Cathryn Cutia
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EDUCATION

Stonehill College, Easton, MA
Bachelor of Science, December 2018
Major: *Neuroscience*
Honors Thesis: *Interaction between mTORC1, Insulin, and Synapses within the Hypothalamus during Obesity*

University of Illinois, Urbana-Champaign, IL
Doctor of Philosophy **Anticipated Graduation**: Dec. 2023
Major: *Neuroscience, Neuroendocrinology*
Minors: *Neuropeptides and Neurological Disorders (Epilepsy)*

RESEARCH EXPERIENCE

Graduate Research Assistant
University of Illinois, Urbana-Champaign, IL **July 2019 – Present**
***Advisor**: Catherine Christian-Hinman, PhD*
Currently investigating the neural and pituitary mechanisms that link epilepsy to reproductive endocrine dysfunction.
The following skills were acquired through this research:

- Basic mouse handling/colony maintenance and dissection
- Stereotaxic intercranial survival surgery techniques
- Gonadectomy surgeries
- Tail vein blood collection
- Histology
- ELISA
- qPCR
- EEG data collection and analysis
- Patch clamp electrophysiology recordings

Undergraduate Research Assistant
Stonehill College, Easton, MA **September 2016 – December 2018**
***Instructor**: Nicole Cyr, PhD*
Investigated the interaction between mTORC1 and insulin in terms of their effects on presynaptic proteins in proopiomelanocortin (POMC) hypothalamic neurons.
The following skills were acquired through this research:

- Presentation skills, scientific paper writing and reading
- Statistical analysis of data and graphing data
- Secondary tissue culture
- Designing experiments
- Western blot
- Immunofluorescence, light microscopy

PUBLICATIONS

Cutia CA, Christian-Hinman CA. Mechanisms linking neurological disorders with reproductive endocrine dysfunction: insights from epilepsy research. Frontiers in Neuroendocrinology. 2023 Jul 27:101084.

Cutia CA, Leverton LK, Christian-Hinman CA. Sex and estrous cycle stage shape left-right asymmetry in chronic hippocampal seizures in mice. eNeruo. 2023 Jun 1: 10(6). ENEURO.0041-23.2023

Cutia CA, Leverton LK, Weis KE, Raetzman LT, Christian-Hinman CA. Female-specific pituitary gonadotrope dysregulation in mice with chronic focal epilepsy. Experimental Neurology. 2023 Mar 28:114389.

Cutia CA, Leverton LK, Ge X, Youssef R, Raetzman LT, Christian-Hinman CA. Phenotypic differences based on lateralization of intrahippocampal kainic acid injection in female mice. Experimental Neurology. 2022 May 18:114118.

Lee KY, Zhu J, **Cutia CA**, Christian-Hinman CA, Rhodes JS, Tsai NP. Infantile spasms-linked Nedd4-2 mediates hippocampal plasticity and learning via cofilin signaling. EMBO reports. 2021 Oct 5;22(10):e52645.

ABSTRACTS

Cutia CA, Leverton LK, Weis KE, Raetzman LT, Christian-Hinman CA 2022. Female-Specific Pituitary Hypersensitivity to GnRH in a Mouse Model of Temporal Lobe Epilepsy. 76th Annual Meeting of the American Epilepsy Society, Nashville, TN

Cutia CA, Christian-Hinman CA 2021. Increased pituitary sensitivity to GnRH without altered LH pulsatility in female mice in the intrahippocampal kainic acid model of temporal lobe epilepsy. 75th Annual Meeting of the American Epilepsy Society, Chicago, IL

Cutia CA, Leverton LK, Li J, Naganatanahalli LM, Christian-Hinman CA 2020 Similar outcomes in HPO axis dysfunction and seizure patterning independent of laterality of injection in the IHKA mouse model of temporal lobe epilepsy. 74th Annual Meeting of the American Epilepsy Society, held online

Cutia CA, Cyr N, 2018 Effects of mTOR Signaling on Synaptic Remodeling in the Hypothalamus. 1st Annual UMASS Interdisciplinary Neuroscience Conference, Amherst, MA

PRESENTATIONS

Neuroendocrinology Special Interest Group, “Females and Cycling Hormones in Epilepsy – Misconceptions, Methods, Mechanisms,” 76th Annual Meeting of the American Epilepsy Society, Nashville, TN

TEACHING EXPERIENCE

University of Illinois, Urbana-Champaign, IL **January 2023- May 2023**
Molecular and Cellular Basis of Life Teaching Assistant
Primary Instructor: *Brad Mehrtens*
Course coordinator: *Melissa Reedy*
Taught weekly discussion sections and help sessions. Graded assignments and proctored quizzes/exams.

University of Illinois, Urbana-Champaign, IL **August 2022- December 2022**
Genetics and Disease Teaching Assistant
Primary Instructor: *Mary Schuler, PhD*
Taught weekly discussion, graded assignments and proctored quizzes/exams.

University of Illinois, Urbana-Champaign, IL **August 2021- December 2021**
Cellular Physiology Teaching Assistant
Primary Instructor: *Catherine Christian-Hinman, PhD*
Graded assignments and proctored quizzes/ exams.

University of Illinois, Urbana-Champaign, IL **January 2021 – May 2021**
Experimental Techniques in Cellular Biology Teaching Assistant
Primary instructor*: Elizabeth Good, PhD*
Taught weekly lab and help sessions. Graded course material.

Stonehill College, Easton, MA **September 2017 – December 2018**
Brain and Behavior Teaching Assistant
Primary instructor*: John McCoy, PhD*
Lead weekly review sessions as well as exam review sessions and answered student questions.

Stonehill College, Easton, MA
Organic Chemistry II Teaching Assistant **September 2017 – December 2018**

Organic Chemistry I Teaching Assistant **January 2018 – May 2018**
Primary instructor*: Louis Liotta, PhD*
Held weekly sessions guided by the standards of Peer Led Team Learning teaching model to review material through worksheets and to answer any student questions.

Stonehill College, Easton, MA **January 2017 – May 2017**
Biological Principles II Teaching Assistant
Primary instructor*: Nicholas Block, PhD*
Conducted weekly review sessions to address student questions and to assist in course work, as well as graded minor course material.

AWARDS & HONORS

2023	1st Dr. Albert Feng Neuroscience Graduate Research Support Award, University of Illinois Urbana-Champaign
2021-2023	Ranked as an excellent teacher by students, University of Illinois Urbana-Champaign
2019	Phillip L. Hemingway Sr. Award for highest science GPA, Stonehill College
2018	B.S. awarded *summa cum laude*
2017, 2018	Stonehill Undergraduate Research Experience funding
2017	Student Research and Creative Project Grant, Stonehill College
2016-2018	Nu Rho Psi Honors Society (President 2017-2018)
2015-2018	Dean's List
2015-2018	Shields Merit Scholarship, Stonehill College
2015-2018	Fr. Basil Moreau Honors Scholarship, Stonehill College

LEADERSHIP POSITIONS & ACTIVITIES

Neuroscience Graduate Program Mentor **2020-2021**

President of the Stonehill *Nu Rho Psi* Chapter **August 2017 – September 2018**
Collaborated with the Neuroscience club on campus to raise awareness of the field and of foundations supporting neurological disease research, as well as coordinated the induction of new members.

Member of *Nu Rho Psi* Honors Society **September 2016 – December 2018**

Moreau Honors Program Mentor **September 2016 – December 2017**