

Michael J. Chumley

Texas Christian University
Department of Biology
2800 S. University Drive
TCU Box 298930
Fort Worth, Texas 76129 U.S.A.
Office (817) 257-8777
m.chumley@tcu.edu

EDUCATIONAL BACKGROUND

PhD, Immunology, University of Colorado Health Sciences Center, 2000
MS, Exercise Physiology, University of Wyoming, 1994
BS, Education, University of Wyoming, 1987

YEAR OF APOINTMENT TO THE UNIVERSITY AND RANK

Professor of Biology, Texas Christian University, Promoted 2020
Associate Professor of Biology, Texas Christian University, Promoted 2014
Assistant Professor of Biology, Texas Christian University, Appointed 2008

PREVIOUS RESEARCH POSITIONS

Instructor, University of Texas Southwestern Medical Center, Center for Developmental Biology, Dallas, TX. 2005–2008.
Postdoctoral Fellow, University of Texas Southwestern Medical Center, Center for Developmental Biology, Dallas, TX. 2001–2004.
Postdoctoral Fellow, University of Kansas, Department of Pharmacology and Toxicology, Lawrence, KS. 2000–2001.
Postdoctoral Fellow National Jewish Medical Research Center, Denver, CO. 2000.
Graduate Student, Immunology, National Jewish Medical Research Center and the University of Colorado Health Sciences Center, Denver, CO. Thesis Title: *Antigen Receptor Specificity Directs B-Cell Differentiation to the B1 and B2 Subsets*. 1995–2000.
Graduate Student, Exercise Physiology, University of Wyoming Department of Kinesiology and Health Sciences, Laramie, WY. Thesis Title: *The Immunoregulatory Effects of High-Intensity Interval Exercise*. 1992–1994.
Graduate research project conducted at the United States Olympic Training Center, Colorado Springs, CO.

TCU TEACHING ASSIGNMENTS (Composite)

Introduction to Biology II (BIOL 10503)
Cell, Molecular, and Developmental Biology (BIOL 30603)
Mammalian Physiology (BIOL 40403)
Immunology (BIOL 40254/70950)
Seminar in Stem Cell Biology (BIOL 40001/60910)
Immunobiology of Disease (BIOL 40803/70953)
Neurobiology of Aging (BIOL/PSYC 50401)

Assigned Problems in Biology – Advanced Microscopy (BIOL 70950)
Assigned Problems Biology – Advanced Cellular and Molecular Immunology (BIOL 70950)
Assigned Problems Biology – Histological Techniques (BIOL 70950)
Skills and Techniques in Biological Research (BIOL 60220)

PREVIOUS TEACHING EXPERIENCE

Instructor, University of Texas Southwestern Medical Center, Dallas, TX. Graduate Instructor. 2003-2007
Graduate Instructor, The Ohio State University, Columbus, OH. Physiology of Exercise I, Physiology of Exercise II, Diet and Exercise, Conditioning for Performance (Lab), Racquetball. 1994–1995.
Graduate Instructor, The University of Wyoming, Laramie, WY. Physiology of Exercise (Lab), Golf, Rock Climbing, Racquetball. 1992–1994.
Teacher, Lander Valley High School, Lander, WY. General Chemistry, General Physics, Advanced Placement Chemistry, Head Wrestling Coach, Assistant Volleyball Coach, Assistant Soccer Coach. 1989–1992.
Teacher, Kenneth Henderson Middle School, Garden City, KS. Life Sciences, Football, Wrestling, and Track Coach. 1988-1989.

FUNDED EXTERNAL RESEARCH SUPPORT

National Institutes of Health R15 (2R15GM123463-02), *Expanding the Facets of Multi-Functional Antioxidant Molecules Through Computational Design and Biological Tools*, 07/2025 – 07/2028, \$406,882 (Direct+Indirect), PIs: Dr. Kayla Green (TCU), Dr. Giri Akkaraju (TCU), Dr. Michael Chumley (TCU), and Dr. Ben Janesko (TCU)
National Institutes of Health R15 (2R15GM123463-02), *Building better antioxidants: virtual screening, synthesis, and characterization of multifunctional small molecules combining Nrf2 pathway activation and direct antioxidant activity*, 06/2022 – 05/2025, \$377,941 (Direct+Indirect), PIs: Dr. Kayla Green (TCU), Dr. Giri Akkaraju (TCU), Dr. Michael Chumley (TCU), and Dr. Ben Janesko (TCU)
National Institutes of Health R15 (1R15GM123463-01A1), *Targeting oxidative stress in neurodegeneration using pyridol-derived small molecules*, 06/2018 – 05/2022, \$378,914 (Direct+Indirect), PIs: Dr. Kayla Green (TCU), Dr. Giri Akkaraju (TCU), and Dr. Michael Chumley (TCU)
Texas Higher Education Coordinating Board Norman Hackerman Advanced Research Program (NHARP 003636–0003–2011), *Systemic Inflammation as a Treatable Risk Factor in the Onset of Alzheimer’s Disease*, 07/2012 – 08/2014, \$80,000
Christopher Reeve Paralysis Foundation (HBI–0302), *Eph-Ephrin Signaling in the Growth Cone*, 12/03–12/05, \$150,000
National Institutes of Health NRSA (F32–NS42526–02), *The Molecular Mechanisms of B-Class Eph Receptor and Ephrin Signal Transduction in Neuronal Development*, 12/01–12/03 \$42,000 year 1 and \$45,000 year 2.

EXTERNAL RESEARCH SUPPORT REQUESTED (Requested)

- United States Department of Agriculture (NIFA-AFRI-011134), *Dietary Patterns Restructure Gut Microbiome and Metabolome Profiles, Barrier Integrity, Hepatic Inflammation, and Brain Vascular Function*, Submitted 10/29/2025, \$645,063 (with Drs. McKale Montgomery, Gary Boehm, Elisa Maroquin, and Anton Naumov)
- Oklahoma Nathan Shock Center of Excellence in Aging Research, *Hepatic Oxidative Stress Associated with a Traditional American Diet*, Submitted 11/05, 2025, \$12,600.
- National Institutes of Health R15 (PA–13-313), *Pyridol derived small molecules targeting oxidative stress*, Submitted 02/25/2015, \$376,045 (with Dr. Kayla Green and Dr. Gary Boehm)
- Alzheimer's Association New Research Grant, *Assessing the in vivo effects of pyridol derived small molecules*, Submitted 05/04/2015, \$99,7924 (with Dr. Kayla Green)
- National Institutes of Health R15 (PA–13-313), *Pyridol derived small molecules targeting oxidative stress in neurodegeneration*, Submitted 06/25/14, \$390,161 (with Dr. Kayla Green and Dr. Gary Boehm)
- BrightFocus Foundation Alzheimer's Disease Research proposal, *Assessing cyclic amines' chemical activity in remediation of AD pathology*, Submitted 10/14/14, \$249,666 (with Dr. Kayla Green and Dr. Gary Boehm)
- Alzheimer's Association New Investigator Research Grant, *Assessing the in vivo effects of pyridol derived small molecules*, Submitted 02/25/14, \$99,914 (with Dr. Kayla Green)
- National Institutes of Health R15 (PA–12–006), *Hybrid Therapeutics of AD: N-Heterocyclic Amines with Lipoic Acid*, Submitted 06/25/13, \$381,660 (with Dr. Kayla Green)
- National Institutes of Health R15 (PA–12–006), *Pyclen Derivatives as Antioxidant Bimodal Therapeutics for Alzheimer's Disease*, Submitted 06/25/12, \$385,559. (with Dr. Kayla Green)
- National Institutes of Health R01. *Plaque Formation in the Brains of Aged EphB Mutant Mice: A New Alzheimer's Model*. Submitted as a consortium by Dr. Mark Henkemeyer, UT Southwestern Medical Center on 10/03/2012. \$2,937,974.00 (\$411,398.00 to Dr. Chumley and TCU)
- National Science Foundation Research Experience for Undergraduates (REU) Site: *Exposing Undergraduates to Science through Research in Ecology and Conservation Biology or Cellular and Molecular Biology*, \$203,200, Co-PI with Dr. Matthew Chumchal, 8/15/2010

INTERNAL RESEARCH SUPPORT

- The Transgenerational Effects of Diet on Gene Expression, Microbiome, and Prevention of Alzheimer's Disease. TCU Invests in Scholarship to M. Chumley. \$20,000. 06/01/22-05/31/23.
- B Cells in Alzheimer's Disease Prevention. TCU Invests in Scholarship to M. Chumley. \$25,000. 2016-2017
- Exercise-induced microglial phenotypic changes that reduce Alzheimer's pathology. TCU Research and Creative Activities, \$4,000, 2015-2016.
- Development of Molecular tools for studying the amyloid protein in Alzheimer's disease. TCU Invests in Scholarship. \$23,387. (Co-Investigator with Dr. Kayla Green, TCU Department of Chemistry) 2014-2015.

The Effects of Viral Inflammation on Neuronal Health and the Onset of Alzheimer Disease Pathology. TCU Research and Creative Activities Fund, \$4,000, 2012-2013.

Age-Related Changes in Heat Shock Protein Expression in the Hippocampus. TCU Research and Creative Activities Fund, \$3,795, 2011-2012.

Inflammation & Alzheimer's Disease. TCU Research and Creative Activities Fund, \$2,900, 2010-2011.

The Role of Adult-Derived Neurons in Learning and Memory. TCU Research and Creative Activities Fund and Junior Summer Research Program, \$10,000, 2009-2010.

INTERNAL RESEARCH SUPPORT TO MENTORED STUDENTS

123 total awards (TCU SERC, SGA, Honors, Pre-Health), \$184,052. 2009-current

GRADUATE THESIS/DISSERTATIONS DIRECTED or CO-DIRECTED

Logun Gunderson, PhD, Psychology (in progress)

Faith Zacharias, PhD, Psychology, (in progress)

Jessica Suarez Campos, PhD, Psychology (in progress)

Lacey Eddleman, PhD, Biology, (in progress)

Maddie Perkins, MS, Biology (in progress)

Morgan Bertrand, MS, Biology (2025). *Investigating Diet-Induced Metabolic Syndrome in a Typical American Versus Mediterranean Diet Model in C57BL/6J Mice.*

Vivienne Lacy, MS, Biology (2024). *Comparing the Effects of a Comprehensive Typical American Diet or Mediterranean Diet on Gut Microbiome Composition.*

Bridey Brown, MS, Biology (2024). *Ability of Diet to Induce Heritable Epigenetic Modifications Associated with Alzheimer's Disease.*

Paige Braden-Kuhle, PhD, Psychology (2023). *Food for Thought: Exploring Multigenerational Effects of a Comprehensive Mediterranean Diet on Cognition and Biomarkers of Alzheimer's Disease.*

Kelly Brice, PhD, Psychology (2023). *Exploring Chronic Sleep Loss and Typical American-Style Diet as Risk Factors for Alzheimer's Disease.*

Chelsy Mani, MS, Biology (2023). *Antioxidant Pathway as a Potential Therapy for Alzheimer's Disease.*

Paige Braden, MS, Psychology (2020). *Effects of a Plant-Based, Mediterranean-Style Diet on Behavior, Cognition, and Alzheimer's-Like Pathologies in C57BL/6J Mice.*

Julia Peterman, PhD, Psychology (2020). *Effects of Maternal Separation on Alzheimer's Disease-Related Pathology in Adult C57/BL/6J Mice.*

Kelly Brice, MS, Psychology (2019). *Chronic Sleep Restriction Exacerbates Alzheimer's Disease-Like Pathology and Alters Peripheral IL-1 β Expression in C57BL/6 Mice*

Christopher Hagen, MS, Biology (2019). *The Impact of Early Developmental Stress on Inflammation in Adulthood.*

Julia Peterman, MS, Psychology (2018). *Extended Isolation-Stress-Induced Exacerbation of Alzheimer's Disease Pathology in 5xFAD Mice.*

Jordon White, PhD, Psychology (2017). *The Role of Exogenously Administered Murine Amyloid-Beta in Disrupting Different Phases of the Learning Process: From Consolidation to Extinction.*

- Hailey Hayes, MS, Biology (2017). *Regulation of Nuclear Orphan Receptors Following Inflammation*
- Morgan Thompson, MS, Biology (2017). *A Potential Role for B-1 Lymphocytes in the Fight Against Alzheimer's Disease*
- Kelsey Paulhus, MS, Biology (2017). *Hydroxypyclyen as a Potential Therapeutic for Alzheimer's Disease*
- Jordon White, MS, Psychology (2015). *Exercise Induced Microglial-Dependent Clearance of A β Following Inflammation in Mice*
- Amy Hardy, MS, Biology (2015). *Do Repeated Bouts of Inflammation Lead to Sustained Elevation of Amyloid Beta in the Brain?*
- Marielle Kahn, PhD, Psychology (2014). *Alleviation of Central Accumulation of Amyloid-Beta and Prevention of Cognitive Dysfunction Following Peripheral Inflammation.*
- Scott Pearson, MS, Biology (2014). *Inflammation- and Age-Related Alterations in Tau Expression and Phosphorylation.*
- Ben Vinson, MS, Biology (2013). *A Role for Exercise in the Alleviation of Central Accumulation of Amyloid-Beta and Prevention of Cognitive Dysfunction Following Peripheral Inflammation*
- Jeffrey Mitchel, MS, Biology (2012). *Age-Related Changes in Heat Shock Protein Expression in the Hippocampus*
- Marielle Kahn, MS, Psychology (2011). *A Potential Role for Peripheral Inflammation in the Onset of Alzheimer's Disease-Related Pathology and Cognitive Deficits.*
- Shannon Gettel, MS, Biology (2010). *The Role of Adult Neurogenesis on Antidepressant-Induced Behavioral Changes.*
- Stephanie Wallace, MS, Biology (2009). *The Role of Adult-Derived Neurons in Learning and Memory.*

GRADUATE THESIS/DISSERTATION COMMITTEES

- Bridey Brown, MS, Biology (2024)
- Anna Alvarez, MS, Biology (2024)
- Chris Hagen, PhD, Psychology (2024)
- Logun Gunderson, MS, Psychology (2023)
- Chris Hagen, MS, Psychology (2022)
- Mike Levitt, MS, Kinesiology (2019)
- Maria Cardenas, MS, Kinesiology (2018)
- Micah Eimerbrink, PhD, Psychology (2017)
- Peter Bruns, MS, Biology (2017)
- Stephanie Turner, MS, Kinesiology, (2016)
- Catherine Urbano, PhD, Psychology (2015)
- Yuyang Huang, MS, Biology (2015)
- Leah Thornton, MS, Biology (2015)
- "Lily" Wu Wen Jing, MS, Biology, (2013)
- Catherine Urbano, MS, Psychology (2013)
- Chris Evans, MS, Biology (2013)
- Elizabeth Franks, MS, Biology (2013)
- Adam Jajtner, MS, Kinesiology (2012)
- Kenneth Christensen, MS, Kinesiology (2012)
- Mathew Unthank, MS, Kinesiology (2012)
- Jonathan Woodson, MS, Kinesiology (2012)

James Gleaton, MS, Biology, TCU (2011)
Kristina McLinden, PhD, Psychology, TCU (2011)
Dinko Kranjac, MS, Psychology, TCU (2011)
Kelyn Rola, MS, Kinesiology, MS, Kinesiology (2010)
Andrew Tarr, PhD, Experimental Psychology (2009)

UNDERGRADUATE DEPARTMENTAL HONORS RESEARCH MENTORED

Sara Gabriel, 2025, *Histological Presentation of White Adipose Tissue Following Typical American Diet or Mediterranean Diet Consumption in C57BL/6J Mice*
Gabiella Dover, 2025, *The Role of Diet on Liver Health and Neurodegenerative Disease Risk*
Caleb Pryor, 2025, *Examining Oxidative Stress Models in Mouse Neuron Ht-22 Cells to Explore Neuroprotective Effects of Antioxidant Compounds*
Mary Kate Skrabanek, 2025, *Investigating the Effects of Diet On Hepatic Gene Expression*
Raleigh Robinson, 2025, *The Influence of LPS-Treated BV2 Supernatants on Glutamate Induced Cell Death in HT22 Cells*
Allison Regan, 2023, *Investigating the Potential Therapeutic Effects of CBD In Vitro.*
Thien An Nguyen, 2023, *The Combined Effects of a Typical American-Style Diet and Chronic Sleep Restriction on Anxiety-Like Behavior in Mice.*
Alexandra Dunker, 2023, *Small Molecule, Big Role: Trimethylamine-N-Oxide and Alzheimer's Disease.*
Emily Van Dyck, 2023, *The Effects of a Mediterranean Versus Western Diet in C57BL/6 Mice on Inflammation in the Brain.*
Miranda Jelinek, 2023, *Exploring the Potential Therapeutic Effects of the Mediterranean Diet on the Liver-Brain Axis in C57BL/6 Mice.*
Morgan Bertrand, 2023, *The Effects of Antioxidant Therapy on Nuclear Factor Erythroid 2-Related Factor 2 (Nrf2) Expression in Phagocytic Cells.*
Margaret Vo, 2022, *The Effects of Antioxidant Therapy on the Oxidative Stress Pathway in Microglial Cells.*
Connie Linardos, 2022, *Pro-Inflammatory Cytokine Production by Bv2 Microglial Cells.*
Caroline O'Connor, 2022, *Anti-Inflammatory Effect of CBD on Cultured Microglia.*
Morgan Bussard, 2022, *Building a Better Mousetrap: Novel Object Location Versus Novel Object Recognition.*
Reagan Jones, 2022, *Fixation and Histological Techniques for the Rat Model of Alzheimer's Disease.*
Claire Middleton, 2022, *Mediterranean Diet as a Potential Intervention for Alzheimer's Disease.*
Brooke Boisvert, 2021, *The Impact of Early Life Stress on Inflammation and Epigenetics in Adulthood.*
Carly Alley, 2021, *Effects of Potent Antioxidant Compounds on Proinflammatory Cytokine Production in BV2 Microglial Cells.*
Charley Edgar, 2020, *Extinction Learning Deficits Develop Prior to Contextual Acquisition Deficits in Mice Expressing Alzheimer's Pathologies.*
Caitlyn Vilas, 2020, *The Effects of Therapeutic Antioxidant Compounds on the Production of Proinflammatory Cytokines in BV-2 Microglial Cells*
Anna C. Munster, 2020, *The Effect of High-Fat, Western Diet VS Plant-Based, Mediterranean Diet on Alzheimer's Pathology in Mice*

- Amanda Key, 2020, *The Effects of Chronic Unpredictable Stress on Cognitive Dysfunction and Alzheimer's Disease Pathology*
- Gabrielle Frediani, 2019, *The Effect of Amyloid Beta on Synapses*
- Sarah Nagel, 2019, *Quantifying Neuronal Synapses in 5xFAD Mice Utilizing Immunolabeling and Tissue Clearing*
- Jack Figg, 2019, *The Impact of Early Life Stress on Inflammation in Adulthood*
- Lauren Nakhleh, 2019, *Oxidative Stress as a Target for Alzheimer's Disease Therapeutics*
- Rachel Jordan, 2019, *Investigating the Role of Glymphatic Clearance of Amyloid Beta Through Exercise in C57BL6/J Mice*
- Sofia Lopez, 2019, *Attenuated Inflammation and Amyloid Beta Accumulation Following Repeated Inflammatory Events in Adult Male Mice*
- Brooke Hardiman, 2018, *Effects of Chronic Mild Sleep Restriction Following Repeated Endotoxin Exposure on Alzheimer's Disease Pathology in Healthy Wild Type Mice*
- Haley Moore, 2018, *Exposure to Early-Life Stress Exacerbates the Effects of Inflammation on Amyloid-Beta and Cognitive Dysfunction*
- Michaela O'Connor, 2018, *The Effects of Lipopolysaccharide on Dendritic Spine Density*
- Alexa Calcagno, 2018, *Effects of Exercise and an Enriched Environment on Alzheimer's Disease Pathology in Chronically Stressed Mice*
- Hannah Wilkerson, 2016, *The Role of Exercise in the Anti-Inflammatory Response of Microglial Cells from the Hippocampus*
- Alex Sanders, 2016, *The Effects of the Omega Three Fatty Acid, DHA, on Raw 264.7 Macrophage Cells*
- Eleanore Rominger, 2016, *The Role of B Cells in Targeting Alzheimer's Pathology*
- Hailey Hayes, 2015, *The Regulation of Nur77 in Response to Inflammation, Amyloid-Beta, and Exercise in an LPS-Induced Alzheimer's Disease Model.*
- Laurel Gardner, BS, Biology (2015), *The Role of Imatinib Methanesulfonate Salt-Mediated Reduction of Hippocampal Amyloid Beta in the Hyperphosphorylation of Tau.*
- Troy Gurney, 2015, *The Effectiveness of Hydroxypyridinone in the Dysaggregation of Amyloid Beta Plaques and Restoration of Cognitive Function in Alzheimer's Disease.*
- Stephanie Turner, 2014, *Bioactive Dendrimer Drugs as Potential Therapeutic Treatments for Inflammation.*
- Thomas Parnell, 2014, *How Early Life Inflammation Affects Brain Amyloid Beta Accumulation Following Subsequent Inflammation in Aged Mice.*
- Christine Riddle, 2014, *The Effects of EphB Receptor Tyrosine Kinases On Levels Of Amyloid-Beta Protein In The Hippocampus And The Progression Of Alzheimer's Disease.*
- Jessica Mussatto, 2014, *Analysis of amyloid beta clearance in exercised mice following inflammation.*
- Jigna Patel, 2013, *Could Your Cold be Giving You Alzheimer's? A Role for Amyloid Beta in Cognitive Dysfunction.*
- Courtney Bisson, 2013, *Could an Anti-Cancer Drug Be a Cure for Alzheimer's Disease? Effects of Imatinib Methanesulfonate on Inflammation-induced Amyloid Beta and Cognition.*
- Whitney Summers, 2012, *A Potential Role for Virus-Induced Inflammation in the Onset and Progression of Various Alzheimer's Disease Pathologies*

Rachel Lowry, 2011, *Effects of the Green Tea Catechin EGCG on Body Weight, Amyloid beta, and Cognitive Deficits*

Jennifer Haase, 2011, *Effects of EphB1 Knockout on Hippocampus-Based Learning Tasks in Mice*

Jay Blasingame, 2010, *Maternal Age and Its Effects on Neurogenesis in the Offspring of Mice*

UNDERGRADUATE STUDENTS MENTORED IN RESEARCH

Katie Robb, Neuroscience, Departmental Honors (Current)

Keller Williamson, Psychology, Departmental Honors (Current)

Zevin Sanchez, Biology, Biology, Departmental Honors, (Current)

Zayden Sanchez, Biology, Biology, Departmental Honors, (Current)

Ella Dammen, Biology, Biology, Departmental Honors, (Current)

Siri Bejjanki, Psychology, Departmental Honors (Current)

Katelyn Oxley, Combined Science (Current)

Sara Gabriel, BS Neuroscience, Departmental Honors (2025)

Gabriella Dover, BS Biology, Departmental Honors (2025)

Skye Duncan, BS, Neuroscience (2025)

Fabiana Pulido, Neuroscience (2025)

Raleigh Robinson, BS, Biology, Departmental Honors (2025)

Caleb Pryor, BS, Biology, Departmental Honors (2025)

Mary Skrabanek, BS, Biology Departmental Honors (2025)

Ashish Rana, BS, Neuroscience, (2025)

Taylor Ferguson Biology, BS, Biology (2025)

Sarah Grace White, BS, Psychology, (2024)

Hatice Buse Uras, BS, Neuroscience (2024)

Catherine Shoffner, BS, Neuroscience (2024)

Alia Hannon, Ronald E. McNair Scholar. BS, Biology (2024)

Thien An Nguyen, BS, Biology, Departmental Honors (2023)

Morgan Bertrand, BS, Neuroscience, Departmental Honors (2023)

Emily Van Dyck, BS, Biology, Departmental Honors (2023)

Miranda Jelinek, BS, Biology, Departmental Honors (2023)

Allison Regan, BS, Neuroscience, Departmental Honors (2023)

Paige Dean, BS, Neuroscience (2023)

Alexandra Dunker, BS, Neuroscience, Departmental Honors (2023)

Claire Middleton, BS, Biology, Departmental Honors (2022)

Morgan Bussard, BS, Biology, Departmental Honors (2022)

Connie Linardos, BS, Neuroscience, Departmental Honors (2022)

Margaret Vo, BS, Biology, Departmental Honors (2022)

Caroline O'Connor, BS, Biology, Departmental Honors (2022)

Reagan Jones, John V. Roach Honors College (2022)

Evan Chandlee, BS, Neuroscience (2022)

Shelby Kay Miller, BS, Psychology (2022)

Maddie Rzucidlo, BS, Psychology (2021)

Kassandra Goytia, BS, Biology (2021)

Carley Alley, BS, Biology, Departmental Honors (2021)

Brooke Boisvert, BS, Neuroscience, Departmental Honors (2021)

Filza Qureshi, BS, Biology (2021)

Sarah Patton, BS, Psychology (2021)

Gabrielle Salinas, BS, Psychology (2021)
Lauren McCue, BS, Psychology (2020)
Sienna Partipilo, BS, Psychology (2020)
Taylor Jamali, BS, Biology (2020)
Charley Edgar, BS, Biology, Departmental Honors (2020)
Frenki Behaj, BS, Biology (2020)
Madison Johnson, BS, Biology (2020)
Caitlyn Vilas, BS, Biology, Departmental Honors (2020)
Austin Williams, BS, Biology (2020)
Amanda Key, BS, Biology, Departmental Honors (2020)
Claire Munster, BS, Biology, Departmental Honors (2020)
Sofia Lopez, BS, Biology, Departmental Honors (2019)
Gabrielle Frediani, BS, Biology, Departmental Honors (2019)
Jack Figg, BS, Biology, Departmental Honors (2019)
Sarah Nagel, BS, Biology, Departmental Honors (2019)
Rachel Jordan, BS, Biology, Departmental Honors (2019)
Lauren Nakhleh, BS, Biology, Departmental Honors (2019)
Brooke Hardiman, BS, Biology, Departmental Honors (2019)
Rachael Donaldson, BS, Biology (2019)
Christian Franklin, BS, Biology (2019)
Mark Quiring, BS, Biology (2018)
Michaela O'Conner, BS, Biology, Departmental Honors (2018)
Alexa Calcagno, BS, Biology, Departmental Honors (2018)
Haley Moore, BS, Neuroscience, Departmental Honors (2018)
Meg Cooksey, BS, Biology (2018)
Taylor Hayes, BS, Biology, (2017)
Sruthi Reddy, BS, Biology, (2017)
Jake Powell, BS, Biology, (2017)
Terrul Ratcliff, BS, Biology, (2017)
Eleanore Rominger, BS, Biology, Departmental Honors (2016)
Hannah Wilkerson, BS, Biology, Departmental Honors (2016)
Laila Abdeljalil, BS, Biology, (2016)
Alex Sanders, BS, Biology, Departmental Honors (2016)
Mia Eriksson, BS, Psychology (2016)
Jenny Hagemeyer BS, Biology (2016)
Sydney DeSpain BS, Biology (2016)
Stephanie Turner, BS, Biology, Departmental Honors (2014)
Hailey Hayes, BS, Biology, Departmental Honors (2015)
Laurel Gardner, BS, Biology, Departmental Honors (2015)
Troy Gurney, BS, Biology, Departmental Honors (2015)
Thomas Parnell, BS, Biology, Departmental Honors (2015)
Kelsey Paulhus, BS, Biology (2015)
Jenelle Salisbury, BS, Biology (2015)
Christine Riddle, BS, Biology, Departmental Honors (2014)
Jessica Mussatto, BS, Biology (2014)
Jacob Ortega, BS, Biology, Departmental Honors (2014)
Brock Boren, BS, Biology (2014)
Ceci Canelos, BS, Biology (2014)
Tanner Robertson, BS, Biology (2014)
Courtney Bisson, BS, Biology, Departmental Honors (2013)

Jigna Patel, BS, Biology, Departmental Honors (2013)
Whitney Summers, BS, Biology, Departmental Honors (2012)
Clayton Fox (BS, Biology (2012)
Adam Furman, BS, Biology (2012)
Hayden Fuller, BS, Biology (2012)
Kaitlyn Vann, BS, Biochemistry (2012)
Ashley Bolin, BS, Biology (2012)
Chris Trinh, BS, Biology (2012)
Jessica Nouri, BS, Biology (2012)
Rachel Lowry, BS, Biology, Departmental Honors (2011)
Jennifer Haase, BS, Biology, Departmental Honors (2011)
Rudy Cedillos, Ronald E. McNair Scholar. BS, Biology (2011)
Mary Martin, BS, Biology (2011)
Jay Blasingame, BS, Biology, Departmental Honors (2010)
Jeff Mitchell, BS, Biology (2010)
Chris Alonzo, BS, Biology (2010)
Marina Guerra, BS, Biology (2010)
Kelsey Shideler, BS, Biology (2010)
Emily Hamm, BS, Biology (2009)
Addison Whetstone, BS, Biology (2009)

HIGH SCHOOL STUDENTS MENTORED IN RESEARCH

Kylie Fuller, Junior, Weatherford High School, Weatherford, TX (Summer 2018)
Audrey Green, Prosper High School, Prosper, TX (Summer 2017)
Lakshmi Menon, Senior, Flower Mound High School, Flower Mound, TX, (Summer 2013)
Parker Berg, Senior, RL Paschal High School, Fort Worth, TX (Spring/Summer 2010)

PRESENTATION OF SCHOLARLY AND CREATIVE ACTIVITIES (*denotes TCU graduate student, ** denotes TCU undergraduate student, bold denotes TCU faculty)

Refereed Publications

Braden-Kuhle PN, Lacy VA, Brice KN, Bertrand ME, Uras HB, Shoffner C, Fischer BE, Rana A, Willis JL, Boehm GW, Chumley MJ. A Mediterranean-style diet protects against cognitive and behavioral deficits, adiposity, and Alzheimer's disease-related markers, compared to a macronutrient-matched typical American diet in C57BL/6J mice. *J Alzheimers Dis.* 2025 Apr;104(3):678-697. doi: [10.1177/13872877251319467](https://doi.org/10.1177/13872877251319467). PMID: 40007076

Brice KN*, Braden-Kuhle, PN*, Miller, SK**, Regan, A**, Lacy, V*, **Chumley, MJ, Boehm, GW**. Chronic sleep loss alters the inflammatory response and BDNF expression in C57BL/6J Mice. *J Neuroimmunol.* Nov 15; 396:578462. Epub 2024. doi: [10.1016/j.jneuroim.2024.578462](https://doi.org/10.1016/j.jneuroim.2024.578462). PMID: 39378741

- Mancilla VJ, Braden-Kuhle PN*, Brice KN*, Mann AE, Williams MT, Shang Y, **Chumley MJ**, Barber, RC, White, SN, **Boehm GW**, Allen, MS. A Synthetic Amino Acid Diet Leads to Microbiome Dysbiosis, Reduced Colon Length, Inflammation, and Altered Locomotor Activity in C57BL/6J Mice. *Microorganisms*. 2023 Nov 11, 11(11):2694. [doi: 10.3390/microorganisms11112694](https://doi.org/10.3390/microorganisms11112694). [PMID: 38004705](https://pubmed.ncbi.nlm.nih.gov/38004705/).
- Brice KN*, Hagan CW*, Peterman JL* Figg JW**, Braden PN*, **Chumley MJ**, **Boehm GW**. Chronic sleep restriction increases soluble hippocampal Ab-42 and impairs cognitive performance. *Physiol Behav*. 2020 Nov 1;226:113128. [doi: 10.1016/j.physbeh.2020.113128](https://doi.org/10.1016/j.physbeh.2020.113128). Epub 2020 Aug 11. [PMID: 32791178](https://pubmed.ncbi.nlm.nih.gov/32791178/)
- Peterman JL*, White JD*, Calcagno A**, Hagen C*, Quiring M**, Paulhus K*, Gurney T**, Eimerbrink MJ*, **Curtis M**, **Boehm GW**, **Chumley MJ**. Prolonged isolation stress accelerates the onset of Alzheimer's disease-related pathology in 5xFAD mice despite running wheels and environmental enrichment. *Behav Brain Res*. 2020 Feb 3;379:112366. [doi: 10.1016/j.bbr.2019.112366](https://doi.org/10.1016/j.bbr.2019.112366). Epub 2019 Nov 16. [PMID: 31743728](https://pubmed.ncbi.nlm.nih.gov/31743728/).
- White JD*, Urbano CM*, Taylor JO**, Peterman JL*, Cooksey M**, Eimerbrink M*, Eriksson MD*, **Cooper BG**, **Chumley MJ**, **Boehm GW**. Intraventricular murine A β infusion elicits hippocampal inflammation and disrupts the consolidation, but not retrieval, of conditioned fear in C57BL6/J mice. *Behav Brain Res*. 2020 Jan 27;378:112303. [doi: 10.1016/j.bbr.2019.112303](https://doi.org/10.1016/j.bbr.2019.112303). Epub 2019 Oct 14. [PMID: 31622640](https://pubmed.ncbi.nlm.nih.gov/31622640/).
- Johnston HM*, Pota K*, Barnett MM**, Kinsinger O**, Braden P*, Schwartz TM**, Hoffer E**, Sadagopan N**, Nguyen N**, Yu Y, Gonzalez P*, Tircsó G, Wu H, **Akkaraju G**, **Chumley MJ**, **Green KN**. Enhancement of the Antioxidant Activity and Neurotherapeutic Features through Pyridol Addition to Tetraazamacrocyclic Molecules. *Inorg Chem*. 2019 Dec 16;58(24):16771-16784. [doi: 10.1021/acs.inorgchem.9b02932](https://doi.org/10.1021/acs.inorgchem.9b02932). Epub 2019 Nov 27. [PMID: 31774280](https://pubmed.ncbi.nlm.nih.gov/31774280/).
- Eimerbrink, M.J.* , Pendry, R.J.** , Hodges, S.M.** , Wiles, J.D.* , Peterman, J.L.* , White, J.D.** , Hayes H.B.* , **Chumley, M.J. & Boehm, G.W**, 2019, The α 5-GABAAR inverse agonist MRK-016 upregulates hippocampal BDNF expression and prevents cognitive deficits in LPS-treated mice, despite elevations in hippocampal A β . *Behav Brain Res*. 359: p. 871-877. [doi: 10.1016/j.bbr.2018.07.013](https://doi.org/10.1016/j.bbr.2018.07.013). Epub 2018 Jul 19. [PMID: 30031883](https://pubmed.ncbi.nlm.nih.gov/30031883/).
- White JD*, Eimerbrink MJ*, Hayes HB**, Hardy A*, Van Enkevort EA*, Peterman JL*, **Chumley MJ**, Boehm GW, 2016, Hippocampal A β expression, but not phosphorylated tau, predicts cognitive deficits following repeated peripheral poly I:C administration. *Behav Brain Res*. 313: p. 219-225. [doi: 10.1016/j.bbr.2016.07.032](https://doi.org/10.1016/j.bbr.2016.07.032). Epub 2016 Jul 19. [PMID: 27449203](https://pubmed.ncbi.nlm.nih.gov/27449203/).
- Gardner LE**, White JD*, Eimerbrink MJ*, Boehm GW, **Chumley MJ**, 2016, Imatinib methanesulfonate reduces hyperphosphorylation of tau following repeated peripheral exposure to lipopolysaccharide, *Neuroscience*. 331: p. 72-7. [doi: 10.1016/j.neuroscience.2016.06.007](https://doi.org/10.1016/j.neuroscience.2016.06.007). Epub 2016 Jun 16. [PMID: 27320209](https://pubmed.ncbi.nlm.nih.gov/27320209/).
- Eimerbrink MJ*, Kranjac D*, St Laurent C**, White JD*, Weintraub MK*, Pendry RJ**, Madigan R**, Hodges SL**, Sadler LN**, **Chumley MJ**, Boehm GW, 2016, Pre-treatment of C57BL6/J mice with the TLR4 agonist monophosphoryl lipid A prevents LPS-induced sickness behaviors and elevations in dorsal hippocampus interleukin-1 β , independent of interleukin-4 expression, *Behav Brain Res*. 302: p. 171-4. [doi: 10.1016/j.bbr.2016.01.012](https://doi.org/10.1016/j.bbr.2016.01.012). Epub 2016 Jan 8. [PMID: 26778788](https://pubmed.ncbi.nlm.nih.gov/26778788/).

- Eimerbrink MJ*, White JD*, Pendry RJ**, Sadler LN**, Wiles JD**, Weintraub MK*, **Chumley MJ**, and Boehm GW. Administration of the inverse benzodiazepine agonist MRK-016 rescues acquisition and memory consolidation following peripheral administration of bacterial endotoxin. *Behav Brain Res.* 2015, 288, 50-53. [doi: 10.1016/j.bbr.2015.03.048](https://doi.org/10.1016/j.bbr.2015.03.048). Epub 2015 Mar 28. [PMID: 25823763](https://pubmed.ncbi.nlm.nih.gov/25823763/).
- Weintraub MK*, Kranjac D*, Eimerbrink MJ*, Pearson, SJ*, Vinson BT*, Patel, J**, Summers WM**, Parnell, TB**, Boehm GW, **Chumley MJ**. Peripheral administration of polyI:C leads to increased hippocampal amyloid-beta and cognitive deficits in a non-transgenic mouse. *Behav Brain Research.* 2014, 266, 183-187. [doi: 10.1016/j.bbr.2014.03.009](https://doi.org/10.1016/j.bbr.2014.03.009). Epub 2014 Mar 12. [PMID: 24631395](https://pubmed.ncbi.nlm.nih.gov/24631395/).
- Weintraub MK*, Bisson CM.**, Nouri JN**, Vinson BT*, Kranjac D.*, Eimerbrink MJ*, Boehm GW, **Chumley MJ**. Imatinib Methanesulfonate Reduces Hippocampal Amyloid-Beta and Restores Cognitive Function Following Repeated Endotoxin Exposure. *Brain Behav Immun.* 2013, 33, 24-28. [doi: 10.1016/j.bbi.2013.05.002](https://doi.org/10.1016/j.bbi.2013.05.002). Epub 2013 May 9. [PMID: 23665252](https://pubmed.ncbi.nlm.nih.gov/23665252/).
- Kranjac D*, Koster KM**, Weintraub MK*, Eimerbrink MJ*, Womble BM**, Cooper BG, **Chumley MJ**, Boehm GW. Peripheral administration of d-cycloserine rescues memory consolidation following bacterial endotoxin exposure. *Behav Brain Res.* 2013. 243: p. 38–43. [doi: 10.1016/j.bbr.2012.12.053](https://doi.org/10.1016/j.bbr.2012.12.053). Epub 2013 Jan 4. [PMID: 23295393](https://pubmed.ncbi.nlm.nih.gov/23295393/).
- Kahn MS*, Kranjac D*, Alonzo CA**, Haase JH**, Cedillos RO**, McLinden KA*, Boehm GW, and **Chumley MJ**. Prolonged elevation in hippocampal Aβ and cognitive deficits following repeated endotoxin exposure in the mouse. *Behav Brain Res.* 2012. 229(1): p. 176–84. [doi: 10.1016/j.bbr.2012.01.010](https://doi.org/10.1016/j.bbr.2012.01.010). Epub 2012 Jan 12. [PMID: 22249135](https://pubmed.ncbi.nlm.nih.gov/22249135/).
- Kranjac D*, McLinden KA*, Koster KM**, Kaldenbach DL**, **Chumley MJ**, and Boehm, GW. Peripheral administration of poly I:C disrupts contextual fear memory consolidation and BDNF expression in mice. *Behav Brain Res.* 2012. 228(2): p. 452–7. [doi: 10.1016/j.bbr.2011.12.031](https://doi.org/10.1016/j.bbr.2011.12.031). Epub 2011 Dec 27. [PMID: 22222172](https://pubmed.ncbi.nlm.nih.gov/22222172/).
- McLinden K*, Kranjac D*, Deodati LE **, Kahn M **, **Chumley MJ**, Boehm GW. Age Exacerbates Sickness Behavior Following exposure to a viral mimetic. *Physiol Behav.* 2012. 105(5): p. 1219–25. [doi: 10.1016/j.physbeh.2011.04.024](https://doi.org/10.1016/j.physbeh.2011.04.024). Epub 2011 Apr 28. [PMID: 21549726](https://pubmed.ncbi.nlm.nih.gov/21549726/).
- Kranjac D*, McLinden KA*, Deodati LE**, Papini MR, **Chumley MJ**, Boehm GW. Peripheral bacterial endotoxin administration triggers both memory consolidation and reconsolidation deficits in mice, *Brain Behav Immun.* 2012. 228(2): p. 452–7. [doi: 10.1016/j.bbi.2011.08.005](https://doi.org/10.1016/j.bbi.2011.08.005). Epub 2011 Aug 26. [PMID: 21889586](https://pubmed.ncbi.nlm.nih.gov/21889586/).
- Genander M, Halford MM, Xu NJ, Eriksson M, Yu Z, Qiu Z, Martling A, Greicius G, Thakar S, Catchpole T, **Chumley MJ**, Zdunek S, Wang C, Holm T, Goff SP, Pettersson S, Pestell RG, Henkemeyer M, Frisén J. Dissociation of EphB2 signaling pathways mediating progenitor cell proliferation and tumor suppression. *Cell.* 2009, 139(4):679–92. [doi: 10.1016/j.cell.2009.08.048](https://doi.org/10.1016/j.cell.2009.08.048). [PMID: 19914164](https://pubmed.ncbi.nlm.nih.gov/19914164/); [PMCID: PMC2786256](https://pubmed.ncbi.nlm.nih.gov/19914164/).
- García-Ceca J, Jiménez E, Alfaro D, Cejalvo T, **Chumley MJ**, Henkemeyer M, Muñoz JJ, Zapata AG. On the role of Eph signalling in thymus histogenesis; EphB2/B3 and the organizing of the thymic epithelial network. *Int J Dev Biol.* 2009, 53(7): 971–82. [doi: 10.1387/ijdb.082702jg](https://doi.org/10.1387/ijdb.082702jg). [PMID: 19598115](https://pubmed.ncbi.nlm.nih.gov/19598115/).

- Chumley MJ**, Catchpole T, Silvany RE, Kernie SG, Henkemeyer M. EphB receptors regulate stem/progenitor cell proliferation, migration, and polarity during hippocampal neurogenesis. *J Neurosci*. 2007, 27(49):13481–13490. doi: [10.1523/JNEUROSCI.4158-07.2007](https://doi.org/10.1523/JNEUROSCI.4158-07.2007). PMID: [18057206](https://pubmed.ncbi.nlm.nih.gov/18057206/); PMCID: [PMC6673089](https://pubmed.ncbi.nlm.nih.gov/PMC6673089/).
- Dravis C, Wu T, **Chumley MJ**, Yokoyama N, Wei S, Wu DK, Marcus DC, Henkemeyer M. EphB2 and Ephrin-B2 Regulate the Ionic Homeostasis of Vestibular Endolymph. *Hear Res*. 2007. 223(1–2): 93–104. doi: [10.1016/j.heares.2006.10.007](https://doi.org/10.1016/j.heares.2006.10.007). Epub 2006 Dec 8. PMID: [17158005](https://pubmed.ncbi.nlm.nih.gov/17158005/).
- Holmberg J, Genander M, Halford M, Anneren C, Sondell M, **Chumley MJ**, Silvany RE, Henkemeyer M, Frisén J. EphB receptors coordinate migration and proliferation in the intestinal stem cell niche. *Cell*. 2006, 125(6): 1151–1163. doi: [10.1016/j.cell.2006.04.030](https://doi.org/10.1016/j.cell.2006.04.030). PMID: [16777604](https://pubmed.ncbi.nlm.nih.gov/16777604/).
- Cowan CA, Yokoyama N, Saxena A, **Chumley MJ**, Silvany RE, Baker LA, Srivastava D, Henkemeyer M. "Ephrin-B2 reverse signaling is required for axon pathfinding and cardiac valve formation but not early vascular development." *Dev Biol*. 2004, 271(2): 263–71. doi: [10.1016/j.ydbio.2004.03.026](https://doi.org/10.1016/j.ydbio.2004.03.026). PMID: [15223333](https://pubmed.ncbi.nlm.nih.gov/15223333/).
- Dravis C, Yokoyama N, **Chumley MJ**, Cowan CA, Silvany RE, Shay J, Baker LA, Henkemeyer M. "Bidirectional signaling mediated by ephrin-B2 and EphB2 controls urorectal development." *Dev Biol*. 2004, 271(2): 272–90. doi: [10.1016/j.ydbio.2004.03.027](https://doi.org/10.1016/j.ydbio.2004.03.027). PMID: [15223334](https://pubmed.ncbi.nlm.nih.gov/15223334/).
- Himanen JP, **Chumley MJ (Co-First Author)**, Lackmann M, Li C, Barton WA, Jeffrey PD, Vearing C, Geleick D, Feldheim DA, Boyd AW, Henkemeyer M, Nikolov DB. "Repelling class discrimination: ephrin-A5 binds to and activates EphB2 receptor signaling." *Nat Neurosci*. 2004, 7(5): 501–9. doi: [10.1038/nn1237](https://doi.org/10.1038/nn1237). Epub 2004 Apr 25. PMID: [15107857](https://pubmed.ncbi.nlm.nih.gov/15107857/).
- Ait-Azzouzene D, Skog P, Retter M, Kouskoff V, Hertz M, Lang J, Kench J, **Chumley M**, Melamed D, Sudaria D, Gavin A, Martensson A, Verkoczy L, Duong B, Vela J, Nemazee D. "Tolerance-induced receptor selection: scope, sensitivity, locus specificity, and relationship to lymphocyte-positive selection." *Immunol Rev*. 2004, 197: 219–30. doi: [10.1111/j.0105-2896.2004.0106.x](https://doi.org/10.1111/j.0105-2896.2004.0106.x). Erratum in: *Immunol Rev*. 2004 Aug;200:272. PMID: [14962198](https://pubmed.ncbi.nlm.nih.gov/14962198/).
- Halford MM, **Chumley MJ**, Henkemeyer M. "Ephective endocytosis." *Dev Cell*. 2003, 5(4): 536–7. doi: [10.1016/s1534-5807\(03\)00299-5](https://doi.org/10.1016/s1534-5807(03)00299-5). PMID: [14536005](https://pubmed.ncbi.nlm.nih.gov/14536005/)
- Sprott KM, **Chumley MJ**, Hanson JM, Dobrowsky RT. "Decreased activity and enhanced nuclear export of CCAAT-enhancer-binding protein beta during inhibition of adipogenesis by ceramide." *Biochem J*. 2002, 365(Pt 1): 181–91. doi: [10.1042/BJ20020215](https://doi.org/10.1042/BJ20020215). PMID: [12071851](https://pubmed.ncbi.nlm.nih.gov/12071851/); PMCID: [PMC1222668](https://pubmed.ncbi.nlm.nih.gov/PMC1222668/).
- Chumley MJ**, Dal Porto JM, Cambier JC. "The unique antigen receptor signaling phenotype of B-1 cells is influenced by locale but induced by antigen." *J Immunol*. 2002, 169(4): 1735–43. doi: [10.4049/jimmunol.169.4.1735](https://doi.org/10.4049/jimmunol.169.4.1735). PMID: [12165494](https://pubmed.ncbi.nlm.nih.gov/12165494/).
- Chumley MJ**, Dal Porto JM, Kawaguchi S, Cambier JC, Nemazee D, Hardy RR. "A VH11V kappa 9 B cell antigen receptor drives generation of CD5+ B cells both in vivo and in vitro." *J Immunol*. 2000, 164(9): 4587–93. doi: [10.4049/jimmunol.164.9.4586](https://doi.org/10.4049/jimmunol.164.9.4586). PMID: [10779761](https://pubmed.ncbi.nlm.nih.gov/10779761/).

Papers Presented At Scholarly Meetings

- Gunderson, Logun*, Bertrand, Morgan*, Boehm, Gary, & **Chumley, Michael.** (2024) Impact of Food Insecurity on Behavior and Inflammatory Response in Old-Age Mice. Society for Neuroscience Annual Conference, Chicago, IL.
- Bertrand, Morgan*, Gunderson, Logun*, Boehm, Gary, & **Chumley, Michael.** (2024). Comparing the Effects of Macronutrient-Matched Typical American and Mediterranean Diets on Alzheimer's-Related Markers Including Metabolic Dysfunction. Society for Neuroscience Annual Conference, Chicago, IL.
- Lacy, V.A.*, Braden-Kuhle, P. N.*, Bertrand, M.E.*, Brice, K. N.*, **Boehm, G.W., & Chumley, M.J.** (2023). Exploring the Effects of a Comprehensive Mediterranean Diet to a Typical American Diet on Peripheral Inflammation and the Expression of Inflammation-Related Genes in the Dorsal Hippocampus. Society for Neuroscience Annual Conference, Washington, D.C.
- Braden-Kuhle, P. N.*, Lacy, V.A.*, Brice, K. N.*, Bertrand, M.E.*, Shoffner, C.**, Uras, Buse**, **Chumley, M. J., & Boehm, G. W.** (2023). Exploring the Effects of a Comprehensive Mediterranean Diet versus a Macronutrient-Matched Typical American Diet on Spatial Memory and Behavior in C57BL/6 Mice. Society for Neuroscience Annual Conference, Washington, D.C.
- Bertrand, M.E.*, Braden-Kuhle, P. N.*, Lacy, V.A.*, Brice, K. N.*, **Boehm, G.W., & Chumley, M.J.** (2023). Long-term Mediterranean diet consumption protects against soluble amyloid-beta in the brain and reduces liver lipid deposition, in comparison to a typical American diet. Society for Neuroscience Annual Conference, Washington, D.C.
- Hannon, A.**, Bertrand, M.E.*, Lacy, V.A.*, Braden-Kuhle, P. N.*, **Boehm, G.W., & Chumley, M.J.** (2023). HT-22 Hippocampal Neurons as a Model System to Study Oxidative Stress and the Nrf2 pathway. National Diversity in STEM Annual Conference, Portland, OR.
- Hannon, A.**, Bertrand, M.E.*, Lacy, V.A.*, Braden-Kuhle, P. N.*, **Boehm, G.W., & Chumley, M.J.** (2023). HT-22 Hippocampal Neurons as a Model System to Study Oxidative Stress and the Nrf2 pathway. Baylor University McNair Research Conference, Baylor University, Waco, TX.
- Brice, K. N.*, Braden-Kuhle, P. N.*, Miller, S. K.*, Regan, A.**, **Chumley, M. J., & Boehm, G. W.** (2022). Chronic sleep restriction decreases hippocampal BDNF and disrupts immune response to LPS in C57BL/6J mice. Society for Neuroscience Annual Meeting, San Diego, CA.
- Brice, K. N.*, Braden-Kuhle, P. N.*, **Chumley, M. J., & Boehm, G. W.** (2021). Effects of unpredictable stress on cognitive function and amyloid beta in C57BL/6 mice. Society for Neuroscience Annual Conference, Washington, D.C.
- Brice, K.N.*, Hagen, C.*, Peterman, J.L.*, Braden, P.N.*, Figg, J.**, **Chumley, M.J. and Boehm, G.W.** (2019) Effects of Chronic Sleep Restriction on Amyloid Beta and Cognition in C57BL6/J Mice. Society for Neuroscience Annual Conference, Chicago, IL.
- Hagen, C.*, Figg, J**, Peterman, J.L.*, **Boehm, G.W., & Chumley, M.J.** (2019) The impact of early developmental stress on anxiety, cognition, and inflammation in adulthood. Society for Neuroscience Annual Conference, Chicago, IL.
- Peterman, J.L.*, White, J.D.*, Lopez, S**, Johnson, M.**, **Chumley, M.J. and Boehm, G.W.** (2019) Sex-specific effects of maternal separation on cognition and LPS-induced accumulation of amyloid beta in adult C57BL6/J mice. Society for Neuroscience Annual Conference, Chicago, IL.

- Peterman, J.L.* , White, J.D.* , Calcagno, A.** , Eimerbrink, M.J.* , Hagen, C.** , **Boehm, G.W. & Chumley, M.J.** (2018). Exercise and Enriched Environment are Unable to Prevent Isolation Stress-Induced Exacerbation of Alzheimer's Pathology in 5xFAD Mice. Society for Neuroscience Annual Conference, San Diego, CA.
- Hagen, C.* , Peterman, J.L.* , White, J.D.* , **Curtis, M., Boehm, G.W., & Chumley, M.J.** (2018) Impact of Isolation Stress on Inflammation and Alzheimer's Pathologies in C57BL6/J Mice. University of Texas- San Antonio College of Sciences Research Conference, San Antonio, TX.
- Lopez, S.** , Peterman, J.L.* , White, J.D.* , Hardy, A.* , Eimerbrink, M.J.* , Paulhus, K.* , Thompson, M.* , **Boehm, G.W., Chumley, M.J.** (2018). Previous exposure to LPS increases IgG and IgM while attenuating inflammatory response and A β accumulation in mouse hippocampus. University of Texas- San Antonio College of Sciences Research Conference, San Antonio, TX.
- Brice, K.* , Peterman, J.* , White, J.D.* , **Boehm, G.W., & Chumley, M.J.** (2018). Effects of Stress on Contextual Acquisition and Extinction in Mouse Models of Alzheimer's Disease. University of Texas- San Antonio College of Sciences Research Conference, San Antonio, TX.
- Hagen, C.* , Peterman, J.L.* , White, J.D.* , Eimerbrink, M.J.* , Cooksey, M.** , **Curtis, M., Boehm, G.W., & Chumley, M.J.** (2018) Inflammation and Amyloid-Beta in Conjunction with Isolation Stress in C57BL6/J Mice. Keystone Symposium on Neuroinflammation, Keystone, CO.
- Calcagno, A.** , Quiring, M.** , Peterman, J.L.* , White, J.D.* , Hagen, C.* , **Curtis, M., Boehm, G.W., & Chumley, M.J.** (2018) Effects of Exercise and Enriched Environment on Alzheimer's Disease Pathology in Chronically Stressed Mice. Keystone Symposium on Neuroinflammation, Keystone, CO.
- Peterman, J. L.* , M.J. Eimerbrink* , J. D. White* , **G.W. Boehm and, M.J. Chumley,** (2017) Effects of social isolation on inflammation, LPS-induced hippocampal amyloid-beta expression, and cognitive dysfunction in C57BL/6J mice. Psychoneuroimmunology Research Society, Galveston, TX
- White, J. D.* , J.L. Peterman* , A. Hardy* , M.J. Eimerbrink* , K.C. Paulhus* , M.A. Thompson* , **M.J. Chumley, & G.W. Boehm.** (2017) Prior exposure to repeated LPS injections prevents further accumulation of A β . Psychoneuroimmunology Research Society, Galveston, TX
- White, J. D.* , Peterman, J. L.* , Hardy, A.* , Eimerbrink, M. J.* , Paulhus, K. C.* , Thompson, M. A.* , **G.W. Boehm and M.J. Chumley.** (2017) Prior exposure to repeated LPS injections prevents further accumulation of A β . Society for Neuroscience, Washington, D.C.
- Peterman, J.L.* , J.D. White* , M.J. Eimerbrink* , K.C. Paulhus* , M.A. Thompson* , H.B. Hayes* , **G.W. Boehm,** and **M.J. Chumley** (2016) Effects of extended isolation stress on A β production and cognition in 5xFAD mice. Society for Neuroscience Annual Conference, San Diego, CA.
- Thompson, M.A.* , K.C. Paulhus* , J.D. White* , M.J. Eimerbrink* , H.D. Moore** , **G.W. Boehm,** and **M.J. Chumley** (2016) Inflammation exacerbates natural anti-amyloid beta antibodies in a murine alzheimer's disease model. Society for Neuroscience Annual Conference, San Diego, CA.
- Eimerbrink, M.J.* , J.D. White* , J.L. Peterman* , R. Pendry** , C. Hagen* , Moore H* , **M.J. Chumley** and **G.W. Boehm,** (2016) The influence of stress and inflammation on A β production. Society for Neuroscience Annual Conference, San Diego, CA.

- White JD*, Eimegbrink MJ*, Hayes HB**, Hardy A*, Van Enkevort EA*, Peterman JL*, **Chumley MJ**, Bohm GW (July 2016), Hippocampal A β expression, but not phosphorylated tau, predicts cognitive deficits following repeated peripheral poly I:C administration. Alzheimer's Association International Conference, Toronto, Canada.
- Eimerbrink, M.J.* , Pendry, R.J.** , Hodges, S.M.** , Wiles, J.D.** , White, J.D.* , Peterman, J.L.* , **Chumley, M.J. & Boehm, G.W** (April 15th 2016), Effects of MRK-016 on amyloid-beta induced learning deficits in mice within a contextual fear conditioning paradigm, Texas A&M Institute for Neuroscience 8th Annual Symposium, College Station, TX.
- White, J.D.* , M.J. Eimerbrink*, H.B. Hayes**, A. Hardy*, **G.W. Boehm** and **M.J. Chumley** (October 2015). Repeated exposure to poly i:c leads to elevations in hippocampal amyloid-beta, cognitive dysfunction, and sustained deficits in burrowing. Society for Neuroscience Annual Conference, Chicago, IL.
- Hodges, S.L.** , M.J. Eimerbrink*, J.D. Wiles**, J.D. White*, J.L. Peterman*, **M.J. Chumley** and **G.W. Boehm** (October 2015). Effects of MRK-016 on amyloid-beta induced learning deficits in mice in a contextual conditioning paradigm. Society for Neuroscience Annual Conference, Chicago, IL.
- Pendry, R.J.** , R.P. Madigan**, M.D. Eriksson**, J.D. White*, M.J. Eimerbrink**, **M.J. Chumley**, and **G.W. Boehm**, (October 2015). *L. reuteri* decreases baseline anxiety, alters fear-related memory, and buffers stress- induced anxiety in C57/BL6 mice. Society for Neuroscience Annual Conference, Chicago, IL.
- White, J.D.* , M.K. Weintraub*, M.J. Eimerbrink*, A.L. Morin*, S.M. Turner**, S.L. Hodges**, L.N. Sadler**, **G.W. Boehm** and **M.J. Chumley**, 2014, Voluntary Exercise Reduces Alzheimer's-like Pathology After Inflammation in Mice. Society for Neuroscience, Washington, D.C.
- Weintraub, M.K.* , J.D. White*, S.M. Turner**, S.L. Hodges**, A.L. Morin*, L.N. Sadler**, **G.W. Boehm** and **M.J. Chumley**, 2014, Voluntary Exercise Reduces Alzheimer's-like Pathology After Inflammation in Mice, Texas Chapter of the American College of Sports Medicine, Fort Worth, TX.
- Weintraub, M.K.* , D. Kranjac*, M.J. Eimerbrink*, B. T. Vinson*, J. Patel**, W. Summers**, B. Womble**, **G.W. Boehm**, and **M.J. Chumley**, 2013, The Effects of Poly I:C on Hippocampal Amyloid-Beta and Cognition, Society for Neuroscience, San Diego, CA.
- Weintraub, M. K.* , C.M. Bisson**, B.T. Vinson*, M.J. Eimerbrink*, D. Kranjac*, **G. W. Boehm** and **M. J. Chumley**, 2013, Imatinib methanesulfonate reduces hippocampal amyloid-beta and restores cognitive function following repeated endotoxin exposure. Psychoneuroimmunology Research Society, Stockholm, Sweden.
- Weintraub, M.K.* , C.M. Bisson**, and **M.J. Chumley**, 2013, Imatinib Reverses Amyloid Beta-Induced Cognitive Deficits. Southwest Psychological Association, Fort Worth, TX.
- Weintraub, M.K.* and **M.J. Chumley**, 2013, The Impact of Viral Inflammation on Alzheimer's Disease-Like Pathology. Southwest Psychological Association, Fort Worth, TX.
- Weintraub, M.K.* , C. Bisson**, B. Vinson*, M. Eimerbrink*, D. Kranjac*, B. Womble**, **G.W. Boehm** and **M.J. Chumley**, 2012, Effects of Imatinib Methanesulfonate On Inflammation-Induced Amyloid-Beta Production And Cognition, 2012, Society for Neuroscience, New Orleans, LA.

- Kahn, M*, W. Summers**, D. Kranjac*, B. Vinson*, M. Eimerbrink*, **G. Boehm** and **M. Chumley**, A Potential Link Between Viral Inflammation and Alzheimer's Disease, 2012, Society for Neuroscience, New Orleans, LA.
- Bisson, C.**, M. Kahn*, J. Nouri**, B. Vinson*, D. Kranjac*, M. Eimerbrink*, **G.W. Boehm** and **M.J. Chumley**, 2012, Gleevec Attenuates Inflammation-Induced Amyloid-Beta Production and Restores Cognition, North Texas Life Science Research Symposium, Fort Worth, TX.
- Summers, W.**, M. Kahn, D*. Kranjac, B. Vinson*, M. Eimerbrink*, **G. Boehm, M. Chumley**, 2012, Viral Inflammation and The Onset Of Alzheimer's Disease, North Texas Life Science Research Symposium, Fort Worth, TX.
- Influence of Fitness and Adiposity on Whole Blood Response to α -MSH Treatment. Integrative Biology of Exercise Scientific Conference, Westminster, CO, October 2012.
- Influence of fitness and adiposity on melanocortin-1 and melanocortin-3 receptors on monocytes. Integrative Biology of Exercise Scientific Conference, Westminster, CO, October 2012.
- Potential Link Between Viral Inflammation and Alzheimer's Disease. Society for Neuroscience National Convention, New Orleans, LA, 2012
- Influence of fitness and adiposity on melanocortin-1 and melanocortin-3 receptors on monocytes. Texas Chapter, American College of Sports Medicine, Annual Meeting, Austin, TX, 2012.
- Potential role for LPS-induced induction of Alzheimer's disease-related pathology and cognitive deficits. Society for Neuroscience National Convention, Washington, D.C., 2011
- The Effects of Heat Acclimation on Heat Shock Protein-72 mRNA and Apoptosis in Lymphocytes. American College of Sports Medicine National Meeting, Denver, CO., 2011
- Potential role for LPS-induced induction of Alzheimer's disease-related pathology and cognitive deficits. Arlington-Ft Worth Society for Neuroscience, Texas Christian University, Fort Worth, TX, 2011
- Influence of aerobic fitness on melanocortin receptor expression in inflammatory monocytes – a novel mechanism of exercise-induced inflammatory reduction. John Peter Smith Health Network Intramural Research Day, Fort Worth TX, 2011
- Lipopolysaccharide-Induced Amyloid-Beta Formation as a Model of Alzheimer's Disease Pathology, Texas Academy of Science. Austin, TX, 2010
- Working and Reference Memory in Ephrin-B1 Knockout Mice. 17th Annual National McNair Research Conference, Delavan, WI, 2010
- The effects of peripheral poly I:C on species-typical behavior in adult and aged mice. Psychoneuroimmunology Research Society, Trinity College, Dublin, Ireland, 2010
- The effects of immediate and delayed peripheral LPS administration on contextual fear memory consolidation, BDNF mRNA, and brain/serum expression of cytokines/chemokines in mice. Psychoneuroimmunology Research Society, Trinity College, Dublin, Ireland, 2010
- A Neurogenic Role for EphB Receptors and Ephrins in the Hippocampal Formation. Southwest-Gulf Regional Meeting, Society for Developmental Biology. M.D. Anderson Cancer Center, Houston, TX, 2008

- EphB Receptors Coordinate Stem/Progenitor Cell Proliferation and Migration During Hippocampal Neurogenesis. Reprogramming the Human Brain Symposium. University of Texas at Dallas Center for Brain Health, Dallas, TX, 2007
- Eph/ephrin Signaling in the Growth Cone. Christopher Reeve Paralysis Foundation, Chicago, IL, 2004
- Eph Receptor Tyrosine Kinase and Ephrin Signaling in the Axonal Growth Cone. Southwest and Gulf Coast Regional Society for Developmental Biology, Dallas, TX, 2004
- The unique antigen receptor signaling phenotype of B-1 cells is influenced by locale but induced by antigen. Midwinter Conference of Immunologists, Monterey, CA, 1998
- A VH11V kappa 9 B cell antigen receptor drives generation of CD5+ B cells both in vivo and in vitro. Midwinter Conference of Immunologists, Monterey, CA, 1997
- Immune Dysfunction Following High-Intensity Interval Training. National Strength and Conditioning Association Meeting, New Orleans, LA, 1994
- Searching for Markers of Overtraining: Immune Dysfunction Following High-Intensity Interval Training. American College of Sports Medicine National Meeting, Seattle, WA, 1994
- Effects of Cold Whirlpool Treatment on Delayed-Onset Muscle Soreness Following Eccentric Exercise. Rocky Mountain Chapter of the American College of Sports Medicine Winter Conference, Frisco, CO, 1993

Invited Speaking Engagements

- Could “Catching” a Cold Lead to Alzheimer’s Disease. Department of Molecular Biology and Immunology Seminar, University of North Texas Health Sciences Center, Fort Worth, TX, 2013
- EphB Receptors in the Hippocampus: Roles in Neurogenesis and Cognition. Department of Biology Seminar Series, Texas Women’s University, Denton, TX, 2010
- What the Eph is Wrong with My Hippocampus? Arlington-Fort Worth Society for Neuroscience, University of Texas at Arlington, Arlington, TX, 2009
- Daddy, I Got Lots of Ephs: A Role for B-Class Eph Receptors and Ephrins in Hippocampal Neurogenesis. Department of Biological Sciences, Southern Methodist University, Dallas, TX, 2006
- Eph-ective Inflammation: A Role for the EphB Receptor Tyrosine Kinases During Acute Inflammation. Department of Molecular Biology and Immunology, University of North Texas Health Sciences Center, Fort Worth, TX, 2006
- A Role for EphB Receptors and Ephrins in the Hippocampal Formation. Stem Cells in Neuroscience Series. University of Texas Southwestern Medical Center. 2006
- To B-1 or Not To B-1: Development of B-1 Lymphocytes from the Adult Bone Marrow. University of Kansas, Department of Molecular Biosciences, Lawrence, KS, 2000
- Immune Dysfunction Following High-Intensity Interval Training. American College of Sports Medicine National Meeting, Seattle, WA, 1994

ACADEMIC ADVISING ACTIVITIES

Fall 2025: 24 formal appointments (Undergraduate)
Spring 2025: 34 formal appointments (Undergraduate)
Fall 2024: 32 formal appointments (Undergraduate)
Fall 2023: 27 formal appointments (Undergraduate)
Spring 2023: 29 formal appointments (Undergraduate)
Fall 2022: 33 formal appointments (Undergraduate)
Spring 2022: 21 formal appointments (Undergraduate)
Fall 2021: 36 formal appointments (Undergraduate)
Spring 2021: 18 formal appointments (Undergraduate)
Fall 2020: 17 formal appointments (Undergraduate)
Spring 2020: 17 formal appointments (Undergraduate)
Fall 2019: 19 formal appointments (Undergraduate)
Spring 2019: 29 formal appointments (Undergraduate)
Fall 2018: 30 formal appointments (Undergraduate)
Spring 2018: 26 formal appointments (Undergraduate)
Fall 2017: 39 formal appointments (Undergraduate)
Spring 2017: 32 formal appointments (Undergraduate)
Fall 2016: 24 formal appointments (Undergraduate)
Spring 2015, 58 formal appointments (Undergraduates)
Fall 2014: 37 formal appointments (Undergraduate)
Spring 2014: 49 formal appointments (Undergraduate)
Fall 2013: 50 formal appointments (Undergraduate)
Spring 2013: 36 formal appointments (Undergraduate)
Fall 2012: 44 formal appointments (Undergraduate)
Spring 2012: 26 formal appointments (Undergraduate)
Fall 2011: 29 formal appointments (Undergraduate)
Spring 2011: 34 formal appointments (Undergraduate)
Fall 2010: 20 formal appointments (Undergraduate)

PROFESSIONAL ACTIVITIES

Journal Referee: *Animal Cells and Systems; Journal of Neuroinflammation; Behavioural Brain Research; Brain, Behavior, and Immunity, Frontiers in Psychiatry, Neuroscience, Frontiers in Neuroscience, Frontiers in Aging Neuroscience, AIMS Medical Sciences.*

Textbook Review: *The Immune System*, by Peter Parham. Published by Garland Scientific

DEPARTMENTAL SERVICE

Instructor in Biology Search Committee (Current)
Instructor in Biology Search Committee (2025)
Instructor in Cell Biology Search Committee Chair (2022)
Committee on Graduate Studies (2021 – Current)
Departmental Advancement Committee (2021 – 2022)
Chair, Department of Biology (2016 – 2019)
Committee on Graduate Studies (2011 – 2016)

Curriculum Committee (2012 – 2016)
Tenure-Track Geneticist Search Committee Chair (2013)
Tenure-Track Physiologist Search Committee (2012)
Monday at TCU (2009 – 2019)

COLLEGE SERVICE

Institutional Animal Care and Use Committee (2019 – Present)
TCU Biosafety Committee (2021 – Present)
Health Professions Advisory Committee (2010 – present)
CSE Safety Committee (2009)

UNIVERSITY SERVICE

TCU University Advisory Committee (2021 – 2022)
TCU/UNTHSC Medical School Curriculum Committee (2015 – 2016)
TCU Honor's College Task Force on Departmental Honors (2016)
TCU Environmental Health and Safety Committee (2009 – 2012)

COMMUNITY SERVICE AND OUTREACH

UNTHSC Institutional Biosafety Committee (2019 – Present)
Texas A&M University – Commerce Event Photographer (2021-2022)
Keller High School Music Department Photographer (2018 – 2022)
Keller Independent School District Science Tutor (2018 – 2021)
Steering committee member, North Texas Life Science Research Symposium (2012 – 2016)
Ad hoc Microscopy Core Tours and Demonstrations (2010 – Present)
Keller Independent School District Educational Improvement Committees Hidden Lakes Elementary (2012 – 2014), Bear Creek Intermediate (2014 – 2016), Keller Middle School (2016 – 2018), District-wide (2018 – 2020)

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

Psychoneuroimmunology Research Society (2008 – present)
American Association for the Advancement of Science (2008 – present)
Society for Neuroscience (2005 – present)

PROFESSIONAL HONORS AND AWARDS

Clark Society Endowed Faculty, Nominee, 2023
Wassenich Award for Mentoring, Winner, 2014
Wassenich Award for Mentoring, Nominee, 2013
John V. Roach Honors College Professor of the Year, 2013
Mortar Board Preferred Professor, 2010 – 2011
TCU Senior Class Legacy Honoree, 2010, 2011, 2013, 2014, 2016
Mortar Board Preferred Professor, 2009 – 2010

RESEARCH HONORS AND AWARDS FOR MENTORED STUDENTS

Allison Regan, Boller Award Finalist and Honorable Mention, 2023
Jordon White, TCU Outstanding Dissertation Award, 2018

Laurel Gardner, Boller Award finalist, 2015

Marielle K. Weintraub, Trainee Scholar Travel Award, PsychoNeuroImmunology Research Society Annual Meeting, Stockholm, Sweden, 2013

Marielle K. Weintraub, Graduate Presentation Award Showcase, Southwest Psychological Association Annual Conference, Fort Worth, TX, 2013

Whitney Summers, Undergraduate Presentation Award Showcase, Southwest Psychological Association, Fort Worth, TX, 2013

Jigna Patel, Boller Award finalist, 2013

Marielle K. Weintraub, 1st place Graduate Interdisciplinary Poster, TCU College of Science and Engineering Student Research Symposium, 2012

Whitney Summers, 1st place Undergraduate Interdisciplinary Poster, TCU College of Science and Engineering Student Research Symposium, 2012

Matt Unthank, 2nd place Graduate Presentation Award, Texas Chapter of the American College of Sports Medicine Annual Meeting, 2012

Marielle S. Kahn, 1st place Graduate Interdisciplinary Poster, TCU College of Science and Engineering Student Research Symposium, 2011

Kelyn Rola, 2nd place Graduate Presentation Award, Texas Chapter of the American College of Sports Medicine Annual Meeting, 2011