A seminar by the Population Biology faculty candidate

"The Evolution of Fire Ants:
Systematics, Molecular Evolution, and Social Behavior"

by Dr. Dietrich Gotzek, University of Georgia

Monday,
December 7, 2015
3:00 – 4:00 PM
Science 2, room 109
For further information:
www.csufresno.edu/biology

Emergent collective behaviors of groups of organisms are often considered to be highly derived behaviors with complex genetic and physiological regulatory mechanisms. However, one of the best studied sociogenetic systems, the regulation of queen number in Red Imported Fire Ant colonies, has a surprisingly simple genetic basis. Variation at a single genetic locus determines whether a single queen or multiple queens are accepted into a colony. However, variants of this locus are also found in other species, but it is not clear whether these variants also influence colony social organization. Where in the fire ant phylogeny are multiple queen colonies found? And which species also contain the variants linked to multiple queens? Systematic studies suggest that the evolution of fire ants and social form is more complicated than previously thought and continued development of this model system will require careful comparative analyses.

Dr. Gotzek is a broadly trained evolutionary geneticist. He holds a Diploma degree in Animal Ecology from the University of Bayreuth in Germany. During his MSc at Western Carolina University he developed a passion for social behaviors in insects, which led him to do a PhD in Genetics at the University of Georgia. There he fell in love with fire ants, which have captivated him ever since. During his postdocs at the University of Lausanne in Switzerland, the National Museum of Natural History at the Smithsonian Institution in Washington DC, and the University of Illinois at Urbana-Champaign he studied the molecular evolution and systematics of fire ants. Now, as a postdoc back at UGA, he has returned to his roots, studying the evolution of fire ant social behavior using genomic approaches.

If you need a disability-related accommodation or wheelchair access, please contact Lindasue Garner at the Department of Biology at 278-2001 or e-mail lgarner@csufresno.edu (at least one week prior to event).