

## **Staff Associate – LCMS Metabolomics & Exposomics**

The Biomarkers Core Laboratory at Columbia University is seeking an experienced and highly motivated Staff Associate with specialized expertise in biological mass spectrometry and untargeted high-resolution accurate-mass (HRAM) metabolomics. This position supports precision medicine-focused metabolomics and exposomics initiatives at the Irving Institute for Clinical and Translational Research, in close collaboration with the Center for Innovative Exposomics at the Mailman School of Public Health. The successful candidate will play a key role in method development, large-scale HRAM-based metabolomic profiling, and data analysis, leveraging advanced mass spectrometry platforms and bioinformatic workflows to characterize endogenous and exogenous small-molecule signatures.

### **Minimum Qualifications:**

A minimum of three years of professional experience in high-resolution mass spectrometry, metabolomics, or related small-molecule analyses is required. A Master's degree in Analytical Chemistry, Biochemistry, Mass Spectrometry, or a related field is preferred.

### **Job Responsibilities:**

- Establish, optimize, and validate LC-HRMS workflows for untargeted metabolomics profiling of endogenous metabolites and exposome markers.
- Develop and refine sample preparation protocols tailored to diverse biological matrices and study designs.
- Generate high-quality metabolomics datasets by executing sample runs and ensuring consistent monitoring of instrument performance and QC/QA metrics.
- Operate, maintain, troubleshoot, and calibrate high-resolution mass spectrometry platforms (Thermo Orbitrap systems) within an integrated workflow.
- Perform comprehensive data processing and bioinformatic analysis using a range of software tools and pipelines.
- Prepare and maintain SOPs, method documentation, instrument logs, and QA/QC reports.
- Collaborate with investigators on study design, project planning, and data delivery.

### **Preferred qualifications:**

- Experience operating, maintaining, and troubleshooting high-resolution Orbitrap platforms (Exploris series, IQ-X).
- Demonstrated experience conducting large-scale untargeted metabolomics studies from study design through data analysis and reporting.
- Expertise in metabolite extraction techniques for complex or challenging matrices.
- Experience applying bioinformatic and statistical tools to large untargeted metabolomics datasets.
- Experience with triple quadrupole (QQQ) instruments and development of targeted MRM-based LC-MS assays.
- Excellent communication and interpersonal skills, with the ability to work collaboratively across teams.

The compensation is commensurate with experience. If interested, please send your resume to [rn2374@cumc.columbia.edu](mailto:rn2374@cumc.columbia.edu).