



# Chandrashekar KA

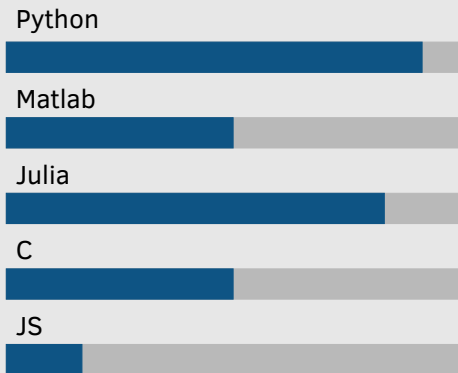
Postdoctoral Researcher

- 09 January 1991
- 2077 Bio-Labs Building, 16 Divinity Avenue, Cambridge, MA 02138
- +1 617-599-3909
- chandrashekar.35007@gmail.com

## About me

I used to be a PhD student in the Computational Biology group at the Institute of Mathematical Sciences, Chennai, India. I am currently a postdoctoral researcher at Extavour lab at Harvard.

## Skills



(\*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

## Interests

The processes that turn an embryo to an adult, evolution of eukaryotic cell and multicellularity are the broad topics that fascinate me. For my PhD, I focused on understanding mechanisms that give rise to spatiotemporal patterns during embryonic development. In the past I have worked on modeling contagion spread on networks, large scale analysis of NYSE stock prices, among other things.

## Education

- 2015-2021 Doctor of Philosophy The Institute of Mathematical Sciences  
Contact-mediated signaling in developmental pattern formation
- 2008-2013 M.Sc.(integrated) University of Mysore, Mysore  
Majoring in Physics
- 2006-2008 Pre-University College SDM College, Ujire  
Physics, Chemistry, Mathematics, Biology

## Publications

- 2021 Chandrashekar Kuyyamudi, Shakti N. Menon and Sitabhra Sinha. "Contact-mediated cellular communication supplements positional information to regulate spatial patterning during development", *Physical Review E*, 103(6), 062409.
- 2021 Chandrashekar Kuyyamudi, Shakti N. Menon, Fernando Casares and Sitabhra Sinha. "Disorder in cellular packing can alter proliferation dynamics to regulate growth", *Physical Review E*, 104(5), L052401.
- 2021 Chandrashekar Kuyyamudi, Shakti N. Menon and Sitabhra Sinha. "Morphogen-regulated contact-mediated signaling between cells can drive the transitions underlying body segmentation in vertebrates", *Physical Biology*, 016001.
- 2019 Chandrashekar Kuyyamudi, Anindya S. Chakrabarti and Sitabhra Sinha. "Emergence of frustration signals systemic risk", *Physical Review E* 99.5 (2019): 052306.
- 2021 Chandrashekar Kuyyamudi, Shakti N. Menon and Sitabhra Sinha. "Precision of morphogen-driven tissue patterning during development is enhanced through contact-mediated cellular interactions", arXiv preprint arXiv:2110.12927
- 2022 Chandrashekar Kuyyamudi, Shakti N. Menon and Sitabhra Sinha. "Contact-mediated signaling enables disorder-driven transitions in cellular assemblies", arXiv preprint arXiv:2201.06478
- 2014 Vishavkarma Renu, Swetavalli Raghavan, Chandrashekar Kuyyamudi, Abhijit Majumder, Jyotsna Dhawan, and Pramod A. Pullarkat. "Role of actin filaments in correlating nuclear shape and cell spreading", *PLoS ONE* 9(9): e107895
- 2016 Jesan Tharmaraj, Chandrashekar Kuyyamudi, and Sitabhra Sinha. "Modularity promotes epidemic recurrence", arXiv preprint arXiv:1611.02412

## Schools and Conferences

- 2015 Winter School on Quantitative Systems Biology  
ICTS, Bangalore, India
- 2016 Winter School on Quantitative Systems Biology  
ICTP, Trieste, Italy
- 2016 Second Bangalore School on Population Genetics and Evolution  
ICTS, Bangalore, India
- 2016 Games, Epidemics and Behavior  
ICTS, Bangalore, India
- 2017 Spring College on the Physics of Complex Systems  
ICTP, Trieste, Italy
- 2019 Ninth Bangalore Benny Shilo Course on Developmental Biology  
NCBS, Bangalore, India

- 2019 Winter School on Quantitative Systems Biology  
ICTS, Bangalore, India
- 2021 Thirsting for Theoretical Biology  
ICTS-TIFR, India (Online)
- 2021 Neuromatch Academy Deep Learning Course  
Aug 2-20 (Online)

### Talks and Presentations

- 2013 Econophysics Conference      Talk on analysis of historical NYSE stock data  
SINP, Kolkata
- 2014 Dynamics days asia-pacific      Presentation on structural balance in gene  
regulatory networks  
IMSc-IITM, Chennai
- 2015 COMSNETS,IEEE      Talk on contagion spread on networks  
Bangalore, India
- 2015 Winter School on Quantitative Systems Biology      Talk on persister cells  
ICTS, Bangalore, India
- 2019 Winter School on Quantitative Systems Biology      Presentation on the role of  
juxtacrine signalling on fate boundary formation  
ICTS, Bangalore, India