

# Violet M Kimble

PhD STUDENT · NEUROSCIENCE

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## EDUCATION

Yale University, New Haven, CT 2021 – Present  
Ph.D. in Interdepartmental Neuroscience

Drew University, Madison, NJ 2017 – 2021  
B.S. in Neuroscience, with Minor in Statistics

## RESEARCH EXPERIENCE

**Neuroscience Research Associate** Sept 2020 – July 2021  
Icahn School of Medicine at Mount Sinai, The Laboratory of Translational Psychiatry  
New York, New York

Supervisor: Dr. Drew Kiraly

- Investigate *the role of gut microbiome disruptions in a rodent model of opioid use disorder*
- Implement the Rank-Rank Hypergeometric Overlap test using the RRHO R package
- Attend bi-weekly lab meetings to update the lab on my progress

**Research Technician; Undergraduate Research Assistant** Jan 2018 – May 2021

Drew University, Department of Neuroscience  
Madison, New Jersey

Supervisor: Dr. Christina McKittrick

- Explore *the effect of housing conditions on anxiety behaviors and cocaine-induced sensitized locomotor activity in C57BL/6J mice*
- Investigated *the effects of enriched environment on learning and memory in Long Evans rats*
- Determined *the effects of early life stress on behaviors in adult rats*
- Conducted statistical and graphical analysis of behavioral data using R
- Prepared agendas and take minutes at weekly lab meetings

**Biostatistics Research Assistant** Sept 2020 – Jan 2021

University of Pennsylvania, Department of Biostatistics, Epidemiology, and Informatics  
Philadelphia, Pennsylvania

Supervisor: Dr. Mingyao Li

- Perform single-cell transcriptomic analysis of human retina using the Seurat R package
- Attend weekly lab meetings to update the lab on my progress

**Bioinformatics Research Associate** Sept 2020 – Jan 2021

The Broad Institute of MIT and Harvard, The Stanley Center  
Boston, Massachusetts

Supervisor: Dr. Beth Stevens

- Performed single-cell analysis using the Seurat R package to understand the role of disease-associated-microglia in the disease progression of Alzheimer's disease
- Attend weekly lab meetings to update the lab on my progress

**Summer Honors Undergraduate Research Program (SHURP) Fellow** June – Aug 2020

Harvard Medical School, Department of Medicine in the Division of Genetics  
Boston, Massachusetts

Supervisor: Dr. Martha Bulyk

- Use protein binding microarrays to perform analysis with the UPBM R package of human transcription factors isoforms

- Participating in virtual research lab meetings with PI and fellow researchers
- Attended seminars on various biomedical topics and personal development

### **Undergraduate Researcher**

May – Jul 2020

Baylor College of Medicine, Department of Medicine and Physiology  
Houston, Texas

Supervisor: Dr. Aladin Boriek

- Evaluated *in vivo kinematics of canine diaphragm muscle and lower rib cage*
- Implementing technical computing of the diaphragm using Matlab
- Utilizing Rhinoceros 3D to create 3D graphics of the diaphragm and rib cage
- Participating and presenting in virtual research lab meetings with PI and fellow researchers

### **Summer Undergraduate Research Fellow**

June – Aug 2019

The Jackson Laboratory, Department of Bioinformatics/Genomics

Bar Harbor, Maine

Supervisor: Dr. Elissa Chesler

- Performed *RNA-seq analysis of sex differences in the striatum cocaine response of NOD Mice*
- Executed statistical analysis and data visualization using R on Illumina RNA- seq
- Coursework: Human and Mammalian Genetics and Genomics: The 60th McKusick Short Course

### **PUBLICATIONS**

Saul MC, Bagley JR, Bailey LS, Datta U, Dickson PE, Dodd R, Gagnon LH, **Kimble VM**, Leonardo M, Kim S, Olson A, Roy T, Schoenrock SE, Wilcox T, Jentsch JD, Logan RW, McClung CA, Philip VM, Reinholdt LG, Rizzo SJS, Tarantino LM, Chesler EJ. (2020) Genetic variation and sex differences are missed opportunities for addiction biology. *bioRxiv* 2020.02.14.949784; doi: <https://doi.org/10.1101/2020.02.14.949784>

### **PRESENTATIONS**

Shapiro A, **Kimble VM**, Keren I, Salobo SN, Divekar R, Girona M, Kim MJ, Wilhelm J, McKittrick CR. Housing environment affects anxiety-like behaviors but not cocaine-induced sensitization in female and male mice. Virtual Poster (co-author); Society for Neuroscience. 2021 Nov 8-11

**Kimble VM**, Hofford RS, Kiraly DD. Microbiome knockdown differentially alters the cortical transcriptomic response to morphine in adolescent and adult mice.

- Virtual Poster: The Friedman Brain Institute 13th Annual Neuroscience Retreat. 2021 Apr 30
- Virtual Poster: Mind, Mood & Microbes: International conference on Microbiota-Gut-Brain axis. 2021 May 19

**Kimble VM**, Mattioli K, Phanor SK, Kimes PK, Inukai S, Hao T, Sheynkman GM, Bass JIF, Vidal M, Bulyk ML. Using Protein Binding Microarrays to analyze DNA binding differences of Human Transcription Factor Isoforms.

- Virtual Poster: Annual Biomedical Research Conference for Minority Students. 2020 Nov 9-13
- Virtual Poster: Society for Advancement of Chicanos/Hispanics and Native Americans in Science Virtual Conference. 2020 Oct 19-24
- Virtual Talk: Virtual Summer Honors Undergraduate Research Program Student Symposium. 2020 Aug 5
- Virtual Talk: Virtual Leadership Alliance National Symposium. 2020 Aug 1

Rodriguez N, **Kimble VM**, Ford A, Boriek A. Pressure Generating Capacity of the Diaphragm Is Compromised during Forceful Efforts at High Lung Volume in Dogs Discipline. Virtual Poster (co-author); Society for Advancement of Chicanos/Hispanics and Native Americans in Science Virtual Conference. 2020 Oct 19-24

Ford A, **Kimble VM**, Rodriguez N, Boriek A. Kinematics and Volume Displacement of Lower Rib Cage Is Modulated By Level of Muscle Activation of Diaphragm Muscle in Supine Dogs Discipline. Virtual Poster (co-author); Society for Advancement of Chicanos/Hispanics and Native Americans in Science Virtual Conference. 2020 Oct 19-24

Boriek Z, **Kimble VM**, Rodriguez N, Ford A, Lopez M, Wynd S, Boriek A, Liebschner M. In Vitro Mechanics of Skeletal Muscles of Abdominal Wall and Diaphragm, and Effects of Aging in Mouse. Virtual Poster (co-author); Society for Advancement of Chicanos/Hispanics and Native Americans in Science Virtual Conference. 2020 Oct 19-24

**Kimble VM**, Boriek A. In Vivo 3D Analysis of Kinematics of Canine Diaphragm Muscle and Lower Rib Cage.  
- Virtual Talk: Virtual Baylor SMART Student Symposium. 2020 Jul 31

**Kimble VM**, Saul M, Chesler E. RNA-seq Analysis of Sex Differences in the Striatum Cocaine Response of NOD Mice.  
- Talk: Drew University's TriBeta Honor Society Research Symposium. 2019 Apr 22; Madison, NJ.  
- Poster: Annual Biomedical Research Conference for Minority Students. 2019 Nov 13-16; Anaheim, CA.  
- Talk: The Jackson Laboratory's Summer Student Symposium. 2019 Aug 8; Bar Harbor, ME.

Glass K, **Kimble VM**, Jang S, Meyer C, Santana D, Santa Ana S, Shteyn D, Sirota S, Zhang Z, McKittrick C. Effects of Early Life Stress on Behaviors in Adult Rats.  
- Poster: Drew University's Day of Scholars. 2019 Apr 5; Madison, MJ

### INVITED TALKS

Neurogenomics: Genetics and Genomics in Neuroscience, BWCB Bioinformatics Bootcamp 2021. Virtual. 2021 Jul 22.

Pathways of Science from College Students' Perspective, Project Interlink for SENDforC's STEM Career Spotlight Series. Virtual. 2021 Apr 2.

Volunteering and Community Engagement during the Time of Covid-19, Engage NJ Student Conference "Keeping Volunteers Connected: Covid-19 Edition. Virtual. 2021 Feb 27.

My STEM Journey, Project Interlink for SENDforC's STEM Career Spotlight Series. Virtual. 2020 Sept 29.

### PROFESSIONAL EXPERIENCE

**Student Contact Tracer**, Drew University 2021  
**Technology Specialist**, Drew University 2017 – 2021

### TEACHING EXPERIENCE

**Substitute Teacher**, Perth Amboy School District Spring 2021  
**Neuroscience Research Methods Teaching Assistant**, Drew University Fall 2021  
**Statistics and Neuroscience Tutor**, Drew University 2020 – 2021

## HONORS AND AWARDS

<b>Hardin Prize</b> , Drew University, \$1,500	2021
<b>Tracey J. Shors Neuroscience Prize</b> , Drew University, \$1,500	2021
<b>Senior Recognition Award</b> , Drew University	2021
<b>The Gold D</b> , Drew University	2021
<b>Outstanding Presentation Award (Life Sciences, Genetics)</b> , 2020 SACNAS, \$1,000	2020
<b>Undergraduate Registration Award</b> , 2020 SACNAS, \$205	2020
<b>Undergraduate Travel Award</b> , 2019 ABRCMS, \$600	2019
<b>Travel Grant</b> , Center for Systems Neurogenetics of Addiction, \$1,000	2019
<b>Presidential Scholarship</b> , Drew University, \$15,000 annually	2017-2021
<b>Civic Engagement Scholarship</b> , Drew University, \$2,500 annually	2017-2021
<b>H.W. William &amp; Kathleen W. Caming Scholarship</b> , Drew University, \$5,500 annually	2017-2021
<b>Freddie and Ada Brown Encouragement Award</b> , American Chemical Society, \$200	2017

## PROFESSIONAL ASSOCIATIONS

ALBA Network	Active member: 2021 - Present
Society for Neuroscience	Active member: 2020 - Present
International Behavioral and Neurogenetics Society (IBANGS)	Active member: 2020 - Present

## MENTORSHIP

Extracurricular mentor  
Nazeli Moralez (Post-baccalaureate, University of Massachusetts, 2021 – 2022, via YBDIC-PATHS)

## LEADERSHIP

<b>YBDIC-PATHS</b> Mentor	2021 – Present
<b>SACNAS Chapter at Yale (YSACNAS)</b> Mentor	2021 – Present
<b>WMHC Communications Committee</b> Member	2021 – Present
<b>INP Outreach Committee</b> Member	2021 – Present
<b>Brain Awareness Day Planning Committee</b> Member	2021 – Present
<b>Black Women in Computational Biology Network (BWCB)</b> Membership Chair	2021 – Present
<b>STEM Mentors Outreach Committee</b> Member	2021 – Present
<b>Black, Indigenous and People of Color (BIPOC) Mentorship Program</b> Mentor	2020 – 2021
<b>Drew University Center for Civic Engagement</b> Civic Scholar	2017 – 2021

## SKILLS

*Computational:* SPSS; R, Python (intermediate proficiency); Matlab, Rhino, Bash (basic proficiency)  
*Certifications:* Basic Responsible Conduct of Research (RCR) + Animal Subjects and Human Subjects;  
Mice handling training for research at the Jackson Laboratory  
*Laboratory:* UV Spectroscopy; Cell culture; qPCR; Immunofluorescence; Western blot; Reporter gene assay; Restriction mapping; Horizontal and Agarose gel electrophoresis