ALEX T. GRIGAS

CURRICULUM VITAE
SYRACUSE UNIVERSITY
ATGRIGAS@SYR.EDU

ACADEMIC POSITIONS

SYRACUSE UNIVERSITY, SYRACUSE NY | *2024 – PRESENT*

- Postdoctoral Researcher, Physics Department
- Adviser: Professor M. Lisa Manning

EDUCATION

YALE UNIVERSITY, NEW HAVEN CT | *2018 - 2024*

- Ph.D. in Computational Biology and Bioinformatics, with distinction
- Integrated Graduate Program in Physical and Engineering Biology
    - Training program in the application of physical and engineering approaches to the Life Sciences across length scales
- Thesis: "Investigating the connection between protein folding, polymer collapse and jamming"
- Thesis Adviser: Professor Corey S. O'Hern

PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK PA | *2014 - 2018*

- B.S. in Biochemistry and Molecular Biology with Honors, *Magna cum laude*
- Honors Thesis: "Phospholipid Bilayer Formation on Protocell Models"
- Thesis Adviser: Professor Christine Keating
- B.A. in Philosophy of Mathematics and Science, *Summa cum laude*
- Minor in Chemistry

PUBLICATIONS

10. J. A. Logan, J. Sumner, A. T. Grigas, M. D. Shattuck, and C. S. O'Hern, "The effect of stereochemical constraints on the structural properties of folded proteins," *Phys. Rev. E* **112** (2025)

9. A. T. Grigas, Z. Liu, J. A. Logan, M. D. Shattuck, and C. S. O'Hern, "Protein folding as a jamming transition," *PRX Life* **3** (2025)

8. S. Viswanath, D. Bhaskar, D. R. Johnson, J. F. Rocha, E. Castro, J. D. Grady, A. T. Grigas, M. A. Perlmutter, C. S. O'Hern, and S. Krishnaswamy, "ProtSCAPE: Mapping the landscape of protein conformations in molecular dynamics," *Molecular Machine Learning Conference* (2024)

7. A. T. Grigas, A. Fisher, M. D. Shattuck, and C. S. O'Hern, "Connecting polymer collapse and the onset of jamming," *Phys. Rev. E* **109** (2024)

6. Z. Liu, A. T. Grigas, J. Sumner, E. Knab, C. M. Davis, and C. S. O'Hern, "Identifying the minimal set of distance restraints for FRET-assisted protein structural modeling," *Protein Science* **33** (2024)

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PUBLICATIONS

5. A. T. Grigas, Z. Liu, L. Regan, and C. S. O'Hern, "Core packing of well-defined x-ray and NMR structures is the same," *Protein Science* **31** (2022)

4. A. T. Grigas, Z. Mei, J. D. Treado, Z. A. Levine, L. Regan, and C. S. O'Hern, "Using physical features of protein core packing to distinguish real proteins from decoys," *Protein Science* **29** (2020)

3. Z. Mei, J. D. Treado, A. T. Grigas, Z. A. Levine, L. Regan, and C. S. O'Hern, "Analyses of protein cores reveal fundamental differences between solution and crystal structures," *Proteins: Structure, Function, Bioinformatics* **88** (2020)

2. F. P. Cakmak, A. T. Grigas, and C. D. Keating, "Lipid vesicle-coated complex coacervates," *Langmuir* **35** (2019)

1. K. Reiss, U. N. Morzan, A. T. Grigas, and V. S. Batista, "Water network dynamics next to the oxygen-evolving complex of photosystem II," *Inorganics* **7** (2019)

MANUSCRIPTS IN PREPARATION

1. A. T. Grigas, R. S. Negi, E. Maniou, G. L. Galea, A. Michaut, A. Mongera, and M. Lisa Manning, "Sparse mesenchymal cell networks as a fluid under tension" *Under review Nature Physics* (2025) BioRxiv: 2025.12.07.692626

2. J. Sumner, N. Brandt, G. Meng, A. T. Grigas, A. Cordoba, M. D. Shattuck, and C. S. O'Hern, "Assessment of scoring functions for computational models of protein-protein interfaces," *Under review Phys. Rev. E* (2025) Arxiv: 2407.16580

3. A. T. Grigas, J. Sumner and C. S. O'Hern, "Residue burial encodes a protein's fold" *In preparation* (2026)

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CONFERENCE PRESENTATIONS

- Contributed Talk - March Meeting 2026| American Physical Society
- Invited Mini-Symposium Talk – Society for Mathematical Biology 2025
- Contributed Talk - March Meeting 2025| American Physical Society
- Contributed Talk - March Meeting 2024| American Physical Society
- Graduate Student Poster - Protein Society Symposium 2023
- Graduate Student Talk - Yale Biophysics Symposium 2023
- Contributed Talk - March Meeting 2023 | American Physical Society
- Invited Talk - Computational Protein Design Network Meeting 2022
- Contributed Talk - March Meeting 2022 | American Physical Society
- Invited Talk - March Meeting 2021 | American Physical Society
- Contributed Talk - 3D-BioInfo 2020 | ELIXIR

TEACHING

Manning Group Research Mentorship

- 2 high school interns Summer 2025

O'Hern Group Research Mentorship

- 6 Graduate students
- 2 Postbaccalaureate students
- 5 Yale undergraduate students
- 6 Summer undergraduate students
- 4 High school students

Yale University Teaching Assistant | Avg. 4.4 / 5 on student evaluations

- ENAS 991 / MB&B 591 / MCDB 591 / PHYS 991- Integrated Workshop
  -Fall 2020, Fall 2021
- ENAS 130 - Introduction to Computing for Engineers and Scientists
  -Spring 2021
- MENG 383 - Mechanical Engineering III: Dynamics
  -Summer 2021
- PHYS 523 / PHYS 341 / MB&B 523 / CB&B 523 / ENAS 541 - Biological Physics
  -Spring 2022

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AWARDS AND HONORS

- 1st place 5-minute thesis competition | U. S. National Committee for Theoretical and Applied Mechanics | 2024
- Finn Wold and *Protein Science* Young Investigator Travel Award | 2023
- Protein Society Graduate Student Poster Award | 2023
- Paul Axt Prize – Penn State Schreyer's Honors College | 2018
- Biochemistry and Molecular Biology Outstanding Student | 2018
- Philosophy Department Student Marshal | 2018
- Rodney A. Erickson Discovery Grant | 2017
- The Dotterer Award – Penn State Department of Philosophy | 2016
- Meredith M. Gee Scholarship in Science | 2016

PROFESSIONAL SOCEITIES

- American Physical Society
- Protein Society
- Biophysical Society