



**Friday, October 13
7:30 P.M.
Stony Brook University
Earth and Spaces Sciences 001**

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Using Ancient DNA to Understand the Wolf in Your Living Room

Dogs were the first animal to be domesticated, but where, when and how this process occurred is a matter of fierce debate. Analysis of genetic data from modern dogs has proved difficult, in large part because of breeding practices implemented in the Victorian Era that have erased much of the past dog genetic diversity. Therefore we sequenced the genomes of two prehistoric Neolithic dogs found at archaeological sites in Germany, one of which is the oldest dog specimen to be sequenced to date. We found that the dogs living amongst the first European Neolithic farmers 7,000 years ago are the ancestors of the vast majority of breed dogs people across the world keep as pets today. We also argue that dog domestication took place only once during human history, with this event occurring between 20,000 and 40,000 years ago. Finally, we have found evidence that natural selection for genes involved neural crest development were key for this process of dog domestication.

Krishna Veeramah joined the faculty in the Department of Ecology and Evolution at Stony Brook as an Assistant Professor in January 2014 as part of the new initiative in human evolutionary biology. He received both his B.Sc. in 2003, and Ph.D. in 2008 from University College London. His Ph.D., conducted under the supervision of Mark Thomas, examined the distribution of genetic variation in Africans. He then moved to UCLA as part of John Novembre's lab where he looked at the genetic architecture of European population isolates. In 2010 he joined Michael Hammer's lab at the University of Arizona in order to lead a project comparing patterns of genomic variation on the autosomes and X chromosome in apes. At Stony Brook his lab's research is focused on using genomic-scale data to understand the evolutionary genetics of human and non-human primates, contemporary evolution in three-spined stickleback, the paleogenomics of Migration Period Europe and the genetic basis of epilepsy.