SNPD Prizes 2017

The **2017 EPS-SNPD Early Career Prize** is awarded to

- **Laura Foini** "*for her outstanding research contributions in the field of glassy systems and nonequilibrium dynamics of isolated quantum systems.*"

  Laura Foini obtained her PhD in October 2011 at the International School of Advanced Studies (SISSA) in Trieste under the supervision of Andrea Gambassi and Francesco Zamponi. She then was a postdoc at the University Pierre et Marie Curie in Paris and the University of Geneva. Currently she is at the Laboratoire de Physique Statistique at ENS Paris, in the group of Florent Krzakala. Her research activities span different directions in statistical physics where non-equilibrium effects and metastable states crucially determine the properties of the system. Exploiting ideas coming from statistical physics, she has made highly important contributions to the understanding of quantum annealing on the one hand, and the dynamics of quantum integrable systems on the other. For the latter problem, she found a very powerful relation between the effective temperature of the generalised frequency-dependent fluctuation-dissipation theorem and the ones of the Generalised-Gibbs ensemble.

- **Edgar Roldan** "*for his outstanding research contributions at the interface of stochastic thermodynamics and biophysics.*"

  Edgar Roldan received his PhD from the Universidad Complutense de Madrid and GISC (Madrid, Spain) in 2013. His thesis entitled *Irreversibility and dissipation in microscopic systems* was supervised by Juan M.R. Parrondo, and was awarded a Springer Theses Prize in 2014. After a short stay as a postdoc at ICFO (Barcelona) in 2014, he joined the group of Frank Jülicher at the Max Planck Institute for the Physics of Complex Systems (MPIPKS, Dresden, Germany) as a guest scientist in 2014, working at the interface between biophysics and stochastic thermodynamics. In 2017 he was appointed as a Distinguished PKS Postdoctoral Fellow at the MPIPKS Dresden. Edgar Roldan's main research contributions are both theoretical and experimental. He developed a theoretical framework to describe the thermodynamics of symmetry breaking, and used this theory to design a colloidal Szilard engine using optical tweezers. He also participated in the construction and characterization of a Brownian Carnot engine. In his outstanding work on entropy-production fluctuations, he discovered new universal properties of stochastic entropy production using the theory of martingales, a well-known concept in quantitative finance, and explored the implications of his results in active molecular processes.