Lab | Central

Research Associate Ready Track* (140 hours):

Mammalian Cell Culture

- Aseptic/Sterile Techniques
- Thawing - Cell Culture Maintenance
- Cell Culture Microscopy (Enumeration and Viability), Passage (Cell Counting and Splitting)
- Cryopreservation (Harvest and Freeze cells)
- Understanding of Cell metabolism
- Sterility Testing; Solutions for contaminant and impurity testing

Protein Purification and Analysis

- Understanding Protein Structure, function and role in Homeostasis, 3D structures, - (up regulate, down regulate, create novel function - Biologics and therapeutics.
- Protein Purification methods and assays (ELISA, Western Blots, SDS-page, MALDI-TOFF, HPLC, etc.)
- Protein Identification methods and assays (FPLC-AKTA, etc.)

HPLC: Principles of Chromatography

- Scientific Hypothesis; Experimental Design
- Basic Principles in HPLC, separation techniques
- Quantitative and Qualitative Strategies
- Sample Preparation strategies for analysis, Quality Control

Microscopy

- Principles and Fundamentals of Light Microscopy
- Histology
- Principles and fundamentals of Live Microscopy

Data Analysis

- Foundational data visualization skills, Data Models
- Introduction to reproducible science
- Computational tools

Effective Scientific Research Paper & Poster Writing

- Introduction to Scientific Research Paper Writing; Key Principles to Effective Writing, Scientific Sentence Structure
- Structure of Academic Paper; Sections of a Scientific Paper, Ethics in Scientific Publishing
- The Checklist

Workplace Competency; Communications and Presentation Skills, Poster Presentation (15 hours)

**Intern Ready Course is a prerequisite for Research Associate Track.*