

# Gregory M. Alushin

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## **Current Position:**

2023-           **Associate Professor and Head**  
**Laboratory of Structural Biophysics and Mechanobiology**  
The Rockefeller University, New York, NY, USA  
Faculty, Tri-Institutional MD-PhD Program  
Faculty, Tri-Institutional Program in Chemical Biology

## **Previous Experience:**

2017-2023       **Assistant Professor**  
The Rockefeller University, New York, NY, USA

2013-2016       **Early Independent Scientist**  
Cell Biology and Physiology Center, NHLBI, Bethesda, MD, USA

2012-2013       **Postdoctoral Fellow**  
Cell Biology and Physiology Center, NHLBI, Bethesda, MD, USA  
*Advisor: Clare Waterman*

2006-2007       **Postbaccalaureate Fellow**  
Lab of Cellular and Molecular Neurophysiology, NICHD, Bethesda, MD, USA  
*Advisor: Mark Mayer*

## **Education:**

2007-2012       **Ph.D. Biophysics**  
University of California, Berkeley, CA, USA  
“Molecular Mechanisms of Kinetochore-Microtubule Attachment Via the Ndc80 Kinetochore complex”  
*Thesis Advisor: Eva Nogales*

2002-2006       **B.A. Biochemistry**  
***Magna cum Laude***  
***Honors, Dept. of Biological Sciences***  
Columbia University, New York, NY, USA  
*Thesis Advisor: Alexander Tzagaloff*

### ***Professional Courses:***

- 2013 “Physiology: Modern Cell Biology Using Microscopic, Biochemical, and Computational Approaches”  
Marine Biological Laboratory, Woods Hole, MA, USA
- 2015-2016 “NHLBI Leadership Lab”  
An intensive management course focused on effective leadership techniques, mentoring, and structured professional development  
National Heart, Lung, and Blood Institute, NIH, Bethesda, MD, USA

### **Awards and Honors:**

- 2026 Chan-Zuckerberg Biohub New York Investigator Award
- 2026 NIH / NIGMS R35 GM161251
- 2023 Reem-Kayden Early-Career Innovation Award
- 2023 NIH / NIGMS R01 GM146880
- 2021 The Rockefeller University Distinguished Teaching Award
- 2021 NIH / NIGMS R01 GM141044
- 2020 Alexandrine and Alexander Sinsheimer Award
- 2020 Alfred P. Sloan Foundation Matter-to-Life Research Award (renewed 2025)
- 2020 Starr Cancer Consortium Research Award
- 2019 Kavli Frontiers of Science Fellow
- 2018 Pew Biomedical Scholar
- 2017 Irma T. Hirschl/Monique Weill-Caulier Trust Research Award
- 2017 PECASE: Presidential Early Career Award for Scientists and Engineers
- 2014 Forbes 30 under 30 in Science and Healthcare
- 2013 NIH Director’s Early Independence Award
- 2012 ASCB Norton B. Gilula Award
- 2012 Alan Bearden Award in Biophysics, UC Berkeley
- 2012 Harold M. Weintraub Graduate Student Award, FHCRC
- 2011 Lindau Nobel Laureates Meeting, USA Delegation
- 2009 NSF GRFP Honorable Mention
- 2006 Phi Beta Kappa

### **Profiles:**

O’Donnel, M.A. “Greg Alushin: The shape of things to come.” *Journal of Cell Biology*, (2019). **218**: 2073-2074.

Breuer, M.B. “Cell scientist to watch – Gregory Alushin.” *Journal of Cell Science*, (2017). **130**: 3607-3609.

### **Publications:**

\*Equal contributions

#Co-corresponding authors

### **Alushin Lab:**

#### ***Recent preprints:***

Chin, A.C., Mukadam, F., Reynolds, M.J., Hocky, G.M., **Alushin, G.M.** “Force-modulated structural landscape of the catch bonding F-actin crosslinker  $\alpha$ -actinin-4.” Submitted.  
*bioRxiv* preprint: <https://doi.org/10.64898/2026.03.04.709699>

Watters, J.W., Mueller, A.U., Ju, X., Chuquimarca, S.J., Ye, H.J., Darst, S.A., **Alushin, G.M.**#, Liu, S.# “Structural principles of transcriptional collisions.” Submitted.  
*bioRxiv* preprint: <https://doi.org/10.64898/2026.04.06.716678>

## Research articles:

Carl, A.G.\*, Reynolds, M.J.\*, Sun, X.\*, Gurel, P.S., Phua, D.Y.Z., Hamilton, K., Mei, L., Watters, J.W., Takagi, Y., Noble, A.J., Sellers, J.R., **Alushin, G.M.** “Myosin forces elicit an F-actin structural landscape that mediates mechanosensitive protein recognition.” *Nature*, (2026). <https://doi.org/10.1038/s41586-026-10398-7>.  
*bioRxiv* preprint: <https://doi.org/10.1101/2024.08.15.608188>

Niu, Y., Deluca, K.F., Owen, R.H., Konishi, H.A., Gong, R., **Alushin, G.M.**, Deluca, J. G., Funabiki, H. “Microtubules guide Aurora B substrate geometries for accurate chromosome segregation.” *Science Advances* (2026), **12**: aea2112.

Gong, R.#, Reynolds, M.J., Sun, X., **Alushin, G.M.#** “Afadin mediates cadherin-catenin complex clustering on F-actin linked to cooperative binding and filament curvature.” *Science Advances* (2025), **11**: eadu0989.  
*bioRxiv* preprint: <https://doi.org/10.1101/2024.10.08.617332>

Phua, D.Y.Z.#, Sun, X., **Alushin, G.M.#** “Force-activated zyxin assemblies coordinate actin nucleation and crosslinking to orchestrate stress fiber repair.” *Current Biology* (2025), **35**: 854-870.e9.  
*bioRxiv* preprint: <https://doi.org/10.1101/2024.05.17.594765>

### News and Views / Commentary:

Oakes, P.W. “Cytoskeletal repair: Zyxin relieves actin stress from the inside out.” *Current Biology* (2025), **35**: R148-R150.

Gong, R.\*#, Reynolds, M.J.\*, Carney, K.R., Hamilton, K., Bidone, T.C., **Alushin, G.M.#** “Fascin structural plasticity mediates flexible actin bundle construction.” *Nature Structural and Molecular Biology* (2025), **32**: 940-952.  
*bioRxiv* preprint: <https://doi.org/10.1101/2024.01.03.574123>

### -Cover article

Moreland, Z.G., Jiang, F., Aguilar, C., Barzik, M., Gong, R., Shams, A., Faaborg-Anderson, C., Werth, J.C., Harley, R., Sutton, D.C., Cole, S.M., Parker, A., Morse, S., Wilson, E., Takagi, Y., Sellers, J.R., Brown, S.D.M., Friedman, T.B., **Alushin, G.M.**, Bowl, M.R., Bird, J.E. “Myosin-driven nucleation of actin filaments drives stereocilia development critical for hearing.” *Nature Communications* (2025), **16**: 947.  
*bioRxiv* preprint: <https://doi.org/10.1101/2021.07.09.451618>

Levin, J.T., Pan, A., Barrett, M.T., **Alushin, G.M.** “A platform for dissecting force sensitivity and multivalency in actin networks.” (2023).  
*bioRxiv* preprint: <https://doi.org/10.1101/2023.08.15.553463>

Reynolds, M.J., Hachicho, C., Carl, A.G., Gong, R., **Alushin, G.M.** “Bending forces and nucleotide state jointly regulate F-actin structure.” *Nature* (2022), **611**: 380-386.  
*bioRxiv* preprint: <https://doi.org/10.1101/2022.06.02.494606>

### News and Views / Commentary:

Cossio, P., Hocky, G.M. “Catching actin proteins in action.” *Nature* (2022), **611**: 241-243.

Mei, L.\*, Reynolds, M.J.\*, Garbett, D., Gong, R., Meyer, T., **Alushin, G.M.** “Structural mechanism for bidirectional actin cross-linking by T-plastin.” *Proceedings of the National Academy of Sciences* (2022), **119**: e2205370119.  
*bioRxiv* preprint: <https://doi.org/10.1101/2021.12.07.471696>

Gong, R., Jiang, F., Moreland, Z.G., Reynolds, M.J., Espinosa de los Reyes, S., Gurel, P.S., Shams, A., Heidings, J.B., Bowl, M.R., Bird, J.E.#, **Alushin, G.M.#** “Structural basis for tunable control of actin dynamics by myosin-15 in mechanosensory stereocilia.” *Science Advances* (2022). **8**: eabl4733.  
*bioRxiv* preprint: <https://doi.org/10.1101/2021.07.09.451843>

Ruijgrok, P.V., Ghosh, R.P., Zemsky, S., Nakamura, M., Gong, R., Ning, L., Chen, R., Vachharajani, V.T., Chu, A.E., Anand, N., Eguchi, R.R., Huang, P.S., Lin, M.Z., **Alushin, G.M.**, Liphardt, J.T., Bryant, Z. “Optical control of fast and processive engineered myosins in vitro and in living cells.” *Nature Chemical Biology*, (2021). **17**: 540-548.

Sun, X., Phua, D.Y.Z., Axiotakis, L., Smith, M.A., Blankman, E., Gong, R., Cail, R.C., Espinosa de los Reyes, S., Beckerle, M.C.\*, Waterman, C.M.\*, **Alushin, G.M.** “Mechanosensing through direct binding of tensed F-actin by LIM domains.” *Developmental Cell* (2020). **55**: 468-482.  
*bioRxiv* preprint: <https://doi.org/10.1101/2020.03.06.979245>

Mei, L., de los Reyes, S.E., Reynolds, M.J., Liu, S., **Alushin, G.M.** “Molecular mechanism for direct actin force-sensing by  $\alpha$ -catenin.” *eLife* (2020), **9**: e62514.  
*bioRxiv* preprint: <https://doi.org/10.1101/2020.02.18.954735>

Sarker, M., Lee, H.T., Mei, L., Korkhotin, A., de los Reyes, S.E., Yen, L., Costantini, L.M., Griffith, J., Dokholyan, N.V., **Alushin, G.M.**, Campbell, S.C. “Cardiomyopathy mutations in metavinculin disrupt regulation of vinculin-induced F-actin assemblies.” *Journal of Molecular Biology* (2019), **431**: 1604-1618.

Ti, S.C., **Alushin, G.M.**#, Kapoor, T.M.# “Human  $\beta$ -tubulin isoforms regulate microtubule protofilament number and lattice stability.” *Developmental Cell* (2018), **47**: 175-190.

Omabegho, T., Gurel, P.S., Cheng, C.Y., Kim, L.Y., Ruijgrok, P.V., **Alushin, G.M.**, Bryant, Z. “Controllable molecular motors engineered from myosin and RNA.” *Nature Nanotechnology* (2018), **13**: 34-40.

Press:

Borman, S. “Engineered myosin motor uses RNA arm to march on protein fibers.” *Chemical and Engineering News* (2017), **95**: 8.

Gurel, P.S., Kim, L.Y., Ruijgrok, P.V., Omabegho, T., Bryant, Z., **Alushin, G.M.** “Cryo-EM structures reveal specialization at the myosin VI-actin interface and a mechanism of force sensitivity.” *eLife* (2017), **6**: e31125.

Kim, L.Y., Thompson, P.M., Lee, H.T., Pershad, M., Campbell, S.C., **Alushin, G.M.** “The structural basis of actin organization by vinculin and metavinculin.” *Journal of Molecular Biology* (2016), **428**: 10-25.

-Cover article

News and Views / Commentary:

Sindelar, C., Huehn, A. “Vinculin: An Unfolding Tale.” *Journal of Molecular Biology* (2016), **428**: 1-4.

**Reviews, Commentaries, and Book Chapters:**

**Alushin, G.M.**, Connolly, S.M, Njoku, B.C. “Structural biophysics of cytoskeletal force transduction.” *Annual Review of Cell and Developmental Biology* (2026), <https://doi.org/10.1146/annurev-cellbio-101223-022717>.

Sun, X., **Alushin, G.M.** “Cellular force-sensing through actin filaments.” *The FEBS Journal* (2023), **290**: 2576-2589.

Swaminathan, V., **Alushin, G.M.**, Waterman C.M. “Mechanosensation: a catch bond that only hooks one way.” *Current Biology* (2017), **27**: 1158-1160.

**Prior to Alushin lab:**

**Research articles**

Zhang, R., **Alushin, G.M.**, Brown, A., Nogales, E. “Mechanistic origin of microtubule dynamic instability and its modulation by EB proteins.” *Cell* (2015), **162**: 849-59.

**Alushin, G.M.\***, Lander, G.C.\*, Kellogg, E.H.\*, Zhang, R., Baker, D.A., Nogales, E. “High-resolution microtubule structures reveal the structural transitions in  $\alpha\beta$ -tubulin upon GTP hydrolysis.” *Cell* (2014), **157**: 1117-29.

News and Views / Commentary:

Mitchison, T.J. “The engine of microtubule dynamics comes into focus.” *Cell* (2014), **157**: 1008-10.

Amos, L.A., Lowe, J. “The subtle allostery of microtubule dynamics.” *Nature Structural and Molecular Biology* (2014), **21**: 505-6.

Howes, S.C., **Alushin, G.M.**, Shida, T., Nachury M.V., Nogales E. “Effects of tubulin acetylation and tubulin acetyltransferase binding on microtubule structure” *Molecular Biology of the Cell* (2014), **25**: 257-66.

Musinipally, V., Howes, S., **Alushin, G.M.#**, Nogales, E.# “The microtubule binding properties of CENP-E’s C-terminus and CENP-F.” *Journal of Molecular Biology* (2013), **425**: 4427-41.

Lampert, F., Mieck, C., **Alushin, G.M.**, Nogales, E., Westermann, S. “Molecular requirements for the formation of a kinetochore-microtubule interface by Dam1 and Ndc80 complexes.” *Journal of Cell Biology* (2013), **200**: 21-30.

**Alushin, G.M.**, Musinipally, V., Matson, D., Tooley, J., Stukenberg, P.T., Nogales, E. “Multi-modal microtubule binding by the Ndc80 kinetochore complex.” *Nature Structural and Molecular Biology* (2012), **19**: 1161-7.

Paul, M.F., **Alushin, G.M.**, Barros, M.H., Rak, M., Tzagoloff, A. “The putative GTPase encoded by *MTG3* functions in a novel pathway for regulating assembly of the small subunit of yeast mitochondrial ribosomes.” *Journal of Biological Chemistry* (2012), **287**: 24346-55.

Scrapanti, E., De Antoni, A., **Alushin, G.M.**, Petrovic, A., Melis, T., Nogales, E., Musacchio, A. “Direct binding of Cenp-C to the Mis12 complex joins the inner and outer kinetochore.” *Current Biology* (2011), **21**: 391-398.

Hornung, P., Maier, M., **Alushin, G.M.**, Lander, G.C., Nogales, E., Westermann, S. “Molecular architecture and connectivity of the budding yeast Mtw1 kinetochore complex.” *Journal of Molecular Biology* (2011), **405**: 548-559.

**Alushin, G.M.**, Ramey, V.H., Pasqualato, S., Ball, D.A., Grigorieff, N., Musacchio, A., Nogales, E. “The Ndc80 kinetochore complex forms oligomeric arrays along microtubules.” *Nature* (2010), **467**: 805-810.

News and Views / Commentary:

Sundin, L.J., Deluca, J.G. “Kinetochores: NDC80 toes the line.” *Current Biology* (2010), **20**: 1083-5.

**Alushin, G.M.**, Jane, D., Mayer, M.L. “Binding site and ligand flexibility revealed by high resolution crystal structures of GluK1 competitive antagonists.” *Neuropharmacology* (2010), **60**: 126-134.

Dargan S.L., Clark V.R., **Alushin G.M.**, Sherwood, J.L., Nistico, R., Bortolotto, Z.A., Ogden, A.M., Bleakman, D., Doherty, A.J., Lodge, D., Mayer, M.L., Fitzjohn, S.M., Jane, D.E., Collingridge, G.L. “ACET is a highly potent and specific kainate receptor antagonist: Characterization and effects on hippocampal mossy fibre function.” *Neuropharmacology* (2009), **56**: 121-130.

**Reviews, Commentaries, and Book Chapters:**

Nogales, E., **Alushin, G.M.** “Tubulin and microtubule structure: mechanistic insights into dynamic instability and its biological relevance.” In: *Comprehensive Biophysics, Vol. 4*. Edward H. Egelman, Editor. Oxford Academic Press, 2012. pp. 72-92.

**Alushin, G.M.**, Nogales, E. “Visualizing kinetochore architecture.” *Current Opinion in Structural Biology* (2011), **21**: 661-669.

### Invited Lectures:

- 2027 Mechanobiology Institute Conference, MBI, Singapore
- 2027 Cell and Developmental Biology Center, National Heart, Lung, and Blood Institute, NIH
- 2026 Institute for Biophysical Dynamics, University of Chicago
- 2026 European Cytoskeleton Forum, Paris, France
- 2026 Structural and Quantitative Biology Seminar, UC Berkeley
- 2026 Paul Bornstein Memorial Lecture, Department of Biochemistry, University of Washington
- 2025 Department of Biochemistry, Weill-Cornell Medical College
- 2025 Pennsylvania Muscle Institute, University of Pennsylvania
- 2025 Department of Pharmacology, Yale University
- 2025 Department of Cell and Developmental Biology, Vanderbilt University
- 2025 Cytoskeletal Structure, Function, and Dynamics FASEB Meeting
- 2024 Cell Biology Seminar Series, Harvard Medical School
- 2024 Molecular Life Sciences Seminar, Ohio State University
- 2024 Cell and Developmental Biology Center, National Heart, Lung, and Blood Institute, NIH
- 2024 Cytoskeletal Motors Gordon Research Conference
- 2024 Center for Membrane and Cell Physiology, University of Virginia
- 2024 Department of Cell, Developmental, and Regenerative Biology, Icahn School of Medicine, Mt. Sinai
- 2024 Department of Biophysics, University of Michigan
- 2023 Symposium on Molecular Mechanisms of Mechanosensing, Department of Chemistry, Simons Center for Computational Physical Chemistry, New York University
- 2023 Department of Biochemistry and Molecular Biology, Pennsylvania State University Medical College
- 2023 Cell Contact and Adhesion Gordon Research Conference
- 2023 Fibronectin, Integrins, and Related Molecules Gordon Research Conference
- 2022 Rockefeller University Friday Lecture Series
- 2022 Sloan Foundation Matter-to-Life Conference (*virtual*)
- 2022 Starr Cancer Consortium Retreat
- 2021 Systems Reconstitution: Emergent Cellular Functions from the Assembly of Component Parts, ASCB / EMBO Meeting (*virtual*)
- 2021 Institute of Structural and Molecular Biology, University College London / Birbeck College, London, UK (*virtual*)
- 2021 Fibronectin, Integrins, and Related Molecules Gordon Research Conference (*cancelled*)
- 2020 Skirball Institute of Biomolecular Medicine, New York University (*virtual*)
- 2020 Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota (*cancelled*)
- 2019 European Muscle Conference, Kent, UK
- 2019 The Protein Society Symposium
- 2019 The City College of New York, Advanced Science Research Center
- 2019 University of California, San Francisco
- 2018 Department of Chemistry, Lehman College, City College of New York
- 2018 Cytoskeletal Motors Gordon Research Conference (formerly Muscle and Molecular Motors)
- 2018 Three-dimensional Electron Microscopy Gordon Research Conference
- 2018 Challenges and Opportunities for Cryo-EM, Simons Foundation Flatiron Institute
- 2018 Molecular Biology Institute, University of California, Los Angeles
- 2018 Motility and Cytoskeleton Subgroup, Biophysical Society Meeting
- 2017 Jacques Monod Conference “Actin and microtubule cytoskeleton: bridging scales from single molecules to tissues”. Roscoff, France
- 2017 Department of Chemistry, Wichita State University
- 2016 Huntsman Cancer Institute, University of Utah
- 2016 Department of Molecular Biophysics and Biochemistry, Yale University
- 2016 The Rockefeller University
- 2016 Department of Biochemistry and Molecular Biology, University of Chicago
- 2016 Department of Molecular and Cellular Physiology, and Department of Structural Biology (joint invitation), School of Medicine, Stanford University
- 2016 Department of Biochemistry, School of Medicine, Cornell University (*Cancelled*)

2016 Department of Biophysics, and Department of Cell Biology, University of Texas Southwestern Medical Center (joint invitation)

2016 Department of Chemistry and Biochemistry, and Department of Cellular and Molecular Medicine, School of Medicine, University of California San Diego (joint invitation)

2016 Department of Chemistry, University of Pennsylvania

2015 National Heart, Lung and Blood Institute, NIH

2015 National Cancer Institute, NIH

2015 Department of Biochemistry and Biophysics, University of North Carolina

2015 Biophysical Society Meeting, Molecular Biophysics Subgroup

2014 Department of Biochemistry and Molecular Genetics, University of Virginia

2014 Laboratory of Metabolism, National Cancer Institute

2014 NIH Research Festival Imaging Symposium, NIH

2014 HHMI Janelia Farm Research Campus

2014 National Institute of Diabetes and Digestive and Kidney Diseases, NIH

2014 Keystone Symposium: Frontiers in Structural Biology Meeting

2014 Biophysics Graduate Group, University of California, Berkeley

2012 AMI Forum, The National Resource for Automated Molecular Microscopy (NRAMM), The Scripps Research Institute

### **Professional service:**

#### ***Editorial:***

2022 Guest Editor, *Proceedings of the National Academy of Sciences*

2022- *Journal of Cell Biology* Editorial Board

2019-2021 *Journal of Cell Biology* Early Career Advisory Board

#### ***Referee:***

*Journal of Molecular Biology, Nature Structural and Molecular Biology, Nature, EMBO Journal, eLife, Biophysical Journal, Biochemistry, Nature Methods, Nature Communications, Science Advances, Journal of Cell Biology, Structure, Molecular Cell, Molecular Biology of the Cell, Nature Physics, Journal of Cell Science, PNAS, Eur. J. Cell Biology, FEBS Letters, Science Advances, Cell, Nature Cell Biology, etc.*

#### ***Grant Review:***

*Ad hoc* member of NIH / NHLBI Board of Scientific Counselors

*Ad hoc* reviewer for NIH Study Sections Macromolecular Structure and Function C; Cell Structure and Function 1; Fellowships: Chemistry, Biochemistry, and Biophysics B; MIRA Special Emphasis Panel

*Mail reviewer* for Transformative R01 Program (NIH); RM1 Collaborative Program (NIGMS); National Science Foundation; The French National Research Agency; Israel Science Foundation; German Research Foundation; European Research Council; Chan Zuckerberg Initiative; Alfred P. Sloan Foundation; Boehringer Ingelheim Fonds

#### ***Conference:***

2028 Co-Chair, Cytoskeletal Motors Gordon Research Conference

2026 Co-Vice Chair, Cytoskeletal Motors Gordon Research Conference

2019 Founding Co-Organizer, Bi-Annual New York City Cryo-EM Meeting

2019 Co-Chair, "Cytoskeleton, Motility & Cell Mechanics" Session  
American Society for Cell Biology Meeting

### **Teaching:**

2020- Lecture: "The actin cytoskeleton", Rockefeller University Cell Biology Course

I present a lecture on the history of cell biological research of the actin cytoskeleton, as well as contemporary frontiers in the topic.

2019- Course Co-Organizer/ Instructor: "Biochemical and Biophysical Methods I & II"

Along with my colleague Shixin Liu, I lead a major revamping of Rockefeller's graduate biophysics and quantitative biochemistry course to focus on modern methodologies in the study of macromolecular structure and dynamics.

2019                   Lecture: "Introduction to Helical Processing"  
Available online: <https://bit.ly/2utQEIJ>

I presented a lecture in the Simons Electron Microscopy Center / New York Structural Biology Center's advanced course on structural studies with cryo-electron microscopy focused on helical assemblies.

2010                   Graduate Student Instructor: 140L "Genetics Laboratory for Advanced Undergraduates"  
Dept. of Molecular and Cellular Biology, UC Berkeley

### **Fostering scientific community:**

2022-                   Mentor, Rockefeller Exceptional Scholar's Workshop

This workshop is meant to provide focused mentoring and networking opportunities for talented junior investigators from minoritized backgrounds who are on the cusp of entering the tenure track job market. My role is to help select participants and provide them guidance on navigating the academic job search.

2022-                   Founding organizer, Sloan Undergraduate Researcher Program

Along with co-PIs Shixin Liu and Amy Shyer, I received funding from the Alfred P. Sloan foundation to initiate a paid research fellowship program for undergraduates at Rockefeller. Working with Jeanne Garbarino and Lizzie Krisch from the RockEDU science outreach program, we developed a recruitment and mentoring framework focused on identifying candidates from New York City institutions who are likely to thrive in a research career but may not be part of traditional pipelines at the undergraduate level. With our inaugural class of 4 fellows having begun in Fall of 2022, we hope this program will serve as a pilot for expanding undergraduate research opportunities for minoritized students at Rockefeller. Based on its success, the program was renewed for funding in 2026.

### **Mentoring:**

#### ***Current Staff / Mentees:***

2017-                   Xiaoyu Sun, PhD, research associate  
2018                   NIH Training Grant in Cancer Cell Biology  
2019                   Rockefeller Pels Family Center fellowship  
2020                   First author paper in *Developmental Cell*  
2023                   Co-corresponding author review in *The FEBS Journal*  
2025                   Co-authored paper in *Current Biology*  
2025                   Co-authored paper in *Science Advances*  
2026                   Co-first author paper in *Nature*

2021-                   Keith Hamilton, PhD, postdoctoral fellow  
2021                   Anderson Cancer Center fellowship  
2025                   Co-authored paper in *Nature Structural and Molecular Biology*  
2026                   Co-authored paper in *Nature*

2021-                   John Watters, BS, graduate student (*co-mentored with Shixin Liu*)  
2022                   NSF GRFP Honorable Mention  
2026                   Schmidt Science Fellows Finalist  
2026                   First author *bioRxiv* preprint

2021- Alfred Chin, MS, MD-PhD student  
2021 Hertz Fellowship Finalist  
2022 American Heart Association pre-doctoral fellowship  
2022 Croucher Foundation scholarship  
2024 NIH / NIDDK F30 pre-doctoral fellowship  
2026 First author *bioRxiv* preprint

2024- Ian Windham, PhD, postdoctoral fellow  
2025 Pels Family Center fellowship

2024- Blessing Njoku, BS, graduate student  
2026 Co-authored review article in *Annual Reviews Cell and Developmental Biology*

2025- Sarah Connolly, postdoctoral fellow  
2026 Co-authored review article in *Annual Reviews Cell and Developmental Biology*  
2025 American Heart Association fellowship

2025- Anirban Chakraborty, BS, MD-PhD student

2025- Hannah Ye, BS, graduate student

2025- Emily Mazur, BS, graduate student

2025- Hassan Sohail, BS, research assistant

2026- Erik Hovasapyan, Sloan undergraduate researcher

***Visiting Professor***

2026 Martin Schwartz, PhD  
Robert W. Berliner Professor of Medicine (Cardiology) and Professor of Biomedical Engineering and Cell Biology, Yale University

***Former Staff /Mentees:***

2019-2025 Donovan Phua, PhD, graduate student  
Currently: Postdoctoral Fellow, Elliot Meyerowitz and Trevor Nolan labs, Caltech

2023-2025 Lilianne Sutton, MS, research assistant  
Currently: Medical Student, Yale

2017-2024 Rui Gong, PhD, postdoctoral fellow  
Currently: Assistant Professor, Shenzhen University of Advanced Technology

2019-2024 Matthew Reynolds, PhD, graduate student  
Currently: Jane Coffin Childs Postdoctoral Fellow, Rui Zhang lab, WUSTL

2022-2024 Michael Barrett, Sloan undergraduate researcher  
Currently: Undergraduate, Hunter College

2022-2024 Opeoluwa Olaniyan, BS, Sloan undergraduate researcher  
Currently: College assistant, Borough of Manhattan Community College

2021-2024 Ariel Pan, BS, research assistant  
Currently: PhD student, Tri-institutional Program in Chemical Biology

2018-2023 Joe Levin, PhD, graduate student  
 Currently: Investment Analyst, Baillie Gifford

2018-2023 Ayala Carl, PhD, graduate student in chemical biology  
 Currently: Field Application Scientist, Thermo Fisher Scientific

2017-2021 Lin Mei, PhD, graduate student in chemical biology  
 Currently: Scientist, Seismic Therapeutic

2019-2021 Carla Hachicho, BS, research assistant  
 Currently: MD student, SUNY Downstate

2017-2019 Santiago Espinosa, BS, research assistant  
 Currently: MD-PhD student, Stony Brook University

2015-2017 Pinar Gurel, PhD, postdoctoral fellow  
 Currently: Principal Scientist (group leader), Mural Oncology

2015-2017 Lucas Axiotakis, Jr., MD, postbaccalaureate fellow at NIH  
 2021 MD, Columbia University  
 Currently: Resident, New York Presbyterian

2014-2016 Laura Kim, MS, biologist at NIH  
 2017-2021 Staff Scientist, NYSBC Simons Electron Microscopy Center  
 Currently: Biophysics graduate student, Columbia University

2014-2015 Robert Cail, PhD, postbaccalaureate fellow at NIH  
 2021 PhD Biophysics, UC Berkeley  
 Currently: Postdoctoral fellow, Yale Goldman /Mike Ostap labs, U. Penn

2008-2012 Vivek Musinipally, MD, undergraduate researcher at UC Berkeley  
 2017 MD, UCSF  
 Currently: Resident Physician, Kaiser Permanente, San Francisco, CA

*Updated June 25, 2026*