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Date of birth: 17/10/1993 , Nationality: Indian

RESEARCH INTERESTS

PHYSICS OF MORPHOGENESIS, INTEGRAL GEOMETRY, ACTIVE MATTER

LIST OF PUBLICATIONS

TOPOLOGICAL MORPHOGENESIS OF NEUROEPITHELIAL ORGANOIDS

K. Ishihara*, **A. Mukherjee***, J. Bruges , E. Tanaka , F. Jülicher

// *equal contribution , accepted in *Nature Physics*, in press

A HYDRAULIC INSTABILITY DRIVES CELL DEATH DECISION IN NEMATODE GERMLINE

N.T. Chartier*, **A. Mukherjee***, J. Pfanzer, S. Fürthauer , B.T. Larson , A. Fritsch, .. , F. Jülicher , S.W. Grill // *equal contribution *Nature Physics* (17) 2021

REGIONALIZED TISSUE FLUIDIZATION BY AN ACTOMYOSIN CABLE IS REQUIRED FOR EPITHELIAL GAP CLOSURE DURING INSECT GASTRULATION

A. Jain , V. Ulman , **A. Mukherjee** , M. Prakash , M. Cuenca , L. Pimpale , S. Muenster .., F. Jug , S.W. Grill , A. Pavlopoulos *Nature Communications* 2020

PROFESSIONAL EXPERIENCE

QBIO JUNIOR RESEARCH CHAIR, ECOLE NORMALE SUPERIEURE PARIS
– MARCH 2022-

Research on “Physics of form and flows” with emphasis on feather morphogenesis

CSBD FELLOW, CENTER FOR SYSTEMS BIOLOGY DRESDEN
FEBRUARY 2021 - FEBRUARY 2022

Research on “Physical motifs of organoid morphogenesis”

PHD STUDENT, MAX PLANCK INSTITUTE FOR THE PHYSICS OF COMPLEX SYSTEMS
– AUGUST 2016-FEBRUARY 2021

Thesis on “Physics of oocyte growth and selection”

GRADUATE THESIS, SIMON CENTRE FOR THE STUDY OF LIVING MACHINES @NCBS
– JUN 2015 - JUN 2016

Thesis on “Phase Transitions in a 2D system of Active Oscillators”

EDUCATION

Doctorate in Theoretical Physics (Dr.rer.nat.) - 2021
Technische Universität Dresden, Germany

Bachelor of Science (Research) - Major in Physics - *First Class* 2012-2016
Indian Institute of Science, Bangalore, India

TEACHING

- Theoretical Biophysics, Spring 2017, TU-Dresden
- Introduction to Biophysics, Fall 2018, TU-Dresden

WORKSHOPS AND SCHOOLS ATTENDED

- Les Houches program on Active matter physics, 17 Aug-30 Sept 2018 *Les Houches*, France
- Summer school in Physics of Living Systems, 12-28 June 2017 *Cargèse*, France
- ICTP winter school in Quantitative Systems Biology, December 2011, *Trieste*, Italy

FELLOWSHIPS AND AWARDS

- **Joachim-Herz Foundation** Grant in **Systems Biology** 2017, *13000 Euro*
- Young Talent Fellowship, Govt.of India 2011-2016,

REFERENCES

Prof.Dr. Frank Jülicher, Director of [Max Planck Institute for the Physics of Complex Systems](#). email: julicher@pks.mpg.de

Prof.Dr. Stephan Grill, Director of [Max Planck Institute of Molecular Cell Biology and Genetics](#). email: grill@mpi-cbg.de

Prof. Jean-François Joanny, Professor of Soft-matter and Biophysics at [Collège de France](#). email: jean-francois.joanny@college-de-france.fr

Prof. Massimo Vergassola, Professor of Physics and Director of [QBio Initiative](#) at [Ecole Normale Supérieure, Paris](#). email: massimo.vergassola@ens.fr