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 pluriponent stems 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

Rensselaer Polytechnic Institute *Troy, NY*

B.S. IN BIOMEDICAL ENGINEERING; UNDERGRADUATE RESEARCH/SUMMER UNDERGRADUATE RESEARCH PROGRAM *Nov 2010 - Jun 2012*

- 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(ϵ-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)/β-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 transcrptomic 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* at *Nature Neuroscience*. PMID: 37034760.

2. **Benjamin, KJM**[+], Arora, R[+], Feltrin, AS, Pertea, 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* at *Nature Communications*. DOI: `https://doi.org/10.1101/2022.09.30.22280452`.

Submitted/Under Review

1. Tietze, E, Barbosa, AR, Euclydes, 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''. [preprint]. 2020. DOI: `https://doi.org/10.1101/2020.08.29.273425`.

Scholarship

Extramural Funding

NIMHD K99MD0169640: MOSAIC   *Baltimore, MD*

COMPREHENSIVE COMPUTATIONAL ANALYSIS OF GENETIC AND REGULATORY DIFFERENCES BETWEEN INDIVIDUALS WITH AFRICAN AND EUROPEAN ANCESTRIES ACROSS FOUR BRAIN REGIONS; $947000   *Dec 2021 - Nov 2023*

NIMH T32MH015330: Fellowship   *Baltimore, MD*

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   *Jun 2019 - May 2021*

Great Lakes STEM Scholarship   *College Station, TX*

$2500 AWARD   *July 2014*

Intramural Funding

CVM Advanced Developmental Training Travel Award   *College Station, TX*

UPTO $2500 FOR TRAVEL EXPENSIVES   *May 2015*

CVM Graduate Student Research Trainee Grant   *College Station, TX*

$5000 SEED MONEY RESEARCH AND SUPPLIES TO GENERATE PRELIMINARY DATA   *May 2014*

Texas A&M Institute for Genome Sciences and Society (WSGI) Graduate Traineeship   *College Station, TX*

COMPUTATIONAL ANALYSIS OF 50 IDIOPATHIC ANGELMAN SYNDROME PATIENTS; SUPPORTS HALF OF SALARY   *Sep 2013 - Aug 2014*

Presentations

Invited Talk/Oral Presentations

International Conference on Intelligent Biology and Medicine   *Philadelphia, PA*

ORAL: ``DRFETOOLS: DYNAMIC RECURSIVE FEATURE ELIMINATION FOR OMICS''   *August 2022*

MERIT Emerging Leaders Symposium   *New York, NY*

INVITED TALK: ``LARGE-SCALE COMPUTATIONAL GENOMICS: NEW, REUSE, AND DEVELOP''   *July 2022*

Johns Hopkins Postdoctoral Conference   *Baltimore, MD*

ORAL: ``COMPUTATIONAL ANALYSIS OF GENETIC AND TRANSCRIPTIONAL LANDSCAPES OF THE CAUDATE NUCLEUS IN SCHIZOPHRENIA''   *April 2019*

Defense Threat Reduction Agency   *Fort Belvoir, VA*

INVITED TALK: ``UNDERSTANDING THE IMPRINTING MECHANISM OF *Ube3a* FOR THERAPEUTIC INTERVENTION''   *July 2017*

Center for Computational Biology & Bioinformatics (UCSD)   *San Diego, CA*

INVITED TALK: ``UNDERSTANDING THE IMPRINTING MECHANISM OF *Ube3a* FOR THERAPEUTIC INTERVENTION''   *June 2017*

Inova Translational Medicine Institute   *Falls Church, VA*

INVITED TALK: ``THE *Ube3a* ANTISENSE TRANSCRIPT UNDERGOES EXTENSIVE PROCESSING AND IS SPATIOTEMPORALLY REGULATED IN THE BRAIN''   *June 2017*

Laboratory of Molecular Virology & Pathogenesis (MHRP)   *Silver Spring, MD*

INVITED TALK: ``THE *Ube3a* ANTISENSE TRANSCRIPT UNDERGOES EXTENSIVE PROCESSING AND IS SPATIOTEMPORALLY REGULATED IN THE BRAIN''   *June 2017*

Texas A&M Student Research Week   *College Station, TX*

ORAL: ``INVESTIGATING NOVEL *Ube3a* ISOFORM 4 IN THE IMPRINTING OF *Ube3a*''   *March 2016*

Genetics and Genomics (G2) Seminar Series   *College Station, TX*

INVITED TALK: ``INVESTIGATING NOVEL *Ube3a* ISOFORM 4 IN THE IMPRINTING OF *Ube3a*''   *February 2016*

College of Veterinary Medicine (CVM) Neuroscience *College Station, TX*

INVITED TALK: ``NEURODEVELOPMENTAL DISORDERS: INSTABILITY OF CHROMOSOME 15Q11-Q13'' *April 2015*

Texas A&M Student Research Week *College Station, TX*

ORAL: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING'' *February 2014*

Poster Presentations

Biology of Genomes *Cold Spring Harbor, NY*

POSTER: ``GENETIC AND ENVIRONMENTAL CONTRIBUTIONS TO ANCESTRY DIFFERENCES IN GENE EXPRESSION IN THE HUMAN BRAIN'' *May 2023*

American Society of Human Genetics *Los Angeles, CA*

POSTER: ``GENETIC AND ENVIRONMENTAL REGULATION OF CAUDATE NUCLEUS TRANSCRIPTOME IN SCHIZOPHRENIA'' *October 2022*

Society of Neuroscience *San Diego, CA*

POSTER: ``COMPUTATIONAL ANALYSIS OF GENETIC AND TRANSCRIPTIONAL LANDSCAPES OF THE CAUDATE NUCLEUS IN SCHIZOPHRENIA'' *November 2018*

Texas A&M Imaging Sciences Spotlight Series *College Station, TX*

POSTER: ``HIGH-THROUGHPUT DRUG SCREENING OF MOUSE EMBRYONIC STEM CELL-DERIVED NEURONS'' *January 2016*

College of Veterinary Medicine (CVM) Symposium *College Station, TX*

POSTER: ``HIGH-THROUGHPUT DRUG SCREENING OF MOUSE EMBRYONIC STEM CELL-DERIVED NEURONS'' *January 2016*

Texas A&M Health Science Center Symposium *College Station, TX*

POSTER: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING'' *April 2014*

Texas A&M Genetics Graduate Student Recruiting Symposium *College Station, TX*

POSTER: ``DEVELOPMENT OF EMBRYONIC STEM CELL-DERIVED NEURONAL CULTURES FOR HIGH-THROUGHPUT DRUG SCREENING'' *February 2014*

National Society of Black Engineers Fall Regional Conference *Rochester, NY*

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE'' *October 2011*

Biomedical Engineering Society Annual Meeting *Hartford, CT*

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE'' *October 2011*

NSF LSAMP/RPI SURP *Troy, NY*

POSTER: ``DRUG LOADING OF NAPROXEN SODIUM ON THE DEGRADATION CHARACTERISTICS OF POLYCAPROLACTONE'' *August 2011*

Walter Lincoln Hawkins '32 Graduate Research Conference *Troy, NY*

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION'' *April 2011*

Purdue Biomaterials Research Symposium *West Lafayette, IN*

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION'' *April 2010*

Life-Health Sciences Internship Poster Session *Indianapolis, IN*

POSTER: ``COMPARISON OF MCPM-TCP AND MCPM-HA CEMENT DEGRADATION'' *April 2010*

Annual Glenn Research Center Summer Poster Session *Cleveland, OH*

POSTER: ``BIOFUELS AS AN ALTERNATIVE FUEL SOURCE FOR AVIATION'' *August 2009*

Panels

Hopkins URM Accepted Applicants Virtual Visit *Virtual*

PANEL: ``HOPKINS GRADUATE ACCEPTED APPLICANTS VISIT FACULTY/FELLOWS PANEL'' *March 2021*

Johns Hopkins, School of Medicine; Second Look Visit *Baltimore, MD*

PANEL: ``JOHNS HOPKINS GRADUATE BIOMEDICAL EDUCATION PROGRAMS ACCEPTED APPLICANTS, FACULTY AND POSTDOCTORAL FELLOWS PANEL'' *March 2019*

Johns Hopkins, School of Medicine; Biomedical Scholars Association Event *Baltimore, MD*

PANEL: ``NAVIGATING AND PREPARING FOR A CONFERENCE'' *November 2018*

Teaching

LIBD rstats Club *Baltimore, MD*

JOURNAL CLUB SESSION LEADER *Apr 2020 - Currently*

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

Summary Undergraduate Research Virtual Exchange (SURVE)

Summer Undergraduate Research Virtual Exchange (SURVE)

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 Facility *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

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	**1st 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	**4th 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	**1st Place**, Walter Lincoln Hawkins '32 Graduate Research Conference: Poster Presentation
2011	**1st 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

Professional Activities

Lieber Institute for Brain Development Postdoctoral Association (LIBD-PDA)   *Baltimore, MD*
President   *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   *Baltimore, MD*
Co-President   *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   *Baltimore, MD*
Co-Chair   *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   *College Station, TX*
Treasurer   *Jul 2013 - Jul 2015*

- Organized meetings and annual symposium
- Managed and maintained budget

CVM Graduate Student Association   *College Station, TX*
Treasurer   *Jul 2014 - Jul 2015*

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

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

Professional Memberships

International Society for Computational Biology

Member   *2022--*

American Society of Human Genetics

Member   *2022--*

International Conference on Intelligent Biology and Medicine

Member   *2022--*

Society for Neuroscience

Member   *2017--2020*

National Society of Black Engineers

Member/Chapter Treasurer   *2010--2016*