Kynon Jade **Benjamin**

ASSOCIATE SCIENTIST · 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

Texas A&M University   *College Station, TX*
DOCTOR OF PHILOSOPHY IN GENETICS   *Aug 2012 - Aug 2017*
Advisor: Dr. Scott V Dindot

Rensselaer Polytechnic Institute   *Troy, NY*
BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING   *Aug 2010 - May 2012*

Indiana University Purdue University Indianapolis   *Indianapolis, IN*
BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING (*transferred*)   *Aug 2009 - May 2010*

Postgraduate training

Lieber Institute for Brain Development & Johns Hopkins University School of Medicine   *Baltimore, MD*
POSTDOCTORAL FELLOWSHIP   *Oct 2017 - Dec 2023*
Primary Mentors: Drs. Shizhong Han and Daniel R Weinberger

Academic appointments

Lieber Institute for Brain Development   *Baltimore, MD*
ASSOCIATE SCIENTIST   *Jan 2024 - Aug 2024*

Northwestern University Feinberg School of Medicine   *Chicago, IL*
ASSISTANT PROFESSOR   *Sep 2024 --*
Department of Psychiatry & Behavioral Sciences

Honors & Distinctions

2024	**Recipient**, Human Genetics Scholars Initiative Program
2024	**Recipient**, Scholarships to Enhance and Empower Diversity Fellowship
2023	**Recipient**, Cold Spring Harbor Laboratory Scientific Writing Retreat
2022	**Recipient**, International Conference on Intelligent Biology and Medicine: Travel Award
2022	**Recipient**, MERIT Emerging Leaders Symposium
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 - Dec 2023*

- 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

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--2023*

Society for Neuroscience

MEMBER *2017--2020*

National Society of Black Engineers

MEMBER/CHAPTER TREASURER *2010--2016*

Committees

2020--2023	**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--2023	**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*

Journal Reviewer

PLOS One

Two review per year *2023--2024*

PLOS Genetics

One review per year *2023--2024*

Bioinformatics Advances

One review per year *2022--2024*

Biological Psychiatry

One review per year *2022--2023*

Schizophrenia Bulletin

Two reviews per year *2021--2024*

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 - Jul 2024*

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 expenses *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*

Research Projects

Lieber Institute for Brain Development & JHUSOM, Departments of Neurology, Neuroscience, and Psychiatry *Baltimore, MD*

POSTDOCTORAL FELLOW: ``GENETIC AND ENVIRONMENTAL REGULATION OF GENE EXPRESSION IN NEUROPSYCHIATRIC DISORDERS'' *Oct 2017 - Dec 2023*

- 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
- Sex differences in schizophrenia across three brain regions (**Python, R, Machine learning**)
  - Identified sex-specific expression for schizophrenia in the postmortem brain
  - Trained, mentored, and supervised the differential analysis
  - Designed, developed, and implemented GPU-based sex interaction eQTL analysis
  - Designed, developed, and implemented fine-mapping and colocalization for sex-interaction eQTL
- 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): K99MD0169640

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

Publications

Published

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. ``Analysis of gene expression in the postmortem brain of neurotypical Black Americans reveals contributions of genetic ancestry.'' *Nature Neuroscience*. 2024. PMID: 38769152.

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. ``Sex affects transcriptional associations with schizophrenia across the dorsolateral prefrontal cortex, hippocampus, and caudate nucleus.'' *Nature Communications*. 2024. PMID: 38730231.

3. Tietze, E, Barbosa, AR, Araujo, BHS, Euclydes, V, Cho, HJ, Lee, YK, Feltrin, A, Spiegelberg, B, Lorenzetti, A, van de Leemput, J, Di Carlo, P, Sawada, T, Ursini, G, **Benjamin, KJ**, Brentani, H, Kleinman, JE, Hyde, TM, Weinberger, DR, McKay, R, Shin, JH, Paquola, ACM, and Jennifer A Erwin. ``Human archetypal pluripotent stem cell differentiates into trophoblast stem cells via endogenous BMP5/7 induction without transitioning through a naive state.'' *Scientific Reports*. 2024. PMID: 38332235.

4. Sawada, T, Barbosa, A, Araujo, B, McCord, AE, D'Ignazio, L, **Benjamin, KJM**, Sheehan, B, Zabolocki, M, Feltrin, A, Arora, R, Brandtjen, A, Kleinman, JE, Hyde, TM, Bardy, C, Weinberger, DR, Paquola, ACM, and Jennifer A Erwin. ``Recapitulation of perturbed striatal gene expression dynamics of donor's brains with ventral forebrain organoids derived from the same individuals with schizophrenia.'' *American Journal of Psychiatry*. 2023. PMID: 37915216.

5. **Benjamin, KJM**, Katipalli, T, and Apuã CM Paquola. ``dRFEtools: Dynamic recursive feature elimination for 'omics.'' *Bioinformatics*. 2023. PMID: 37632789.

6. **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.

7. 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.

8. 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.

9. 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.

Preprints

1. **Kynon JM Benjamin**. ``RFMix-reader: Accelerated reading and processing for local ancestry studies.'' *bioRxiv*. 2024. DOI: `https://doi.org/10.1101/2024.07.13.603370`.

2. **Benjamin, KJM**, Sauler, M, Poonyagariyagorn, H, and Enid R Neptune. ``Cell type-specific expression of angiotensin receptors in the human lung with implications for health, aging, and chronic disease.'' *bioRxiv*. 2024. PMID: 38948835.

3. Evans, TA, Feltrin, AS, **Benjamin, KJ**, Katipalli, T, Hyde, TM, Kleinman, JE, Weinberger, DR, Paquola, ACM, and Jennifer A Erwin. ``Lifespan analysis of repeat expression reveals age-dependent upregulation of HERV-K in the neurotypcial human brain.'' *medRxiv*. 2024. PMID: 38798538.

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

American Society of Human Genetics   *Washington, DC*

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

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

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