



Ben-Gurion University of the Negev

Jacob Blaustein Institutes for Desert Research

The Swiss Institute for Dryland Environmental and Energy Research

Mitrani Department of Desert Ecology

Special seminar

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Tuesday, August 6, 2019, 12:00

Seminar Room, Old Administration Building

Brain Evolution in Social Insects: How Sociality and Body Size Shape Brain Architecture

Social insect colonies represent a major level of biological organization, and they are among the most ecologically successful animals. As such, they provide excellent and relevant subject for exploring the relationships of brain evolution and plasticity with behavior and ecology. In this talk I will focus on analyzing brain evolution in one lineage where obligate sociality evolved, the wasp family Vespidae (Order Hymenoptera). I will present results of species comparative analyses that take advantage of vespids' wide range of social structures; nesting behavior spans from solitary life to large, complex colonies. I will also explore the relatively untapped but impressive variation in body size, asking how body allometry may be constrained by brain investment. I will discuss how species' social structure, ecology, and body size interact to affect brain architecture.