

# Research and Development Fellowship Program

## Water technology fellow

Caminos de Agua ▪ San Miguel de Allende, Gto.

[www.caminosdeagua.org](http://www.caminosdeagua.org) / [www.caminosdeaguamexico.org](http://www.caminosdeaguamexico.org)

**Position:** Research fellow  
**Reports to:** Research and Technology Development Coordinator  
**Location:** San Miguel de Allende, Gto.

### About the organization

Caminos de Agua is a registered nonprofit addressing locally acute — but globally distributed — water quality and access issues in Central Mexico. We work in partnership with local communities and other diverse actors to innovate and implement open-source solutions for our region in the Independence Watershed but that can also be adapted throughout the world without restriction or license.

The Independence Aquifer in Central Mexico is in a permanent state of decline due to over-extraction of groundwater resources by commercial agriculture. This has led to concentrating dangerously high levels of naturally-occurring arsenic and fluoride — as much as 9 and 15 times the World Health Organization recommended limits, respectively.

Our current programs include production and distribution of our certified ceramic water filters for eliminating water-borne pathogens, community-based installations of rainwater harvesting systems, ongoing water quality monitoring at well sites throughout the Independence Aquifer, development of specifically engineered biochar-based filtration medias for the removal of arsenic and fluoride, and the design and development of new technologies to complement and enhance our existing solutions.

### General responsibilities

Research and Development (R&D) Fellows with Caminos de Agua take the lead on at least one technical project. Fellows are responsible for deliberately and independently pursuing their project(s) while working, as necessary, with other Caminos de Agua staff, volunteers, and/or interns. Fellows are expected to be self-motivated while maintaining open communication and strong documentation. Research and Development Fellows report directly to the Research and Technology Development Coordinator.

### Primary responsibilities

An R&D Fellow's primary responsibilities vary widely based on their particular project. The research fellow is expected to:

- Coordinate their research with the Research and Technology Development Coordinator
- Create or refine a project plan
- Participate in weekly technical team meetings
- Visit communities and project sites as required

Most positions require that the fellows:

- Work with computer-based media including spreadsheets, presentations, databases, computer-aided design (CAD) software, coding languages, and numerical modeling platforms
- Execute laboratory work including water quality monitoring and filtration media analyses
- Read research papers to aggregate and synthesize complex information
- Determine what technologies and approaches are most appropriate for Caminos de Agua's target communities

Current areas of research include:

- Biochar filtration media
- Regional water quality monitoring
- Ceramic filter production
- Rainwater harvesting system technologies

## **Qualifications**

Caminos de Agua expects fellows to be flexible, strong communicators and personally driven to achieve complex goals with minimal oversight. Some specific qualifications:

- Availability for full-time work for at least three months, with preference going to candidate who can stay for at least six months
- Undergraduate degree in a science, technology, engineering, or mathematics
- Experience designing technologies in, for, and with poor, rural, remote, or underserved communities
- Working proficiency in Spanish; working proficiency in English preferred
- Standard computer proficiency; able to learn and use new software quickly
- Ability to plan ahead, prioritize tasks, work under pressure, and meet self-imposed deadlines
- A strong self motivation and ability to work independently on complex tasks.

## **Compensation**

The R&D Fellow is a volunteer position subsidized with a monthly stipend. If selected, Fellows will be provided the stipend, reimbursement for travel and relocation costs, and temporary housing for the first three weeks of their placement in San Miguel.

## **To apply**

Please write to [aaron@caminosdeagua.org](mailto:aaron@caminosdeagua.org) with a cover letter stating your interest, background, and motivation. Please include a resume. Thank you.