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Visualizing macromolecular machines using cryo-electron microscopy

Dr. Lisa Eshun-Wilson

Principal Investigator, Division of Structural Biology, Stealth AI Startup, San Francisco, CA

Dr. Lisa Eshun-Wilson brings expertise in biochemistry, biophysics, and structural biology to her current role in de novo protein design. She earned her Ph.D. with Dr. Eva Nogales in the Dept. of Molecular Cell Biology in the Division of Biochemistry, Biophysics, and Structural biology, where she visualized intrinsically disordered microtubule-associated associated proteins with direct roles in Alzheimer's take shape when bound to microtubules and molecular motors using cryo-electron microscopy (cryo-EM) – work that earned her the 2020 Cris Alvaro Ph.D. Commencement Prize.

In 2020, Dr. Eshun-Wilson joined the labs of Drs. Gabriel Lander and Dr. Andrew Ward to resolve the first full-length cryo-EM structure of Hepatitis C virus E1E2 glycoprotein, a target that had taken over 30 years to resolve, which resulted in a co-first authored paper in Science Magazine. In 2024, Dr. Eshun-Wilson joined Profluent Bio, Inc. a Berkeley-based startup that uses large language models to design novel proteins for precision gene editing, where she worked at the intersection of genetics, structural biology and AI. In her new role as a PI at a Stealth AI Startup, Dr. Eshun-Wilson is committed to designing novel gene editors that will transform how we treat genetic disorders, with a special emphasis on rare genetic disorders.