

Job Title: Mechanical Engineer

Reports To: Lead Bio-Medical Engineer and R&D Group Manager

## **GENERAL DESCRIPTION**

The Mechanical Engineer is responsible for the applied research and development of mechanical systems to be used in the development of the Paratus foundational point-of-care cartridge technology. The candidate should be an expert in SolidWorks, and 3D printing in order to facilitate the rapid development of fluidic, mechanical, and optical components for proof of principle and prototype multiplex analyte detection systems. The position also requires a working knowledge of injection molding processes, and the principles of design for manufacturing. A successful candidate will also have deep skills in MatLab, C++, and ImageJ. For the entry level applicant, the candidate must have a degree (BS) from a major university. The senior level candidate should have a minimum of five years of experience developing mechanical systems in an R&D environment.

## **REQUIREMENTS**

### **Education:**

- BS in Mechanical Engineering from a major University

### **Skills and Experience Required:**

- Strong proficiency with SolidWorks required.
- Strong background in fluid dynamics (especially microfluidics) highly desired.
- Experience with plastics (design, fabrication, 3D printing, injection molding) highly desired.
- Knowledge of the principles of design for manufacture (DFM) highly desired.
- Knowledge of capillary flow dynamics highly desired.
- Proficiency with MATLAB highly desired.

## **Essential Duties and Responsibilities**

### **Responsibilities:**

- Design and fabrication of primarily plastic components and devices.
- Design of mechanical structures meant to house, deliver, distribute and otherwise manipulate fluid at sub-milliliter volumes.
- Testing and validation of aforementioned devices and components.
- Mechanical drafting.
- Contribute to the creation of innovative solutions.
- Assist with the maintenance, cleanliness and safety of the laboratory.
- Interface and work effectively with multiple interdisciplinary departments.

### **Working Conditions:**

- Work is normally performed in a typical office or lab work environment.
- Possible exposure to mechanical, biologic and chemical hazards.
- Frequent use of personal computer, copiers, printers, and telephones.

- Frequent standing, walking, climbing stairs, sitting, listening, and talking.
- Frequent work under stress, as a team member, and in direct contact with others.
- Infrequent lifting of up to 25 lbs.