**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, Goggle 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. 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

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

[IBM EDX Course: Pytorch basics for Machine Learning](https://courses.edx.org/certificates/1d02d7ab3f7f44ed87f3148babcb814f?_gl=1*17k3cip*_ga*MTM0OTYxODgyOS4xNjkxMTcyODUw*_ga_D3KS4KMDT0*MTcwNzg3MjYxNS4xNjYuMS4xNzA3ODczOTg3LjYwLjAuMA..)

[Python Programming GUI, Database and System Design | Udemy](https://www.udemy.com/certificate/UC-7ffaa679-61eb-4df9-86d9-75ea37ad0009/)

[Harvard EDX Course: Case Studies in Functional Genomics](https://courses.edx.org/certificates/2a8cb87d1c354d969b0318a102d240fc?_gl=1*1n96uoo*_ga*MjkzMDQzNzczLjE3MDk2NTUxMjg.*_ga_D3KS4KMDT0*MTcxMjI1OTgzMS44My4xLjE3MTIyNjAwOTcuNTguMC4w)

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

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

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

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

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

[Git Lab Cl: CI/CD and DevOps for Beginners| Udemy](https://www.udemy.com/certificate/UC-f311ed87-e6b0-4329-bf8d-f174162b20be/)

[Introduction to vector databases using Milvus | Udemy](https://www.udemy.com/certificate/UC-37f87e25-72f2-4ec4-a2d1-25d30a7316df/)