**Chimpanzee pant-hoots encode information about individual but not group differences**

Nisarg P. Desai

Department of Anthropology, University of Minnesota, USA

Vocal learning, the ability to voluntarily modify the acoustic structure of vocalizations based on social cues, is a fundamental feature of speech in humans (*Homo sapiens*). While vocal learning is common in taxa such as songbirds and whales, the vocal learning capacities of nonhuman primates appear more limited. Intriguingly, evidence for vocal learning has been reported in chimpanzees (*Pan troglodytes*), for example in the form of regional variation (‘dialects’) in the ‘pant-hoot’ calls. This suggests that some capacity for vocal learning may be an ancient feature of the *Pan-Homo* clade. Nonetheless, reported differences have been subtle, with inter-community variation representing only a small portion of the total acoustic variation. To gain further insights into the extent of regional variation in chimpanzee vocalizations, we performed an analysis of pant-hoots from chimpanzees in the neighboring Kasekela and Mitumba communities at Gombe National Park, Tanzania, and the geographically distant Kanyawara community at Kibale National Park, Uganda. We did not find any differences between the neighboring communities at Gombe or among geographically distant communities. Furthermore, we found differences among individuals in all communities. Hence, the variation in chimpanzee pant-hoots reflected individual differences, rather than group differences. The limited evidences for vocal learning in *Pan* suggest that extensive vocal learning emerged in the human lineage after the divergence from *Pan.*