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Ramy Ghanim

606-499-0014

Education

University of Kentucky Lexington, Kentucky

Double BS in Chemical Engineering (Biopharmaceutical Engineering Track) and Biochemistry Projected Graduation: May 2022

Current GPA: 3.72

Relevant Courses: Biochemical Engineering, Fundamentals of Pharmaceutical Engineering, Engineering Statistics, Ethics and Safety

Study Abroad in Karlsruhe, Germany (Karlsruhe Institute for Technology) Summer 2018

Resided with host family for a summer, while taking (1) Calculus 4 and (2) Engineering and Culture in Germany.

Experience

University of Kentucky Department of Chemical Engineering January 2018 - Present

Undergraduate Lab Assistant

- 2nd Prize in 2019 AIChE Student Conference Poster Competition for Nanoparticle Formulation research.
- Formulation of nanoparticles for loading, controlled release of therapeutics, and cell uptake for periodontal disease treatment.
- Performed diverse wet lab nanomaterial research using methods including Fourier transform infrared (FTIR) spectroscopy, Dynamic light scattering (DLS), HPLC, BET Surface Characterization, Thermogravimetric Analysis (TGA), and DSC.

Marathon Petroleum Corporation January 2020 – December 2020

Technical Services Co-Op: Robinson, IL

- Development and implementation of novel energy-saving project around Benzene Extraction Unit worth ~ $350M/year.
- Collaboration with Operations and Contractors to conduct unit-wide pressure survey to optimize product specifications.

Process Controls Co-Op: Garyville, LA

- Development of Experion control scheme optimizing feed pressure of Desulfurization unit worth ~$500M/year.
- Graphics update using HMIWeb Display Builder for remote process limit validation from board consoles along with Operator training on new feature.

Publications

Khan, A., Kiser, M., Moradipour, M., Nadeau, E., **Ghanim, R.**, Webb, B., Rankin, S., Knutson, B. "Effect of Confinement in Nanopores on RNA Interactions with Functionalized Mesoporous Silica Nanoparticles." *The Journal of Physical Chemistry B*, 124(39) (2020), 8549-8561.

Ghanim, R., Khan, A., Kiser, M., Moradipour, M., Rogers, D., Littleton, J., Bradley, L., Lynn, B., Rankin, S., Knutson, B. "Novel Strategy for Functional Oligopeptide Conjugation inside the Mesopores of Silica Nanoparticles." *AIChE 2019 Student Conference* Orlando, FL

Khan, A., **Ghanim, R.**, Garay J., Shirodhkar, A., Ke, Y., Moradipour, M., Knutson, B., Rankin, S. "Mesostructure transformation kinetics and mechanism during thermal treatment for the synthesis of nanoporous SiO_2 -TiO_2 mixed thin films with sub-3 nm vertical pore channels." *AIChE 2018 Annual Meeting* Pittsburgh, PA

Skills

- MATLAB, PI ProcessBook, ASPEN, Experion DCS Development, Visual Basic
- Intermediate knowledge of Spanish and Arabic

Activities

- **American Institute of Chemical Engineering (AIChE Chapter):** Served as a community service chair to connect team with opportunities to engage with campus and surrounding community including food recovery and STEM lessons for kids.
- **Canopy Young Adult Community:** Self-started non-profit with colleagues in hopes of raising awareness for young adult homelessness. Successfully applied for 5013C for the organization and helped initiate outreach events to support population.