

Post-doctoral Research Associates Purdue University

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Posted Jan. 5, 2024, set to expire Jul. 6, 2024

Job Title	Post-doctoral Research Associates
Department	Arequipa Nexus Institute https://www.purdue.edu/discoverypark/arequipa-nexus/en/index.php
Institution	Purdue University West Lafayette, Indiana
Date Posted	Jan. 5, 2024
Application Deadline	until filled
Position Start Date	negotiable
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering Agricultural
Apply By Email	rcossio@purdue.edu
Job Description	

Five post-doctoral research associate positions available at Purdue University to participate in projects aimed at building capacity and enhancing the livelihoods of communities in the Colca River Valley, Arequipa, Peru.

All of the positions are associated with the **Arequipa Nexus Institute**, a partnership between faculty at Purdue University and the University of San Augustin (UNSA), aimed at building the capacity and long-term collaborations needed to address key environmental, agronomic and social challenges in the Arequipa region on Peru. In particular, these positions will support phase III of the institute, which is focused on promoting sustainable high-Andean communities in the Colca Canyon. More information about the Arequipa Nexus Institute can be found here: <https://www.purdue.edu/discoverypark/arequipa-nexus/en/index.php>

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Position #1 – Part of the Organic Systems Sub-Project

The person in this position will develop and carry out surveys of farmers and other relevant stakeholders to identify opportunities and barriers to organic farming systems in the region. They will also work with the project team to develop culturally relevant educational programs and materials, and participate in all engagement activities. This position will be based in the Dept. of Agricultural Sciences, Education and Communication under Dr. Julia Bello-Bravo. **Qualifications:** PhD in Agricultural Education/Communication, Social Science, or related field. Experience with social science research methods (e.g., planning/managing interviews, focus group discussions, case studies) and data management. Experience writing reports containing descriptive, analytical, and evaluative educational content, and experience in creating digital tools, communicating with local audiences, and organizing and conducting trainings.

Position #2 – Part of the Organic Systems Sub-Project

The person in this position will work with the post-doc carrying out laboratory and on-farm soil and organic management studies. This will include characterizing the composition and functional capabilities of microbiomes in soils, composts and plant roots, and other activities aimed at promoting biocontrol of pathogens. The position will be based in the Dept. of Horticulture and Landscape Architecture under Dr. Lori Hoagland. **Qualifications:** PhD in Microbiology, Soil Science, Plant Pathology, Agronomy, Horticulture or related field. Must have experience using molecular tools such as next-generation sequencing and bioinformatic programs such as QIIME2 to quantify soil/plant microbiomes. Experience designing and carrying out field, greenhouse and laboratory studies investigating mechanisms associated with direct and indirect methods of pathogen suppression.

Position #3 – Part of the Regenerative Tourism Sub-Project

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The person in this position will develop and carry out surveys of local stakeholders to evaluate their readiness for tourism development, identify gaps in developing sustainable regenerative tourism in the region, identify a portfolio of opportunities for regenerative tourism development, identify issues and opportunities associated with the distribution of regenerative tourism products, and assess the market appeal of regenerative tourism to visitors in the region. **Qualifications:** PhD in Tourism and Hospitality, Social Science or related field. Experience with social science research methods (e.g., planning/managing interviews, focus group discussions, case studies) and data management. Experience writing reports containing descriptive, analytical, and evaluative educational content, and experience in creating digital tools, communicating with local audiences, and organizing and conducting trainings.

Position #4 – Part of the Sustainable Energy (CERCA) Sub-Project

The person in this position will develop sensors and track environmental variables in bokashi bins and in earthen greenhouse-like structure, quantify and evaluate relationships between soil properties and crop health and productivity, and engage small holder farmers in training activities and serve as a mentor to UNSA students. The position will be based in Purdue's Polytechnic Institute under Dr. Daniel Leon-Salas. **Qualifications:** PhD in Soil Science, Agronomy, Agricultural Engineering, Horticulture or related field. Experience in the development and installation of sensors in agricultural environments. Experience with quantifying various soil properties and plant biotic and abiotic stress responses. Experience using both culture dependent and molecular tools to quantify soil/plant microbiomes and conducting on-farm participatory research trials preferred.

Position #5 – Part of the Sustainable Energy (CERCA) Sub-Project

The person in this position will assume a leading role in the development and deployment of a number of prototypes for the demonstration of renewable technologies (e.g., developing and deploying a hybrid photovoltaic-wind microgrid, a water agitator directly powered by wind energy, a portable Peltier cell-based module that can provide cooling or generate electrical power from natural heat sources). The position will be based in Purdue's Polytechnic Institute under TBD. **Qualifications:** PhD in Energy, Electrical or Mechanical engineering or related field. Hands-on experience with solar and wind generation systems. Able to implement control strategies for load balancing using automatic algorithms. Experience writing reports containing descriptive, analytical, and evaluative content, and writing manuscripts to be published in high-impact technical journals. Experience in creating digital tools, communicating with local audiences, organizing and conducting trainings.

All post-doctoral positions require that candidates be fluent in both English and Spanish. Experience working in Latin America, especially Peru, preferred. Strong communication and critical thinking skills, attention to detail and problem solving, an ability to work in harsh environments at high altitudes, and self-motivation are expected.

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All positions will be based at Purdue University in West Lafayette, IN, but will also work closely with faculty at the National University of San Augustin, in Arequipa, Peru, and engage in extended periods of travel in southern Peru.

To apply for these positions, please submit a CV including names and email addresses of three references, an unofficial copy of graduate transcripts, and statement of interest addressing your research interests and experience on the specific areas covered by the position to the Institute's program manager, Dr. Rosa Cossio, rcossio@purdue.edu.

*For best consideration, applications should be **submitted by January 30th, 2024**. Review of applications will continue until positions are filled, and interviews will be conducted over zoom. The position is anticipated to start in March 2024 with a 2-year appointment. Salary will be commensurate with training and experience.

EEO/AA Policy

Purdue University does not condone and will not tolerate Discrimination against any individual on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, disability, status as a veteran, marital status, parental status, sexual orientation, gender identity or gender expression.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Rosa Cossio
Arequipa Nexus Institute
Purdue University
1201 Mitch Daniels Blvd.
West Lafayette, IN 47907

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