School of Life Sciences
Arizona State University

Postdoctoral Research Scholar on "Advancing methane monitoring in natural and anthropogenic environments for ecosystem management" at the School of Life Sciences (SOLS), Arizona State University.

Location
Tempe Campus
Full/Part Time
Full-time
Regular/Temporary
Regular fiscal appointment
Estimated Start Date
ASAP
Position type
This is a grant-funded position. Continuation is contingent on future grant funding. This position is projected to run for two consecutive years. The second-year renewal is contingent upon funds availability, satisfactory progress and contribution to the collective program.

Hiring range
$47,500 annually, benefits-eligible.

The College of Liberal Arts & Sciences 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.

Job description
We seek a postdoctoral researcher to join a collaborative project evaluating the methane budget and the potential for its management in contrasting environments. The postdoc will build upon multiyear datasets of methane flux as well as pursue new data acquisition approaches. Testing potential management approaches towards methane emission neutrality is one of the key goals of this position.

Methane, a key greenhouse gas accumulating in the atmosphere, can be originated from multiple natural and anthropogenic sources. The nature and intensity of emissions across different environments are variable, and its detection, budget estimations, and actions toward reduction of emissions require complementary approaches sensitive to the type of possible intervention or natural processes. For instance, wetland emissions management versus landfill or point emissions management are driven by distinct spatio-temporal mechanisms and solutions.

The goal in this interdisciplinary postdoctoral position is to advance efforts to manage methane flux at ecosystem level using established (static chamber and eddy covariance) and new approaches (new sensors or drone detection) for methane monitoring coupled with ecosystem function and methane budget analyses. This project aims to quantify and contrast the methane budget and its responses to manipulations in landfills, as well as the response of methane budget to flood and vegetation variation in tropical floodplains. Through intense data analyses, new data acquisition, use of existing models, and new machine learning approaches, project will aim to develop predictive responses to ecosystem manipulations or estimate prescribed regimes to reach a near-neutral emission status on landfill or managed wetlands. This project will relate to goals of restoration or management of ecosystem (human-made or human-impacted).

Starting of position is flexible but as early as possible in Spring 2023 is desired.

Essential duties
1. Compile and curate data from environmental sensors and instruments, particularly for the Eddy Covariance towers, portable gas detection assessments and associated micrometeorological measurements.

2. Evaluate new ground-based or drone-based measurement approaches to upscale local assessments of methane to ecosystem level.
3. Compile data analysis and modeling pipelines.
4. Have a working ability to manipulate electronic and mechanical parts of instrumentation, and occasionally engage in rigorous physical activity to complete instrument deployment and inspection.
5. Write scientific papers associated with the research.
6. Be an active member in research group activities (e.g., participate in lab meetings, mentor students, contribute to lab governance).

Minimum Qualifications

1. Successful candidates must have earned a doctoral degree, or the equivalent terminal degree in a relevant area of environmental sciences including atmospheric sciences, data sciences, ecological or environmental engineering, geophysics, or others closely related at the time of appointment.
2. Demonstrated experience with greenhouse gas flux, high-frequency micrometeorological datasets, or computational approaches for greenhouse gas data assessment.
3. Must have the capacity to work effectively in interdisciplinary teams.
4. A demonstrated record of scholarly achievement, and excellent communication skills.
5. Proficiency in both written and spoken English.

Desired Qualifications

1. Candidates with expertise in ecosystem-level methane modeling, or remote sensing approaches in landfills or wetlands
2. Experience with drone or sensor implementation approaches to design ecosystem management interventions or implementation of technology to reduce emissions or hazards
3. Strong candidates should possess: (A) significant publication record (papers published, in press, or submitted), (B) creativity, independence, and the desire to learn, (C) abilities to design studies and integrate large data sets, and (D) analytical, interpersonal, and presentation skills.
4. A demonstrated commitment to supporting and enhancing diversity, equity, and inclusion.

Department and project 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.

Arizona State University is a dynamic, progressive university dedicated to interdisciplinary collaborations, to rethinking university education, and to integrating excellence in research and teaching. The university has been ranked #1 for innovation by the US News & World Report for the past five years. ASU's School of Life Sciences is committed to curricular innovation in traditional and digital learning environments.

Instructions to apply

To review and apply for this position, please visit http://apply.interfolio.com/119629. Applicants must submit:

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 proposed research. Applicants are encouraged to discuss relevant research questions, approaches, scientific significance, and significance to action-oriented research.
2. Curriculum vitae or resume.
3. Contact information (name, email and phone) for two or three references.
4. A brief description of past research accomplishments and future research goals.
5. A Diversity Statement: A statement addressing how your past and/or potential contributions to diversity and inclusion will advance ASU's commitment to inclusive excellence.

Application close date
The deadline will be February 19 at 3:00 p.m. AZ time.

All application materials due by February 19; Applications will continue to be accepted on a rolling basis for a reserve pool. Applications in the reserve pool may then be reviewed in the order in which they were received until the position is filled. For any question or earlier enquiries please reach to cadillo-lab-appl@asu.edu
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 receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other basis protected by law. (See 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.

COVID-19 Vaccination - Arizona State University is a federal contractor and subject to federal regulations which may require you to produce a record of a COVID-19 vaccination. For questions about medical or religious accommodations, please visit the Office of Diversity, Equity and Inclusion's webpage."