Job Description & Key Responsibilities

We are inviting applications for a **Postdoctoral Fellow** position to join our dynamic and interdisciplinary team focused on developing **electrochemical sensing technologies** for early and accurate **disease detection**. The successful candidate will work at the interface of micro/nanofabrication, sensor development, and biomedical diagnostics.

This role offers a unique opportunity to contribute to the design and optimization of integrated sensing platforms for detecting clinically relevant biomarkers such as **circulating tumor DNA (ctDNA), proteins, exosomes and metabolites**.

Key Responsibilities:

- Conduct independent and collaborative research in **electrochemical biosensing**.
- Perform **micro/nanofabrication** and surface modification for developing high-sensitivity electrochemical sensors.
- Design and optimize sensor platforms for specific disease applications, including cancer and infectious diseases.
- Plan experiments, collect and analyze data using appropriate analytical tools and software.
- Work with interdisciplinary teams including clinicians to **integrate sensors with complementary technologies**, such as microfluidics or wearable platforms.
- Prepare research publications, technical reports, and conference presentations.
- Keep abreast of emerging developments in electrochemical sensing, diagnostics, and biomedical engineering.

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

Requirements

Qualifications:

- Ph.D. in Biomedical Engineering, Chemistry, Electrical Engineering, Materials Science, or a related discipline.
- Has experience in electrochemical sensors, biosensing, microfluidics and/or analytical chemistry.
- Has hands-on expertise in micro/nanofabrication techniques, such as photolithography, electrodeposition, or soft lithography.
- Strong analytical skills and experience with signal processing or data analysis tools.
- Excellent communication skills and the ability to work in a multidisciplinary team.

Preferred Skills:

- Familiarity with clinical biomarkers, point-of-care diagnostics, or wearable sensor integration.
- Experience in DNA or protein probe functionalization and bioassay development.
- Knowledge of device packaging and system integration is a plus.

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.