# **Gregory L. Dignon**

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ACADEMIC APPOINTMENTS	
Rutgers University (2022-present) Assistant Professor, Department of Chemical and Biochemical Engineering	Piscataway, NJ
<b>Stony Brook University (2019-2022)</b> Post-doc, Laufer Center for Physical and Quantitative Biology; Research Mentor: <u>Ken Dill</u>	Stony Brook, NY
EDUCATION	
<b>Lehigh University (2015-2019)</b> Ph.D., Chemical Engineering; Research Advisor: <u>Jeetain Mittal</u>	Bethlehem, PA
Rensselaer Polytechnic Institute (2013-2015) B.S., Chemical Engineering; Undergraduate Research Advisor: <u>Peter Tessier</u>	Troy, NY
Hudson Valley Community College (2011-2013) A.S., Engineering Science	Troy, NY

## PROFESSIONAL EXPERIENCE

#### Teaching

At Rutgers University (as instructor or co-instructor):

- Spring 2024 Biological Foundations of Chemical Engineering
- Fall 2023 Chemical Process Engineering Lab I (assessment pending)
- Spring 2023 Biological Foundations of Chemical Engineering (assessed at 4.23/5)
- Fall 2022 Chemical Engineering Thermodynamics II (assessed at 4.93/5)

At Stony Brook University (as TA):

Fall 2021 – Physical and Quantitative Biology

- At Lehigh University (as TA):
  - Fall 2018 Graduate Thermodynamics
  - Spring 2017 Molecular Modeling and Simulation

# Mentoring/Advising

At Rutgers University:

- Qi Jorgensen, Ph.D. Chem. Eng. 2029 (expected)
- Ali Ukperaj, B.S. Chem. Eng. 2025 (expected)
- FNU Arjun, Ph.D. Chem. Eng. 2027 (expected)
- Vailankanni Rodrigues, Ph.D. Chem. Eng. 2027 (expected)
- Sophie Anderson, visiting REU student from Vassar College Summer 2023

At Stony Brook (as post-doc mentor):

Christopher Foran, Ph.D. Physics, 2025 (expected)

At Lehigh University (as senior student mentor):

- Wai Shing Tang, Ph.D. Physics (Brown University), 2022
- Theodora Myrto Perdikari, Ph.D. Biomed. Eng. (Brown University), 2022
- Nina Jovic, Ph.D. Chem. Eng. 2023
- Roshan Mammen Regy, Ph.D. Chem. Eng. 2023

## **Peer-Reviewed Publications**

## Accepted / Published

1. **Dignon GL**, Dill KA, "A computational procedure for predicting excipient effects on protein-protein affinities" (*Accepted to Journal of Chemical Theory and Computation*).

- Nassar R, Brini E, Parui S, Liu C, Dignon GL, Dill KA, "Accelerating Protein Folding Molecular Dynamics Using Inter-Residue Distances from Machine Learning Servers", *Journal of Chemical Theory and Computation*, 18, 1929-1935, (2022).
- 3. Nassar R, **Dignon GL**, Razban RM, Thirumalai D, Dill KA, "The Protein Folding Problem is Different than Protein Structure Prediction", *Science*, <u>eLetter</u>, (2022).
- 4. Nassar R, **Dignon GL**, Razban RM, Dill KA, "The Protein Folding Problem: The role of theory", *Journal of Molecular Biology*, **433**, 167126 (2021).
- 5. Perdikari TM, Jovic N, **Dignon GL**, Kim YC, Fawzi NL, Mittal J, "A predictive coarse-grained model for position-specific effects of post-translational modifications", *Biophysical Journal*, **120**, 1187-1197, (2021).
- 6. Ryan VH, Perdikari TM, Naik MT, Saueressig CF, Lins J, **Dignon GL**, Mittal J, Hart AC, Fawzi NL, "Tyrosine phosphorylation regulates hnRNPA2 granule protein partitioning & reduces neurodegeneration", *EMBO Journal*, **40**,(2021).
- Zheng W\*, Dignon GL\*, Xu X, Regy RM, Best RB, Zheng W, Mittal J, "Molecular details of protein condensates probed by microsecond-long atomistic simulations", *Journal of Physical Chemistry B*, 124, 11671-11679, (2020).
- Regy RM, Dignon GL, Zheng W, Kim YC, Mittal J, "Sequence dependent phase separation of proteinpolynucleotide mixtures elucidated using molecular simulations", *Nucleic Acids Research*, 48, 12593-12603 (2020).
- Schuster BS\*, Dignon GL\*, Jahnke CN, Simpkins AG, Hammer DA, Good MC, Mittal J, "Identifying Sequence Perturbations to an Intrinsically Disordered Protein that Determine its Phase Separation Behavior", Proceedings of the National Academy of Sciences, 117, 11421-11431, (2020).
- 10. Zheng W, **Dignon GL**, Brown M, Kim YC, Mittal J, "Impact of hydrophobicity patterning on conformations of disordered proteins", *Journal of Physical Chemistry Letters*, **11**, 3408-415, (2020).
- Dignon GL, Best, RB, Mittal J, "Biomolecular Phase Separation: From Molecular Driving Forces to Macroscopic Properties", *Annual Review of Physical Chemistry*, 71, 53-75, (2020) (Ranked in top 10 most downloaded articles of 2020 in physical sciences for Annual Reviews journals).
- Conicella AE\*, Dignon GL\*, Schmidt HB, Zerze GH, D'Ordine AM, Kim YC, Rohatgi R, Ayala YM, Mittal J, Fawzi NL, "TDP-43 α-helical structure tunes liquid-liquid phase separation and function", *Proceeding of the National Academy of Sciences*, 117, 5883-5894, (2020).
- Murthy A, Dignon GL, Kan Y, Zerze GH, Parekh S, Mittal J, Fawzi NL, "Molecular interactions underlying liquid phase separation of the FUS low-complexity domain", *Nature Structural and Molecular Biology*, 26, 637-648, (2019).
- 14. **Dignon GL\***, Zheng W\*, Kim YC, Mittal J, "Temperature controlled liquid-liquid phase separation of disordered proteins", *ACS Central Science*, **5**, 821-830, (2019).
- 15. **Dignon GL**, Zheng W, Mittal J, "Simulation methods for liquid-liquid phase separation of disordered proteins", *Current Opinion in Chemical Engineering*, **23**, 92-98, (2019).
- Dignon GL\*, Zheng W\*, Best RB, Kim YC, Mittal J, "Relation between single-molecule properties and phase behavior of intrinsically disordered proteins", *Proceedings of the National Academy of Sciences*, 115, 9929-9934, (2018) (F1000Prime-recommended article).
- 17. Ryan VH, **Dignon GL**, Zerze GH, Chabata CV, Silva R, Conicella AE, Amaya J, Burke KA, Mittal J, Fawzi NL, "Mechanistic View of hnRNPA2 Low-Complexity Domain Structure, Interactions, and Phase Separation Altered by Mutation and Arginine Methylation", *Molecular Cell*, **69**, 465-479, (2018).
- Dignon GL\*, Zheng W\*, Kim YC, Best RB, Mittal J, "Sequence determinants of protein phase behavior from a coarse-grained model", *PLOS Computational Biology*, 14, e1005941, (2018) (PLOS Research prize 2019).
- 19. **Dignon GL**, Zerze GH, Mittal J, "Interplay Between Membrane Composition and Structural Stability of Membrane-Bound IAPP", *The Journal of Physical Chemistry B*, **121**, 8661-8668, (2017).
- Monahan Z, Ryan VH, Janke AM, Burke KA, Zerze GH, O'Meally R, Dignon GL, Conicella AE, Zheng W, Best RB, Cole RN, Mittal J, Shewmaker F, Fawzi NL, "Phosphorylation of the FUS low-complexity domain disrupts phase separation, aggregation, and toxicity", *The EMBO Journa*l, 36, 2951-2967, (2017) (<u>Cover</u> <u>Article</u>).

#### Submitted / to be Submitted

- 21. Anderson S, **Dignon GL**, "Hydration free energy as a predictor for GFP partitioning into protein-rich droplets", (*to be submitted*).
- 22. Kelley F, Arjun FNU, **Dignon GL**, Schuster BS, "Particle partitioning into condensates is controlled by surface chemistry", (*in preparation*).

\*Equal contribution

#### Conferences: Invited/Contributed Talks, Posters, Proceedings (presenting author underlined):

- 1. <u>Dignon GL</u>, "Molecular Interactions, Architecture, and Dynamics in Biomolecular Phase Separation", *AIChE Annual Meeting*, Orlando FL, Nov. 5-10, 2023 (poster)
- 2. <u>Dignon GL</u>, "Molecular Interactions, Sequence Determinants, and Environmental Factors in Biomolecular Phase Separation", *Rutgers Princeton Biomolecular Condensates Day*, Sept. 14, 2023 (selected talk)
- 3. <u>Dignon GL</u>, "Computational Design of Therapeutic Drug Formulations to Control Protein Interactions", *AIChE Annual Meeting*, Phoenix AZ, Nov. 13-18, 2022 (poster)
- 4. <u>Dignon GL</u>, "Protein Interactions Determined from Computational Methods", *AIChE Annual Meeting*, Phoenix AZ, Nov. 13-18, 2022 (poster)
- 5. <u>Dignon GL</u>, "A Molecular View of Liquid-Liquid Phase Separation of Disordered Proteins", *American Physical Society, March Meeting*, March 14-18, 2022 Chicago II (invited talk)
- 6. <u>Dignon GL</u>, "Computational Design of Excipient Formulations for Monoclonal Antibody Solutions" *Statistical Mechanics and Molecular Simulations (STMS) Seminar Series*, Dec. 10, 2021 (online, <u>invited talk</u>)
- 7. <u>Mittal J</u>, **Dignon GL** "Identifying Rules Governing Phase Separation of Disordered Proteins", 65<sup>th</sup> Annual Meeting of the Biophysical Society, online, Feb. 22-26, 2021 (online, <u>invited talk</u>)
- <u>Zheng W</u>, **Dignon GL**, Kim YC, Best RB, Mittal J, "Computational Models for Liquid-Liquid Phase Separation of Intrinsically Disordered Proteins", 65<sup>th</sup> Annual Meeting of the Biophysical Society Intrinsically Disordered Proteins Subgroup Symposium, online, Feb. 22-26, 2021 (online platform presentation).
- 9. <u>Dignon GL</u>, Kozakov D, Dill KA, "Computational Design of Excipient Formulations for Monoclonal Antibody Solutions", *AIChE Annual Meeting*, online, Nov. 15-20, 2020 (online pre-recorded presentation).
- <u>Dignon GL</u>, Dill KA, "Solution Conditions to Regulate Protein-Protein Interactions and Monoclonal Antibody Stability and Viscosity", 34<sup>th</sup> Gibbs Conference on Biological Thermodynamics, online, Oct. 4-5, 2020 (online poster presentation).
- <u>Conicella AE</u>, Dignon GL, Zerze GH, Schmidt B, Alexandra MD, Kim YC, Rohatgi R, Ayala YM, Mittal J, Fawzi NL, "Alpha-Helical Structure in TDP-43 Tunes Liquid-liquid Phase Separation and Cellular Function", 64<sup>th</sup> Annual Meeting of the Biophysical Society, San Diego, CA, Feb. 15-19, 2020 (poster presentation).
- <u>Zheng W</u>, **Dignon GL**, Brown M, Mittal J, "Impact of Hydrophobic Patterning on Conformational Ensemble of Disordered Proteins", 64<sup>th</sup> Annual Meeting of the Biophysical Society, San Diego, CA, Feb. 15-19, 2020 (poster presentation).
- <u>Regy RM</u>, **Dignon GL**, Kim YC, Mittal J, "Studying RNA Modulated Protein Liquid-Liquid Phase Separation using Coarse-Grained Models", 64<sup>th</sup> Annual Meeting of the Biophysical Society, San Diego, CA, Feb. 15-19, 2020 (poster presentation).
- Dignon GL, Żerze GH, Murthy AC, Conicella AE, Fawzi NL, Mittal J, "Molecular Insights into Protein Liquid-Liquid Phase Separation from Simulation and Experiment", *AIChE Annual Meeting*, Orlando, FL, Nov. 10-15, 2019 (oral presentation).
- Perdikari TM, Dignon GL, Mittal J, Fawzi NL, "A Coarse-Grained Model to Elucidate the Regulation of Protein Phase Behavior By Post Translational Modifications", *AIChE Annual Meeting*, Orlando, FL, Nov. 10-15, 2019 (oral presentation).
- Jovic N, Dignon GL, Zheng W, Kim YC, Mittal J, "Role of Secondary Structure in Protein Liquid-Liquid Phase Separation Highlighted By a New Coarse-Grained Model", *AIChE Annual Meeting*, Orlando, FL, Nov. 10-15, 2019 (oral presentation).
- 17. <u>Regy RM</u>, **Dignon GL**, Mittal J, "Studying RNA Modulated Protein Liquid-Liquid Phase Separation Using Coarse-Grained Models", *AIChE Annual Meeting*, Orlando, FL, Nov. 10-15, 2019 (oral presentation).
- 18. <u>Dignon GL</u>, "Molecular Simulations of Liquid-Liquid Phase Separation of Disordered Proteins", *Workshop: Foundational & Applied Data Science for Molecular and Material Science & Engineering*, Bethlehem, PA, May 22-24, 2019 (poster presentation).
- Dignon GL, Zheng W, Kim YC, Mittal J, "Relationship between single chain properties and phase separation of intrinsically disordered proteins", 121<sup>st</sup> Statistical Mechanics Conference at Rutgers University, New Brunswick, NJ, May 12-14, 2019 (chalk talk).
- Dignon GL, Zheng W, Kim YC, Mittal J, "Sequence-specific computational approaches toward harnessing biomolecular phase separation", *Keystone Symposia Conference (D5) Biomolecular Condensates: Phase-Separated Organizers of Cellular Biochemistry*, Snowbird, UT, Apr. 10-13, 2019 (poster presentation).
- 21. Mittal J, "Identifying sequence-determinants of protein liquid-liquid phase separation using molecular simulations", *American Physical Society March Meeting*, Boston, MA, March 4-8, 2019 (substitute speaker)
- 22. <u>Dignon GL</u>, Zheng W, Mittal J, "A High-Throughput Predictive Approach to Phase Separation of Disordered Proteins", 63<sup>rd</sup> Annual Meeting of Biophysical Society Biopolymers in Vivo Subgroup Symposium, Baltimore,

MD, March 2-6, 2019 (selected talk).

- 23. <u>Schuster BS</u>, **Dignon GL**, Jahnke C, Good MC, Hammer DA, Mittal J, "Sequence Determinants of Protein Phase Separation of the Intrinsically Disordered RGG Domain from LAF-1", *63<sup>rd</sup> Annual Meeting of the Biophysical Society*, Baltimore, MD, March 2-6, 2019 (platform presentation).
- 24. <u>Dignon GL</u>, Zheng W, Mittal J, "A High-Throughput Predictive Approach to Phase Separation of Disordered Proteins", *63<sup>rd</sup> Annual Meeting of the Biophysical Society*, Baltimore, MD, March 2-6, 2019 (flash talk).
- Dignon GL, Zheng W, Mittal J, "A High-Throughput Predictive Approach to Phase Separation of Disordered Proteins", 63<sup>rd</sup> Annual Meeting of the Biophysical Society, Baltimore, MD, March 2-6, 2019 (poster presentation).
- 26. <u>**Dignon GL**</u>, Mittal J, Zheng W, "Simulation-Aided Design of Intrinsically Disordered Proteins with Tunable Phase Behavior", *AIChE Annual Meeting*, Pittsburgh, PA, Oct. 28-November 2, 2018 (oral presentation).
- Dignon GL, Zheng W, Kim YC, Mittal J, "Molecular Simulations of Liquid-like Assemblies of Intrinsically Disordered Proteins", *AIChE Annual Meeting*, Pittsburgh, PA, Oct. 28-Nov. 2, 2018 (COMSEF poster session).
- 28. <u>Dignon GL</u>, "Computational Modelling of Condensed Assemblies of Proteins", *Midwest Thermodynamics and Statistical Mechanics Conference*, Pittsburgh, PA, Jun. 10-12, 2018 (<u>1st place best student talk</u>).
- 29. **Dignon GL**, Zheng WZ, Best RB, Kim YC, Mittal J, "Relating Dilute Phase to Condensed Phase Through Coarse-Grained Simulations", *EMBL Symposium: Cellular Mechanisms Driven by Liquid Phase Separation*, Heidelberg, Germany, May 13-17, 2018 (<u>selected talk</u>).
- <u>Dignon GL</u>, Zheng WZ, Kim YC, Best RB, Mittal J, "Coarse-Grained Simulations of Intrinsically Disordered Proteins in the Context of Liquid-Liquid Phase Separation", 62<sup>nd</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, Feb. 17-21, 2018 (poster presentation).
- <u>Dignon GL</u>, Zheng W, Best RB, Mittal J, "Elucidating Molecular Details of Protein Liquid-Liquid Phase Separation By a Coarse-Grained Model", *AIChE Annual Meeting*, Minneapolis, MN, Oct. 29-Nov. 3, 2017 (oral presentation).
- Dignon GL, Zerze GH, Fawzi NL, Kim YC, Mittal J, "Effect of Residual Secondary Structure Propensity on Liquid-Liquid Phase Separation of Tdp-43", AIChE Annual Meeting, Minneapolis, MN, Oct. 29-Nov. 3, 2017 (oral presentation).
- Dignon GL, Zerze GH, Kim YC, Fawzi NL, Mittal J, "Liquid-liquid phase separation of TDP-43 mediated by short helices", *Fifth Annual Biophysical Society Pennsylvania Regional Networking Meeting*, Penn State University, Hershey, PA, Oct. 6, 2017 (poster presentation).
- 34. <u>Horan BG</u>, Zerze GH, **Dignon GL**, Kim YC, Vavylonis D, Mittal J, "Multiscale Model of the Formin Homology 1 Domain Illustrates its Role in Regulation of Actin Polymerization", *Fifth Annual Biophysical Society Pennsylvania Regional Networking Meeting*, Penn State University, Hershey, PA, Oct. 6, 2017 (poster presentation).
- Horan BG, Zerze GH, Dignon GL, Kim YC, Vavylonis D, Mittal J, "Multiscale Model of the Formin Homology 1 Domain Illustrates its Role in Regulation of Actin Polymerization", *Cell Physics 2017*, Saarbrücken, Germany, Oct. 11-13, 2017 (oral presentation).
- <u>Dignon GL</u>, Zheng W, Best RB, Mittal J, "A Novel Coarse-Grained Model to Study Liquid-Liquid Phase Separation of Disordered Proteins", *Lehigh University Department of Chemical and Biomolecular Engineering 3<sup>rd</sup> Annual Graduate Student Symposium*, Bethlehem, PA, Sept. 29, 2017 (poster presentation).
- <u>Dignon GL</u>, Zheng W, Best RB, Mittal J, "A Novel Coarse-Grained Model to Study Liquid-Liquid Phase Separation of Disordered Proteins", 61<sup>st</sup> Annual Meeting of the Biophysical Society, New Orleans, LA, Feb. 11-15, 2017 (poster presentation).
- Dignon GL, Zerze GH, Mittal J, "Conformational Ensemble of IAPP in a Membrane Environment", Lehigh University Department of Chemical and Biomolecular Engineering 2<sup>nd</sup> Annual Graduate Student Symposium, Bethlehem, PA, Feb. 3, 2017 (poster presentation).
- 39. <u>Dignon GL</u>, Zerze GH, Mittal J, "Conformational Ensemble of Islet Amyloid Polypeptide in a Membrane Environment", *AIChE Annual Meeting*, San Francisco, CA, Nov. 13-18, 2016 (oral presentation).
- 40. <u>Dignon GL</u>, Zerze GH, Mittal J, "Conformational Ensemble of IAPP in a Membrane Environment", *Fourth Annual BPS Pennsylvania Networking Meeting*, Lehigh University, Bethlehem, PA, Oct. 14, 2016 (poster presentation).
- <u>Dignon GL</u>, Zerze GH, Mittal J, "Conformational Ensemble of IAPP in a Membrane Environment", *Lehigh University Department of Chemical and Biomolecular Engineering 1<sup>st</sup> Annual Graduate Student Symposium*, Bethlehem, PA, Apr. 22, 2016 (poster presentation).

### **Grant Proposals**

#### At Rutgers University:

 PI for NIH NIGMS R35 MIRA Research Project Grant 1R35GM150589-01 (awarded 2023) "Physical laws to control and regulate composition of multi-component biomolecular condensates" PI: Dignon GL, (Rutgers University, NJ) Research Grant Award: \$1.25M

At Lehigh University:

- Contributor to NIH R01 Research Project Grant GM136917-01A (awarded 2020) "Liquid-Liquid Phase Separation in Heterochromatin Organization" PI: J. Mittal (Lehigh University, PA) Research grant award: \$1.2M
- Contributor to NIH R01 Research Project Grant NS116176-01 (awarded 2019) "Functional and pathological interactions of TDP-43" PIs: N. Fawzi, (Brown University, RI), J. Mittal (Lehigh University) Allocation award: \$3.3M
- Contributor to NSF DMR Research Project Grant 2004796 (awarded 2019) "Designing biomaterials through computational simulation and manipulation of phase behavior in a class of intrinsically disordered proteins" PI: J. Mittal (Lehigh University) Research grant award: \$750K

#### Computing Resource Proposals (assisted writing):

At Rutgers

1. **Dignon GL**, "Protein and RNA Interactions in Biomolecular Phase Separation", request for 100 GPU node hours and 5000 CPU node hours on Frontera, *Texas Advanced Computing Center (TACC)*, (Jan. 2022).

Prior to joining Rutgers

- 2. Dill, KA, "Understanding the thermodynamics and kinetics of protein folding using MELD x MD", request for 17684 node hours on Summit, *Oak Ridge National Laboratory* (ORNL), (Februrary, 2021).
- 3. Brini E, Dill KA, "Petascale Integrative Approaches for de novo Protein Structure Prediction", request for 329,000 SUs on Frontera, *Texas Advanced Computing Center (TACC)*, (January, 2020).
- 4. Fawzi NL, "Structure and contacts of the TDP-43 C-terminal domain in phase separation", request for 9 machine-days on ANTON supercomputer, *Pittsburgh Supercomputing Center (PSC)*, (June, 2019).
- 5. Mittal J, "Simulations of biomolecular assembly processes", request for 93,000 node-hrs on Stampede2 and 29,000 SUs on Bridges, *Extreme Science and Engineering Discovery Environment (XSEDE)*, (January, 2019).
- 6. Mittal J, "Biomolecular assembly processes in the design of novel functional materials", request for 14 million MPP hours (CPU hours), *National Energy Research Scientific Computing Center (NERSC)*, (October, 2018).
- 7. Mittal J, "Simulations of Biomolecular Phase Separation using a Coarse-Grained Protein Model", request for a Titan XP GPU, *NVIDIA Corporation*, (July, 2018).
- 8. Mittal J, "Elucidating the solvation effects in protein liquid-liquid phase separation", request for 9.0 machinedays on ANTON Supercomputer, *Pittsburgh Supercomputing Center (PSC)*, (June, 2018).
- 9. Mittal J, "Simulation of biomolecular assembly processes at interfaces", request for 83,727 node-hrs on Stampede2 and 52,510 SUs on Bridges, *Extreme Science and Engineering Discovery Environment (XSEDE)*, (January, 2018).
- 10. Mittal J, "Biomolecular assembly processes in the design of novel functional materials", request for 15 million MPP hours (CPU hours), *National Energy Research Scientific Computing Center (NERSC)*, (October, 2017).

## AWARDS, SERVICE, ORGANIZATIONS & OTHER ACTIVITIES

### At Rutgers

- Seminar Series co-coordinator for Rutgers CBE. Assembling list of potential speakers, sending invitations and organizing visits for CBE seminar series (Fall 2023-present).
- Participated in **Advanced Materials REU Program** by hosting an undergraduate research assistant (currently preparing a manuscript), and by presenting on research ideation for training seminar series (Summer 2023).
- Served on Faculty Search Committee, for Rutgers CBE faculty search resulting in two faculty hires for Fall 2023 (2022-2023).

 Conducted Peer Review for manuscripts submitted to Proceedings of the National Academy of Sciences, Nature Communications, Physical Review Letters, Proteins, Structure, Function and Bioinformatics, Journal of Chemical Physics, Communications Biology, and Journal of Physical Chemistry B.

#### Prior to joining Rutgers

- Helped organize **Symposium on Physics of Protein-Protein Interactions** for NIH RM1 grant held by the faculty of Laufer Center, 2021.
- Facilitated start of the Laufer Center Journal Club, giving a space for students and post-docs to keep up to
  date on new research, learn to critically evaluate research, and debate and discuss the content of the papers in
  broad biophysical topics.
- **CASP14 Blind Prediction Challenge:** participated with Dill lab using MELDxMD accelerator for molecular simulations to predict protein structures from their amino acid sequences.
- PLoS Computational Biology Research Prize for Exemplary Methods/Software awarded to "Sequence Determinants of protein phase behavior from a coarse-grained model".
- John C. Chen Endowed Fellowship (2018-2019 academic year) from the Chemical Engineering Department at Lehigh University for merits in academic achievement and leadership.
- 1<sup>st</sup> Place Best Student Talk Midwest Thermodynamics and Statistical Mechanics (MTSM) Conference, 2018, Pittsburgh PA.
- Awarded travel grant for EMBL Symposium: Cellular Mechanisms Driven by Liquid Phase Separation.
- Invited to PhD/post-doc summit at EMBL Symposium: Cellular Mechanisms Driven by Liquid Phase Separation.
- **Chevron Scholars Award in Chemical Engineering** awarded travel grant for AICHE annual meeting, 2017, and 5 years of membership to AICHE.
- Telluride School on Theoretical Chemistry summer school program *Telluride Science Research Center*, Telluride, CO, July 24-28, 2017, funded by the TSTC Endowment Fund
- American Institute of Chemical Engineers member, 2015-present
- American Chemical Society member, 2016-present
- Biophysical Society member, 2016-present
- **Private Music Teacher** in Capital Region, NY: Provided instruction in musical theory and guitar technique concurrently with high school and undergraduate studies (2010-2015). In the course of 5 years, taught over 20 students.