

## Job Description

Atomic force microscopist, PhD senior scientist

**The Molecular Cytology Core facility at Sloan Kettering Institute, MSKCC is seeking a senior research scientist to lead the planning and the execution of AFM (Atomic Force Microscopy) experiments with the members of the research and clinical laboratories at MSKCC and neighbor Institutes.**

AFM is experiencing increased attention from the biologists as a uniquely useful tool for interrogating various biological systems at optically unattainable spatial resolution. Since the inception of an Asylum Research MFP-3D-BIO AFM five years ago, the MCCF has experienced rapid growth, with collaborations on over 100 projects to date. To meet this high demand, we plan to acquire a high speed-high resolution AFM. The atomic force microscopist is expected to work as a member of the Core team, focusing specifically on the AFM, to continue the expansion of its use and assist in the development of new methods for the scientists. While his/her role would entail a great deal of AFM work, s/he is required to understand and work with the optical systems to facilitate and catalyze projects and cross-collaboration

### **Major responsibilities include**

- **Advise and assist researchers in optimizing preparations of diverse biological samples, normal and tumor tissues, cells and organelles, nanomaterials, proteins, nucleic acids, lipids, etc., for experiments employing the AFM**
- **Explore the capabilities of atomic force microscopy to the highest level possible**
- **Play a major role for promoting and expanding the use of the AFM in basic and clinical research**

### **Responsibilities in detail**

1. Maintain the capabilities of the AFM at the Core to the highest level of operation
2. Organize the AFM lab for optimal daily operation
3. Work in close collaboration with the users to understand their goals and find the best experimental conditions for successful AFM work
4. Together with the user and the Core team carry careful assessment of steps for proper preparation of specific sample types for the AFM
5. Maintain records with the detail steps in established protocols for use as milestones in future experiments
6. Work closely with the researchers during the entire process, from sample prep through AFM data generation and analysis
7. Interact efficiently with the optical microscopy group at the Core to integrate AFM and advanced optical imaging, when required
8. Stay abreast of advancements in AFM technology. Attend conferences and technical demonstrations from AFM providers. Follow major scientific publications using AFM technology
9. Organize evaluations at the Core of newly developed AFM systems. Identify and encourage scientist to prepare samples and participate in the evaluation. Summarize results from evaluations. Participate in presentations to justify new equipment acquisitions

10. Organize AFM training courses at the MSKCC to promote the dissemination of the AFM in biological sciences and cancer research

**Qualifications:**

- PhD degree in Biological Science with advanced AFM experience and strong computational background, with minimally 3 years postdoctoral experience
- Excellent communication skills and ability to work in a team environment
- Strong organization skills, flexibility in working hours and ability to multitask
- Scientific maturity, ability to understand the project goals and to assure the generation of the state-of-the-art AFM data

**Contacts:**

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