

Gwenaëlle E. Thomas

(*Gwen-Eye-Yell Tow-Mah*)

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Campus location:

Bryan Research Building, Room 421

311 Research Dr

Durham NC, 27710

Education

Duke University

June 2022

Ph.D., Department of Neurobiology, Duke School of Medicine

Thesis: Characterizing antipsychotic drug behavioral and neurophysiological responses to psychotomimetic challenge

Advisors: Kafui Dzirasa, MD, Ph.D Marc Caron, Ph.D

Certificate for College Teaching

2022

University of Maryland, Baltimore County (UMBC)

2016

B.S., Biochemistry and Molecular Biology

Minor Psychology

Cum Laude

Awards, Fellowships, & Funding

2020 Dean's Award for Excellence in Mentoring, Duke University

2020

2020 Women's Weekend Scholar, Duke University

2020

Professional Development Awardee Neuroscience Scholars Program, Society for Neuroscience

2019

Borden Scholar, Duke University

2019

School of Medicine Graduate Student Representative

2019

American Association for the Advancement of Science (AAAS):

Catalyzing Advocacy in Science and Engineering (CASE) Workshop, Washington D.C.

Neuroscience Scholars Program Associate, Society for Neuroscience

2018

Duke Scholar in Molecular Medicine, Duke University

2018

National Science Foundation: **Graduate Research Fellow**

2018

Graduate Presenter Award, Initiative for Maximizing Student Diversity (IMSD)

2017

Mid-Atlantic Prep Research Symposium, Baltimore, MD

Biocore Scholar, Duke University

2016

Undergraduate Poster Award: Computational and Systems Biology,

2013

Annual Biomedical Research Conference for Minority Students (ABRCMS), Nashville, TN

National Society of Collegiate Scholar

2013

National Institute of Drug Abuse (NIDA) Scholar

2012

Meyerhoff Scholar, University of Maryland, Baltimore County (UMBC)

2012

Research Experience

Laboratory for Psychiatric Neuroengineering

2016

Duke University: Durham, NC

PI: Kafui Dzirasa, MD., Ph.D

Dept. of Psychiatry/Neurobiology/Biomedical Engineering

Ph.D Student

<p>Caron Lab Duke University: Durham, NC PI: Marc Caron, Ph. D Dept. of Cellular and Molecular Biology/Neurobiology <i>Ph.D Student</i></p>	2016
<p>Laboratory for Psychiatric Neuroengineering Duke University: Durham, NC PI: Dr. Kafui Dzirasa, MD., Ph.D <i>Undergraduate Research Assistant: Summer Research Opportunities Program (SROP)</i></p>	2015
<p>Dulawa Lab University of Chicago: Chicago, IL PI: Stephanie Dulawa, Ph.D Dept. of Psychiatry <i>Undergraduate Research Assistant: The Leadership Alliance</i></p>	2014
<p>Eppig Lab The Jackson Laboratory: Bar Harbor, ME PI: Janan Eppig, Ph.D Dept. of Bioinformatics/Genetics and Genomics <i>Undergraduate Research Assistant</i></p>	2013

Publications

Mague SD, Talbot A, ..., **Thomas GE**, ... , Dzirasa K. Brain-wide electrical dynamics encode individual appetitive social behavior. *Neuron*. 2022

Walder-Christensen K, **Thomas GE**, ..., Dzirasa K. Electome network factors: normalizing the rigor and reproducibility of brain networks. 2022 (In Review).

Ransay E, Chesnov K, **Thomas GE**, ... Dzirasa K. Long-term precision editing of neural circuits in mammals using engineered gap junction hemichannels. *Cell*. 2021 (In review: Available on Biorxiv)

Vu MT, David LK, **Thomas GE**, Vagwala M, ... Dzirasa K. Brain-wide electrical spatiotemporal dynamics encode reward anticipation. *Cell*. (In review: Available on Biorxiv)

Thomas GE, Tribble J. Veteran Overmedication and Suicide Prevention Act of 2019 (HR 100, 116th Congress) Brief. *Duke SciPol*. 2019.

Presented Abstracts

Thomas GE, Chandrasekhar R, Caron MG, Dzirasa K. Exploring the effects of biased dopaminergic signaling on antipsychotic efficacy. *Neurobiology Departmental Seminar Series*, Duke University, Durham, NC, 2022.

Thomas GE, Hughes DN, Waters D, Talbot A, Dzirasa K. Network Dynamics of Negative Valence Systems in Decision Making. *Society for Neuroscience*. Chicago, IL. 2019

Thomas GE, Fink AJ, Chandrasekhar R, Caron MG, Dzirasa K. Assessing Region Specific Neurophysiological Effects of UNC9994A Administration. *Neurobiology Departmental Retreat*, Duke University, Durham, NC, 2019.

Thomas GE, Vu MT, David LK, Adamson EJ, Dzirasa K. Elucidating Neuronal Firing during a Working Memory Task in a Mouse Model of Schizophrenia. *Mid-Atlantic Prep & IMSD Research Symposium*, Baltimore, MD, 2017.

Thomas GE, Vu MT, David LK, Adamson EJ, Dzirasa K. Elucidating Neuronal Firing during a Working Memory Task in a Mouse Model of Schizophrenia. *Biocore Research Symposium*, Duke University School of Medicine, Durham NC, 2017.

Vu MT, Burrus CJ, Vagwala M, Mague SD, David LK, Wang J, **Thomas GE**, Adcock RA, Soderling SH, Dzirasa K. Anticipatory and Reward-responsive Neural Activity of Mesocorticolimbic DA Circuitry in Mice Performing a Sample-to-match Task. *Society for Neuroscience Annual Meeting*, San Diego, CA, 2016.

Vu MT, Burrus CJ, Vagwala M, **Thomas GE**, David LK, Wang J, Mague S, Adcock RA, Soderling S, Dzirasa K. Altered Neural Firing Patterns Signal Cognitive Deficits in a Mouse Model of Schizophrenia. *Basic Science Day, Duke University School of Medicine*, Durham, NC, 2015.

Thomas GE, Vu MT, Burrus CJ, Dzirasa K. Investigating the Role of Neuronal Firing on Cognitive Performance in Arp2/3 Mice. *Biocore Research Symposium*, Duke University School of Medicine, Durham NC, 2015.

Thomas GE, Klenotich S, Huang E, Dulawa SJ. Optimizing Activity-Based Anorexia for Designer Receptors Exclusively Activated Under Designers Drugs (DREADDs). *Chicago Research Symposium*. Chicago, IL, 2014

Thomas GE, Klenotich S, Dulawa SJ. Optimizing Activity-Based Anorexia in C57Bl6/J Mice. *Leadership Alliance National Symposium (LANS)*, Stratford, CT, 2014

Thomas GE, Krupke DM, Bello Sue SM, Eppig JT. Finding Potential New Candidate Genes for the Negative and Cognitive Symptoms of Schizophrenia Using Mouse Phenomics and Bioinformatics. *Annual Biomedical Research Conference for Minority Students*, Nashville, TN, 2013.

Thomas GE, Krupke DM, Bello Sue SM, Eppig JT. Finding Potential New Candidate Genes for the Negative and Cognitive Symptoms of Schizophrenia Using Mouse Phenomics and Bioinformatics. *Basic Science Day, The Jackson Laboratory*, Bar Harbor, ME, 2013.

Professional Development and Service

Director of Outreach and Digital Marketing, Científico Latino	2020
Graduate Student Panelist, SPIRE Scholar Graduate School Panel , Duke University	2020
Graduate Student Panelist, Graduate Connections Panel , Duke University	2020
Discovering Career Options in Translational Science (DICOTS) Network , Duke University	2019-2020
Graduate School Mentorship Co-Coordinator, Científico Latino	2019-2020
School of Medicine Dean's Student Diversity & Inclusion Advisory Council , Duke University	2019
Speaker, The Graduate School Orientation , Duke University	2019
Panelist, Summer Research Opportunity Program (SROP) , Duke University	2019
Panelist, Sloan Scholar Orientation , Duke University	2018
Faculty Hiring Committee: Office of Biomedical Graduate Education (OBGE) , Duke University	2018
Mock Interviewer, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Duke University	2018
Student Representative, Neurobiology Diversity & Inclusion Committee , Duke University	2017-

Scientific Associations & Committees

Co-Organizer, BlackInNeuro	2020
President, Bouchet Society , Duke University	2019-
Member, American Association for the Advancement of Science (AAAS)	2019-
Writer, Science Policy Writer's Studio , Duke University	2019-
Graduate Student Member, Society for Black Brain Scientists (SB3s)	2018-
Recruitment Chair, Bouchet Society, Duke University	2017-2019
Member, National Alliance on Mental Illness (NAMI) , Durham, NC	2017-
Graduate Student Member, American Society for Pharmacology and Experimental Techniques (ASPET)	2017-

Graduate Student Member, Society for Neuroscience (SFN)	2016-
Student Member, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)	2015-
Member, National Alliance on Mental Illness (NAMI) , Baltimore, MD	2014-2016
Undergraduate Student Member, American Chemical Society (ACS)	2012-2016

Broader Impacts Service

Presenter, Virtual STEM Fair , Savvas Learning Company	2020
Panelist, The Greenwood Project , Silver Spring, MD	2020
Guest Speaker, Academy of Biotechnology , Washington D.C.	2020
Black History Month Scientific Exhibitor, Museum of Life and Science , Durham, NC	2020
Science Instructor, Balance Through Movement Yoga Studio , Chapel Hill, NC	2020
Graduate Student Panelist, Duke Days , Duke University	2019
Panelist, Sloan Scholar Orientation , Duke University	2019
Volunteer, Talent Identification Program (TIP) , Duke University	2019
Speaker, Duke Academy: Global Researcher Program , Duke University	2019
Nonprofit Volunteer, Science Policy Action Network (SPAN) , Chapel Hill, NC	2018
Volunteer, Talent Identification Program (TIP) , Duke University	2018
Judge, BOOST Science Symposium , Duke University	2018
Student Leader, DukeMED Elementary , Duke University	2018
Exhibitor, Hillside Hill School Science Fair , Durham, NC	2018
Graduate School Panelist, Women of Color in Graduate School , Lambda Omega Chapter of Delta Sigma Theta, Sorority Inc., Duke University	2017
Activity Leader, Brain Awareness Week , Duke University	2017
Activity Leader, Brain Awareness Week , UMBC	2016
Volunteer, Club Nova: Psychiatric Outpatient Facility , Chapel Hill, NC	2015
Student Leader, National Alliance on Mental Illness (NAMI) , UMBC	2014-2016
Student Leader, First Lego League , Baltimore, Maryland	2013-2015

Teaching and Mentoring

Instructor , Duke University Duke University Neuroscience Experienc Instructor: Gwenaelle Thomas, Ph.D Work with underrepresented minority and underserved high school students from Durham county public schools during an 8 week intensive summer research immersion. Provide a foundational overview of different techniques in neuroscience and their application to investigating biological systems and disease.	SUM-TermII
Instructor , Duke University HOUSECS 59-15: Becoming Science Instructor: David Malone, Ph.D Provide a foundational overview of how to engage in biomedical research to first- and second-year undergraduate students. Encourage students to think critically about Duke campus culture. Instruct insightful discussions with their peers on diversity, equity, and inclusion in science, technology, engineering, and math (STEM).	FA2019
Coach , Building Opportunities and Overtures in Science and Technology (BOOST), Duke University Director: Doug Coleman Work with underrepresented minority and underserved middle school students from Durham county public schools. Create a yearlong scientific research project to present at a science symposium. Perform science experiments to demonstrate various concepts in science, technology, engineering, and math.	2018-
Graduate Teaching Assistant , Duke University Neurobio 762: Neurobiology of Disease Instructors: James McNamara, MD, Anne West MD, Ph.D, Nicole Calakos MD, Ph.D, Kafui Dzirasa MD, Ph.D Met with instructors to create a course schedule Facilitated discussion about neurological diseases and psychiatric illnesses. Curated peer reviewed scientific articles and case studies as materials for course.	WIN2018

Teaching Assistant, University of Maryland, Baltimore County (UMBC) 2014-2015
 Biol 142: Foundations of Biology II
 Instructors: Jeffrey Lieps, Ph.D, Kevin Omland, Ph. D
 Modified course schedule by using previous semester feedback. Hosted weekly office hours, Directed review sessions.
 Created and graded assignments/assessments. Proctor all exams and finals

Chemistry Learning Assistant, University of Maryland, Baltimore County (UMBC) 2013-2015
 Chem 101, Chem 102, Chem 351, Chem 352: General Chemistry I/II, Organic Chemistry I/II
 Instructors: Tara Carpenter, Ph.D, Tiffany Gierasch Ph,D
 Worked with students individually or in groups to solve practice problems. Created weekly learning objectives for students. Reviewed practice problem sets. Directed review sessions for the American chemistry society final exam.

Mentor, Tutor 2013-2016
 Living Learning Classrooms (K- 8th grade), Baltimore, MD
 Engaged with Baltimore city youth in a safe, intellectually stimulating environment. Demonstrated various chemistry and biology techniques on science day. Prepared healthy snacks for the children in the community center. Supervised computer access and assisted with homework completion.

Trainees Supervised

Sophia Vera ^{^*} , Undergraduate Researcher , Duke University	2021
Kirill Chesnov, Rotating Graduate Student , Duke University	2020
Isabella Fallon [^] , Rotating Graduate Student , Duke University	2020
Zachary Rene [*] , Undergraduate Researcher , Duke University	2019
Frances Grace Ghinger [^] , Summer Research Opportunities Program (SROP) Student , Duke University	2019
Ashleigh Rawls ^{^*} , Rotating Graduate Student , Duke University	2018
Rachel Fisher ^{^*} , Summer Research Opportunities Program (SROP) Student , Duke University	2018
Alexandra Fink [^] , Undergraduate Honors Thesis , Duke University	2017-
Anna Matthews [^] , Undergraduate Researcher , Duke University	2017-2019
Travis Smith [*] , Summer Research Opportunities Program (SROP) Student , Duke University	2017
Ryan Bowman, Undergraduate Researcher , Duke University	2016

[^]Female Trainee ^{*}Under Represented Minority (URM) Trainee