

GENERAL SUMMARY OF POSITION:

Under the direction of the Principal Investigator or designee, the Research Specialist conducts and evaluates scientific research in a laboratory, clinic, and/or teaching environment (hereafter referred to as "laboratory"). Employees in this position understand the context and implications of the research in order to apply and interpret theoretical knowledge necessary to conduct research in one or more scientific disciplines. The range of duties includes, but is not limited to project planning, data collection and analysis, project management, preparing reports, and communication and instruction. Work may include the training and supervision of staff, students, and others in performing specific techniques/experiments

The Program in Molecular Medicine Metabolomics Core Facility is seeking an enthusiastic and motivated individual to support metabolism-based research projects in a variety of experimental models using high-resolution, accurate-mass, liquid-chromatography mass-spectrometry. You will collaborate with researchers in developing and applying LC/MS-based metabolomics/ lipidomic experiments to advance their research projects. You will use discretion in prioritizing and organizing workflows. You will be expected to work independently and as part of a team to ensure high-quality data acquisition in a state-of-the-art laboratory.

MAJOR RESPONSIBILITIES:

- Conduct various complex tests, experiments and/or procedures following protocols of assigned research projects
- Apply and interpret theoretical knowledge necessary to conduct research in one or more scientific disciplines
- Identify potential problems, recommend, and implement solutions, and collaborate in the development of new techniques
- Monitor and collect data as required by research protocols
- Maintain appropriate documentation of research results, as required by research protocols.
- Search literature demonstrating an understanding of scientific, experimental and/or research theory to assist in the design of methods, procedures, and techniques
- May configure, operate and/or maintain specialized equipment
- May use software applications to assemble, manipulate, format and/or perform statistical analysis of data
- May train others in laboratory techniques and the use of laboratory equipment
- May assist in writing grants, progress reports, and manuscripts
- Performs other duties as assigned.

ADDITIONAL RESPONSIBILITIES

- Prepare samples for metabolomics/ lipidomics experiments
- Optimize extraction protocols
- Perform LC/MS/MS experiments for targeted and untargeted metabolomics and lipidomics
- Perform data analysis using software such as TraceFinder, Compound Discoverer and LipidSearch
- Consult with researchers on experimental design and data interpretation
- Produce reports and share them with collaborators
- Participate in grant writing and manuscript preparation
- Present data at group meetings
- Operate, maintain, and troubleshoot a variety of mass spectrometers
- Develop new metabolomics/ lipidomics methods and workflows when needed
- Assist with general laboratory tasks as needed
- Maintain detailed records and adhere to SOPs

- Supervise and train new laboratory personnel and junior members of the laboratory

REQUIRED QUALIFICATIONS:

- Ph.D. and 1 year of postdoctoral experience in analytical chemistry, (bio)chemistry or equivalent
- 7 years of research experience, including three years of experience in metabolomics
- Familiarity with high-resolution mass spectrometers (e.g. Orbitraps)
- Experience with liquid-chromatography
- Willingness to work in a collaborative environment with an out-facing customer service acumen
- Recent bench work experience required
- Ability to prepare research reports
- Good verbal and written communication skills
- Demonstrated ability to understanding scientific, experimental and or research theory

Additional Preferred Qualifications:

- Experience with lipidomics strongly preferred
- Experience with gas-chromatography
- An understanding of the use of stable isotopes in tracing experiments
- A broad knowledge of open-source, high-resolution, accurate-mass data analysis software
- Experience in advanced data processing and analysis encouraged (use of Matlab, R, Python etc)
- Familiarity with statistical methods used in larger cohort studies

Supervisory experience

SUPERVISION RECEIVED:

Under the direction of the Principal Investigator or designee

SUPERVISION EXERCISED:

May direct other lab staff and students.

ENVIRONMENTAL WORKING CONDITIONS:

The position involves work in a laboratory and may require appropriate contact with biohazards, radionuclides, toxins, animals, and human specimens