

Curriculum Vitae

Medhavi Vishwakarma

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Education

	Degree Awarded	Institution/Place	Year	Field of study
1	PhD	École Polytechnique fédérale de Lausanne (EPFL), Switzerland	2017	Bioengineering
2	M.Tech	IIT Kharagpur, Kharagpur	2012	Biotechnology and Biochemical Engineering
3	B.Tech	Panjab University, Chandigarh	2010	Biotechnology

Experience

Sr. No.	Institution/place	Designation	From date	To date
1	Indian Institute of Science, Bangalore, India	Assistant Professor	06/08/2021	Present
2	Max Planck Institute for Medical Research, Heidelberg, Germany	Guest researcher	01/06/2018	Present
3	University of Bristol, Bristol, United Kingdom	Research Associate	01/05/2018	27/11/2020
4	Max Planck Institute for Medical Research, Heidelberg, Germany	Scientific Assistant	01/12/2016	30/04/2018

Projects

Role	Title	Funding Agency	Starting date	Status
Principal investigator	Influence of inherent tissue mechanics & cellular heterogeneity on epithelial defence against cancer	Science and Engineering Research Board India	26/09/2022	Ongoing
Principal investigator	Deciphering role of cellular interactions in Epithelial Defence against cancer	Max Planck Society, Germany	01/05/2022	Ongoing
Co-Principal investigator	How does group composition influence collective sensing and decision making?	Ministry of Science, research and culture, Baden Wuerttemberg, Germany	01/01/2019	Finished

Key Publications

- Muthukrishnan, S., & **Vishwakarma, M.** * (2023). Role of heterogeneity in dictating tumorigenesis in epithelial tissues. *Computational and Systems Oncology*, 3(2), e1045
- Kozyrska K, Pilia G, **Vishwakarma M**, Wagstaff L, Goschorska M, Cirillo S, Mohamad S, Gallacher K, Carazo Salas RE, Piddini E.* p53 directs leader cell behavior, migration, and clearance during epithelial repair. *Science* 2022 Feb 11; 375(6581):eabl8876.
- Davidson JD*, **Vishwakarma M***, Smith ML*. Hierarchical approach for comparing collective behavior across scales: Cellular systems to honey bee colonies. *Frontiers in Ecology and Evolution*. 2021:4.
- **Vishwakarma M**, Piddini E.* Outcompeting cancer. *Nature Reviews Cancer*. 2020 Mar;20(3):187-98.
- **Vishwakarma M**, Spatz JP, Das T.* Mechanobiology of leader–follower dynamics in epithelial cell migration. *Current opinion in cell biology*. 2020 Oct 1;66:97-103.
- **Vishwakarma M**, Thurakkal B, Spatz JP, Das T.* Dynamic heterogeneity influences the leader–follower dynamics during epithelial wound closure. *Philosophical Transactions of the Royal Society B*. 2020 Sep 14;375(1807):20190391.
- **Vishwakarma M***, Di Russo J. Why does epithelia display heterogeneity? Bridging physical and biological concepts. *Biophysical reviews*. 2019 Oct;11(5):683-7.
- **Vishwakarma M**, Di Russo J, Probst D, Schwarz US, Das T*, Spatz JP.* Mechanical interactions among followers determine the emergence of leaders in migrating epithelial cell collectives. *Nature communications*. 2018 Aug 27;9(1):1-2.
- Vyas VS, **Vishwakarma M**, Moudrakovski I, Haase F, Savasci G, Ochsenfeld C, Spatz JP, Lotsch BV. Exploiting noncovalent interactions in an imine-based covalent organic framework for quercetin delivery. *Advanced materials*. 2016 Oct;28(39):8749-54
- Lussier F, Brulé T, **Vishwakarma M**, Das T, Spatz JP, Masson JF. Dynamic-SERS optophysiology: a nanosensor for monitoring cell secretion events. *Nano Letters*. 2016 Jun 8;16(6):3866-71

Other Notable Achievements

- 2023: Infosys Young investigator
- 2022: Head of the Max Planck Partner Group at the Indian Institute of Science.
- 2019: WIN Kolleg, Heidelberg Academy of Science, “Collective Sensing”
- 2019: Seal of Excellence, EU H2020 Marie Curie Individual Fellowship
- 2018: Young scientist participant, Lindau Nobel Laureate Meeting for physiology and medicine.
- 2018: Data visualization award, Jean Golding Institute, University of Bristol, U.K.
- 2013: Max Planck Fellowship
- 2011: DAAD IIT Master Sandwich scholarship