.kelley@nist.gov
Location: National Institute of Standards and Technology