



# Samriddhi Sankar Ray

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## *Curriculum Vitae*

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### Personal Information

Date of Birth 13 November, 1981  
Place of Birth Calcutta (now Kolkata), India  
Nationality Indian

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### Current Position

Associate International Center for Theoretical Sciences (ICTS-TIFR),  
Professor Tata Institute of Fundamental Research,  
Bangalore, India.

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### Contact Details

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### Correspondence

International Center for Theoretical Sciences,  
Tata Institute of Fundamental Research,  
Survey No. 151, Shivakote,  
Hesaraghatta Hobli,  
Bangalore 560089, India.

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## Education

2010 **PhD in Physics**

Department of Physics, Indian Institute of Science, Bangalore, India.

**Thesis Title:** *Statistical Studies of Fluid, Passive-Scalar, and Burgers Turbulence*

**Thesis Advisor:** *Professor Rahul Pandit*

2006 **MS in Physics**

Department of Physics, Indian Institute of Science, Bangalore, India.

2003 **BSc in Physics**

Presidency College, Calcutta University, Calcutta, India

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## Research Positions

January 2021 – **Associate Professor**

Present International Center for Theoretical Sciences (ICTS-TIFR)  
Tata Institute of Fundamental Research,  
Bangalore, India.

July 2015 – **Reader**

December 2020 International Center for Theoretical Sciences (ICTS-TIFR)  
Tata Institute of Fundamental Research,  
Bangalore, India.

January 2013 – **Junior Faculty**

June 2015 International Center for Theoretical Sciences (ICTS-TIFR)  
Tata Institute of Fundamental Research,  
Bangalore, India.

October 2010 – **Post-doctoral Fellow**

December 2012 Laboratoire Lagrange,  
Observatoire de la Côte d'Azur, CNRS,  
Nice, France.

**Mentors:** *Dr Jérémie Bec*

*Dr Uriel Frisch*

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## Principal Research Interests

- Fluid, magnetohydrodynamic, passive-scalar, and Burgers turbulence.
- Turbulent Transport.
- Cloud Microphysics.
- Truncated systems, thermalization, and statistical mechanics of turbulent flows.
- Singularities in the Euler equation.
- Multiphase Flows.
- Active Turbulence.
- Non-equilibrium Statistical Physics.

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## Professional Experience

- Visitor, **Indian Statistical Institute, Kolkata**, India (April–May 2026).
- Visitor, **Isaac Newton Institute for Mathematical Sciences, Cambridge**, United Kingdom (January–February 2024).
- Visitor, **Isaac Newton Institute for Mathematical Sciences, Cambridge**, United Kingdom (April–June 2022).
- Visiting Professor, **Observatoire de la Côte d'Azur, CNRS, Nice**, France (May–June 2018).
- Visiting Professor, **Fédération Doebelin, University of Nice, Sophia-Antipolis** France (September–October 2017).
- Visitor to **University of Rome Tor Vergatta, Rome**, France (May 2015).
- Visitor to **Observatoire de la Côte d'Azur, CNRS, Nice**, France (May 2015).
- Visitor to **NORDITA, Stockholm**, Sweden, June 2014.
- Visitor to **Observatoire de la Côte d'Azur, CNRS, Nice**, France (May–June 2014).
- Visitor to **Observatoire de la Côte d'Azur, CNRS, Nice**, France (May–June 2013).
- Visitor to **Max-Planck-Institute for Dynamics and Self-Organization, Göttingen**, Germany (October–November 2011).
- Visitor to **Max-Planck-Institute for Dynamics and Self-Organization, Göttingen**, Germany (May 2010).
- Visitor to **Laboratoire Poncelet, Moscow**, Russia (September 2008).
- Scientific Secretary, **Problems of Turbulence: 50 years after the Turbulence Colloquium Marseille 1961, Marseille**, France (September, 2011).
- Referees for several journals as well as grant proposals for Indian and foreign funding agencies.

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## Service on Editorial Boards

- Associate Editor, *Frontiers in Physics* [2022-2026]
- Guest Editor, *Philosophical Transactions of the Royal Society*, Special Issues on *Scaling the Turbulence Edifice* (2021).

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## Awards, Honours, & Membership

- *Invited Speaker, 29th IUPAP International Conference on Statistical Physics (StatPhys29)*, Florence (Italy) 2025.
- Member, Technical Advisory Committee of the Physical and Earth Sciences Division, **Indian Statistical Institute**, Kolkata, India (2024 – 2026).
- *Best Publication of the Year 2023 Award* to Siddhartha Mukherjee at the *National Physicists' Conclave 2024* for the paper "*Intermittency, fluctuations and maximal chaos in an emergent universal state of active turbulence*", **Nature Physics**, **19**, 891 (2023) by S. Mukherjee, R. K. Singh, M. James and S. S. Ray (2024).
- *STAR Prize*, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Government of India (2021).
- *Elected Member*, National Academy of Sciences India (2021).
- *Guest Editor*, *Philosophical Transactions of the Royal Society* Special Issues on *Scaling the Turbulence Edifice* (2021).
- *Regular Member*, Division of Condensed Matter Physics in Association of Asia Pacific Physical Societies (AAPPS) (2021–).
- *Life Member*, Indian Physics Association (2019–).

- *Cray Dr A P J Abdul Kalam HPC Award for Research* (2019).
- *Young Fellow*, Indian Institute of Science, Bangalore India (2000-2003).

## Grants

1. *Centre Franco-Indien pour la Promotion de la Recherche Avancée – CEFIPRA*, Department of Science & Technology (DST), Government of India and Ministry for Europe & Foreign Affairs, Government of France (2022-2025).  
Project Title: “Polymers in turbulent flows: from single-molecule dynamics to continuum models” [Project No. 6704-1]
2. *Core Research Grant*, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Government of India (2022-2025).  
Project Title: “Anisotropic Particles in Turbulent Flows: From sub-Kolmogorov to Inertial Scales” [Grant No. CRG/2021/002766]
3. *SERB-STAR Grant*, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Government of India (2021-2024).  
Project Title: “How is Active Turbulence different from Inertial Turbulence?” [Grant No. STR/2021/000023]
4. *National Supercomputing Mission Grant*, National Supercomputing Mission, India (2021-2023).  
Project Title: “Collective behaviour in turbulent environment”
5. *MATRICES Grant*, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), India (2020-2023). Project Title: “Understanding the Origins of Intermittency in Turbulent Flows” [Grant No. MTR/2019/001553]
6. *Indo-French Centre for Applied Mathematics (IFCAM)* (2018-2023).  
Project Title: “Theoretical and Numerical Studies of Turbulence in Classical and Quantum Fluids”
7. *Early Career Research Grant*, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), India (2016-2019).  
Project Title: “Collisions, Coalescences and Fragmentation of Droplets in Turbulent Flows: The Role of Turbulence in Triggering Rain” [Grant No. ECR/2015/000361]
8. *Airbus Group Corporate Foundation Chair in Mathematics of Complex Systems* (2013-2016).  
Project Title: “Mathematics of Complex Systems”
9. *Indo-French Centre for Applied Mathematics (IFCAM)* (2014-2017).  
Project Title: “Theoretical and Numerical Studies of Turbulence in Fluids”
10. *European Cooperation in Science and Technology (COST)*, Member (2014-2018).  
Project Title: “Flowing Matter” [Project No. COST MP1305]
11. *European Cooperation in Science and Technology (COST)*, Member (2009-2013).  
Project Title: “Particles in Turbulence” [Project No. COST MP0806]
12. *Agence nationale de la recherche (ANR)*, Member (2007-2012).  
Project Title: “Optimal transport : Theory and Applications to cosmological Reconstruction and Image processing (OTARI)” [Project No. ANR-07-BLAN-0235]
13. *Partnership for Advanced Computing in Europe (PRACE) Project*, Member (2010-2011)

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## Group Members

### Post-doctoral Fellows

1. Suruj Jyoti Kalita, PhD [Institute for Plasma Research, Gandhinagar, India] (2026-)
2. Amal Anitha Manoharan, PhD [Indian Institute of Technology Madras, Chennai, India] (2026-)
3. Prateek Anand, PhD [Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India] (2023-2025)  
*Now: Faculty Member, Department of Mechanical Engineering, Indian Institute of Technology Bombay, Mumbai, India*
4. Arun Kumar Varanasi, PhD [Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India] (2022-2025)  
*Now: Faculty Member, Department of Chemical Engineering, Saintgits College, Kottayam, , India*
5. Siddhartha Mukherjee, PhD [TU Delft, The Netherlands] (2020 – 2023)  
*Now: Faculty Member, Department of Mechanical Engineering, Indian Institute of Technology Kanpur, Kanpur, India*
6. Priyanka Maiti, PhD [Indian Institute of Technology, Kharagpur, India] (2017 – 2020)  
*Now: Research & Development Scientist, UV Technik Speziallampen GmbH, Ilmenau, Germany*
7. Jason Picardo, PhD [Indian Institute of Technology, Chennai, India] (2017-2019).  
*Now: Faculty Member, Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai, India*
8. Divya Venkataraman, PhD [University of Genoa, Italy] (2014-2016).  
*Now: Faculty Member, Department of Mathematics, Institute of Chemical Technology, Mumbai, India*

### PhD Students

1. Rukmani R (ongoing) [Co-Advisor: Professor Akshit Goyal]
2. Kunal Kumar (ongoing)
3. Anvesha Dey (ongoing)
4. Anikat Kankaria (ongoing)
5. Sandip Sahoo (ongoing)
6. Mrinal Jyoti Powdel (Ongoing) [Co-Advisor: Professor Anupam Kundu]
7. Ritwik Mukherjee (ongoing)
8. Harshit Joshi, PhD 2025 [Co-advisor: Professor Rama Govindarajan]  
*Now: Post-doctoral Fellow, Laboratoire Ondes et Matière d'Aquitaine (LOMA), France*
9. Shashank Roy, PhD 2024 [Co-Advisor: Professor Amit Apte]  
*Now: Deep Learning Researcher and Development Engineer, École des Mines Télécom Atlantique, France*
10. Sugan Durai Murugan, PhD 2023  
*Now: Faculty Member, Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, India*
11. Rahul Kumar Singh, PhD 2022  
*Now: Post-doctoral Fellow, Okinawa Institute of Science and Technology (OIST), Japan*

### Masters' Students (MS thesis)

1. Swapan Limbu [International Centre for Theoretical Sciences, Tata Institute of Fundamental Research, Bangalore] (2024-2025).
2. Aikya Banerjee [Indian Institute of Science Education and Research (IISER) Kolkata] (2024-2025).  
*Next: Graduate Student (Clarendon Fellow), University of Oxford, UK.*

3. Mohit Gupta [International Centre for Theoretical Sciences, Tata Institute of Fundamental Research, Bangalore] (2017-2019).  
Next: Graduate Student, University of Minnesota, USA.
4. Lokahith Agasthya [Indian Institute of Science Education and Research, Pune] (2017-2018).  
Next: Graduate Student, University of Rome, Tor Vergata, Rome, Italy.
5. Amal Roy [Indian Institute of Science, Bangalore] (2016-2017).  
Next: Graduate Student, Indian Institute of Science, Bangalore, India.
6. Martin James [Indian Institute of Science, Bangalore] (2015-2016).  
Next: Graduate Student, Max Planck Institute for Dynamics and Self-Organization, Göttingen, Germany.
7. Akhil Sivakumar [Indian Institute of Science, Bangalore] (2015-2016).  
Next: Graduate Student, International Centre for Theoretical Sciences, Bangalore, India.

### Batchelors' Students (BS thesis)

1. Ritwik Tom [Indian Institute of Science, Bangalore] (2016-2017).  
Next: Graduate Student, Carnegie Mellon University, USA.

### Visiting Students

1. Rahul Agrawal [Next: Graduate Student, Stanford University, USA.]
2. Aneek Chakraborty [Next: Masters' Student, TU Delft, The Netherlands.]
3. Deeksha Adil [Next: Graduate Student, Toronto University, Canada.]
4. Aneek Chakraborty [Next: Masters' Student, Delft University of Technology, The Netherlands]
5. Purba Chatterjee [Next: Graduate Student, University of Illinois at Urbana-Champaign, USA.]
6. Ashok Choudhary [Next: Graduate Student, West Virginia University, USA.]
7. Ameya Haldipurkar [Next: Undergraduate Student, Birla Institute of Technology and Science (BITS) Pilani, Hyderabad Campus (under the Summer Research Fellowship Programme (SRFP) of Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore)]
8. Dheeraj Kumar [Next: Graduate Student, Sorbonne University, France.]
9. Siddhartha Saha [Next: Graduate Student, Rutgers University, USA.]
10. Ankur Sharma [Next: Graduate Student, Indian Institute of Technology Kanpur, India.]
11. Shreya Shukla [Next: Graduate Student, University of California, Irvine, USA.]
12. Himani Singhal [Next: Scientist, Shell Corporations, India.]
13. Ritwik Tom [Next: Graduate Student, Carnegie Mellon University, USA.]

### List of Publications

75. *Reduction of Triadic Interactions Suppresses Intermittency and Anomalous Dissipation in Turbulence*,  
A. Kankaria, R. Mukherjee, S. D. Murugan, M. E. Rosti and **Samriddhi Sankar Ray**.  
ArXiv:2603.19180 [Under review, Physical Review Letters]
74. *Shock trapping and inertial escape: Clustering of dust particles in a model of compressible turbulence*  
A. Kankaria and **Samriddhi Sankar Ray**  
ArXiv:2512.07164 [Minor Revision, Monthly Notices of the Royal Society]
73. *Geometric Intermittency in Turbulence*  
R. Mukherjee, S. Mukherjee, I. V. Kolokolov, V. V. Lebedev, T. Matsumoto and **Samriddhi Sankar Ray**.  
ArXiv: 2511.06439 [Major Revision, Physical Review Letters]
72. *The significance of two-way coupling in two-dimensional, dusty turbulence*

- H. Joshi, A. Manoharan and **Samriddhi Sankar Ray**.  
ArXiv: 2510.10463v2 [Minor Revision, Physical Review E]
71. *The dynamics of thermalisation in the Galerkin-truncated, three-dimensional Euler equation*  
Rajarshi, Md. S. Khan, P. Anand, and **Samriddhi Sankar Ray**  
ArXiv:2512.10788 [**Philosophical Transactions of the Royal Society A**, in press.] (2026)
  70. *Uncertainty Growth in Stably Stratified Turbulence*  
M. J. Powdel and **Samriddhi Sankar Ray**  
ArXiv: 2512.05656 [**Physical Review Fluids**, in press] (2026).
  69. *An upper critical dimension for dynamo action: A d-dimensional closure model study*  
S. D. Murugan, G. Krstulovic, D. Vincenzi and **Samriddhi Sankar Ray**.  
ArXiv: 2408.01266 [**Journal of Physics A: Mathematical and Theoretical**, in press] (2026).
  68. *Hydrodynamics of Dense Active Fluids: Turbulence-Like States and the Role of Advected Activity*  
S. Sahoo, S. Mukherjee and **Samriddhi Sankar Ray**.  
ArXiv:2602.22044 [**Journal of Statistical Mechanics: Theory and Experiments**, in press] (2026)
  67. *Intermittent fluctuations determine the nature of chaos in turbulence*  
A. Banerjee, R. Mukherjee, S. D. Murugan, S. Bhattacharjee and **Samriddhi Sankar Ray**.  
ArXiv:2505.09538 [**Physical Review Letters, Editors' Suggestion**, in press] (2026).
  66. *Turbulence-Induced Fluctuating Interfaces in Heterogeneously Active Suspensions*  
S. Mukherjee, K. Kumar and **Samriddhi Sankar Ray**.  
**Proceedings of the National Academy of Sciences (PNAS) Nexus** 5, pgag125 (2026).
  65. *Fluctuating interfaces in barotropic beta-plane turbulence*  
S. Sahoo and **Samriddhi Sankar Ray**.  
**Geophysical Research Letters** 53, e2025GL119051 (2026).
  64. *Extreme dynamics and relaxation of quantum gases: A hydrodynamic approach*  
R. Mukherjee, A. Dhar, M. Kulkarni and **Samriddhi Sankar Ray**.  
**Physical Review A** 113, 043305 (2026).
  63. *Pair statistics of anisotropic particles settling in a turbulent flow*  
P. Anand and **Samriddhi Sankar Ray**.  
**Journal of Fluid Mechanics** 1009, A69 (2025).
  62. *The Onset of Intermittency in Active Turbulence*  
K. V. Kiran, K. Kumar, A. Gupta, R. Pandit and **Samriddhi Sankar Ray**.  
**Physical Review Letters** 134, 088302 (2025)
  61. *Turbulent flows are not uniformly multifractal*  
S. Mukherjee, S. D. Murugan, R. Mukherjee and **Samriddhi Sankar Ray**.  
**Physical Review Letters** 132, 184002 (2024)
  60. *Genesis of thermalization in the three-dimensional, incompressible, Galerkin-truncated Euler equation*

- S. D. Murugan and **Samridhhi Sankar Ray**.  
**Physical Review Fluids** **8**, 084605 (2023)
59. *Intermittency, fluctuations and maximal chaos in an emergent universal state of active turbulence*  
S. Mukherjee, R. K. Singh, M. James and **Samridhhi Sankar Ray**.  
**Nature Physics**, **19**, 891 (2023)
58. *Turbulent route to two-dimensional soft crystals*  
M. Gupta, P. Chaudhuri, J. Bec and **Samridhhi Sankar Ray**.  
**Physical Review E (Letters)**, **106**, L062601 (2022)
57. *Sedimenting Elastic Filaments in Turbulent Flows*  
R. K. Singh, J. R. Picardo and **Samridhhi Sankar Ray**.  
**Physical Review Fluids**, **7**, 084502 (2022).
56. *Dynamic Scaling in Rotating Turbulence: A Shell Model Study*  
S. K. Rathor, S. Chakraborty and **Samridhhi Sankar Ray**.  
**Physical Review E (Letters)**, **105**, L063102 (2022).
55. *Lagrangian Manifestations of Anomalies in Active Turbulence*  
R. K. Singh, S. Mukherjee and **Samridhhi Sankar Ray**.  
**Physical Review Fluids**, **7**, 033101 (2022).
54. *Editorial: Scaling the Turbulence Edifice*  
J. Bec, G. Krstulovic, T. Matsumoto, **Samridhhi Sankar Ray** and D. Vincenzi.  
**Philosophical Transactions of the Royal Society A** **380**, 2219 (2022).  
Editorial for the **second** part of a special issue “Scaling the Turbulence Edifice” of the Philosophical Transactions of the Royal Society.
53. *Editorial: Scaling the Turbulence Edifice*  
J. Bec, G. Krstulovic, T. Matsumoto, **Samridhhi Sankar Ray** and D. Vincenzi.  
**Philosophical Transactions of the Royal Society A** **380**, 2219 (2022).  
Editorial for the **first** part of a special issue “Scaling the Turbulence Edifice” of the Philosophical Transactions of the Royal Society.
52. *Many-body Chaos in Thermalised Fluids*  
S. D. Murugan, D. Kumar, S. Bhattacharjee, and **Samridhhi Sankar Ray**.  
**Physical Review Letters**, **127**, 124501 (2021).
51. *Anomalous diffusion and Lévy walks distinguish active turbulence from inertial turbulence*  
S, Mukherjee, R. K. Singh, M. James and **Samridhhi Sankar Ray**.  
**Physical Review Letters**, **127**, 118001 (2021) **Editors’ Suggestion**.  
**APS Physics Magazine Synopsis: Bacteria That Shove Harder, Move Further**, **Physics**, **14**, s116 (2021).
50. *Polymer scission in turbulent flows*  
D. Vincenzi, T. Watanabe, **Samridhhi Sankar Ray** and J. R. Picardo.  
**Journal of Fluid Mechanics**, **912**, A18 (2021)

49. *Statistics of the Kinetic Energy of Heavy, Inertial Particles in Weakly Rotating Turbulence*  
P. Maity and **Samridhhi Sankar Ray**.  
**Indian Academy of Sciences Conference Series**, **3:1** (2020)
48. *Bridging Inertial and Dissipation Range Statistics in Rotating Turbulence*  
S. K. Rathore, M. K. Sharma, **Samridhhi Sankar Ray** and S. Chakraborty.  
**Physics of Fluids**, **32**, 095104 (2020).
47. *Orientation dynamics of spheroids settling in turbulent flow*  
P. Anand, **Samridhhi Sankar Ray**, and G. Subramanian.  
**Physical Review Letters**, **125**, 034501 (2020).
46. *Suppressing thermalization and constructing weak solutions in truncated inviscid equations of hydrodynamics: Lessons from the Burgers equation*  
S. D. Murugan, U. Frisch, S. Nazarenko, N. Besse and **Samridhhi Sankar Ray**.  
**Physical Review Research**, **2**, 033202 (2020).
45. *Dynamics of a long chain in turbulent flows: Impact of vortices*  
J. R. Picardo, R. Singh, **Samridhhi Sankar Ray** and D. Vincenzi.  
**Philosophical Transactions of the Royal Society A**, **378** 20190405 (2020).
44. *Elasto-inertial Chains in a Two-dimensional Turbulent Flow*  
R. Singh, M. Gupta, J. R. Picardo, D. Vincenzi, and **Samridhhi Sankar Ray**.  
**Physical Review E**, **101**, 053105 (2020).
43. *Flocking of active particles in a turbulent flow*  
A. Gupta, A. Roy, A. Saha, and **Samridhhi Sankar Ray**.  
**Physical Review Fluids (Rapids)**, **5**, 052601(R) (2020).
42. *Lagrangian Irreversibility and Dissipation Statistics in Fully-Developed Turbulence*  
J. R. Picardo, A. Bhatnagar, and **Samridhhi Sankar Ray**.  
**Physical Review Fluids (Rapids)**, **5**, 042601(R) (2020).
41. *Fluid dynamics in clouds: The sum of its parts*  
S. Ravichandran, J. R. Picardo, **Samridhhi Sankar Ray** and R. Govindarajan.  
**Encyclopedia of Complexity and Systems Science**, Springer, Berlin, Heidelberg (2020).
40. *Analytic structure of solutions the one-dimensional Burgers equation with modified dissipation*  
W. Pauls and **Samridhhi Sankar Ray**.  
**Journal of Physics A: Mathematical and Theoretical**, **53**, 115702 (2020).
39. *Statistics of Lagrangian Trajectories in Rotating Turbulence*  
P. Maity, R. Govindarajan, and **Samridhhi Sankar Ray**.  
**Physical Review E**, **100**, 043110 (2019).
38. *Droplet Collisions in Turbulence: Insights from a Burgers Vortex*  
L. Aghasthya, J. R. Picardo, S. Ravichandran, R. Govindarajan, and **Samridhhi Sankar Ray**.  
**Physical Review E**, **99**, 063107 (2019).
37. *Flow structures govern particle collisions in turbulence*  
J. R. Picardo, L. Aghasthya, R. Govindarajan, and **Samridhhi Sankar Ray**.  
**Physical Review Fluids (Rapid)**, **4**, 032601(R) (2019).

36. *Preferential Sampling of Elastic Chains in Turbulent Flows*  
J. R. Picardo, D. Vincenzi, N. Pal, and **Samriddhi Sankar Ray**.  
**Physical Review Letters**, **121**, 244501 (2018).
35. *Inertial Ellipsoids in Homogeneous, Isotropic Turbulence*  
A. Roy, A. Gupta, and **Samriddhi Sankar Ray**.  
**Physical Review E (Rapid)**, **98**, 021101(R) (2018).
34. *Light-cone spreading of perturbations and the butterfly effect in a classical spin chain*  
A. Das, S. Chakrabarty, A. Dhar, A. Kundu, D. A. Huse, R. Moessner, **Samriddhi Sankar Ray**,  
and S. Bhattacharjee.  
**Physical Review Letters**, **121**, 024101 (2018)
33. *Non-intermittent Turbulence: Lagrangian Chaos and Irreversibility*  
**Samriddhi Sankar Ray**.  
**Physical Review Fluids (Rapid)**, **3**, 072601(R) (2018).
32. *Droplets in isotropic turbulence: deformation and breakup statistics*  
**Samriddhi Sankar Ray** and D. Vincenzi.  
**Journal of Fluid Mechanics**, **852**, 313 (2018).
31. *Revisiting the SABRA Model: Statics and Dynamics*  
R. Tom and **Samriddhi Sankar Ray**.  
**Europhysics Letters**, **120**, 34002 (2018).
30. *Exotic multifractal conductance fluctuations in graphene*  
K. R. Amin, **Samriddhi Sankar Ray**, N. Pal, R. Pandit, and A. Bid.  
**Communications Physics**, **1**, 1 (2018).
29. *An Overview of the Statistical Properties of Two-dimensional Turbulence in Fluids with Particles, Conducting Fluids, Fluids with Polymer Additives, Binary-Fluid Mixtures, and Superfluids*  
R. Pandit, D. Banerjee, A. Bhatnagar, M.-E. Brachet, A. Gupta, D. Mitra, N. Pal, P. Perlekar,  
**Samriddhi Sankar Ray**, V. Shukla, and D. Vincenzi.  
**Physics of Fluids**, **29**, 111112 (2017)
28. *Enhanced droplet collision rates and impact velocities in turbulent flows: The effect of polydispersity and transient phases*  
M. James and **Samriddhi Sankar Ray**.  
**Scientific Reports**, **7**, 12231 (2017)
27. *The Onset of Thermalization in Finite-Dimensional Equations of Hydrodynamics*  
D. Venkataraman and **Samriddhi Sankar Ray**.  
**Proceedings of the Royal Society**, **473**, 20160585 (2017).
26. *Semi-flexible particles in isotropic turbulence*  
A. Ali, E. L. C. M. Plan, **Samriddhi Sankar Ray**, and D. Vincenzi.  
**Physical Review Fluids (Rapid)**, **1**, 082402(R) (2016).
25. *Lagrangian Statistics for Navier-Stokes Turbulence under Fourier-mode reduction: Fractal and Homogeneous Decimations*

- M. Buzzicotti, A. Bhatnagar, L. Biferale, A. S. Lanotte, and **Samriddhi Sankar Ray**.  
**New Journal of Physics**, **18**, 113047 (2016).
24. *Dynamic multiscaling in magnetohydrodynamic turbulence*  
**Samriddhi Sankar Ray**, G. Sahoo, and R. Pandit.  
**Physical Review E**, **94**, 053101 (2016).
  23. *Elastic turbulence in a shell model of polymer solution*,  
**Samriddhi Sankar Ray** and D. Vincenzi.  
**Europhysics Letters**, **114**, 44001 (2016).
  22. *Intermittency in Fractal Fourier Hydrodynamics: Lessons from the Burgers Equation*,  
M. Buzzicotti, L. Biferale, U. Frisch, and **Samriddhi Sankar Ray**.  
**Physical Review E**, **93**, 033109 (2016).
  21. *Abrupt growth of large aggregates by correlated coalescences in turbulent flow*,  
J. Bec, **Samriddhi Sankar Ray**, E.-W. Saw, and H. Homann.  
**Physical Review E (Rapid)**, **93** 031102(R) (2016).
  20. *Effect of Inertia on Model Flocks in a Turbulent Environment*,  
A. Choudhary, D. Venkataraman and **Samriddhi Sankar Ray**.  
**Europhysics Letters**, **112**, 24005 (2015) **Editor's Choice**.
  19. *Thermalised solutions, statistical mechanics and turbulence: An overview of some recent results*,  
**Samriddhi Sankar Ray**.  
**Perspectives in Nonlinear Dynamics, Pramana - Journal of Physics**, **84**, 395 (2015).
  18. *Extreme fluctuations of the relative velocities between droplets in turbulent airflow*,  
E.-W. Saw, G. P. Bewley, E. Bodenschatz, **Samriddhi Sankar Ray**, and J. Bec.  
**Physics of Fluids Letters**, **26**, 111702 (2014).
  17. *Transition from dissipative to conservative dynamics in equations of hydrodynamics*,  
D. Banerjee and **Samriddhi Sankar Ray**.  
**Physical Review E (Rapid)**, **90**, 041001(R) (2014).
  16. *Gravity-driven enhancement of heavy particle clustering in turbulent flow*,  
J. Bec, H. Homann, and **Samriddhi Sankar Ray**,  
**Physical Review Letters**, **112**, 184501 (2014).
  15. *Multiscaling in Hall-Magnethydrodynamic Turbulence: Insights from a Shell Model*,  
D. Banerjee, **Samriddhi Sankar Ray**, G. Sahoo, and R. Pandit,  
**Physical Review Letters**, **111**, 174501 (2013).
  14. *Sticky elastic collisions*,  
J. Bec, S. Musacchio, and **Samriddhi Sankar Ray**,  
**Physical Review E**, **87**, 063013 (2013).
  13. *Real-space Manifestations of Bottlenecks in Turbulence Spectra*,  
U. Frisch, **Samriddhi Sankar Ray**, G. Sahoo, D. Banerjee, and R. Pandit,  
**Physical Review Letters**, **110**, 064501 (2013).

12. *Turbulence in Noninteger Dimensions by Fractal Fourier Decimation*,  
U. Frisch, A. Pomyalov, I. Procaccia, and **Samriddhi Sankar Ray**,  
**Physical Review Letters**, **108**, 074501 (2012).
11. *Nelkin scaling for the Burgers equation and the role of high-precision calculations*,  
S. Chakraborty, U. Frisch, W. Pauls, and **Samriddhi Sankar Ray**,  
**Physical Review E (Rapid)**, **85**, 015301(R) (2012).
10. *Dynamic Multiscaling in Two-dimensional Turbulence*,  
**Samriddhi Sankar Ray**, D. Mitra, P. Perlekar, and R. Pandit,  
**Physical Review Letters**, **107**, 184503 (2011).
9. *Universality of scaling and multiscaling in turbulent symmetric binary fluids*,  
**Samriddhi Sankar Ray** and A. Basu,  
**Physical Review E**, **84**, 036316 (2011).
8. *Resonance phenomenon for the Galerkin-truncated Burgers and Euler equations*,  
**Samriddhi Sankar Ray**, U. Frisch, S. Nazarenko, and T. Matsumoto,  
**Physical Review E**, **84**, 016301 (2011).
7. *The Persistence Problem in Two-Dimensional Fluid Turbulence*,  
P. Perlekar, **Samriddhi Sankar Ray**, D. Mitra, and R. Pandit,  
**Physical Review Letters**, **106**, 054501 (2011).
6. *Extended Self Similarity works for the Burgers equation and why*,  
S. Chakraborty, U. Frisch, and **Samriddhi Sankar Ray**,  
**Journal of Fluid Mechanics**, **649**, 275 (2010).
5. *Statistical Properties of Turbulence: An Overview*,  
R. Pandit, P. Perlekar, and **Samriddhi Sankar Ray**,  
**Pramana - Journal of Physics**, **73**, 157 (2009).
4. *Entire solutions of hydrodynamical equations with exponential dissipation*,  
C. Bardos, U. Frisch, W. Pauls, **Samriddhi Sankar Ray**, and E. S. Titi,  
**Communications in Mathematical Physics**, **293**, 2, 519 (2009).
3. *Hyperviscosity, Galerkin truncation and bottlenecks in turbulence*,  
U. Frisch, S. Kurien, R. Pandit, W. Pauls, **Samriddhi Sankar Ray**, A. Wirth, and J-Z Zhu,  
**Physical Review Letters**, **101**, 144501 (2008).
2. *The Universality of Dynamic Multiscaling in Homogeneous, Isotropic Navier-Stokes and Passive-Scalar Turbulence*,  
**Samriddhi Sankar Ray**, D. Mitra, and R. Pandit,  
**New Journal of Physics**, **10**, 033003 (2008).
1. *Dynamic Multiscaling in Turbulence*,  
R. Pandit, **Samriddhi Sankar Ray**, and D. Mitra,  
**European Physics Journal B** **64**, 463 (2008).

## Workshops, Conferences and Meetings Organised

26. *From Richardson's diffusion to spontaneous stochasticity*  
International Centre for Theoretical Sciences, Bangalore, India, February 2027 (Upcoming).  
**Organisers:** J. Bec M. Bourgoïn M. Buzicotti F. De Lillo P. Perlekar, and Samriddhi Sankar Ray.
25. *Indian Statistical Physics Community Meeting 2026*  
International Centre for Theoretical Sciences, Bangalore, India, April 2026.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
24. *Indian Statistical Physics Community Meeting 2025*  
International Centre for Theoretical Sciences, Bangalore, India, April 2025.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
23. *Indian Statistical Physics Community Meeting 2024*  
International Centre for Theoretical Sciences, Bangalore, India, April 2024.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
22. *Turbulence and Vortex Dynamics in 2D Quantum Fluids*  
International Centre for Theoretical Sciences, Bangalore, India, February – March 2024.  
**Organisers:** D. Ballarini, I. Carusotto, A. S. Lanotte, **Samriddhi Sankar Ray**, and D. Sanvitto.
21. *Indian Statistical Physics Community Meeting 2023*  
International Centre for Theoretical Sciences, Bangalore, India, February 2023.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
20. *Complex Lagrangian Problems of Particles in Flows*  
International Centre for Theoretical Sciences, Bangalore, India, March 2022.  
**Organisers:** M. Cencini, K. Gustafsson, F. De Lillo, and **Samriddhi Sankar Ray**
19. *Stochastic Approaches to Turbulence in Hydrodynamical Equations: New Challenges at the Mathematics-Physics Interface*  
Banff International Research Station, Alberta, Canada, February-March 2022.  
**Organisers:** U. Frisch, K. Khanin, R. Pandit and **Samriddhi Sankar Ray**
18. *ICTS Distinguished Lecture by Giorgio Parisi*  
International Centre for Theoretical Sciences, Bangalore, India, December 2021 [Online].  
**Organisers:** C. Dasgupta, A. Dhar, S. Karmakar, and **Samriddhi Sankar Ray**
17. *Celebrating The Science of Giorgio Parisi*  
International Centre for Theoretical Sciences, Bangalore, India, December 2021 [Online].  
**Organisers:** C. Dasgupta, A. Dhar, S. Karmakar, and **Samriddhi Sankar Ray**
16. *Indian Statistical Physics Community Meeting 2020*  
International Centre for Theoretical Sciences, Bangalore, India, February 2020.

- Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
15. *Fluids Day*  
International Centre for Theoretical Sciences, Bangalore, India, January 2020.  
**Organisers:** R. Govindarajan, **Samriddhi Sankar Ray** and G. Tomar
  14. *Symposium on Turbulence in Conference on Nonlinear Systems and Dynamics*  
Indian Institute of Technology, Kanpur, India, December 2019.  
**Organiser and Chair: Samriddhi Sankar Ray.**
  13. *Indian Statistical Physics Community Meeting 2019*  
International Centre for Theoretical Sciences, Bangalore, India, February 2019.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
  12. *Indian Statistical Physics Community Meeting 2018*  
International Centre for Theoretical Sciences, Bangalore, India, February 2018.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
  11. *Indian Statistical Physics Community Meeting 2017*  
International Centre for Theoretical Sciences, Bangalore, India, February 2017.  
**Organisers:** R. Bandyopadhyay, A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, S. Sabhapandit, and P. Sharma.
  10. *CompFlu - 2016*  
University of Hyderabad, **Hyderabad**, 2016.  
**Chair, Turbulence.**
  9. *Indian Statistical Physics Community Meeting 2016*  
International Centre for Theoretical Sciences, Bangalore, India, February 2016.  
**Organisers:** A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, and S. Sabhapandit.
  8. *Soft-matter: Young Investigators Meet*  
Goa, India January 2016.  
**Mentor**
  7. *Geodynamo Research (GDR) 2015*  
International Centre for Theoretical Sciences, Bangalore, India, June 2015.  
**Organisers:** E. Dormy, S. Fauve, **Samriddhi Sankar Ray**, B. Sreenivasan, and M. Verma.
  6. *The Nonlinear Physics of Complex Flows and Amorphous Solids*  
International Centre for Theoretical Sciences, Bangalore, India, April 2015.  
**Organiser: Samriddhi Sankar Ray.**
  5. *Chandrasekhar Lectures by Itamar Procaccia*  
International Centre for Theoretical Sciences, Bangalore, India, April 2015.  
**Organiser: Samriddhi Sankar Ray.**

4. *Indian Statistical Physics Community Meeting 2015*  
International Centre for Theoretical Sciences, Bangalore, India, February 2015.  
**Organisers:** A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, and S. Sabhapandit.
3. *Soft-matter: Young Investigators Meet*  
Pondicherry, India, December 2015.  
**Organisers:** P. Chaudhury, **Samriddhi Sankar Ray** and S. Roy.
2. *Indian Statistical Physics Community Meeting 2014*  
International Centre for Theoretical Sciences, Bangalore, India, February 2014.  
**Organisers:** A. Dhar, K. Jain, R. Pandit, **Samriddhi Sankar Ray**, and S. Sabhapandit.
1. *Transport of Particles in Turbulent Flows: Experimental, Computational and Theoretical Investigations*  
International Centre for Theoretical Sciences, Bangalore, India, October 2013.  
**Organisers:** J. Bec, R. Pandit, and **Samriddhi Sankar Ray**.

### Last Six Semester-Long Graduate School Courses in ICTS

6. Fall Semester 2026: Advanced Statistical Physics [Core Course]
5. Fall Semester 2025: Advanced Statistical Physics [Core Course]
4. Fall Semester 2025: Advanced Mathematical Methods [Core Course]
3. Fall Semester 2024: Classical Mechanics [Core Course]
2. Spring Semester 2024: A Modern Theory of Turbulence [Elective Course]
1. Fall Semester 2023: Classical Mechanics [Core Course]

### Lecture Courses Elsewhere (More than 6 hours)

2. *From Boltzmann equation to Hydrodynamics* (~ 30 hours)  
**Indian Statistical Institute**  
Kolkata, India 2026
1. *A modern theory of turbulence* (~ 10 hours)  
**Bangalore School of Statistical Physics**  
Bangalore, India 2025

### (Selected) Invited Talks

128. *When Fluids Misbehave*  
**Presision 2026**, Presidency University  
Kolkata, India 2026
127. *A high Reynolds number perspective on what makes dense, bacterial suspensions truly turbulent*  
**Plenary Talk, IISc Chemical Engineering Symposium 2026**  
Bangalore, India 2026
126. *When Fluids Misbehave*  
**Kaapi with Kuriosity**  
Bangalore, India 2026

125. *Solving problems in hydrodynamic turbulence by leaning on ideas from many-body systems*  
**Statistical Physics Conference**, Calcutta University  
**Kolkata**, India 2025
124. *Signatures of Turbulence: A Modern Perspective*  
**Celebrando La Fisica**  
**Kolkata**, India 2025
123. *Solving problems in hydrodynamic turbulence by leaning on ideas from many-body systems*  
**Fractional Calculus Seminars 2025**, SISSA, International School of Advanced Studies  
**Triesta** (online), Italy 2025
122. *A high Reynolds number perspective on what makes dense, bacterial suspensions truly turbulent*  
**StatPhys29**  
**Florence**, Italy 2025
121. *Solving problems in hydrodynamic turbulence by leaning on ideas from many-body systems*  
**Complex Flows and Complex Fluids**  
**Rome**, Italy 2025
120. *A high Reynolds number perspective on what makes dense, bacterial suspensions truly turbulent*  
**Departmental Seminar**, S. N. Bose National Centre for Basic Sciences  
**Kolkata**, India 2025
119. *Solving problems in hydrodynamic turbulence by leaning on ideas from many-body systems*  
**Departmental Seminar**, Indian Association for the Cultivation of Science  
**Kolkata**, India 2025
118. *Solving problems in hydrodynamic turbulence by leaning on ideas from many-body systems*  
**Departmental Seminar**, Indian Institutes of Science Education and Research Kolkata  
**Mohanpur**, India 2025
117. *How Universal is Turbulence?*  
**Colloquium**, Okinawa Institute of Science and Technology OIST  
**Okinawa**, Japan 2025
116. *Can Magnetic Fields Grow in all Dimensions?*  
**Indo-French workshop on Classical and Quantum Dynamics in out of equilibrium systems**,  
**Bangalore**, India 2024
115. *Why is Turbulence still so Fascinating?*  
**Beyond Boundaries: A Day of Interdisciplinary Exploration** — Public Talk,  
**Bangalore**, India 2024
114. *Is Active Turbulence Turbulent?*  
**CompFlu-2024**,  
**Hyderabad**, India 2024
113. *Why is Turbulence still so Fascinating?*  
**Bangalore Science Gallery** — Public Talk,  
**Bangalore**, India 2024

112. *The Onset of Thermalisation and its Implications*  
**Indo-French workshop on Classical and quantum dynamics in out of equilibrium systems,**  
**Bangalore, India 2024**
111. *The Onset of Thermalisation and its Implications*  
**Physics of Complex Systems 2024,**  
**Hyderabad, India 2024**
110. *How different are the worlds of high (inertial) and low (active) Reynolds number turbulence?*  
**Colloquium, Department of Physics, Indian Institute of Technology Kanpur**  
**Kanpur, India 2024**
109. *Spottiness and Scaling: Universality in Turbulence*  
**Physics of wave turbulence and beyond,**  
**Les Houches, France 2024**
108. *High and Low Reynolds Number Turbulence*  
**Frontiers of Theoretical Condensed Matter Physics,**  
**Chernogolovka, Russia 2024**
107. *How different are the worlds of high (inertial) and low (active) Reynolds number turbulence?*  
**Colloquium, Department of Physics, Presidency University**  
**Kolkata, India 2024**
106. *How different are the worlds of high (inertial) and low (active) Reynolds number turbulence?*  
**Seminar, Isaac Newton Institute**  
**Cambridge, United Kingdom 2024**
105. *Understanding solutions of finite-dimensional, inviscid equations of hydrodynamics and why it matters for turbulence*  
**Colloquium, Laboratoire Jean Alexandre Dieudonné, Université Côte d'Azur**  
**Nice, France 2024**
104. *Low Reynolds Number Active Suspensions: An Inertial Turbulence Approach*  
**Frontiers in Statistical Physics,**  
**Bangalore, India 2023**
103. *Low Reynolds Number Active Suspensions: An Inertial Turbulence Approach*  
**Active Matter in Complex Environments,**  
**Bangalore, India 2023**
102. *Why is turbulence still interesting and what we owe to A. N. Kolmogorov?*  
**Colloquium, Kazi Nazrul University**  
**Asansol, India 2023**
101. *Why Physicists care about Bacterial Suspensions?*  
**Colloquium, Presidency University**  
**Kolkata, India 2023**
100. *Is Turbulence Uniformly Multifractal?,*  
**International Congress on Industrial and Applied Mathematics [Minisymposia: Problems in**

- incompressible fluid flows: Stability, Singularity, and Extreme Behavior*],  
**Tokyo**, Japan 2023
99. *Can Living Fluids be Turbulent?*  
**Seminar**, Department of Physics, Kyoto University,  
**Kyoto**, Japan 2023
98. *A turbulent bacterial suspension*  
**Seminar**, Chinese Academy of Sciences, Institute of Physics  
**Beijing**, China 2023
97. *The Fluid Mechanics of Dense Bacterial Suspensions*  
**Asian Congress of Fluid Mechanics [Keynote Lecture]**,  
**Beijing**, China 2023
96. *Is Turbulence Uniformly Multifractal?*,  
**Perspectives in Nonlinear Dynamics**,  
**Chennai**, India 2023
95. *Universality and Anomalous Scaling in Bacterial Suspensions*  
**Indo-Israeli meeting on Frontiers in Condensed Matter Physics**,  
**Tel Aviv**, Israel 2023
94. *Many-body Chaos and Thermalised Fluids*  
**Colloquium**, Department of Physics, Calcutta University,  
**Kolkata**, India 2023
93. *Can Living Fluids be Turbulent?*  
**Colloquium**, Harish-Chandra Research Institute,  
**Prayagraj**, India 2023
92. *What Turbulence Owes to A. N. Kolmogorov*  
**ICTS-Kolmogorov Symposium**,  
**Bangalore**, India 2023
91. *Sedimenting Anisotropic Particles: Filaments and Ice Crystals*  
**Particle growth in turbulence**,  
**Stockholm**, Sweden 2023
90. *Can Living Fluids be Turbulent?*  
**Tessellate**  
**Chennai**, India 2023
89. *Intermittency and Scaling in Active Turbulence*  
**Steady State Phenomena in Soft Matter, Active and Biological Systems**  
**Kolkata**, India 2023
88. *Low Reynolds number Turbulence*  
**Turbulence: Problems at the Interface of Mathematics and Physics**  
**Bangalore**, India 2023

87. *Intermittency and Scaling in Active Turbulence*  
**Frontiers in Non-equilibrium Physics**  
Chennai, India 2023
86. *Many-body Chaos in Thermalised Fluids,*  
**Seminar**, Rudolf Peierls Centre for Theoretical Physics, University of Oxford,  
**Oxford**, United Kingdom 2022
85. *Sedimentation in Turbulence,*  
**Seminar**, Isaac Newton Institute for Mathematical Sciences,  
**Cambridge**, United Kingdom 2022
84. *Dynamic Scaling in Rotating Turbulence: A Shell Model Study,*  
**Waves, Instabilities and Mixing in Rotating and Stratified Flows,**  
**Virtual** 2022
83. *Many-body Chaos in Thermalised Fluids,*  
**Mathematical aspects of turbulence: where do we stand?**  
**Hybrid**, Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom 2022
82. *Flow structures govern particle collisions in turbulence,*  
**Euromech Colloquium: Extreme Dissipation and Intermittency in Turbulence**  
**Virtual** 2021
81. *The Fascinating World of Turbulent Flows,*  
**SEDS, BITS Goa**  
**Virtual** 2021
80. *The Fascinating World of Turbulent Flows,*  
**Association of Indian Physics Students**  
**Virtual** 2021
79. *Many-body Chaos in a Thermalised Fluid,*  
**Turbulence: Problems at the Interface of Mathematics and Physics,**  
**Virtual** 2020
78. *Turbulent Transport: Beyond the Point Particle Approximation,*  
**Fluctuations in Nonequilibrium Systems: Theory and applications,**  
**Bangalore**, India 2020
77. *Thermalisation and Many-Body Chaos: Lessons from Truncated Hydrodynamics,*  
**Conference on Nonlinear Systems and Dynamics,**  
**Kanpur**, India 2019
76. *Thermalisation, Many-Body Chaos, and Weak Solutions in Truncated Hydrodynamics,*  
**Thermalization, Many body localization, and Hydrodynamics,**  
**Bangalore**, India 2019
75. *Cross-correlators: Probing Many-Body Chaos,*  
**Universal features of hydrodynamical, optical and wave turbulence,**  
**Nice**, France 2019

74. *Turbulent Advection of Elastic Chains*,  
**Discrete Simulations of Fluid Dynamics (DSFD 2019)**,  
**Bangalore**, India 2019
73. *Lagrangian Intermittency, Irreversibility, and Flight Crashes*,  
**Perspectives in Nonlinear Dynamics**,  
**São Paulo**, Brazil 2019
72. *Interacting Particles in a Turbulent Flow: From Crystals to Flocks*,  
**Seminar**, Indian Institute of Technology, Kharagpur, Department of Physics,  
**Kharagpur**, India 2019.
71. *Interacting and Non-interacting Particles in a Turbulent Flow*,  
**Seminar**, Jawaharlal Nehru University, Department of Physics,  
**New Delhi**, India 2019.
70. *What makes the motion of small particles in turbulence special?*  
**Colloquium**, Ashoka University, Department of Physics,  
**Sonapet**, India 2019
69. *Particles in a Turbulent Flow: How Rain Drops Form?*  
**Colloquium**, Presidency University, Department of Physics,  
**Kolkata**, India 2019
68. *Interacting and Non-interacting Particles in a Turbulent Flow*,  
**Colloquium**, Indian Institute of Science, Department of Physics,  
**Bangalore**, India 2019
67. *Elastic Chains and Crystals in Turbulent Flows*,  
**Emerging Trends in Computational Fluid Dynamics**,  
**Bangalore**, India 2019
66. *The Decimated Navier-Stokes Equation*,  
**Seminar**, Service de Physique de l'Etat Condensé, CEA Saclay,  
**Paris**, France 2019
65. *Understanding Intermittency through TriadSuppressions*,  
**Colloquium**, Ecole Normale Supérieure,  
**Paris**, France 2019
64. *Turbulent Transport: Beyond the Spherical Particle Approximation*,  
**Seminar**, Laboratoire Jean Perrin, Sorbonne University,  
**Paris**, France 2019
63. *Interacting Particles in Turbulence: Chains, Crystals, and Flocking*,  
**Seminar**, Laboratoire de Physique et Mécanique des Milieux Hétérogènes,  
**Paris**, France 2019
62. *Interacting and Non-interacting Particles in a Turbulent Flow*,  
**Colloquium**, NORDITA,  
**Stockholm**, Sweden 2019

61. *New Approaches to Understand Intermittency*,  
**Seminar**, University of Gothenburg, Department of Physics,  
**Gothenburg**, Sweden 2019
60. *OTOC in Classical Models*,  
**Seminar**, NORDITA,  
**Stockholm**, Sweden 2019
59. *Interacting and Non-interacting Particles in a Turbulent Flow*,  
**Indo-French Workshop for Scientific Cooperation**,  
**Nice**, France 2019
58. *The Effect of Generalised Fourier Galerkin Projections on Equations of Hydrodynamics*,  
**International Conference on Mathematical Modelling in Science and Engineering**  
**Coimbatore**, India 2019.
57. *Understanding Turbulence through Computer Simulations*,  
**National Workshop**,  
**Thanjavur**, India 2018
56. *The Fascinating World of Turbulent Flows*  
**Einstein Lectures**  
**Bangalore**, India, August, 2018
55. *Decimated Navier-Stokes Turbulence*  
**Dynamics of Complex Systems**  
**Bangalore**, India, June 2018
54. *Non-spherical Particles and Chains in Turbulence*  
**Dynamics of Complex Systems**  
**Bangalore**, India, June 2018
53. *Droplets in Isotropic Turbulence: Deformation and Break-up Statistics*  
**Indian Statistical Physics Community Meeting 2018**  
**Bangalore**, India, February 2018
52. *Decimated Navier-Stokes Turbulence: Intermittency, Chaos, and an Emergent Reversibility*  
**Turbulence from Angstroms to Light Years**  
**Bangalore**, India, January 2018
51. *Decimated Navier-Stokes Turbulence: Intermittency, Chaos, and an Emergent Reversibility*  
**Journal of Fluid Mechanics Symposia**  
**Bangalore**, India, December 2017
50. *Decimated Navier-Stokes Turbulence*  
**Institute of Mathematical Sciences (IMSc)**  
**Chennai**, India, May 2017
49. *Onset of thermalisation in hydrodynamic equations: Insights from the Burgers equation*  
**Indian Statistical Physics Community Meeting 2017**  
**Bangalore**, India, February 2017

48. *Droplets in Turbulent Flows: Lessons for the Microphysics of Clouds*  
**Summer Research Program on Dynamics of Complex Systems**  
Bangalore, India, July 2016
47. *Intermittency in Turbulent Flows: Time to Look in Fourier Space?*  
**Indian Statistical Physics Community Meeting 2016**  
Bangalore, India, February 2016
46. *Settling, collisions, coalescences of inertial particles in turbulent flows*  
**CSAS - 2016**  
Chennai, February 2016
45. *Abrupt Growth of Large Aggregates by Correlated Coalescences in a Turbulent Flow: Short Time Results*  
**CompFlu - 2016**  
Pune, January 2016
44. *Abrupt growth of large aggregates by correlated coalescences in turbulent flow*  
**Growing Length Scale Phenomena in Condensed Matter Physics**  
Bangalore, India, October 2015.
43. *Enhanced Settling and Droplet Growth in Inertial Particles in a Turbulent Flow*  
**Colloquium**  
**Theoretical Sciences Unit, Jawaharlal Nehru Centre for Advanced Scientific Research,**  
Bangalore, India, September 2015.
42. *Bottlenecks in Turbulence: Signatures in Physical Space*  
**European Turbulence Conference 15**  
Delft, The Netherlands, August 2015
41. *Settling and Coalescences of Inertial Particles in Turbulence*  
**Seminar**  
**Department of Physics, Indian Institute of Technology Bombay, Mumbai, India, August**  
2015
40. *Inertial Particles: Implication for Clouds*  
**Colloquium**  
**Interdisciplinary Programme (IDP) in Climate Studies, Indian Institute of Technology**  
**Bombay, Mumbai, India, August 2015.**
39. *Settling, Collisions, and Coalescences: Droplets in a Turbulent Flow*  
**Seminar**  
**University of Rome, Tor Vergatta, Rome, Italy, May 2015**
38. *Gravitational Settling of Heavy Particles*  
**Indian Statistical Physics Community Meeting 2015**  
Bangalore, India, February 2015
37. *The dynamics of finite-sized particles in turbulent airflows*  
**Colloquium**

- International Center for Theoretical Sciences (ICTS-TIFR), Bangalore, India, February 2015**
36. *Extreme fluctuations of the relative velocities between droplets in turbulent airflow*  
**CompFlu - 2014**  
**Bangalore, December 2014**
  35. *Inertial particles in turbulent flows*  
**Colloquium**  
**TIFR Center for Inter-disciplinary Sciences, Hyderabad, India, August 2014**
  34. *Gravity-driven enhancement of heavy particle clustering in turbulent flow*  
**Dynamic Days Asia Pacific 08**  
**Chennai, India, July 2014.**
  33. *The dynamics of finite-sized particles in turbulent flows*  
**Seminar**  
**Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, July 2014**
  32. *Gravity-driven enhancement of heavy particle clustering in turbulent flow*  
**Dynamics of Particles in Flows**  
**Stockholm, Sweden, June 2014**
  31. *Are thermalised solutions meaningful in the equations of hydrodynamics?*  
**Seminar**  
**Indian Association for the Cultivation of Science Kolkata, India, April 2014**
  30. *Turbulence: The Grand Challenge*  
**Seminar**  
**Department of Physics, Indian Institute of Technology, Kanpur, India, March 2014.**
  29. *Turbulence in Fractal Dimensions: The Critical Dimension*  
**Indian Statistical Physics Community Meeting 2014**  
**Bangalore, India, February 2014**
  28. *Sticky Elastic Collisions*  
**Soft-matter: Young Investigators Meet**  
**Pondicherry, India, January 2014**
  27. *Are thermalised solutions meaningful in the equations of hydrodynamics?*  
**Colloquium**  
**Tata Institute of Fundamental Research – Centre for Applicable Mathematics, Bangalore, India, October 2013**
  26. *Sticky Elastic Collisions*  
**Monthly StatPhys Meeting**  
**International Centre for Theoretical Sciences — Tata Institute of Fundamental Research, Bangalore, India, September 2013**
  25. *Can Truncated Systems Help Us Understand Turbulence?*  
**Perspectives in Nonlinear Dynamics**  
**Hyderabad, July 2013**

24. *Sticky elastic collisions and the effect of hydrodynamic interactions*  
**Seminar**  
**International Centre for Theoretical Sciences — Tata Institute of Fundamental Research, Bangalore, India, June 2012**
23. *Statistical Mechanics and Turbulence*  
**Colloquium**  
**International Centre for Theoretical Sciences — Tata Institute of Fundamental Research, Bangalore, India, June 2012**
22. *Resonance phenomenon for the Galerkin-truncated Burgers and Euler equations*  
**Mathematics of particles and flows**  
**Vienna, Austria, May–June 2012**
21. *Sticky elastic collisions*  
**Particles in Turbulence**  
**Leiden, Holland, May 2012**
20. *Statistical Mechanics and Turbulence*  
**Seminar**  
**Department of Physics, Indian Institute of Technology, Kanpur, India, January 2012**
19. *Inertial Particles in Turbulent Flows and the Effect of Collisions*  
**Seminar**  
**Department of Physics, Indian Institute of Technology, Kanpur, India, January 2012**
18. *Statistical Mechanics and Turbulence*  
**Colloquium**  
**Satyandra Nath Bose National Center for Basic Sciences, Kolkata, India, January 2012**
17. *Statistical Mechanics and Turbulence*  
**Seminar**  
**Saha Institute of Nuclear Physics, Kolkata, India, December 2011**
16. *Statistical Mechanics and Turbulence*  
**Seminar**  
**Indian Institute of Technology, Kharagpur, India, December 2011**
15. *Resonant phenomenon for the Galerkin-truncated Burgers and Euler equations*  
**ICTS–TIFR Discussion Meeting on High Precision Computing**  
**Bangalore, India, December 2011**
14. *Sticky elastic collisions*  
**Rencontre Nicoise de Mecanique des Fluides**  
**Nice, France, November 2011**
13. *Gravitational settling of heavy particles*  
**Seminar**  
**Max Planck Institute for Dynamics and Self-Organization, Göttingen, Germany, November 2011**

12. *Gravitational settling of heavy particles*  
**Meeting of the ANR**  
 Nice, France, October 2011
11. *The tyger phenomenon for the Galerkin truncated Burgers and Euler equations*  
**The solar course, the chemic force, and the speeding change of water**  
 Stockholm, Sweden, October, 2011
10. *The Persistence Problem in Turbulence*  
**Fundamental Problems of Turbulence: 50 years after the Turbulence Colloquium Marseille 1961**  
 Marseille, France, September, 2011
9. *Turbulence in Fractal Dimensions*  
**Seminar**  
 Saha Institute of Nuclear Physics, Kolkata, India, July 2011
8. *Time Scales in Turbulent Flows in Two Dimensions*  
**Seminar**  
 Max-Plank-Institute for Dynamics and Self-Organization, Göttingen, Germany, May, 2010
7. *The Universality of Dynamic Multiscaling*  
**Seminar**  
 Saha Institute of Nuclear Physics, Kolkata, India, July 2009
6. *Thermalisation*  
**Turbulence and Statistical Mechanics**  
 Les Houches, France, March 2009.
5. *Bottlenecks, thermalization and surprises in the Galerkin-truncated Burgers Equation,*  
**Seminar**  
 Satyendra Nath Bose National Centre for Basic Sciences, Kolkata, India, October, 2008
4. *Surprises in the Galerkin-truncated Burgers Equation*  
**Transport in Hydrodynamical Flows: Numerical and Analytical Approaches**  
 Moscow, Russia, September, 2008
3. *Dynamic Multiscaling in Turbulence*  
**Seminar**  
 Max-Plank-Institute for Dynamics and Self-Organization Göttingen, Germany, July, 2008
2. *Galerkin-truncated Burgers Equation and Bottlenecks*  
**Rencontres Nicoises de Mecanique des Fluides**  
 Nice, France, May 2008
1. *Burgers Equation and Hyperviscosity*  
**GdR Turbulence: Fundamental Aspects of Turbulence**  
 Lyon, France March - April 2008