

Stanford



Rahul Chajwa

Postdoctoral Scholar, Bioengineering

Bio

BIO

My research constitutes a blend of theory and experiments in the ambit of soft matter physics. Currently I'm a HFSP postdoctoral fellow enjoying doing swashbuckling science with Manu Prakash, while understanding the emergence of marine snow in the open oceans, exploring the frictional mechanics of kite fighting and making paintings using optimal transport, among other things. My doctoral research on Driven Stokesian Suspensions at the International Center for Theoretical Sciences TIFR was jointly supervised by Sriram Ramaswamy (IISc), Rama Govindarajan (ICTS-TIFR) and Narayanan Menon (UMass Amherst). My approach to doing physics entails capturing the essence of a natural phenomena much like impressionism in modern art, and I derive immense joy in seeking analogies in nature.

HONORS AND AWARDS

- Stanford Bio-X Travel Award, Stanford University (2023)
- HFSP Cross Disciplinary Fellowship, Human Frontier Science Program (2021)
- TIFR Best Thesis Award in Physics, Tata Institute of Fundamental Research, Mumbai (2021)
- Infosys Foundation ICTS Excellence Grant, International Centre for Theoretical Sciences TIFR (2020)
- INSPIRE Scholarship, Department of Science and Technology, Govt. of India (2010)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Tata Institute of Fundamental Research , Physics (2020)
- Master of Science, Indian Institute of Science Education and Research Mohali , Physics (2015)
- Bachelor of Science, Indian Institute of Science Education and Research Mohali , Physics (2015)

STANFORD ADVISORS

- Manu Prakash, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My HFSP project is focussed on understanding the birth, life and death of marine snow. A predictive understanding of the hydrodynamic, biotic, and non-equilibrium aspects of this sinking microbial ecosystem is a notoriously challenging and globally relevant problem and is the central theme of my research at Stanford University. I'm applying my training as a physicist to shed light on the dynamical aspects of microbial life in the ocean, and to contribute insights that can help mitigate the negative impact of human activities on global climate; something I feel strongly about.