

position description

Date: August 2021

Title: Research Assistant 1, Epithelial cell and molecular biology

Department: Genetics and Genome Sciences

School: Medicine

Location: BRB

Supervisor Name and Title: Professor Ann Harris

POSITION OBJECTIVE

Working under moderate supervision, the Research Assistant 1 will perform molecular and cell biology research projects. A particular focus will be two transcription factors that are key in controlling the gene expression signature in human lung epithelial cells. These cells have an important role in lung diseases such as cystic fibrosis.

The lab uses advanced protocols of functional genomics, cell and organoid biology to elucidate the molecular and cell biology of human epithelia and their dysfunction in disease states such as Cystic Fibrosis. Projects will involve cell biology, biochemistry and genetics/genomics.

ESSENTIAL FUNCTIONS

1. Perform state-of-the-art functional assays including but not limited to: human cell culture; over-expression and/or depletion of specific proteins; analysis of DNA, RNA and proteins; protocols of functional genomics including chromatin and RNA purification; analysis by deep sequencing and single cell sequencing and protocols of cell biology and biochemistry such as cell culture and protein analysis. (40%)
2. Conduct analysis of samples from appropriate laboratory machines designed for performing biological, biochemical and molecular analysis. This will involve images and numbers, which will be analyzed by appropriate statistical packages. Collaborate with faculty members and scientists in the performance and analysis of the research studies. (35%)
3. Accurately record results for a particular experiment or closely related series of experiments in an electronic lab notebook. Maintain records of experiments and laboratory databases. (8%)
4. Maintain test equipment utilized in experiments including laboratory cell culture facility and functional genomics equipment room with advanced thermal cyclers for quantitative gene expression analysis, bioruptors etc. Order lab supplies and maintain chemical and biological inventories. (10%)

NONESSENTIAL FUNCTIONS

1. Participate in meetings to present research study findings. (5%)
2. Perform other duties as assigned. (2%)

CONTACTS

162001 Research Assistant 1 (SG07, N375)

Department: Daily contact with principal investigators, postdocs, research associates, research assistants and graduate students to review reagent needs or organize research interactions between different research teams in the department.

University: Daily contact with principal investigators, postdocs, research associates, research assistants, graduate students outside department. The supervisor has many collaborations both internal to the university and elsewhere, which will be facilitated by the research assistant.

External: Limited contact with outside vendors to obtain quotes for reagents, organize maintenance of equipment or solve problems relating to ordering and invoicing.

Students: Daily contact with graduate students, undergraduates and fellows to facilitate their research and ensure an efficient work environment

SUPERVISORY RESPONSIBILITY

This position has no direct supervision of staff employees.

QUALIFICATIONS

Education and Experience: Bachelor's degree and 0 to 1 year of related experience or Associate's degree in an approved biotechnology program and 0 to 2 years of experience required.

REQUIRED SKILLS

1. Prior experience in practical cell biology, biochemistry, genetics, molecular biology or functional genomics techniques and analysis is required, at minimum in undergraduate research setting.
2. Prior bench work experience in an academic science or medicine setting and/or a clinical research setting in strongly preferred.
3. Strong numeracy and data analysis skills.
4. Computer proficiency in Microsoft Suite, Adobe Creative Suite, Graphpad an advantage.
5. Strong oral and written communication skills.
6. Strong organizational and management skills and ability to work in a fast paced environment.
7. Ability to meet consistent attendance.
8. Ability to interact with colleagues, supervisors and customers face to face.

WORKING CONDITIONS

The position entails working in a biomedical research laboratory. The employee will be expected to adhere to all required certification for laboratory work and adhere to all safety regulations including the use of personal protective equipment, standard lab coat, gloves and safety glasses when appropriate. The position may require extended hours including weekends as experiments dictate.