**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 and Unix/Linux with experience designing pipelines to automate data analysis and visualization. These skills include:

* Design of RNA sequence analysis pipelines using Linux (tophat), R and Nextflow
* Experience with Cloud based solutions such as AWS and Github repositories
* Molecular Biology experience in DNA cloning
* Multivariate analysis and visualization using Seaborn
* Automated Liquid Handling Experience (BRAVO, Velocity11, ECHO Molecular Devices etc)
* Assay development on High Throughput instrumentation
* Quantitative Analysis using Bioqant, Image-j, R, SQL and Python, Jupyter Notebook

# PROFESSIONAL RESEARCH EXPERIENCE

**CARAWAY THERAPEUTICS,** Cambridge, MA 2020 – 2023

***Senior Associate Scientist***

Supported Biomarker efforts to Advanced projects in Lysosomal storage as they pertain to Neurodegeneration through assay development across multiple modalities, high content imaging, and cell-based assays. Contributed to a small molecule campaign to triage potent and selective Ion channel activators.

* 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 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
* Designed a script in R for the purpose of analyzing 3d organoids using raw High Content image files.
* 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.

* Optimization of 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 the Nanobret Luciferase assay and Invivo 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.
* 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 “Neuroinformatics” meetings.

# 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. Rock1 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](https://www.ncbi.nlm.nih.gov/pubmed/26756888)

# Certifications

[HarvardX Course: Data Science and Machine Learning](https://courses.edx.org/certificates/69ba954b1e4946aa9da186b6cf633cd1)

[Udemy Course: Bash Scripting and Shell Programming (Linux Command Line)](https://www.udemy.com/certificate/UC-9e362150-a57b-40c8-8a17-877338bfc07c/)

[Udemy Course: The Git & Github Bootcamp](https://www.udemy.com/certificate/UC-04444590-75b5-4f8f-aea8-a5d254bd9f45/)

[Udemy Course: Next Generation Sequencing](https://www.udemy.com/certificate/UC-91d9f900-10de-4e29-a26f-11ed521413ba/)

[Udemy Course: Data Engineering with Python and SQL](https://www.udemy.com/certificate/UC-82667f44-4a6e-4b73-bc11-f45a1f8f2c33/)

[Functional Genomics (Microarray to RNA-Seq) Data Analysis](https://www.udemy.com/certificate/UC-55421f87-0f18-4ad2-a90f-5f65b78d8129/)