

DR. TANYA BERGER-WOLF

University of Illinois at Chicago

Computational Behavioral Ecology

Computation has fundamentally changed the way we study nature. New data collection technology, such as GPS, high definition cameras, UAVs, genotyping, and crowdsourcing, are generating data about wild populations that are orders of magnitude richer than any previously collected. Unfortunately, in this domain as in many others, our ability to analyze data lags substantially behind our ability to collect it. In this talk I will show how computational approaches can be part of every stage of the scientific process of understanding animal sociality, from intelligent data collection (crowdsourcing photographs and identifying individual animals from photographs by stripes and spots) to hypothesis formulation (by designing a novel computational framework for analysis of dynamic social networks), and provide scientific insight into collective behavior of zebras, baboons, and humans.



Dr. Tanya Berger-Wolf is a Professor in the Department of Computer Science at the University of Illinois at Chicago, where she heads the Computational Population Biology Lab. Her research interests are in applications of computational techniques to problems in population biology of plants, animals, and humans, from genetics to social interactions. As a legitimate part of her research she gets to fly in a super-light airplane over a nature preserve in Kenya, taking a hyper-stereo video of zebra populations. Dr. Berger-Wolf is also a founding member of the conservation software non-profit IBEIS.org, which recently enabled the first ever complete count of a species, the endangered Grevy's zebra, using 100,000 photographs taken by citizen scientists' in Kenya.

Dr. Berger-Wolf has received her Ph.D. in Computer Science from University of Illinois at Urbana-Champaign. After spending some time as a postdoctoral fellow working in computational phylogenetics and doing research in computational epidemiology, she returned to Illinois. She has received numerous awards for her research and mentoring, including the US National Science Foundation CAREER Award and the UIC Mentor of the Year and Graduate Mentor awards.

More information about her can be found at compbio.cs.uic.edu/~tanya

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3:30-4:30pm