Jabbar Campbell

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SENIOR SCIENTIST

Molecular Biologist with experience developing and optimizing assays for early discovery efforts in neurodegenerative disease. Fluency in R studio, Python, SQL, BASH, NEXTFLOW and Unix/Linux with experience designing pipelines to automate data analysis. Additional skills include:

- Genomic data analysis and Pipelines
- Experience with AWS, Google Cloud, and Docker
- High Content Image analysis
- Analysis and Visualization of high dimensional data
- Statistical modeling and Machine Learning

PROFESSIONAL RESEARCH EXPERIENCE

CARAWAY THERAPEUTICS, Cambridge, MA 2020 – 2023

Senior Associate Scientist

Supported Biomarker efforts in Lysosomal storage translating to Neurodegeneration through assay development across multiple modalities to drive a small molecule campaign searching for potent and selective Ion channel activators.

- Designed a script in R for the purpose of analyzing 3d organoids using raw High Content image files.
- Built an RNA-SEQ pipeline in R for quality assessment, read mapping, annotation and analysis using AWS
- Analyzed MS data using R Bioconductor for Proteomic analysis and Gene ontology to visualize networks.
- Initiated an AI/ML algorithm using Python to model High Throughput data to gain Biological Insight.
- Established a High Content Image based assay for detecting the effects of activators in 96 and 384 well formats
- Used PCA to visualize High Dimensional data and cluster compounds according to performance across assays.
- Built a R SHINY web application for interactive visualization and statistical analysis of ELISA experiments.
- Increased turnaround time for High Content Imaging Data with automation and scripts in R by 6-fold
- Treated Niemann pick cell models with in house chemical matter followed by rigorous downstream data analysis to detect phenotypic rescue.
- Quantitated Biomarker/Protein levels following treatment to observe rescue of lysosomal function.

AMGEN, Cambridge, MA 2015 – 2019

Associate Scientist – Neuroscience

Advanced projects in Analgesia and Neurodegeneration through assay development across multiple modalities, including electrophysiology, high content imaging, biochemical and cell-based assays. Spearheaded a small molecule campaign using both biochemical and cell-based systems and identified potent and specific enzyme inhibitors.

- Built a SHINY web application for the Visualization of Pharmacological relationships.
- Achieved departmental and companywide visibility through hosting guest speakers and poster Presentation.
- Strengthened community relationships through Community Outreach.
- Mentored Junior Associates in the lab and through weekly “Neuroinformatic” meetings.
- Optimized a Fluorogen Activated Peptide assay to improve signal to background in High content imaging.
- Characterized a protopathic aggregation model for ALS in SH-SY5Y cells using High Content Imaging.
- Screened compound libraries to drive Structure Activity relationships (SAR) for ligand and Ion gated Channels.
- Confirmed and prioritized hits across technology platforms to validate next generation instrumentation.
- Performed MEA from spinal cord slices to elucidate mechanism of action for a novel pain target.
- Measured enzymatic kinetics (TR-FRET) to advance project to “Early Optimization Phase” in under 6 months.
- Established a Nanobret Luciferase assay and Cell based reporter system to provide target engagement data.
- Drove technology transfer to an external CRO’s and increase throughput to reduce cost using R.
- Quantitated protein from lysate in a 384 plate-based sandwich ELISA system via MSD.
- Characterized RNAi-Protein interaction associated with the RISC complex to establish PKPD relationships.

EDUCATION

Master of Science in Biology, New York University · New York, NY
Bachelor of Science in Biology, Tufts University, Medford, MA

PUBLICATIONS

Sara. C. Humphreys,[1*] Mai B. Thayer,[1] **Jabbar Campbell**, [3] Kelly Chen, [2] Dan Adams, [2] Julie M. Lade,[1] and Brooke M. Rock[1] siRNA biotransformation: Fragmented knowledge and ADME implications. J Med Chem Jun 25;63(12): 6407-6522

Rao MV, **Campbell J**, Palaniappan A, Kumar A, Nixon RA., calpastatin inhibits motor neuron death and increases survival of hSOD1(G93A) mice. J Neurochem. 2016 Apr;137(2):253-65

Certifications

Harvard EDX Course: Data Science and Machine Learning
IBM EDX Course: Pytorch basics for Machine Learning
Python Programming GUI, Database and System Design | Udemy

Harvard EDX Course: Case Studies in Functional Genomics
Next Generation Sequencing |Udemy
Functional Genomics (Microarray to RNA-Seq) Data Analysis | Udemy

The Git & Github Bootcamp | Udemy
Bash Scripting and Shell Programming (Linux Command Line) | Udemy
Data Engineering with Python and SQL | Udemy
Git Lab CI: CI/CD and DevOps for Beginners| Udemy
Introduction to vector databases using Milvus | Udemy