

Pragya Srivastava

The Francis Crick Institute
1 Midland Rd, London NW1 1AT

PERSONAL INFORMATION

- Date of Birth : July 8, 1986
- Nationality : Indian

PRESENT POSITION

Post Doctoral Researcher,
Nov 2015- Present
Theoretical Physics of Biology Laboratory,
The Francis Crick Institute,
1 Midland Rd, London, UK

CONTACT

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RESEARCH INTERESTS

- Physics of Biological Systems
 - Poroelasticity in living cells
 - Mechanics of Cell Division
- Soft and Active Matter
- Non-equilibrium Statistical Mechanics
- Rheology of Active Matter

EDUCATION

- PhD in Physics, Raman Research Institute, Bangalore, India-560080
Thesis title : Active Mechanics of Cortical Actin : Geometry and Shape Deformation
Year of Award : 2014
PhD Advisor : Prof. Madan Rao
- Jawaharlal Nehru University, New Delhi, India
Master of Science(Physics) : July 2005-July 2007
- University of Allahabad, Allahabad, India
Bachelor of Science : July 2002-May 2005,
Main Subjects : Physics, Mathematics
Other Subject : Chemistry

RESEARCH EXPERIENCE

- Post Doctoral Researcher : July 2013-May 2015
Advisor : Prof. Cristina Marchetti
Physics Department, Syracuse University, Syracuse, USA

SKILLS

Matlab, Mathematica, Fortran, ImageJ, Image Analysis, Data Analysis.

AWARDS

- Awarded Nature Travel Grant to attend Gordon Research Conference and Seminar on Soft Condensed Matter Physics, August 17-23, 2013.
- Qualified for Junior Research Fellowship by Council for Scientific and Industrial Research in December 2007.
- Recipient of University Grants Commission Scholarship for university rank holders from July 2005- July 2007.
- Felicitated by Ministry of Education Uttarakhand, India in 2002 for securing first rank in Uttarakhand state in 10+2.

TEACHING EXPERIENCE

- Teaching assistant for the advanced course,
Polymers and Membranes : Physical Principles and Biological Applications, January, 2011.
Principal Instructors : Prof. Madan Rao and Prof. Srikanth Sastry
National Centre for Biological Sciences, Bangalore and
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.

INVITED TALKS

1. ICTS, September-2015, Bangalore, India
Talk title : *Instabilities and patterns in an active nematic film*
2. National Centre for Biological Sciences, September-2015, Bangalore, India
Talk title : *Instabilities and patterns in an active nematic film*
3. Jawaharlal Nehru University, August -2015, New Delhi, India
Talk title : *Instabilities and Patterns in Active Systems : Effects of Substrate Friction, Geometry and Shape Fluctuations*
4. ICAM Annual Conference, May 11-13, 2015,
Argonne National Laboratory, IL-60439, USA
Talk title : *Instabilities and patterns in an active nematic film*
5. The Francis Crick Institute, March 10-12, 2015, Lincoln's Inn Fields, London, UK
Talk title : *Instabilities and Patterns in Active Systems : Effects of Substrate Friction, Geometry and Shape Fluctuations*

CONTRIBUTED TALKS

1. Computational and Physical Biology Workshop, December 5, 2016,
The Francis Crick Institute, 1 Midland Road, NW1 1AT, London
Talk Titled : *Living Cell as a Poroelastic Material*
2. APS Meeting, March 2-6, 2015, San Antonio, Texas
Talk Titled : *Instabilities and patterns in an active nematic film*
3. APS Meeting, March 3-7, 2014, Denver, Colorado, USA
Titled : *Axi-symmetric patterns of active polar filaments on spherical and composite surfaces*
4. Condensed Matter and Biophysics Seminar, September 13, 2013
Physics Department, Syracuse University, Syracuse, NY-13244, USA
Titled : *Active Mechanics of Cortical Actin : Geometry and Shape Deformation*
5. Visit to Institute of Mathematical Sciences, March 27, 2013-March 30, 2013,
Chennai, India.
Titled : *Patterns of active polar filaments on curved membrane surfaces and active deformation of the cell membrane*
6. ICAM : Emergent order in Biology, July 23, 2012- August 4, 2012, IESC, France.
Titled : *Patterns of active polar filaments on cylindrical and spherical cells.*

7. Visit to Prof. Gerhard Gompper's group, August 4, 2012-August 8, 2012, Forschungszentrum, Julich, Germany.
Titled : '*Patterns of active polar filaments on cylindrical and spherical cells*'.

POSTERS

1. Physics of Living Matter Symposium, 11th Edition, September 2016, Cambridge, UK
Poster titled : *Living Cell as a Poroelastic Material*
2. Gordon Research Conference and Seminar on Soft Condensed Matter Physics, August 17-23, 2013, Colby Sawyer College, New London, NH.
Poster titled : *Instabilities and waves in the leading edge of moving and spreading cells.*
3. Visit to Institute of Mathematical Sciences, March 27, 2013-March 30, 2013, Chennai, India.
Talk titled : *Patterns of active polar filaments on curved membrane surfaces and active deformation of the cell membrane*
4. ICAM : Emergent order in Biology, July 23, 2012- August 4, 2012, IESC, France.
Talk titled : *Patterns of active polar filaments on cylindrical and spherical cells.*
5. Visit to Prof. Gerhard Gompper's group, August 4, 2012-August 8, 2012, Forschungszentrum, Julich, Germany.
Talk titled : '*Patterns of active polar filaments on cylindrical and spherical cells*'.
6. 'Unifying Concepts in Materials: JA Krumhansl School & Symposium', January 30, 2012 - February 08, 2012.
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore & National Centre for Biological Sciences, Bangalore.
Poster titled : *Patterns of active polar filaments on curved geometries.*

CONFERENCES & WORKSHOPS

1. Computational and Physical Biology, December 5, 2016, The Francis Crick Institute, 1 Midland Road, NW1 1AT, London.
2. Physics of Living Matter Symposium, 11th Edition, September 2016, Cambridge, UK.
3. Circle Meeting, May 8-10, 2016, Paris, France.
4. American Physical Society Meeting March 2-6, 2015
San Antonio, Texas, USA.
5. Active Matter : Cytoskeleton, Cells, Tissues and Flocks, Jan 6- May 16, 2014, Kavli Institute for Theoretical Physics, University of California, Santa Barbara, USA.
6. American Physical Society Meeting March 3-7, 2014
Denver, Colorado, USA.
7. Gordon Research Conference and Seminar on Soft Condensed Matter Physics, August-2013, Colby Sawyer College, New London, NH.
8. ICAM : Emergent order in Biology, July-2012, IESC, France.
9. 'Unifying Concepts in Materials: JA Krumhansl School & Symposium', January-2012
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore & National Centre for Biological Sciences, Bangalore.
10. Advanced School on Living Mechanics - Cells, Tissues and Organisms, November-2010, National Center for biological Sciences, Bangalore, India.
11. Conference and School on Nucleation Aggregation and Growth, July-2010, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India.
12. ICTS Program on Non-Equilibrium Statistical Physics, January-2010, Indian Institute of Technology, Kanpur, India.

PUBLICATIONS

1. *Negative Stiffness and Modulated States in Active Nematics*,
Pragya Srivastava, Prashant Mishra and Cristina Marchetti,
Soft Matter, **12**, 8214(2016).
2. *Activating Membranes*,
Ananyo Maitra, Pragya Srivastava, Madan Rao and Sriram Ramaswamy,
Phys. Rev. Lett. **112**, 258101(2014).
3. *Patterning of polar active filaments on a tense cylindrical membrane*,
Pragya Srivastava, Roie Shlomovitz, Nir Gov and Madan Rao,
Phys. Rev. Lett. **110**, 168104(2013).
4. *Cylindrical Cellular Geometry Ensures Fidelity of Division Site Placement in Fission Yeast*,
Mithilesh Mishra, Yinyi Huang, Pragya Srivastava, Ramanujam Srinivasan,
Mayalagu Sevugan, Roie Shlomovitz, Nir Gov, Madan Rao,
and Mohan Balasubramanian,
Journal of Cell Science, **125**, 3850(2012).
5. *Textured domains on tense surfaces and membranes: Effect of tilt and chirality* ,
R.C. Sarasij, Pragya Srivastava and Madan Rao,
Phys. Rev. E **85**, 041920 (2012).