



Katedra aplikovanej informatiky FMFI,
Katedry genetiky a biochémie PriF UK
a občianske združenie *NATURA*



Vás pozývajú na 95. prednášku v rámci Kuželových seminárov:

Stefan Prost

University of Otago, New Zealand
& Swedish Natural History Museum, Stockholm

From Bones to Genomes: Current State of Ancient DNA Research

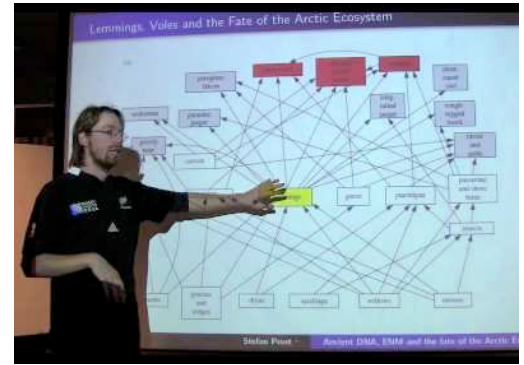
ktorá sa uskutoční **14. marca 2014** (piatok) o **14:00**

v miestnosti **CH1-222** Prírodovedeckej fakulty UK

<http://www.naturaoz.org/seminare.html>
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Hostiteľ: Tomáš Vinař, Katedra aplikovanej informatiky FMFI

Stefan Prost is currently a postdoctoral fellow at the Swedish Natural History Museum in Stockholm. He is finishing his PhD in biological anthropology at the Allan Wilson Centre at the University of Otago, New Zealand. During his research career, he worked on a variety of research projects involving ancient DNA, population genetics, and evolution at several institutions, including Max-Planck Institute for Evolutionary Anthropology in Leipzig (2007-2009) and Gregor Mendel Institute of Molecular Plant Biology in Vienna (2010).



Synopsis of the lecture

Recent advances in DNA extraction, targeted DNA and whole-genome capture, and DNA library preparation methods have vastly advanced the field of ancient DNA research and enabled us to sequence genomes of hundreds of thousand year old samples. In my talk I will outline our current understanding of ancient DNA damage, DNA half-life and methods. I will further show examples of how ancient DNA can tell us about our own history, as well as special adaptations and past life of extinct species.

Selected Publications

Prost, S., Smirnov, N., Fedorov, V.B., Sommer, R.S., Knapp, M., Stiller, M., Nagel, D. and Hofreiter, M. (2010) "Influence of climate warming on arctic mammals? New insights from ancient DNA studies of the arctic lemming *Dicrostonyx torquatus*." ***PLoS ONE* 5(5): e10447.**

Prost, S., Knapp, M., Flemming, J., Hufthammer, A.K., Pavel, K., M., Stiller, and Hofreiter, M. (2010) "A phantom extinction? New insights into extinction dynamics of the Dohare *Lepus tanaicus*." ***Journal of Evolutionary Biology* 23 (9): 2022-2029**

Knapp, M., Horsburgh, A.K., **Prost, S.,** Stanton, J., Buckley, H., Walter, R. and Matisoo-Smith, E.A. (2012) "Complete mitochondrial DNA genome sequences from the first New Zealanders" ***Proceeding of the National Academy of Sciences USA* 109 (45): 18350-18354**

Horsburgh, K.A., Prost, S., Gosling, A.L., Stanton, J., Rand, C. and Matisoo-Smith, E.A. (2013) "The Origins of the Nguni Breed of African Cattle (*Bos spp.*): Complete Mitochondrial Genomes of Haplogroup T1" ***PLoS One*, 8(8): e71956. doi:10.1371/journal.pone.0071956**

Metcalf, J.L., **Prost, S.,** Nogues-Bravo, D., DeChaine, E.G., Anderson, C., Araljo, M.B., Cooper, A., Guralnick, R.P. (*in press*) "Integrating multiple lines of evidence into historical biogeography hypothesis testing: A *Bison bison* case study" ***Proceedings of the Royal Society B: Biological Sciences*, 22(281): 20132782; doi: 10.1098/rspb.2013.2782**

Clarke, A., **Prost, S.,** Stanton, J., White, W.T.J., Kaplan, M.E. and Matisoo-Smith, E.A. (2014) "From cheek swabs to consensus sequences: an A to Z protocol for high-throughput DNA sequencing of complete human mitochondrial genomes" ***BMC Genomics*, 15:68; doi:10.1186/1471-2164-15-68**

Horn, S., **Prost, S.,** Stiller, M., Makowiecki, D., Kusnetsova, T., Benecke, N., Pucher, E., Hufthammer, A.K., Schouwenburg, C., Shapiro, B. and Hofreiter, M. (*in press*) "Ancient mitochondrial DNA and the genetic history of Eurasian beavers *Castor fiber*." ***Molecular Ecology*.**