Mayank Chugh

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mayankchugh.org

EDUCATION

Mini-MBA, Harvard GSAS Biotech Club and Harvard Business School, Boston, USA
2022

PhD in Biology, Max Planck Institute for Developmental Biology and University of Tübingen, Germany
2014–2019
Magna cum laude thesis

B.S.-M.S. in Biology, Indian Institute of Science Education and Research (IISER) Mohali, India
2009–2014
Award for Academic Excellence in Biology, CPGA:9.2/10 (US 3.74/4.0), Biology: 10/10 (US 4.0/4.0)

SCIENTIFIC EXPERIENCE

Postdoctoral Research, Harvard Medical School 2020–Present
- In the lab of Sean Megason, Department of Systems Biology, uncovering mechanistic principles of hydrostatic pressure generation and water transport in development and disease using *zebrafish*

Bridging Postdoc, University of Tübingen 2019–2020
- In the lab of Erik Schäffer investigated the role of molecular motor kinesin-8 in cell division

PhD Research, Max Planck for Developmental Biology and University of Tübingen 2014–2019
- In the labs of Erik Schäffer and Sabine Müller discovered the molecular mechanism underlying cell division plane alignment in plants

M.S., Indian Institute of Science Education and Research (IISER) Mohali 2012–2014
- In the lab of Lolitika Mandal determined the generation and regulation of blood cell number in *drosophila*

Summer Fellow, School in Neurosciene, Joint Program of Harvard, MIT, IIT Delhi 2013
- Devised anatomical and functional understaning of human brain with independent project on epilepsy

Indian Aacademy of Sciences Summer Fellow, Indian Institute of Science (IISc) Bangalore 2012
- In the lab of Utpal Nath examined the molecular mechanism underlying curvature of leaves

Undergraduate Student Researcher, IISER Mohali 2010–2012
- In the lab of Lolitika Mandal identified haematopoietic/blood stem cells and mechanisms of niche regulation and function in *drosophila*

JUSTICE, POLICY, & LEADERSHIP EXPERIENCE

Early Career Advisor–North America, eLife 2023–2025
- Advising and guiding eLife leadership, editors, and staff with new initiatives and strategies for equitable research practices and culture with focus on retention of marginalised scholars in academia

Chair, Harvard Medical Postdoc Association 2021–2023
- Led with evidence-based approach in reforming institutional and federal policies for equitable compensation for early career researchers
- Orchestrated outreach with Bunker Hill Community College with the highest number of students of colour and from low-income backgrounds in Massachussets
- Facilitated anti-racist training for postdocs with Diversity and Inclusion Office at the Harvard Medical School
- As Chair Emiterus now, collaborating with Tiffany Joseph at the Northeastern University in addressing citizenship privilege in the frameworks of academic mobility and inclusion of the global south
- Leading data-driven approach on the impact of visas on early career researchers mental wellbeing, research productivity, and career progression to challenge institutional and federal immigration policies

Chair, DEI Committee on Fair Recruitment, Department of Systems Biology 2021–2022

- Spearheaded a new recruitment method for postdoc recruitment built for bias detection, accountability implementation, and robust data tracking

Co-Founder, Together We Science 2018–2020
- Founded an interdiscplinary forum space to integrate social sciences and STEM within the framework of society at the University of Tübingen with focus on early career researchers

Ambassador, ASAPbio–US non-profit for open access science 2017-2020
- Led demystifying talks and discourses on open access scientific dissemination without paywalls–*preprints*–for transparency, critical for equitable scientific research access and academic assessment

Organiser and Teacher, Youth's Attempt to Nurture (YATN) non-profit 2011-15
- Taught underprivileged kids of immigrant construction labourers and negotiated for their wellbeing and better working conditions. With our student-led organisation, we led fundraising events to send students to city schools and establish YATN as a non-profit organisation

Research Publications

1. **Chugh, M.****, Munjal, A.**, and Megason, S. G.**, 2022. Hydrostatic pressure as a driver of cell and tissue morphogenesis. *In Seminars in Cell and Developmental Biology*, 131, 134-145. Academic Press. **Co-corresponding author

2. Bugiel, M., **Chugh, M.**, Jachowski, T.J., Schäffer, E. and Jannasch, A., 2020. The kinesin-8 Kip3 depolymerizes microtubules with a collective force-dependent mechanism. *Biophysical journal*, 118(8), 1958-1967.

3. **Chugh, M.**, Reißner, M., Bugiel, M., Lipka, E., Herrmann, A., Roy, B., Müller, S. and Schäffer, E., 2018. Phragmoplast orienting kinesin 2 is a weak motor switching between processive and diffusive modes. *Biophysical journal*, 115(2), 375-385.

4. Livanos, P., **Chugh, M.** and Müller, S., 2017. Analysis of phragmoplast kinetics during plant cytokinesis. *In Plant Protein Secretion* (137-150). Humana Press, New York, NY.

5. Schellhaus, A.K., Moreno-Andrés, D., **Chugh, M.**, Yokoyama, H., Moschopoulou, A., De, S., Bono, F., Hipp, K., Schäffer, E. and Antonin, W., 2017. Developmentally Regulated GTP binding protein 1 (DRG1) controls microtubule dynamics. *Scientific reports*, 7(1),1-16.

6. Dey NS, Ramesh P, **Chugh M**, Mandal S, Mandal L., 2016. Dpp dependent Hematopoietic stem cells give rise to Hh dependent blood progenitors in larval lymph gland of *Drosophila*. *eLife* 5, p. e18295

Justice, Policy, & Outreach Publications

1. **Chugh, M.***, and Joseph, T., 2023. Citizenship Privilege: Unpacking The Invisible Academic Mobility Knapsack. *in prep. for Nature* *Corresponding author

2. Yalcin, E., Martinez-Corral, R., and **Chugh, M.***, 2023. Retaining postdocs by recognizing their worth. *Nature Biotechnology*, 41(2), 296-298.

3. **Chugh, M.***, 2023. Visas: speed up processing to boost inclusivity. *Nature*, 615(7950), 34-34.

4. **Chugh, M.***, 2023. Calling for institutional reform by compensating early career researchers for diversity labor. *Trends in Microbiology*.

5. da Silva, C. F. A., Virgüez, E., Eker, S., Zdenek, C. N., Bergh, C., Gerarduzzi, C., ... and **Chugh, M.**, 2023. The future of scientific societies. *Science*, 380(6640), 30-32.

6. **Chugh., M.***, 2020. Back to Bench is resetting my mental clock. *The Node–The Company of Biologists*. §Translated into Chinese and most read article of the year.

7. **Chugh, M.****, and Hermsdorf, G.**, 2019. Homemade low-frequency vibration isolation system matches or exceeds commercial options. *Laser Focus World Magazine*, Oct., 37-40.

8. **Chugh, M.**, Gonzales, A., Rolfes, D. J., 2018. The MeToo Movement from Hollywood to Bench. *The Offspring magazine*, 20-22.

9. Hmadi, R., Jeschke, A., **Chugh, M.**, Ilangovan, V., 2017. Hacking genomes using CRISPR. *The Offspring magazine*, 20-21.

10. **Chugh, M.***, 2017. In conversation with Prof. Marja Timmermans. *The Offspring magazine*, 5-6.

11. **Chugh, M.***, 2017. A journey decoded. *The Offspring magazine*, 12-13.

12. **Chugh, M.***, 2014. Resonance: bringing together disciplines. *Current Science*, 106(5), 655-657.

GRANTS & AWARDS

eLife Early Career Advisory Member–North America	2023
Honored Listee, Marquis Who's Who in America 2023	2023
International Max Planck Research School Fellowship	2014-2019
Best Poster Presentation, Max Planck Retreat	2015
K.V.P.Y., Government of India, Department of Science Fellowship	2009-2014
Award for Academic Excellence in Biology, Class of 2014	2014
Dean's list 4X Semesters	2012-2014
Khorana Program Fellowship–*Declined*	2013
Summer Fellowship in Neuroscience, Resonance–Harvard, MIT, and IIT Delhi Program	2013
Indian Academy of Sciences (IAS) Summer Fellowship	2012

MENTORING & TEACHING

Mentor, Systems Biology Summer Internship Program, Harvard Medical School	2023
Teacher, Calculus Project for Minority Students, Harvard Medical School	2023
Teacher, Calculus Project for Minority Students, Harvard Medical School	2022
Teacher, Calculus Project for Minority Students, Harvard Medical School	2021
Guest Lecturer, Molecular Biophysics, Master's Class, University of Tübingen	2019
Mentor, Master Thesis Student, Cellular Nanoscience Program, University of Tübingen	2019
Mentor, Master Thesis Student, Cellular Nanoscience Program, University of Tübingen	2018
Mentor, Bachelor Thesis Student, Biophysics Program, University of Tübingen	2017
Mentor, Bachelor Thesis Student, Biophysics Program, University of Tübingen	2017
Mentor, Summer Intern Student, University of Tübingen	2017
Mentor, Summer Intern Student, University of Tübingen	2017

SELECTED MEDIA

1. Academia's postdoc system is teetering, imperiling efforts to diversify life sciences. **STAT News**
2. To diversify the scientific workforce, postdoc recruitment needs a rethink. **Nature**
3. Early Career Special Episode. **Preprints in Motion**

TALKS & DISCOURSES

1. **Invited Keynote Speaker** at *George Washington University, Washington D.C.*, September 2023. Talk Title: Facilitating Change for Early Career Researchers in Academia

2. Listening Sessions Speaker at *The Office of Science and Technology Policy (OSTP), The White House, Washington D.C. (Virtual)*, May 2023. Talk Title: Open Access Science and Early Career Researchers

3. Listening Sessions Speaker at *National Institues of Health (NIH), Maryland (Virtual)*, April 2023. Talk Title: Open Access Science for Marginalised Scholars and Researchers

4. Session Speaker at *National Postdoctoral Association Annual Conference, Philadelphia*, April 2023. Talk Title: Retaining Postdocs By Recognizing Their Worth

5. **Invited Speaker** at *Boston Postdoctoral Association Seminar Series, Boston*, March 2023. Talk Title: Re-envisioning Compensation for Postdocs:Financial Considerations For Inclusive Excellence

6. **Invited Moderator** at *Harvard Medical School, Boston*, February 2022. Event: *Picture Our Scientists: Celebrating Women's Journeys and Discoveries From The Bench to Bedside*

7. Speaker at *SFB Annual Symposium, Heidelberg*, October 2019. Talk Title: Molecular Mechanism Of How Plant Kinesin-12 Motor Proteins Align The Cell Division Plane

8. **Invited Speaker** at *Institute Curie, Paris*, April 2019. Talk Title: Orienting New Cell Walls in Arabidopsis Thaliana with Kinesin-12 Members POK1 and POK2

9. **Invited Speaker** at *Harvard University, Boston*, April 2019. Talk Title: Orienting New Cell Walls in Arabidopsis Thaliana with Kinesin-12 Members POK1 and POK2

10. **Invited Speaker** at *Harvard Medical School, Boston*, April 2019. Talk Title: Orienting New Cell Walls in Arabidopsis Thaliana with Kinesin-12 Members POK1 and POK2

11. Speaker at *Summer School of Center for Plant Molecular Biology, Tübingen*, May 2018. Talk Title: How Plants Orient Their Cell Walls

12. Speaker at *European Plant Cytoskeleton Club, Kalsruhe*, June 2017. Talk Title: Pushing Through: POK2 is a Plus-end Directed Weak Molecular Motor

13. Speaker at *European Plant Cytoskeleton Club, Prague*, June 2016. Talk Title: POK2 is a Plus-end Directed Weak Molecular Motor

14. **Invited Speaker** at *Max Planck Institute for Developmental Biology, Tübingen*, May 2014. Talk Title: Biological Interests Spanning Scales

CONFERENCES

1. National Postdoctoral Conference 2023, Philadephia, April 21-22, 2023
2. American Society for Cell Biology (ASCB) and European Molecular Organization (EMBO), Washington D.C., December 3-7, 2022
3. Society for Developmental Biology (SDB) 80th Meeting, Virtual, July 12-16, 2021
4. The Triangle Cytoskeleton Meeting, Virtual, September 20th, 2021
5. Cell and Tissue Hydraulics Symposium, Mechanobiology Institute, National University of Singapore (NUS), Virtual, October 20-21, 2021
6. SFB Annual Meeting by German Research Foundation, Heidelberg, October 19-20, 2019
7. Single Molecule Biophysics (SMB) Meeting, Aspen, January 6-9, 2019–*Declined*

8. SFB Annual Meeting at University of Tübingen, May 5-7, 2018
9. Summer School, Center for Plant Molecular Biology, Tübingen, May 10-12, 2018
10. European Plant Cytoskeleton Club Meeting, Kalsruhe, June 2017
11. European Plant Cytoskeleton Club Meeting, Prague, June 2016
12. EMBO Meeting Microtubules: From Atoms to Compley Systems, Heidelberg, May 29-June 1, 2016
13. Communicating Your Science Meeting, Genetics Society UK, Chicheley Hall, April 25-27, 2015
14. 35th All India Cell Biology Conference, Bhubaneshwar, December 16-18, 2011
15. Vijoyshi-Vigyan Jyoti Shibir, JNU New Delhi, October 12-15, 2009