



Job offer



Position : Post-doctoral
Expected starting date period: 1 September- 30 November 2008
Duration: One or Two years
Deadline of this proposal : 18 April 2008

Fabrication & Characterization of nanowire for bio-molecule sensor

Summary of research/technical work :

- Post-doctoral in Bio Technology at LIMMS/CNRS-IIS, Tokyo
Our research goals are to build nanosystems and fabricate nanoscale devices, in particular for bio sensing in singular level, through both bottom-up and top-down approaches. We focus on interdisciplinary research about local “bottom-up” surface modification using functional self-assembled monolayers and “top-down” approaches for micro/nano patterning technologies. Based on these studies on nano/micro components systems for the fabrication of novel nano devices, we investigate to develop various nano bio-sensors, such as i) MEMS device for electrical/physical characterization of single cell, ii) single cell electroporation microchip for gene transfection, iii) temperature measurement on resistively heated nanowires for the study on single molecules, etc. A single biomolecule, DNA now draws much attention, since relevant dimension of nanometer level chips are possible to be made by nano fabrication techniques. Among many DNA analysis devices, recently nanochannel is highlighted as it provides a proper platform based on DNA stretch phenomenon. We will continue on the development of complete fabrication of these nanochannels and deep investigation with various DNA or enzyme. Finally, we now aim to realize a tool for the study of temperature dependent phenomena of biomolecules, e.g. DNA and proteins, at a single molecule level. The project involves a high level of interaction with a multidisciplinary team of scientists, engineers, and with close collaboration.

Required knowledge of candidate:

- To be scheduled to receive the PhD before starting the fellowship
- Candidates are expected to be skillful in experimental procedures, physical experiment and analysis and if possible in micro and nano machining.

Location and other practical information:

- LIMMS/CNRS-IIS (UMI2820), Tokyo, Japan <http://limmshp.iis.u-tokyo.ac.jp/>
- Host Professor : Beomjoon KIM
- Equivalent to JSPS Post-doc salary

Contact(s):

CV/Motivation/Recommendation(1) by email to limmsadm@iis.u-tokyo.ac.jp
E-mail Object should be “LIMMS_PD_08BJK” followed by name.