

**Job title**

PhD Fellowship in Mechanobiology

**Introductory text**

Applications are invited for a 4-year, Swiss Nanoscience Institute ([SNI](#))-funded PhD Fellowship in the research group of [Roderick Lim](#) at the Biozentrum and the SNI, in collaboration with the [Meyer Lab](#) at the Physics Department at the University of Basel, Switzerland.

The Lim Lab specializes in functional studies of biological machines, cells and tissues using atomic force microscopy (AFM). Recent breakthroughs include resolving the inner workings of the nuclear pore complex by high-speed AFM and the development of an AFM-based apparatus known as ARTIDIS® for cancer diagnosis. The Meyer lab is a world-leading expert in developing ultra-sensitive AFM instrumentation such as friction force microscopy and dynamic force microscopy with true atomic resolution. He is also active in the field of nanomechanics, including nanoscale friction and nanosensors.

**Responsibilities**

Your main responsibility is to optimize a combined AFM-spinning-disk confocal microscope for measurements of live cells, with the goal of resolving subcellular structures and their dynamic responses to external force. Our long-term goal is to correlate cellular mechanics to the interplay between the microenvironment, nucleo/cytoarchitecture, and the protein linkages between them. Besides basic research, PhD Fellows will also have to contribute to undergraduate level teaching.

**Requirements**

Interested candidates should have a background in Biology, Physics, Mechatronics and/or related fields. Candidates with expertise in instrumentation development, such as in optical/fluorescence techniques, or atomic force microscopy, are preferred. Expertise in Labview programming will be a plus. The successful candidate is highly motivated, creative and capable of independent research in a team environment. Communication skills in oral and written English are essential.

**What we offer**

We offer an outstanding, collaborative scientific environment that brings together biologists, physical scientists and engineers. We are a molecular cell biology lab that makes use of atomic force microscopes, optical tweezers and optical microscopes including a total internal reflection fluorescence microscope and a spinning disk confocal microscope. A recent addition includes a high-speed atomic force microscope to study the dynamic behavior of molecules under physiological conditions.

**Optional**

Basel is an international city with people from 150 nations. Located on the border where three countries meet - Switzerland-Germany- France -, it is Europe's most important life sciences hub. Basel provides a high standard of living and a rich and varied cultural atmosphere.

**Information on application forms**

Please send your completed application (including cover letter, CV, reference letters, diplomas and contact information of three referees) to Prof. Roderick Lim (c/o Dr. Stephanie Gehlen),

Biozentrum, University of Basel, Klingelbergstrasse 70, 4056 Basel, Switzerland, e-mail: [stephanie.gehlen@unibas.ch](mailto:stephanie.gehlen@unibas.ch)

For further information, please contact [stephanie.gehlen@unibas.ch](mailto:stephanie.gehlen@unibas.ch).