



Katedry genetiky a biochémie PriF UK
Katedra matematickej analýzy a numerickej matematiky FMFI
a občianske združenie *NATURA*



Vás pozývajú na **111. prednášku** v rámci **Kuželových seminárov**:

Nick Barton

Institute of Science and Technology, Austria

EVOLUTION OF FLOWER COLOUR IN SNAPDRAGONS

ktorá sa uskutoční **13. novembra 2018** (utorok) o **16:00**

v miestnosti CH1-222 Prírodovedeckej fakulty UK

<http://www.naturaoz.org/seminare.html>
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Hostiteľka: Katarína Bod'ová, Katedra matematickej analýzy a numerickej matematiky FMFI UK

Nick Barton is a professor at the Institute of Science and Technology, Austria and an internationally renowned evolutionary biologist. He has developed a mathematical framework for multilocus genetics and used it to make ground-breaking contributions towards understanding the limits to selection, the evolution of sex/speciation, and the dynamics of hybrid zones. He came to IST Austria in 2008 when the institute has launched its existence and helped forming it into an institute dedicated to world leading, cutting-edge research in physical sciences, life sciences, and mathematical and computer sciences. He is a Fellow of the Royal Society and a Fellow of the Royal Society of Edinburgh and he received multiple recognitions for his work in evolutionary biology: Erwin Schrödinger Prize and Mendel Medal from the Austria Academy of Sciences, Darwin-Wallace Medal from the Linnean Society.



Lecture annotation:

The snapdragon *Antirrhinum majus* includes subspecies that differ in flower colour. In joint work with David Field (Univ. of Vienna) and Enrico Coen (John Innes Institute, Norwich), we have made an intensive study of a narrow hybrid zone that separates yellow from magenta flowers. Observations of pollinator behaviour and genetic estimates of parentage show that there is assortative mating for flower colour, and that pollinators prefer commoner colours; these direct estimates are consistent with indirect measures of selection and gene flow. Pooled sequence data shows that selection likely acts on just a few genes involved with flower colour, and prevents gene flow only across a very small region of genome. This study shows how a variety of techniques can be combined to understand a striking natural phenomenon.



Selected recent publications:

1. Barton, N.H., Etheridge, and A.M., Veber, A. (2017). The infinitesimal model: definition, derivation and implications. *Theoretical Population Biology*, 118, 50-73.
2. Ringbauer, H., Coop, G., and Barton, N.H. (2017). Inferring recent demography from isolation by distance of long shared sequence blocks. *Genetics*, 205, 1335-1351.
3. Lohse, K., Chmelik, M., Martin, S.H., and Barton, N.H. (2016). Efficient strategies for calculating blockwise likelihoods under the coalescent. *Genetics* 202, 775-786.
4. Friedlander, T., Prizak, R., Guet, C., Barton, N.H., and Tkacik, G. (2016). Intrinsic limits to gene regulation by global crosstalk. *Nature Communications*, 7, 12307.
5. Polechová, J., and Barton, N.H. (2015) Limits to adaptation along environmental gradients, *PNAS* 201421515