



2015 Nutting Research Grant Announcement

The winner of the 2015 William L. and Ruth D. Nutting Research Grant for basic termite biology is Qian “Karen” Sun. She will receive a \$2,000 grant to support her proposed research. Qian is a member of the IUSSE and holds both a Bachelor’s degree and a Master’s degree from China Agricultural University in Beijing. She is currently pursuing a Ph.D. in entomology under the direction of Dr. Xuguo Zhou at the University of Kentucky. Qian’s Nutting Research Grant proposal is entitled “Identifying primary and neotenic queen pheromones in *Reticulitermes flavipes*.” In it she proposes to identify a key signal regulating reproductive division of labor in termites. Reproductive-specific pheromones are important in maintaining a balance between reproductive and non-reproductive individuals in a diverse array of eusocial insects. A number of specific compounds have been identified in social hymenopterans, but little is known of the active compounds in termites. Qian intends to remedy this using a combination of chemical analyses and bioassays to test the hypothesis that queens of *R. flavipes* produce volatile pheromones that inhibit differentiation of additional reproductives. Specifically, she will validate the inhibitory effect of reproductive individuals, document chemical profiles specific to reproductive castes, and then determine the active compounds responsible for inhibition. Qian has produced a compelling proposal that outlines a well thought out research plan to answer an important biological question. The awards committee was unanimous and judging this work worthy of the Nutting award.