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## Open Postdoc Position: High-Speed Atomic Force Microscopy of Membrane Proteins

Several postdoctoral positions are available immediately in the 'Bio-AFM-Lab' (<https://bio-afm-lab.com/>) at Weill Cornell Medicine in New York in the laboratory of Simon Scheuring.

The research is centered on the development and application of atomic force microscopy (AFM) based technologies for the study of membrane phenomena such as the structure, assembly, dynamics and conformational change of channels, transporters, receptors and membrane remodeling proteins.

In particular, high-speed atomic force microscopy (HS-AFM) has opened the possibility to study dynamics at the single molecule level, bridging structure directly to function and kinetics (see recent publications below).

*Qualifications and experience:* Candidates from different backgrounds are considered (all must hold a Ph.D).

1. Background in biochemistry, biophysics, structural biology and cell biology. Candidates with such qualifications will apply HS-AFM to investigate the structure and dynamics of membrane phenomena of biomedical interest.
2. Background in physics, electronics, optics and engineering. Candidates with such qualifications will further develop AFM technologies and apply them to biological questions that require novel technical performances to answer specific so far unresolvable questions.

Excellent verbal and written English communication skills, and ability to work in close collaboration with other researchers are required. Qualified applicants should send a cover letter, CV, and the names of three references by email to Simon Scheuring at [sis2019@med.cornell.edu](mailto:sis2019@med.cornell.edu).

*Direct visualization of glutamate transporter elevator mechanism in substrate transport by high-speed AFM*

PNAS, 2017, in press

Yi Ruan, Atsushi Miyagi, Xiaoyu Wang, Mohamed Chami, Olga Boudker & Simon Scheuring

*Automated force controller for amplitude modulation AFM*

Review of Scientific Instruments, 2016, 87(5): [doi.org/10.1063/1.4950777](https://doi.org/10.1063/1.4950777)

Atsushi Miyagi & Simon Scheuring

*Real-time visualization of conformational changes upon ligand unbinding from single MloK1 cyclic nucleotide-modulated channels*

Nature Communications, 2016, 7: [doi:10.1038/ncomms12789](https://doi.org/10.1038/ncomms12789)

Martina Rangl, Atsushi Miyagi, Julia Kowal, Henning Stahlberg, Crina Nimigean & Simon Scheuring\*

*High-speed atomic force microscopy shows that annexin-V stabilizes membranes on the second timescale*

Nature Nanotechnology, 2016, 11: 783-790

Atsushi Miyagi, Martina Rangl, Christophe Chipot & Simon Scheuring

*Relaxation of loaded ESCRT-III spiral springs drives membrane deformation*

Cell, 2015, 163(4): 866-879

Nicolas Chiaruttini<sup>#</sup>, Lorena Redondo-Morata<sup>#</sup>, Adai Colom, Frédéric Humbert, Martin Lenz, Simon Scheuring & Aurélien Roux