Roshan Prizak

Post-doctoral researcher
Hilbert group
Institute of Toxicology and Genetics
Karlsruhe Institute of Technology
Karlruhe, Germany, EU

E-Mail roshan.prizak@kit.edu
Phone +43 (0) 681-20262205
DOB 10th March 1991
Nationality India

Positions

2019- **Post-doctoral researcher**
Karlsruhe Institute of Technology
Advisors: Lennart Hilbert

Professional

- **Research interests:**
  Biophysics and evolution of gene regulation
  3D organization of chromatin and interplay with transcription
  Crosstalk in molecular recognition
  Information processing in biological systems
- **Teaching experience:**
  Teaching Assistant, Selected Topics in Biophysics, Fall 2014, IST Austria
  Teaching Assistant, Network Theory (EE 224), Autumn 2012, IIT Bombay
- **Skills:**
  MATLAB, Mathematica, R, C++, Bash, Python, Slurm and PBS (HPC)

Academic Education

2013–2018 **Graduate Student**
Institute of Science and Technology Austria
Advisors: Gašper Tkačik, Nick Barton
Thesis title: Coevolution of transcription factors and their binding sites in sequence space.

2008–2013 **B.Tech & M.Tech in Electrical Engineering**
(specialization in Communication and Signal Processing)
Indian Institute of Technology Bombay, India
Advisors: Prasanna Chaporkar

Publications

[1] Carballo-Pacheco M*, Desponds J*, Gavrilchenko T*, Mayer A*, **Prizak R***, Reddy G*, Nemenman I, Mora T, Receptor crosstalk improves concentration sensing of multiple ligands. *Physical Review E* 99 (2): 022423 (2019). (* - equal contribution, alphabetical order)

[2] Friedlander T*, **Prizak R***, Barton NH, Tkačik G, Evolution of new regulatory functions on biophysically realistic fitness landscapes. *Nature Communications* 8 (1): 216 (2017). (* - equal contribution)

[3] Friedlander T, **Prizak R**, Guet CG, Barton NH, Tkačik G, Intrinsic limits to gene regulation by global crosstalk. *Nature Communications* 7: 12307 (2016).

[4] **Prizak R**, Ezard TH, Hoyle RB, Fitness consequences of maternal and grandmaternal effects. *Ecology and Evolution* 4 (15): 3139–3145 (2014).

[5] Ezard TH, **Prizak R**, Hoyle RB, The fitness costs of adaptation via phenotypic plasticity and maternal effects. *Functional Ecology* 28 (3): 693-701 (2014).

[6] Demirel G, **Prizak R**, Reddy PN, Gross T, Cyclic dominance in adaptive networks. *The European Physical Journal B* 84 (4): 541-548 (2011).

Conferences and workshops

Presentation at the $[BC]^2$ Basel Computational Biology Conference, Basel (2018)
Short Presentation at Summer School on Theoretical Biophysics, Cargèse (2017)
Presentation, Cologne Evolution Colloquium, University of Cologne (2017)
Poster at Dynamics and Information Processing workshop, Les Houches (2016)
SMBE (Society for Molecular Biology and Evolution), Vienna (2015)
Poster at ICTP-ICTS Winter School on Quantitative Systems Biology, Bangalore (2013)
ECCS'11 (European Conference on Complex Systems), Vienna (2011)
Poster at Young Ecologists Talk and Interact, Bangalore (2010)

Awards and Honors

Heinz Scholarship for graduate education (IST Austria, 2013)
Rajiv Gandhi Science Talent Research Fellow (Bangalore, 2010)
CBSE Merit Scholarship for undergraduate education (India, 2008)
Ranked 125 out of 0.3 million in IIT-JEE (India, 2008)
Gold Medal, top 25 at training camp for International Chemistry Olympiad (India, 2008)
Among top 42 in the Indian National Chemistry Olympiad (India, 2008)
Among the top 1% in the National Science Examination in Physics (India, 2008)

References

Junior Prof. Dr. Lennart Hilbert
ITG, KIT, Germany
lennart.hilbert@kit.edu

Prof. Nick Barton
IST Austria, Austria
nick.barton@ist.ac.at

Prof. Gašper Tkačik
IST Austria, Austria
gasper.tkacik@ist.ac.at

Dr. Tamar Friedlander
Assistant Professor
HUJI, Israel
tamar.friedlander@mail.huji.ac.il