

Job Description & Key Responsibilities

We are inviting applications for a **Research Assistant** position to join our dynamic and interdisciplinary team working on the development of a passive microfluidic plasma separation cartridge for finger-prick blood. The successful candidate will support research activities at the interface of microfluidics, point-of-care (POC) device development, and biomedical diagnostics.

This role offers hands-on experience in the design, prototyping, and testing of integrated microfluidic cartridges for plasma separation and delivery to electrochemical biosensing platforms, with applications in cardiovascular disease diagnostics.

Key Responsibilities:

- Assist in the design, prototyping, and optimization of passive microfluidic cartridges integrating plasma-separation membranes.
- Conduct experimental testing of plasma separation performance, including separation time, plasma yield, cell carryover, and robustness under different operating conditions.
- Support fabrication of microfluidic devices using established prototyping methods (e.g., lamination, laser cutting, soft lithography, or 3D printing).
- Collect, organize, and analyze experimental data using appropriate analytical tools and software.
- Work closely with postdoctoral fellows and interdisciplinary collaborators to integrate microfluidic cartridges with electrochemical sensing platforms.
- Maintain experimental documentation, assist in preparing technical reports, and contribute to figures and data for publications and presentations.
- Ensure proper laboratory practices, device testing protocols, and equipment maintenance.

Successful candidate will be offered a full time (contract) as a member of the laboratory.

Requirements

Qualifications:

- Bachelor's or Master's degree in Biomedical Engineering, Mechanical Engineering, Materials Science, Chemical Engineering, or a related discipline.
- Hands-on laboratory or project experience in microfluidics, device prototyping, or biomedical device development.
- Basic understanding of fluid mechanics, membrane-based separation, or diagnostic device principles.
- Strong organizational and experimental skills with attention to detail.
- Good communication skills and ability to work in a multidisciplinary research team.

Preferred Skills:

- Experience with fabrication of passive microfluidic systems (e.g., capillary-driven flow, membrane integration, polymer-based devices).
- Familiarity with plasma separation methods or lab-on-chip systems.
- Exposure to prototyping tools such as laser cutting, soft lithography, 3D printing, or CAD software.
- Experience in device performance testing and data analysis.
- Interest in translational diagnostics and point-of-care device development.

To apply, please send your cover letter, CV and names of 3 references (name, institution, email) to Prof Lim Chwee Teck at ctlim@nus.edu.sg. Only shortlisted candidates will be contacted.