

# GINA EL NESR

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## EDUCATION

- 2021-Present    Ph.D. in Biophysics, Stanford University
- 2021            B.S. in Computer Science  
                  B.A. in Biophysics  
                  B.S. in Applied Math & Statistics  
                  Johns Hopkins University (JHU), general honors
- 2017            Dual enrollment coursework, Worcester Polytechnic Institute (WPI)
- 2017            Massachusetts Academy of Math and Science at WPI

## AWARDS AND HONORS

- 2023            DESRES Graduate and Postdoctoral Women's Fellowship
- 2022            NSF Graduate Research Fellowship Program (GRFP) Fellow (\$138,000)
- 2020            Institute for Data Intensive Engineering and Science (IDIES) Student Summer Research Fellowship (\$6,000)
- 2019            Jason HP and Beverly N. Kravitt Fund Fellow - *Named Scholar Distinction*
- 2018            Woodrow Wilson Research Fellowship (\$7,500)
- 2017            Charles O' Thompson Scholarship

## EMPLOYMENT

### *Academic Positions*

- 2021-Present    Graduate Student, Stanford University  
                  Advisor: Dr. Possu Huang
- 2019-2021       Undergraduate Research Assistant, Dept of Biophysics, JHU  
                  Advisor: Dr. Doug Barrick
- 2018-2019       Undergraduate Research Assistant, Dept of Biology and Dept of CS, JHU  
                  Advisor: Dr. James Taylor
- 2017-2018       Undergraduate Research Assistant, Integrated Imaging Center, JHU  
                  Advisor: Dr. Michael McCaffery

### *Teaching Positions*

- 2023            Teaching Assistant, Biological Macromolecules (BIOPHYS 241)  
                  Biophysics Department at Stanford
- 2020-2021       Teaching Assistant, Biophysical Chemistry (AS.250.372)  
                  Biophysics Department at JHU
- 2019-2021       Teaching Team Assistant, Computer Science  
                  The Center for Talented Youth at JHU

- 2019-2020 Teaching Lab Assistant, Protein Engineering & Biochemistry Lab (AS.250.253)  
Biophysics Department at JHU
- 2018 Teaching Assistant, Physics II for Physical Science Majors (AS.171.108)  
Physics Department at JHU
- 2016,17 Summer Camp Counselor at Math Quest & Computer Quest  
Mass Academy at WPI (Worcester, MA)

***Industry Positions***

- 2018 Intern - Process Development: Analytical Development, Shire/Takeda (Lexington, MA)
- 2017 Intern - Software Development, Sencio Systems (Harvard, MA)

**ACADEMIC CONFERENCES**

- 2023 DE Shaw Research Women's Symposium, Flash Talk
- 2023 California Research Alliance (CARA) Spring Review, Keynote Speaker
- 2023 Keystone Conference: Comp. Design & Modeling of Biomolecules, Poster Presentation
- 2023 ML Protein Engineering Seminar Series, Invited Seminar Speaker
- 2022 California Research Alliance (CARA) Fall Review, Invited Speaker
- 2022 California Research Alliance (CARA) Spring Review, Invited Speaker
- 2022 exploreCSR: Democratize AI, Invited Panelist
- 2021 Johns Hopkins Woodrow Wilson Annual Symposium, Poster Presentation
- 2021 Richard Macksey Research Symposium, Invited Panelist
- 2020 34<sup>th</sup> Gibbs Conference on Biological Thermodynamics, Poster Presentation
- 2020 Institute of Data Science and Engineering Annual Symposium, Poster Presentation
- 2016 American Association for the Advancement Science (Boston, MA), Poster Presentation
- 2016 American Junior Academy of Science (Boston, MA), Poster Presentation
- 2016 International Sustainable World Engineering Energy Environment Project (Houston, TX)

**ACADEMIC SERVICE**

- 2023 Machine Learning in Structural Biology Workshop at NeurIPS – Program Organizer

**CERTIFICATIONS**

- 2022 NVIDIA Deep Learning Institute – Fundamentals of Accelerated Computing with CUDA

**PUBLICATIONS**

- [1] Alexander E. Chu, Lucy Cheng, **Gina El Nesr**, Minkai Xu, Po-Ssu Huang. (2023) An all-atom protein generative model. bioRxiv. [doi.org/10.1101/2023.05.24.542194](https://doi.org/10.1101/2023.05.24.542194)

[2] \*Autum R. Baxter-Koenigs, \***Gina El Nesr**, Doug Barrick. (2022) Singular value decomposition of protein sequences as a method to visualize sequence and residue space. Protein Science. *doi:10.1002/pro.4422* – **also generated cover art for Protein Science (Vol 31, Issue 11)**

\* = equal contribution between authors

### ACKNOWLEDGED PUBLICATIONS

[1] Noelia Ferruz, Michael Heinzinger, Mehmet Akdel, Alexander Goncarenko, LucaNaef, Christian Dallago. (2022) From sequence to function through structure: deep learning for protein design. bioRxiv *doi:10.1101/2022/08.31.505981* – **acknowledged for curating scientific knowledge into easy to parse and openly available lists**

### EXTRACURRICULAR ACTIVITIES

2019-Present	U25 and Senior USAW Olympic Weightlifting Competitor
2021-Present	Egyptian Students Association at Stanford, Founding Member
2021-Present	Arab Student Association at Stanford, Member
2021-Present	Muslim Students Association at Stanford, Member
2022-2023	Biophysics Committee, Member and Recruitment Chair
2021-2023	MINARA: Muslim Mentorship in Action, Mentor
2019-2021	Arab Students Union at JHU, co-Founder and co-President
2019-2021	Multicultural Leadership Council at JHU, Member