

# Kynon Jade Benjamin

K99 POSTDOCTORAL FELLOW · COMPUTATIONAL GENETICIST

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**Research Interests:** Neurological disorders, health disparities, bioinformatics, computational biology, machine learning

## Summary

**COMPUTATIONAL GENETICIST** with expertise in bioinformatics, machine learning, and molecular biology. Authored and/or contributed to 9 publications, 25 presented posters and presentations national, regional, and local meetings, receiving 6 awards including 3 first place. Experience in computational pipeline developed and implementation.

## Education & Training

### Lieber Institute for Brain Development; Johns Hopkins University, Departments of Neurology and Psychiatry

Baltimore, MD

POSTDOCTORAL FELLOW: ``GENETIC AND ENVIRONMENTAL REGULATION OF GENE EXPRESSION IN NEUROPSYCHIATRIC DISORDERS" Oct 2017 - Present

- Computational analysis in four postmortem brain regions for genetic and epigenetic ancestry (**Python, R, Machine learning**)
  - Identified and characterized ancestry-related expression differences in postmortem brain from AA and EA individuals
  - Designed, developed, and implemented GPU-based eQTL and fine-mapping analysis pipeline
  - Designed, developed, and implemented mash modeling pipelines for differential expression and eQTL analyses
  - Designed, developed, and implemented pipeline for determining genetic bases of ancestry-related expression differences
- Computational analysis in postmortem brain for schizophrenia (**Python, R, Linux, Machine learning**)
  - Identified new insights into the role of the caudate in schizophrenia and potential new lines of treatment
  - Designed, developed, and implemented genotype imputation pipeline for eQTL analysis
  - Designed, developed, and implemented limma-voom differential expression pipeline for post-mortem samples
  - Designed, optimized, and implemented machine learning pipelines with feature reduction and ranking
  - Prioritized genes and genetic variants associated with schizophrenia risk via functional genomics (**TWAS, Colocalization, SMR**)
  - Examined dopamine system and the affect of antipsychotics within the caudate nucleus
  - Designed, developed, and implemented co-expression network analysis (**Autoencoders, WGCNA**)
- Human cell lines and organoids for neurodevelopment (**Python, R, Linux**)
  - Collaborated with bench biologist bulk and single-cell RNA-sequencing and genotyping
  - Designed, developed, and implemented single-cell RNA-sequencing pipeline
  - Designed and preformed genetic verification of postmortem dura-derived induced pluripotent stem cells
- NIH T32 Training Program in Psychiatry
- MOSAIC Postdoctoral Career Transition Award to Promote Diversity (K99/R00): MD0169640

### Texas A&M University, Department of Veterinary Pathobiology

College Station, TX

PH.D. IN GENETICS; DISSERTATION: ``UNDERSTANDING THE IMPRINTING MECHANISM OF *UBE3A* FOR THERAPEUTIC INTERVENTION" Aug 2012 - Aug 2017

- Computational and molecular characterization of the expression patterns of long non-coding RNA of *Ube3a/UBE3A* antisense and novel *Ube3a* isoform 4 in the imprinting of *Ube3a*
  - Analyzed more than **5 TB** of RNA-seq, stranded and unstranded, paired- and single-end datasets for mouse and human over a range of tissues and cell types for spatiotemporal regulation (**R, Linux**)
  - My pipeline reduced overall processing time by 90%, decreased storage by 60% by removing unnecessary intermediate conversion files, increased quality control and improved novel isoform detection
  - ANOVA, student's T-test, post-hoc Tukey's HSD statistical analysis conducted in **R** significantly reducing computational time from programs like **PRISM** and **Excel**
  - Utilized quantitative real-time PCR, Sanger sequencing, electrophoresis, and cloning for long non-coding RNA analysis and alternative splicing verification
- Developed interactive **R** script to analyze **1.2 TB** of fluorescent image based high-throughput screening data assay to reactivate paternal *Ube3a* allele in ES cell derived neurons for therapeutic intervention (**Stem cells, ImageJ, R**)
  - Developed **Shiny** web application for automatic high-throughput screen analysis and logistic regression algorithm for hit analysis (**Shiny, Octave, R**)
  - Supervised a team of undergraduates in molecular data acquisition and basic laboratory work
  - Utilized immunofluorescence microscopy and mouse embryonic stem cell technology
- Findings:
  1. Neuron-specific spatiotemporally regulated *Ube3a* antisense is an extensively processed transcript with 5' capping, 3' polyadenylation and alternative splicing
  2. Proposed new model for imprinting mechanism of *Ube3a* involving a temporally regulated novel paternal specific isoform, denoted isoform 4
  3. Developed high-throughput screening assay for drug discovery in ES cell-derived neurons

- Investigated increasing drug loading into nanofibers to determine the mechanical integrity of fibers as a function of percent drug
- Prepared, evaluated, and analyzed electrospun poly( $\epsilon$ -caprolactone) and poly(vinyl alcohol) nanofibers via SEM, fluorescence assays, pH change, and mechanical tester
- Developed semi-automatic **MATLAB** script for mechanical tester analysis reducing processing time by  $\sim 70\%$
- Developed liquid chromatography mass spectrometry (LC-MS) method for the analysis of naproxen drug release from polymeric scaffolds in media and PBS
- Supervised and trained undergraduate and graduate students on nanofiber technique

**Indiana University, Purdue University, Indianapolis**

**Indianapolis, IN**

LIFE-HEALTH SCIENCE INTERNSHIP INTERN

Aug 2009 - Jul 2010

- Investigated cement degradation of dicalcium phosphate dihydrate for cranial implants
- Prepared, evaluated, and analyzed monocalcium phosphate monohydrate(MCPM)/ $\beta$ -tricalcium phosphate cements and MCPM/nanocrystalline hydroxyapatite cements independently
- Developed skills in degradation analysis using X-ray diffraction, percent mass loss, pH change, and *in vitro* live/dead cell assay

## Publications

### Published/Accepted

1. **Benjamin, KJM**, Katipalli, T, and Apuã CM Paquola. ``dRFETools: Dynamic recursive feature elimination for 'omics'. *Bioinformatics*. 2023. PMID: 37632789.
2. Sawada, T, Barbosa, A, Araujo, B, McCord, AE, D'Ignazio, L, **Benjamin, KJM**, Feltrin, A, Arora, R, Brandtjen, A, Kleinman, JE, Hyde, TM, Weinberger, DR, Paquola, ACM, and Jennifer A Erwin. ``Ventral forebrain organoids derived from individuals with schizophrenia recapitulate perturbed striatal gene expression dynamics of the donors' brains". *American Journal of Psychiatry*. 2023. *In press*. DOI: <https://doi.org/10.1101/2022.05.26.493589>.
3. **Benjamin, KJM**, Chen, Q, Jaffe, AE, Stolz, JM, Collado-Torres, L, Huuki-Myers, LA, Burke, EE, Arora, R, Feltrin, AS, Barbosa, AR, Radulescu, E, Pergola, G, Shin, JH, Ulrich, WS, Deep-Soboslay, A, Tao, R, the BrainSeq Consortium, Hyde, TM, Kleinman, JE, Erwin, JA, Weinberger, DR, and Apuã CM Paquola. ``Analysis of the caudate nucleus transcriptome in individuals with schizophrenia highlights effects of antipsychotics and novel risk genes". *Nature Neuroscience*. 2022. PMID: 36319771.
4. D'Ignazio, L, Jacomini, RS, Qamar, B, **Benjamin, KJM**, Arora, R, Sawada, T, Diffenderfer, KE, Pankonin, AR, Hendriks, WT, Bragg, DC, Paquola, ACM, and Jennifer A Erwin. ``Variation in TAF1 expression in female carrier induced pluripotent stem cells and human brain ontogeny has implications for adult neostriatum vulnerability in X-linked Dystonia Parkinsonism". *eNeuro*. 2022. PMID: 35868859.
5. Sawada, T, **Benjamin, KJM**, Brandtjen, AC, Tietze, E, Allen, SJ, Paquola, ACM, Kleinman, JE, Hyde, TM, and Jennifer A Erwin. ``Generation of four postmortem dura-derived iPS cell lines from four control individuals with genotypic and brain-region-specific transcriptomic data available through the BrainSEQ consortium". *Stem Cell Research*. 2020. PMID: 32446240.
6. Sawada, T, Chater, TE, Sasagawa, Y, Yoshimura, M, Fujimori, N, Tanaka, K, **Benjamin, KJ**, Paquola, ACM, Erwin, JA, Goda, Y, Nikaido, I, and Tadafumi Kato. ``Developmental Excitation-Inhibition Imbalance Underlying Psychoses Revealed by Single-Cell Analyses of Discordant Twins-Derived Cerebral Organoids". *Molecular Psychiatry*. 2020. PMID: 32764691.

### In Revision

1. **Benjamin, KJM**, Chen, Q, Eagles, NJ, Huuki-Myers, LA, Collado-Torres, L, Stolz, JM, Shin, JH, Paquola, ACM, Hyde, TM, Kleinman, JE, Jaffe, AE, Han, S, and Daniel R Weinberger. ``Genetic and environmental contributions to ancestry differences in gene expression in the human brain". [pre-print]. 2023. *In revision*. PMID: 37034760.
2. **Benjamin, KJM**<sup>+</sup>, Arora, R<sup>+</sup>, Feltrin, AS, Perte, G, Giles, H, Stolz, JM, D'Ignazio, L, Collado-Torres, L, Shin, JH, Hyde, TM, Kleinman, JE, Weinberger, DR, Paquola, ACM, and Jennifer A Erwin. ``How sex affects transcriptional associations with schizophrenia across the dorsolateral prefrontal cortex, hippocampus, and caudate nucleus". [pre-print]. 2022. *In revision*. DOI: <https://doi.org/10.1101/2022.09.30.22280452>.

### Submitted/Under Review

1. Tietze, E, Barbosa, AR, Euclides, V, Cho, HJ, Lee, YK, Feltrin, A, van de Leemput, J, Di Carlo, P, Sawada, T, **Benjamin, KJ**, Brentani, H, Kleinman, JE, Hyde, TM, Weinberger, DR, Ursini, G, McKay, R, Paquola, ACM, Shin, JH, and Jennifer A Erwin. ``Single-cell analysis of human trophoblast stem cell specification reveals activation of fetal cytotrophoblast expression programs including coronavirus associated host factors and human endogenous retroviruses''. [pre-print]. 2020. DOI: <https://doi.org/10.1101/2020.08.29.273425>.

## Scholarship

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### Extramural Funding

#### **NIMHD K99MD0169640: MOSAIC**

COMPREHENSIVE COMPUTATIONAL ANALYSIS OF GENETIC AND REGULATORY DIFFERENCES BETWEEN INDIVIDUALS WITH AFRICAN AND EUROPEAN ANCESTRIES ACROSS FOUR BRAIN REGIONS; \$947000

Baltimore, MD

Dec 2021 - Nov 2023

#### **NIMH T32MH015330: Fellowship**

ANALYSIS OF THE CAUDATE NUCLEUS TRANSCRIPTOME IN INDIVIDUALS WITH SCHIZOPHRENIA HIGHLIGHTS EFFECTS OF ANTIPSYCHOTICS AND NOVEL RISK GENES; SUPPORTS NIH LEVEL SALARY AND PROFESSIONAL DEVELOPMENT

Baltimore, MD

Jun 2019 - May 2021

#### **Great Lakes STEM Scholarship**

\$2500 AWARD

College Station, TX

July 2014

### Intramural Funding

#### **CVM Advanced Developmental Training Travel Award**

UPTO \$2500 FOR TRAVEL EXPENSIVES

College Station, TX

May 2015

#### **CVM Graduate Student Research Trainee Grant**

\$5000 SEED MONEY RESEARCH AND SUPPLIES TO GENERATE PRELIMINARY DATA

College Station, TX

May 2014

#### **Texas A&M Institute for Genome Sciences and Society (WSGI) Graduate Traineeship**

COMPUTATIONAL ANALYSIS OF 50 IDIOPATHIC ANGELMAN SYNDROME PATIENTS; SUPPORTS HALF OF SALARY

College Station, TX

Sep 2013 - Aug 2014

## Presentations

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### Invited Talk/Oral Presentations

#### **International Conference on Intelligent Biology and Medicine**

ORAL: ``DRFETOOLS: DYNAMIC RECURSIVE FEATURE ELIMINATION FOR OMICS''

Philadelphia, PA

August 2022

#### **MERIT Emerging Leaders Symposium**

INVITED TALK: ``LARGE-SCALE COMPUTATIONAL GENOMICS: NEW, REUSE, AND DEVELOP''

New York, NY

July 2022

#### **Johns Hopkins Postdoctoral Conference**

ORAL: ``COMPUTATIONAL ANALYSIS OF GENETIC AND TRANSCRIPTIONAL LANDSCAPES OF THE CAUDATE NUCLEUS IN SCHIZOPHRENIA''

Baltimore, MD

April 2019

#### **Defense Threat Reduction Agency**

INVITED TALK: ``UNDERSTANDING THE IMPRINTING MECHANISM OF *Ube3a* FOR THERAPEUTIC INTERVENTION''

Fort Belvoir, VA

July 2017

#### **Center for Computational Biology & Bioinformatics (UCSD)**

INVITED TALK: ``UNDERSTANDING THE IMPRINTING MECHANISM OF *Ube3a* FOR THERAPEUTIC INTERVENTION''

San Diego, CA

June 2017

#### **Inova Translational Medicine Institute**

INVITED TALK: ``THE *Ube3a* ANTISENSE TRANSCRIPT UNDERGOES EXTENSIVE PROCESSING AND IS SPATIOTEMPORALLY REGULATED IN THE BRAIN''

Falls Church, VA

June 2017

#### **Laboratory of Molecular Virology & Pathogenesis (MHRP)**

INVITED TALK: ``THE *Ube3a* ANTISENSE TRANSCRIPT UNDERGOES EXTENSIVE PROCESSING AND IS SPATIOTEMPORALLY REGULATED IN THE BRAIN''

Silver Spring, MD

June 2017

#### **Texas A&M Student Research Week**

ORAL: ``INVESTIGATING NOVEL *Ube3a* ISOFORM 4 IN THE IMPRINTING OF *Ube3a*''

College Station, TX

March 2016

#### **Genetics and Genomics (G2) Seminar Series**

INVITED TALK: ``INVESTIGATING NOVEL *Ube3a* ISOFORM 4 IN THE IMPRINTING OF *Ube3a*''

College Station, TX

February 2016

#### **College of Veterinary Medicine (CVM) Neuroscience**

INVITED TALK: ``NEURODEVELOPMENTAL DISORDERS: INSTABILITY OF CHROMOSOME 15Q11-Q13''

College Station, TX

April 2015

## Texas A&M Student Research Week

ORAL: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING''

College Station, TX

February 2014

## Poster Presentations

### Biology of Genomes

POSTER: ``GENETIC AND ENVIRONMENTAL CONTRIBUTIONS TO ANCESTRY DIFFERENCES IN GENE EXPRESSION IN THE HUMAN BRAIN''

May 2023

### American Society of Human Genetics

POSTER: ``GENETIC AND ENVIRONMENTAL REGULATION OF CAUDATE NUCLEUS TRANSCRIPTOME IN SCHIZOPHRENIA''

Los Angeles, CA

October 2022

### Society of Neuroscience

POSTER: ``COMPUTATIONAL ANALYSIS OF GENETIC AND TRANSCRIPTIONAL LANDSCAPES OF THE CAUDATE NUCLEUS IN SCHIZOPHRENIA''

San Diego, CA

November 2018

### Texas A&M Imaging Sciences Spotlight Series

POSTER: ``HIGH-THROUGHPUT DRUG SCREENING OF MOUSE EMBRYONIC STEM CELL-DERIVED NEURONS''

College Station, TX

January 2016

### College of Veterinary Medicine (CVM) Symposium

POSTER: ``HIGH-THROUGHPUT DRUG SCREENING OF MOUSE EMBRYONIC STEM CELL-DERIVED NEURONS''

College Station, TX

January 2016

### Texas A&M Health Science Center Symposium

POSTER: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING''

College Station, TX

April 2014

### Texas A&M Genetics Graduate Student Recruiting Symposium

POSTER: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING''

College Station, TX

February 2014

### National Society of Black Engineers Fall Regional Conference

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE''

Rochester, NY

October 2011

### Biomedical Engineering Society Annual Meeting

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE''

Hartford, CT

October 2011

### NSF LSAMP/RPI SURP

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE''

Troy, NY

August 2011

### Walter Lincoln Hawkins '32 Graduate Research Conference

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION''

Troy, NY

April 2011

### Purdue Biomaterials Research Symposium

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION''

West Lafayette, IN

April 2010

### Life-Health Sciences Internship Poster Session

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION''

Indianapolis, IN

April 2010

### Annual Glenn Research Center Summer Poster Session

POSTER: ``BIOFUELS AS AN ALTERNATIVE FUEL SOURCE FOR AVIATION''

Cleveland, OH

August 2009

## Panels

### Hopkins URM Accepted Applicants Virtual Visit

PANEL: ``HOPKINS GRADUATE ACCEPTED APPLICANTS VISIT FACULTY/FELLOWS PANEL''

Virtual

March 2021

### Johns Hopkins, School of Medicine; Second Look Visit

PANEL: ``JOHNS HOPKINS GRADUATE BIOMEDICAL EDUCATION PROGRAMS ACCEPTED APPLICANTS, FACULTY AND POSTDOCTORAL FELLOWS PANEL''

Baltimore, MD

March 2019

### Johns Hopkins, School of Medicine; Biomedical Scholars Association Event

PANEL: ``NAVIGATING AND PREPARING FOR A CONFERENCE''

Baltimore, MD

November 2018

## Teaching

### LIBD rstats Club

JOURNAL CLUB SESSION LEADER

- Suggested R programming related topics for discussion
- Developed lesson plan for R programming topics in bioinformatics
- Lecture history of session: <https://bit.ly/30gpcZk>

Baltimore, MD

Apr 2020 - Currently

## Summer Undergraduate Research Virtual Exchange (SURVE)

Baltimore, MD

### LECTURER

Jul 2020 - Aug 2020

- Development learning objectives and activities for SURVE
- Collaborative virtual lecturer

## Basic Science Institute (BSI)- Summer Internship Program (SIP)

Baltimore, MD

### JOURNAL CLUB GROUP LEADER

Jun 2020 - Jul 2020

- Primary instructor for virtual journal club, where I helped development 8-week journal club curriculum
- Development activities for article critique, and demonstrated and evaluated presentations.

## Texas A&M University, Department of Biochemistry

College Station, TX

### GRADUATE TEACHING ASSISTANT

Aug 2012 - Jun 2013

- Laboratory instructor for Genetics course
- Primary instructor for one class and assisted with second class each semester
- Gave introductory lecture, followed by hands-on supervising of student experiments
- Evaluated student performance and assigned grades

## Graduate Teaching Association/Academy for Future Faculty

College Station, TX

### STEERING COMMITTEE MEMBER

Jan 2014 - Jul 2016

- Worked collaboratively in the committee, where I helped run workshops and seminars for professional development, including but not limited to:
  - Philosophy of Teaching Statement
  - Teaching in Large Classes
  - Teaching with Technology
  - Developing Assessments
- Maintained and troubleshoot Blackboard, including but not limited to:
  - Generating assessments
  - Transferring **15 GB** of data between website platforms
  - Troubleshooting any computer technological issues experienced by other committee members

## Honors & Distinctions

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- 2022 **Recipient**, International Conference on Intelligent Biology and Medicine: Travel Award
- 2021 **MOSAIC (K99/R00) Fellow**, NIMHD, Lieber Institute for Brain Development
- 2019 **T32 Postdoctoral Fellow**, Johns Hopkins School of Medicine, Department of Psychiatry
- 2019 **1<sup>st</sup> Place**, Johns Hopkins Postdoctoral Conference: Oral Presentation
- 2017 **Scholar Finalist**, Data Incubator
- 2016 **Nomination**, Excellence in Research at Texas A&M Student Research Week
- 2016 **Honorable Mention**, Texas A&M Imaging Sciences Spotlight Series
- 2015 **Recipient**, CVM Advanced Developmental Training Travel Award
- 2015 **Recipient**, Cold Spring Harbor *Drosophila* Neurobiology Course
- 2014 **Recipient**, Great Lakes STEM Scholarship
- 2014 **4<sup>th</sup> Place**, Texas A&M Genetics Graduate Student Recruiting Symposium Poster Presentation
- 2014 **Recipient**, CVM Graduate Student Research Trainee Grant
- 2013 **Recipient**, Texas A&M Institute for Genome Sciences and Society (WSGI) Graduate Traineeship
- 2011 **Recipient**, NSF funded LSAMP Research Experience for Undergraduates at RPI
- 2011 **1<sup>st</sup> Place**, Walter Lincoln Hawkins '32 Graduate Research Conference: Poster Presentation
- 2011 **1<sup>st</sup> Place**, National Society of Black Engineers Fall Regional Conference: Poster Presentation
- 2011 **Recipient**, Rensselaer's Professional Leadership Program
- 2009 **Recipient**, NASA Science Technology Institute Summer Scholars Program
- 2009 **Recipient**, Life Health Science Internship

## Service

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## Professional Activities

### Lieber Institute for Brain Development Postdoctoral Association (LIBD-PDA)

PRESIDENT

Baltimore, MD

Apr 2020 - Current

- Established LIBD-PDA
- Obtained universal transportation benefit for all LIBD employees
- Obtained pipeline for joint appointments for all LIBD postdoctoral fellows
- Managed, planned, and organized first LIBD-PDA Virtual Retreat

### Johns Hopkins Postdoctoral Association

CO-PRESIDENT

Baltimore, MD

Aug 2019 - Jul 2020

- Advocated for postdoc interests during COVID19 pandemic
- Secured funding for Annual Postdoctoral Conference
- Advocated for inclusion of postdocs in Faculty Learner Misconduct Policy
- Secured improvements for LGBTQ+ health insurance
- Advocated and advised JHU university wide postdoctoral database

### JHPDA Policy and Advocacy Committee

CO-CHAIR

Baltimore, MD

Aug 2018 - Jul 2019

- Advocated for minority mental health support
- Organized annual postdoctoral survey
- Organized seminars on domestic and international financial wellness
- Advocated and secured improvements for postdoc childcare options

### Genetics Graduate Student Association

TREASURER

College Station, TX

Jul 2013 - Jul 2015

- Organized meetings and annual symposium
- Managed and maintained budget

### CVM Graduate Student Association

TREASURER

College Station, TX

Jul 2014 - Jul 2015

- Organized meetings and yearly outreach event
- Managed and maintained budget

### National Society of Black Engineers

TREASURER

Troy, NY

Jun 2011 - Jun 2012

- Lead and managed the transition from on-campus to off-campus banking system
- Developed system for reimbursements and invoicing
- Wrote the inaugural handbook for the new treasurer position
- Managed and maintained \$70000 annual budget

### Rensselaer's Professional Leadership Program

FELLOW

Troy, NY

Aug 2011 - May 2012

Selective leadership program designed to bridge the gap between school and the workplace.

## Journal Reviewer

### Schizophrenia Bulletin

ONE REVIEW PER YEAR

2021-2022

## Professional Activities

2020--	<b>President</b> , Lieber Institute for Brain Development Postdoctoral Association	Baltimore, MD
2019--2020	<b>Co-President</b> , Johns Hopkins Postdoctoral Association	Baltimore, MD
2019--2020	<b>Postdoctoral Representative</b> , Faculty Senate; Johns Hopkins, School of Medicine	Baltimore, MD
2019--2020	<b>Postdoctoral Representative</b> , Postdoctoral Affairs Advisory Board	Baltimore, MD
2019--2020	<b>Postdoctoral Representative</b> , Institute for Excellence in Education Board of Directors	Baltimore, MD
2018--	<b>Member</b> , JHPDA Diversity Postdoctoral Alliance Committee	Baltimore, MD
2018--2019	<b>Member/Co-Chair</b> , JHPDA Policy and Advocacy Committee	Baltimore, MD
2018--2019	<b>Postdoc Member</b> , JHU University Health Services Committee	Baltimore, MD
2013--2016	<b>Member</b> , Graduate Teaching Association/Academy for Future Faculty Steering Committee	College Station, TX
2015--2016	<b>Student Member</b> , Genetics Graduate Student Association Academics Committee	College Station, TX
2014--2015	<b>Student Member</b> , Genetics Graduate Student Association Awards Committee	College Station, TX

## Professional Memberships

<b>International Society for Computational Biology</b>	
MEMBER	2022--
<b>American Society of Human Genetics</b>	
MEMBER	2022--
<b>International Conference on Intelligent Biology and Medicine</b>	
MEMBER	2022--
<b>Society for Neuroscience</b>	
MEMBER	2017--2020
<b>National Society of Black Engineers</b>	
MEMBER/CHAPTER TREASURER	2010--2016