



Updated September 9, 2022

Design Outreach

Project Engineer, R&D—Global Health

Organization:

In today's world, billions of people living in developing nations lack access to basic and life-saving healthcare technologies. Every year, medical equipment is donated by international donors, but it quickly falls into disrepair due to improper design, lack of supplies, and inadequate training. Additionally, nearly 1 out of every 3 people in the world lacks access to clean water and sanitation. Without access to appropriate healthcare equipment and safe, reliable water, billions of people around the world face dangerous conditions, disease, and even death.

Design Outreach (DO) exists to solve these global challenges through the development of innovative and appropriate technologies in the Global Health and Water, Sanitation, Hygiene (WASH) sectors. We do this by engineering technologies that are appropriate for the context and communities in which they are used by providing a high level of quality in all our products. As a Christian humanitarian engineering organization, our vision is to see low-income and marginalized communities around the world transformed physically, economically, and spiritually. We have seen firsthand the transformation that happens in communities where appropriate technology has provided reliable, safe water for years without failure—evidence that appropriate and reliable technology solutions can break the cycle of poverty and provide bridges to share the Gospel. We now aim to achieve the same impact through appropriate medical device technology.

Design Outreach is a small team with global impact. At Design Outreach, you will have the opportunity to dive into a diverse set of projects, solve uniquely challenging engineering problems, have high-level ownership of your work, and make a direct impact on our mission. Our team has grown from 5 to over 30 staff members in under three years and continues to expand as we strive to be the global leader in appropriate technology development. DO's work environment is highly collaborative. Our staff work alongside and learn from volunteers within industry and academia, including the DO Fellows, a group of world-class subject matter experts that work with and mentor our staff. In the next three years, we are planning to deploy seven technologies in the WASH and Global Health sectors.

What will your impact be? We invite you to find your purpose and live out your calling at Design Outreach. Join our team, and work alongside others who are committed to putting their faith into action!

Position:

Reporting to the Chief Technology Officer (CTO), the Project Engineer will primarily be involved in Global Health research & development through the [DO Way for Appropriate Technology Development](#)—including research, design, engineering, testing, manufacturing support, quality,

and field support. The position will involve a high amount of collaboration across DO's project teams and with suppliers to ensure on-time completion of project objectives. The Project Engineer position is a full-time permanent position with benefits and requires support raising.

Key Responsibilities:

- Provide engineering support for development of medical devices through, but not limited to, research, design, analysis, prototyping, testing, manufacturing support, documentation, and risk management.
- Provide secondary engineering support to WASH projects on an as-needed basis.
- Collaborate with Field Programs department, including DO field offices in Malawi and Zambia, to field test and implement new technologies. International travel 1-2 times per year is required.
- Support-raise launch funds and annual funds, while maintaining consistent and appropriate contact with ministry partners.
- Participate in design project teams and professionally represent Design Outreach while interfacing with various volunteer, industry, healthcare, and advisory partners.
- Implement the DO Way for Appropriate Technology Development on projects.
- Collaborate with staff and volunteers on user/human-centered design activities and studies.
- Generate CAD models and drawings; manage design changes.
- Utilize prototyping methods to evaluate, test, and refine concepts.
- Design and implement test methods to verify and validate, per applicable standards, that design outputs meet design inputs and user needs/intended uses.
- Plan and conduct usability validation studies at selected hospitals in developing nations.
- Document product development history per FDA design control requirements.
- Support risk management activities.
- Support 510(k) submissions.
- Review technical content for accuracy such as drawings, models, engineering analyses, and test reports that are developed by outside resources such as volunteer teams and suppliers.
- Manage small projects with supervision.
- Attend meetings with suppliers and provide suppliers with appropriate technical information.

Requirements:

- Understands and supports the mission of a Christ-centered organization dedicated to sharing the Gospel by word and deed.
- Passion and agreement with Design Outreach's vision and mission.
- Kingdom and abundance-minded when working with ministry partners.
- Ability to learn and provide support to comply with applicable medical device regulations.
- High capacity to be self-motivated for independent work and to be collaborative for work with teams, including volunteers.
- Strong communication (writing, oral, and presentation) and interpersonal skills.
- Self-motivated and detail-oriented.
- Excellent verbal, grammar, computer, and Word/Excel/PowerPoint skills.
- Ability to provide presentations to coworkers and volunteers.
- Intermediate to advanced skills in CAD and statistical analysis.
- High capacity to multitask, work independently, and problem solve.

- Ability to commit an average of 8 hours per day 5 days per week (40 hours total per week), with availability in evenings and weekends to support special events, accommodate volunteer/donor schedules, and ensure deadlines are achieved.
- Works from office in Columbus, Ohio, with ability to travel domestically and internationally to meet with staff and/or partners.
- Ability to work in a team-based collaborative environment.

Required:

- BS degree in an applicable (i.e., mechanical, biomedical) engineering field; MS a plus.
- References.

Timeline:

- Position start date is negotiable, and interviews will be ongoing until position is filled.