



AFM Biotechnician job offer

An international consortium, including a research group at the School of Medicine at the *Universitat de Barcelona* (UB), the Functional Unit of Thoracic Tumors at the *Hospital Clínic de Barcelona* (HCB), and the swiss start-up technological company Artidis in Basel (Artidis) are looking for an Atomic Force Microscopy (AFM) biotechnician to work on a 18 month project.

Job purpose

Solid tumors are often detected macroscopically by surgeons and even patients through manual palpation due to their increased stiffness. Researchers of this consortium showed few years ago that the same idea applies at the nanoscale, since characterizing the local nanomechanical properties of tissue biopsies with AFM could distinguish between normal and tumor tissue (Plodinec et al, *Nat Nanotech* 2012). Likewise, other researchers of this consortium have extensive experience in mechanical measurements of cells and other tissue components with AFM (Alcaraz et al, *EMBO J* 2008) and in the clinical management of lung cancer (Majem et al. *Clinical and Translational Oncology* 2019.). The main goal of this study is to assess the potential for fast diagnosis of the nanomechanical profiling of lung cancer specimens obtained from surgical patients by AFM. For this purpose, the technician will use an state-of-the-art AFM specifically designed for fast measurement of nanomechanical properties of fresh tissue samples. The project is expected to last 18 months, with the possibility of an extension depending on the results obtained. The project will involve interacting with professionals at the Hospital Clinic and at Artidis, including an initial training at the Artidis headquarters in Basel.

Duties and responsibilities

- Handling tumor samples provided by professionals at the HCB;
- AFM measurements and analysis using proprietary Artidis software at the UB;
- Writing of scientific reports and related technical and scientific documents on the work in progress; help in the quantitative histologic analysis of the sample after AFM measurements;
- Active participation in all team activities related to this project;
- Acquire the necessary training and expertise in all the topics of the project, including AFM, lung cancer and biomechanics;
- Comply to the high-ethical and professional standards of the HCB, UB and Artidis;

Qualifications

- Graduate in Biomedical Engineering, Nanosciences, Physics, Material Sciences, Biomedicine, Biotechnology or related fields (B.S. level). A master degree is a plus;
- Previous experience with scientific instrumentation in academia and/or industry (at the level of end-of-degree or end-of-master projects, internships, etc.). Experience with AFM is a plus;
- High level of English (oral and written);
- Ability to troubleshoot any issues that may arise, including problems with the sample manipulation and AFM measurements;
- Highly responsible and well organized; able to work as part of a team, and creative to find solutions when needed;
- Curious mind and highly motivated and open to face new challenges and work in a multidisciplinary environment;
- Able to move to Basel (Switzerland) late September/early October for few weeks to do a first training at Artidis headquarters;



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Working conditions

This is a full-time position with a very competitive salary and the possibility to increase it after the first year for outstanding performance. This job is expected to start late September/early October 2020, and to last 18 months with the possibility of an extension, depending on the outcome of the project.

Most of the work will take place in the laboratories of the Unit of Biophysics and Bioengineering at the School of Medicine at the UB (Casanova 143, Barcelona 08036). This project will also involve interacting with clinicians and other health professionals at the HCB, and with the scientists and engineers at Artidis, and will also include a mandatory initial training at the Artidis headquarters in Basel. The work environment is fully committed to the safest standards with regards to the covid-19, and will adapt to new regulations that may arise. Overall, this job will take place within an stimulating, interdisciplinary and international environment.

Application - Contact

The initial closing date for this application is September 15th 2020. We encourage applicants to submit their application as soon as possible.

We look forward to receiving your online application with CV, motivation letter, academic grades, and support letters (including names and contact information (email, address)) of 2-3 referees (one of them must be the supervisor of the end of degree project and end of master project, if applicable).

Please, send your application by email to Jordi Alcaraz (jalcaraz@ub.edu) with the email subject: AFM JOB OFFER + your name.