

Bilal Shaikh

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RESEARCH AND EXPERIENCE

JUNE 2018 –PRESENT

Ichaan School of Medicine, Karr Lab

Model Development

- Working to develop the field of Whole Cell Modeling
- Use qualitative and quantitative data sources, in addition to background biology knowledge, to develop computational models of living cells
- Created marketing materials, including an informational video
- Responsible for oral and written communication of data, including through visual data presentation

2016-2018

Columbia University, Colecraft Lab

Cell Biology Research, Protein Trafficking

- Investigated regulation and trafficking of voltage gated calcium ion channels
- Engineered selective E3 ligases to modulate expression and trafficking of channel subunits

SUMMER 2016

Hackensack-Meridian Health,

JSU Medical Center, Department of Oncology

Axelrod Summer Scholar

- Selected for the Meridian Cancer Care Summer Scholarship Program
- Performed retrospective analysis on triple negative breast cancer patient outcomes
- Investigated correlations to specific pathology, immunohistochemical features, and genomic markers

SPRING 2016

Columbia University, Chemistry, Breslow Lab

Organic Synthesis Research, Nucleic Acids

- Performed organic synthesis experiments with the goal of developing specific antiviral agents
- Learned chemistry techniques, in addition to computer and database tools

SUMMER 2015

Rutgers University, Hashmi Lab

Physiology Research, C. elegans Metabolism

- Managed individual project under direction of Primary Investigator
- Responsible for experimental design and data collection

- Presented during lab meetings
- Worked on production of manuscript and documentation

2013-2015

Waksman Student Scholars Program

Biotechnology and Bioinformatics Research, L. punctata gene discovery

- Completed an intensive three-week program in molecular biology, biotechnology, and bioinformatics
- Employed bioinformatics tools including BLAST, PDB searches, CN3D, and Jmol
- Led two teams, each of ten members for two years, providing theoretical and experimental instruction on a DNA sequencing project, leading to 48 unique sequence publications

EDUCATION

EXPECTED 2019

**Columbia College,
Columbia University,
New York NY**

BACHELOR OF ARTS
*Biochemistry and
Computer Science*

TEACHING

2017 – PRESENT

Columbia Department of Chemistry

Help Room Tutor

- Tutored students in General Chemistry, Organic Chemistry, and Lab courses

SUMMER 2018

Columbia Department of Chemistry

General Chemistry Lab Teaching Assistant

- Assisted with experiment setup and techniques
- Provided feedback and graded assignments
- Addressed concerns and provided tutoring

VOLUNTEER EXPERIENCE

2013-CURRENT

Holmdel First Aid Squad

Emergency Medical Technician

- Evaluate patient status, provide effective treatment, and transport to appropriate hospitals
- Responsibilities involve extensive patient interaction and clinical decision making

2015

Jersey Shore University Medical Center

Emergency and Trauma Volunteer

- Assisted in triage, provided basic treatment, and assisted in trauma treatment

2014

Riverview Medical Center

Pulmonary Rehabilitation Volunteer

- Worked directly with patients to assist in exercise routines to rehabilitate lung function

SKILLS

COMPUTATIONAL Python, Numpy,
Scipy, BioPython,
Java, C, Linux,
BASH, git, \LaTeX ,
Docker, Continuous
Integration

LABORATORY Mammalian Cell
Culture, Molecular
Biology, Flow
Cytometry,
Bioinformatics

RELEVANT COURSEWORK Computational
Learning Theory,
Computational
Complexity,
Advanced
Programming, Data
Structures, Artificial
Intelligence