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

2024	Stanford Fellowship to the 20th Frontiers in Biophysics Conference
2024	Stanford Office of Graduate Education Travel Award for ICLR
2023	DESRES Graduate and Postdoctoral Women's Fellowship
2023	Keystone Travel Award for the Comp. Design & Modeling of Biomolecules
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, Macromolecules (BIOPHYS 241) Stanford University
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, Senscio Systems (Harvard, MA)

ACADEMIC CONFERENCES

2024	Antibody Engineering: Strategies for Design & Optimization, Invited Speaker
2024	ICLR – GEMBio Workshop, Poster Presentation
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	34th 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

2024	NeurIPS – Machine Learning in Structural Biology, Program Organizer
2024	ICML, Workshop Proposal Committee
2024	ICLR - Generative and Experimental Perspectives for Biomolecular Design, Reviewer
2023	NeurIPS - Machine Learning in Structural Biology, Program Organizer and Reviewer

CERTIFICATIONS

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

PUBLICATIONS

[1] *Christian Choe, ***Gina El Nesr**, Ana Espeleta, Rhiju Das, Po-Ssu Huang. (2024) 3D Inverse Design of RNA Using Deep Learning. *In preparation*.

[2] Alexander E. Chu, Jinho Kim, Lucy Cheng, **Gina El Nesr**, Minkai Xu, Richard Shuai, Po-Ssu Huang. (2024) An all-atom protein generative model. PNAS. *doi.org/10.10732/pnas.2311500121*

[3] Adonis A. Rubio, Viren A. Baharani, Bernadeta Dadonaite, Megan Parada, Morgan E. Abernathy, Zijun Wang, Yu E. Lee, Michael R. Eso, Jennie Phung, Israel Ramos, Teresia Chen, **Gina El Nesr**, Jesse D. Bloom, Paul D. Bieniasz, Michel C. Nussenzweig, Christopher O. Barnes. (2024) Bispecific antibodies with broad neutralization potency against SARS-CoV-2 variants of concern. bioRxiv. *doi.org/10.1101/2024.05.05.592584*

[4] *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 Goncearenco, 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 MINARA: Muslim Mentorship in Action, Mentor

2022-2023 Biophysics Committee, Member and Recruitment Chair

2019-2021 Arab Students Union at JHU, co-Founder and co-President

2019-2021 Multicultural Leadership Council at JHU, Member