

SNPD Prizes 2019

The **2019 EPS Statistical and Nonlinear Physics Prize** is awarded to

- **Satya Majumdar** ”for his seminal contributions to non-equilibrium statistical physics, stochastic processes, and random matrix theory, in particular for his groundbreaking research on Abelian sandpiles, persistence statistics, force fluctuations in bead packs, large deviations of eigenvalues of random matrices, and applying the results to cold atoms and other physical systems.”

Satya Majumdar got his PhD in Physics in 1992 from the Tata Institute of Fundamental Research in Bombay, India. He then spent some time in the USA, first as a postdoctoral fellow at AT&T Bell Labs and then at Yale University. After returning to the Tata Institute as a faculty (1996-1999), in 2000 he was appointed as a CNRS scientist at the Université Paul-Sabatier (Toulouse, France), to be followed in 2003 by his appointment as Directeur de Recherche in CNRS at the University Paris-Sud, Orsay. Besides this, he also holds several honorary positions as an adjunct professor, at the Tata Institute in Bombay, at the Weizmann Institute in Rehovot, Israel, at the Higgs Centre of the University of Edinburgh, and at the Raman Research Institute in Bangalore, India.

Satya Majumdar made outstanding contributions in many different subject areas of statistical physics, stochastic processes, and random matrix theory, with applications ranging from granular systems all the way to computer science and biology. His work is characterised by a very elegant mathematical analysis of physical problems, leading to a plethora of beautiful analytical results. These have provided deep insights into the underlying physics, but often also advance fundamental mathematical understanding. His work is probably almost as well known to probabilists and mathematical physicists as it is to statistical physicists. Some of his most important contributions are on self-organized criticality of sandpile models, on stress propagation in granular systems, on persistence and first-passage properties in nonequilibrium systems, on sorting and search problems in computer science, and on extreme value statistics of correlated random variables. His seminal work in random matrix theory has applications for growth models, biological sequence matching, conductance distributions in quantum dots, and much more.