

PHD OPPORTUNITY

Community Science and Mobile Technology to address Biodiversity Loss

*Unique PhD Opportunity at Arizona State University (ASU) in partnership with the International Union for Conservation (IUCN), Conservation International (CI), and Northern Arizona University (NAU) examining the interface of **biodiversity conservation, community science technology, and equity in rural development.***



Challenges and opportunities

A central challenge for conservation is the inequity between global conservation decision making and on-the-ground conservation practices and realities in local communities. This results in a disconnect between powerful urban-based conservation stakeholders and the rural people who live where conservation takes place, leading to further divides in an increasingly polarized and unequal global society.

Community science approaches that engage members of the public to participate in collecting data on biodiversity are increasing. Platforms and applications such as eBird and iNaturalist are taking off around the world; with uptake across low-, middle-, and high-income countries.

Many of the individuals and communities that live in and around areas of conservation importance tend to bear the costs of conservation (by losing access to land or resources) but receive few of the benefits. However, the development of mobile and payment technologies can enable the development of mechanisms that allow private institutions and individuals to make direct financial contributions to individuals, rural communities and local biodiversity and conservation groups. Mechanisms for direct payments for doing conservation-related actions such as monitoring are still limited but their potential for enabling both social and conservation outcomes are tremendous, and we have embarked on an initiative to develop this further. As part of the team that is furthering this initiative, we seek a PhD student to focus on theoretical and conceptual development in this space.

Objectives of the PhD position

This PhD will focus on developing an approach to use local level data collection to provide verification and ground-truthing for the IUCN endorsed Species Threat Abatement and Restoration (STAR) Metric. Research objectives and questions will be developed with the student but could include:

1. how to assess the value of community science data for biodiversity verification (e.g., validation of STAR),
2. how to explore the extent to which community actions and science (e.g., payment for data collection, monitoring) can deliver individual community and social benefits, and
3. how community science-based initiatives could result in reduced threats to biodiversity.

The PhD candidate will focus on developing theoretical advances in this space and will also pursue data collection for case studies that can apply and test how community science and payment programs could potentially be implemented. The successful candidate will have the opportunity to work with program partners and guide this research to develop other questions, and directions for the PhD.



The successful candidate will work closely under the co-supervision of Professor Leah Gerber at ASU and Associate Professor Duan Biggs at NAU with additional input from representatives of partner organizations. Relevant PhD coursework as stipulated by ASU will be required. The amount necessary depends on previous qualifications.

Contribution to Lab group, School, and University

The candidate will be expected to contribute to the activities and functioning of the Conservation Innovation Lab group at ASU and Dr Biggs' Resilient Conservation applied research group (resilientconservation.org) at NAU. These labs are highly collaborative and interdisciplinary.

This PhD will be partly supported by a Teaching Assistantship, and the successful candidate will be expected to work as a Teaching Assistant during a part of their PhD.



Selection Criteria

Essential requirements

- A Masters, Honours, or equivalent undergraduate degree in Environmental Science or Environmental Social Science, Community Development, Ecological Restoration, Development Studies, or other relevant fields.
- Knowledge and competence of conducting mixed methods social science research; including quantitative and qualitative data collection.
- Knowledge and competence of conducting quantitative, and qualitative data analyses using packages such as R, SPSS, and NVivo.
- Ability to conduct interviews and participatory group discussions in rural settings, with indigenous people, and rural communities; especially in lower- and middle-income countries.
- Willingness to spend the necessary time in the field in southern and/or east Africa, and/or South America, often in remote wilderness areas.
- Strong writing skills in English.



The candidate will be registered at Arizona State University, in Phoenix, Arizona, USA, and will spend significant amounts of time at Northern Arizona University in Flagstaff, Arizona. The research will involve fieldwork in southern and/or east Africa, and/or South America.

Additional Requirements (desirable)

- Demonstratable experience in conducting mixed methods social science research; including quantitative and qualitative data collection.
- Demonstratable experience working with rural communities in lower income countries.
- Experience working in lower- and middle-income countries.
- Second language skills beyond English, especially in Portuguese, Swahili, Spanish, or another regional language.
- Publication record in the peer-reviewed literature.
- Fund-raising history.



Stipend/Salary

The 12-month stipend for this PhD will be USD 31,962 over four years; subject to adequate progress. Tuition and medical benefits will be fully covered. Funding for this PhD (including fieldwork) is in place, but the successful candidate will be expected to apply for additional funding and grants (e.g., National Science Foundation, Explorers Club, National Geographic Early Career Grant, etc.).

Immigration support

International candidates are welcome to apply. ASU's International Students and Scholars Center can assist an international candidate with immigration visa procedures if selected.



To apply

To apply, please send an email to communityscitech@gmail.com in a single PDF document that includes:

- Your CV/Resume.
- A 1-2 page personal statement of why you are interested in this position, and your willingness to pursue an interdisciplinary graduate degree.
- A statement against the selection criteria (both essential and additional) of 3-4 pages.
- Masters and Bachelors and/or Honours degree transcripts (scanned copies will do, but official ones will be needed for the formal application to Arizona State University).
- Names and emails of three references. These will only be contacted for short-listed candidates.

We strongly recommend that you apply as soon as possible. Unfortunately, we cannot provide individual feedback on any applications. We will run interviews on a rolling basis and when particularly strong applications come through. We reserve the right to make offers early.

Applications will be reviewed by the supervisory team at ASU and NAU and project partners. Review of applications will begin on 10 November 2023, which is the initial closing date for applications.

The position will remain open until filled. ASU has an institutional application process that will begin once the selection has been finalized. The position may remain unfilled if no suitable candidate is found.

Any questions on the application or position should be addressed to Leah Gerber leah.gerber@asu.edu or Duan Biggs at duan.biggs@nau.edu, and please clearly indicate in the subject line: **Inquiry on PhD application for Community Science and Biodiversity.**

Start date:

The successful candidate is expected to start August 2024.

