JOB# 16468
Arizona State University
School of Life Sciences
Postdoctoral Research Scholar: Scaling of Brain and Individual Metabolism and Morphology in Ants

Salary
$55,596

Position Description

The School of Life Sciences at Arizona State University invites applications for a full-time, fiscal-year appointment as a Postdoctoral Research Scholar. We are seeking a postdoctoral fellow to participate in a research project aimed at understanding the influences of social life and body size on the evolution of ant brains. The postdoc will lead ASU projects within the context of a collaborative grant between ASU, Boston University, and Providence College to study brain metabolism and neuroanatomy to analyze encephalization and its relationship to sociality by comparing scaling relationships between colony size, worker body size, brain size and structure, and metabolism. The postdoc will measure the metabolic rates of individual workers and dissected brains in a comparative study of southwestern seed-harvester ants, and may also use immunohistochemistry and confocal microscopy to image intact brains and quantify brain size and structure. The qualified candidate is anticipated to start this November 2020.

Essential Duties

1. Conduct field collecting trips across the US southwest; the postdoc must be able to drive and to be able to learn to identify southwestern seed harvester ant species.
2. Set up and run a high-throughput system for measuring individual worker metabolic rates while controlling for locomotory behavior.
3. Dissect ant brains and measure their metabolic rates with an Agilent Seahorse system.
4. Fix and prepare brains for immunohistochemistry.
5. Statistical analysis of scaling data in a phylogenetic context.
6. Write scientific papers associated with the research.
7. Travel to meetings to perform the work and present results.
8. Be an active member in research group activities (e.g., participate in lab meetings, mentor students).

Minimum Qualifications

- Successful candidates must have at the time of appointment an earned doctorate in a relevant field, relevant publications in neuroscience, physiology and/or ecology/evolution by time of appointment, and demonstrated experience in at least two of the following areas: measurements of animal or tissue metabolic rates, ant
identification, micro-dissection and visualization of neural tissue, statistical analysis data in a phylogenetic context.

• Candidates must be within five years from receipt of their doctoral degree.
• Demonstrated success or evidence to work effectively in interdisciplinary teams, a strong record of scholarly achievement, and excellent communication skills.

Desired Qualifications

• The ideal candidate would have experience with multiple practical aspects of the project duties, including ant identification, small animal respirometry, tissue metabolism assays, confocal analyses of brains, as well as strong statistical expertise, a record of writing impactful papers, a record of successful mentoring, and demonstrated ability to work well in interdisciplinary teams.

Application Instructions

To apply, please submit electronically to http://apply.interfolio.com/78520 the following materials:

1. Cover letter and research interests. Applicants should describe experience and suitability for the position. Unlike a standard cover letter, this proposal should highlight the strengths of the applicant’s experience towards developing and implementing the proposed research.
2. Curriculum vitae or resume.
3. Contact information (name, email and phone) for two or three references.

Department information

The School of Life Sciences (SOLS) has provided a vital hub for creative excellence at Arizona State University, with more than 670 faculty, graduate students, postdoctoral fellows and staff, and research that ranges from studies on biodiesel and biohydrogen to vaccine development and the conservation of whales. As ASU’s first academic unit to fully reflect President Michael Crow’s integrated, interdisciplinary vision for the New American University, the School of Life Sciences offers active and evolving platforms for collaborative, cutting-edge research and faculty whose discovery is freed from traditional institutional boundaries.

The College of Liberal Arts and Sciences (The College) at ASU values cultural and intellectual diversity, and continually strives to foster a welcoming and inclusive environment. We are especially interested in applicants who can strengthen The College diversity of the academic community.

About Arizona State University

Arizona State University is a comprehensive public research university named #1 in the United States for innovation for the second consecutive year, followed by #2 Stanford and #3 MIT. We measure our success not by whom we exclude, but rather by whom we include and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities we serve.
ASU’s School of Life Sciences is home to innovative teachers who are guided by educational access, student success, applied learning, and interdisciplinary inquiry. We understand there are many paths to achieving a university education, and we build undergraduate and graduate degree programs and pathways that are flexible and relevant for a rapidly changing world.

The College values our cultural and intellectual diversity, and continually strives to foster a welcoming and inclusive environment. We are especially interested in applicants who can strengthen the diversity of the academic community.

A background check is required for employment.

Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will be considered without regard to race, color, sex, religion, national origin, disability, protected veteran status, or any other basis protected by law. ASU’s full nondiscrimination statement (ACD 401) is located on the ASU website at https://www.asu.edu/aad/manuals/acd/acd401.html and https://www.asu.edu/titleIX/

In compliance with federal law, ASU prepares an annual report on campus security and fire safety programs and resources. ASU’s Annual Security and Fire Safety Report is available online at https://www.asu.edu/police/PDFs/ASU-Clery-Report.pdf. You may request a hard copy of the report by contacting the ASU Police Department at 480-965-3456.

Approved 8/23/2020 (jk)