CURRICULUM VITAE

JENNIFER W. HILL

Professor
Dept. of Physiology and Pharmacology and Dept. of Obstetrics-Gynecology
U of Toledo College of Medicine and Life Sciences
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PERSONAL INFORMATION:

JENNIFER ELLEN WOOTTON HILL
3435 Brantford Rd.
Ottawa Hills, OH 43606
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EDUCATION:

B.A. in Biology (Honors), WILLIAMS COLLEGE, Williamstown, MA. June 1997
Thesis: *Androgen levels and vocal plasticity in the adult male zebra finch,* Dr. Heather Williams advisor, Department of Biology.

Ph.D. in Neuroscience, NORTHWESTERN UNIVERSITY, Evanston, IL. June 2003
Dissertation: *Regulation of luteinizing hormone release by neuropeptide Y: Diverse actions enhancing steroid feedback,* Dr. Jon E. Levine advisor, Department of Neurobiology and Physiology.

PRE AND POSTDOCTORAL FELLOWSHIPS:

1996-1997 Undergraduate Fellow
WILLIAMS COLLEGE (Williamstown MA)
Department of Biology
Neuroanatomical control of avian song production, Dr. Heather Williams advisor
ESSEL FOUNDATION RESEARCH FELLOWSHIP

1999-2003 Predoctoral Trainee
NORTHWESTERN UNIVERSITY (Evanston IL)
Department of Physiology
Neuroendocrinology, Dr. Jon E. Levine advisor
NIH T32 TRAINING GRANT

2003-2006 Postdoctoral Fellow
HARVARD MEDICAL SCHOOL at BETH ISRAEL DEACONESS MEDICAL CENTER (Boston MA)
Department of Endocrinology and Metabolism
Neurobiology of obesity, Dr. Joel K Elmquist advisor
NIDDK F32 NRSA

2006-2007 Postdoctoral Fellow
U TEXAS SOUTHWESTERN MEDICAL CENTER (Dallas TX)
Department of Internal Medicine, Division of Hypothalamic Research
Neurobiology of obesity, Dr. Joel K Elmquist advisor
NIDDK F32 NRSA

2007-2009 Postdoctoral Trainee
U TEXAS SOUTHWESTERN MEDICAL CENTER, Dallas TX
Department of Internal Medicine, Division of Hypothalamic Research
Assistant Instructor
NIH K99 support

EMPLOYMENT:

1993 Wildlife Rescue, Palo Alto CA
Veterinary Assistant
Part-time, volunteer

1994 Marine Science Institute, Redwood City CA
Teaching Intern
Part-time, volunteer

1994-1995 Williams College, Department of Biology
Research Assistant, laboratory of Dr. Heather Williams
Part-time, volunteer

1995 Williams College, Department of Biology
Effects of habitat fragmentation on avian thermal stress
Research Assistant, laboratory of Dr. Daniel Clemens
Full-time, salaried

1997 NASA/Lockheed, Space Biology Group
Effect of 0-gravity on physiological systems

Assistant Scientist, Dr. Muriel Ross supervisor
Full-time, salaried

1997 Northwestern University, Department of Neurobiology and Physiology
Circadian and seasonal rhythms in reproduction
Predoctoral Laboratory Assistant, laboratory of Dr. Fred W. Turek
Part-time, stipend

1998 Northwestern University Feinberg School of Medicine, Lurie Cancer Center
Steroid effects on breast cancer cells
Predoctoral Laboratory Assistant, laboratory of Dr. V. Craig Jordan
Part-time, stipend

1998-1999 Northwestern University, Department of Molecular Biosciences
Teaching Assistant for courses in Vertebrate Endocrinology, Human Reproduction
Part-time, stipend

2000 Northwestern University
Tutor for Undergraduate Science and Engineering Synthesis Program
Part-time, stipend

Faculty Positions

2009-2015 UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Physiology and Pharmacology,
Center for Diabetes and Endocrine Research
Assistant Professor, tenure eligible Academic Basic Scientist Track
Full-time, salaried

2009-2015 UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Obstetrics and Gynecology
Assistant Professor, tenure eligible Academic Basic Scientist Track
Joint appointment

2015-2022 UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Physiology and Pharmacology,
Center for Diabetes and Endocrine Research
Associate Professor, tenured, Academic Basic Scientist Track
Full-time, salaried

2015-2022 UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Obstetrics and Gynecology
Associate Professor, tenured, Academic Basic Scientist Track
Joint appointment

2019-present UNIVERSITY OF TOLEDO, Toledo OH
Associate Director for Basic Research, The Center for Diabetes and Endocrine Research (CeDER). Cross-departmental center to foster research in diabetes-related conditions.

2021-present Director of the Molecular Medicine (MOME) Track in the Biomedical Sciences Graduate Education Program at the U Toledo College of Medicine and Life

Sciences.
Salary support included.

2023-present UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Physiology and Pharmacology,
Center for Diabetes and Endocrine Research
Professor, tenured, Academic Basic Scientist Track
Full-time, salaried

2023-present UNIVERSITY OF TOLEDO, Toledo OH
College of Medicine, Department of Obstetrics and Gynecology
Professor, tenured, Academic Basic Scientist Track
Joint appointment

TEACHING:

DOCTOR OF MEDICINE (MD) PROGRAM:

Integrated Intersession
MDED708
Ob/Peds Intersession Foundational Science Case Studies
Third year medical students, ~ 60/session
Three sessions (Oct, May, July), 3 1/2h per session Jul 2022-2024

Clinical Decision Making (Block 1)
INDI 778
Second year medical students, ~ 12
University of Toledo College of Medicine and Life Sciences
Small group facilitation:
- Medical Ethics (6 hr.) 2010-2016
  August-October, yearly
- Clinical Reasoning (32 hr.) 2013-2015
  September-April, yearly
- Medical Ethics (2 hr revised curriculum) 2019
  November

Clinical Decision Making (Block 5)
INDI 784
First year medical students, ~ 12
September-November, yearly
University of Toledo College of Medicine and Life Sciences
Small group facilitation:
- Medical Ethics (6 hr.) 2012-2014

Organ Systems/Cycles and Rhythms
INDI 780
Second year medical students, ~175
November-April, yearly
University of Toledo College of Medicine and Life Sciences
Lectures:
- Local Anaesthetics (1 hr.) Feb. 2014

- Parkinsons Drugs (1 hr.) March 2014
- Reproductive Ontogeny (2 hr.) Apr. 2014-2017
- Pregnancy and Lactation (2 hr.) Apr. 2015-2017
- Pathophysiology of Puberty (1h) Dec 2018-pres.

Online Modules:

- Erection and Ejaculation 2018 - present
- Puberty 2018 - present
- The Indifferent Gonad 2018 - present

Human Structure and Development (Block 2)
ANAT679
First year medical students, ~175
November-March, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

- Female Reproductive System (2 hr.) Jan 2015-2016
- Male Reproductive System (2 hr.) Jan 2015-2016
- Development of Reproductive Systems (2 hr.) Jan 2015-2016

PHYSICIAN AND PATHOLOGY ASSISTANT (MSBS-PA AND MSBS ASSISTANT IN PATHOLOGY) PROGRAMS:

Pathophysiology I
PHYA5400
First year PA students and Pathologists Assistant program students, ~ 50
September-December, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Reproductive Endocrinology in the Male (2 hr.) 2012-present
Reproductive Endocrinology in the Female (2 hr.) 2012-present

MASTER OF MEDICAL SCIENCE (MSBS-MS) PROGRAM:

On Being a Scientist
INDI 6020/8020
First year MSBS and Ph.D. students (all programs), ~80
January-May, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Mentoring/Trainee Relationships and Case Studies (1.5 hr.) 2011

Pathophysiology of Organ Systems
INDI 5350
MSBS students, ~ 65
September-December, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Reproductive Endocrinology in the Male (2 hr.), spring 2011-present
Reproductive Endocrinology in the Female (2 hr.), spring 2011-present
Endocrinology I (2 hr.) 2013-2018
Endocrinology II (2 hr.) 2013-2018

Treatments for Diabetes (4 hr.), spring	2021-present
Insulin Action and Metabolic Disease (2h)	2023-present
Pituitary Physiology (2h)	2023-present

GRADUATE (PHD) PROGRAM:

Seminar series "Introduction to Biomedical Research"
BMSP 6330/8330
First year Ph.D. and MS students (all tracks), ~10-20
Fall semester, yearly
University of Toledo College of Medicine and Life Sciences

Seminar:

Fertility and Energy Homeostasis (30 min)	2009-15, 2022-23

Seminars in MOME (fall and spring)
MOME 8300
Required in fall and spring semesters of the 2nd, 3rd and 4th years
University of Toledo College of Medicine and Life Sciences

Course Director	2015-2022

Advanced Topics in Cardiovascular and Metabolic Disease
MOME 6500/8500
Second year Ph.D. students (MOME students), ~5
August-December, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Obesity and Addiction (2 hr.)	2010-present
Unexplained Weight Regulation (2 hr.)	2016-present

Advanced Topics in Neurosciences and Neurological Disorders
NSND 6500/8500
Second year Ph.D. students (NSND students), ~5
August-December, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Neuromodulation (2 hr.)	2018

Systems Pathophysiology, Block 2
BMSP 6470/8470
BLOCK DIRECTOR 2022-present
First year Ph.D. students (all tracks), ~15
January-March, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Reproductive Endocrinology (1 hr.)	2011-present
Insulin Action and Metabolic Disease (1 hr)	2023-present

Systems Pathophysiology, Block 5
BMSP 6470/8470
First year Ph.D. students (all tracks), ~15
April-May, yearly

University of Toledo College of Medicine and Life Sciences

Lectures:

Pituitary Function (2 hr., biannually)	2011-2015
NND track students, elective for others, ~ 3	
Regulation of energy balance by the CNS (1 hr.)	2011-present
MOME track students, elective for others, ~12	

Journal Paper Review
MOME6600/8600
Presentations organized weekly
September-July, yearly
University of Toledo College of Medicine and Life Sciences

MOME track Ph.D. students in CeDER (required) and others, ~20	2012-2019
All MOME students in Training Leaders Club	2021-2022

Grant Writing
BMSP6250/8250
Second year Ph.D. students (required for MOME track, elective for others), ~8
January-March, yearly
University of Toledo College of Medicine and Life Sciences

Lectures:

Significance Section (1 hr.)	2013-2016
Scientific Writing (1 h)	2023-present
Artificial Intelligence (1h)	2025-present
Course Overview (1h)	2025-present

Workshops:

Approach Section Workshop (2 hr.)	2011-2017, 2021
Research Strategy Section Workshop (8 hr.)	2014, 2021
Course Director (30h of class time):	2021-present

Scientific Communication Skills and Career Goals
CABP 6250/8250
Advanced Ph.D. students (elective, all tracks), ~8
January-May, yearly
University of Toledo College of Medicine and Life Sciences

Mixed lecture and active learning:

Effective Scientific Writing I (2 hr.)	2015-2016
Effective Scientific Writing II (2 hr.)	2015-2016

CURRICULUM DEVELOPMENT:

Assisted Dr. Kandace Williams with design and implementation of new elective graduate course in 2015: CABP 6250/8250 Scientific Communication Skills and Career Goals for Spring 2015 (2 credits). The goals of this course were to enhance scientific communication skills at all levels and to develop knowledge of the numerous scientific career options available to basic and physician scientists, including tenure track academic research. Skills taught include oral communication, PowerPoint presentation, teaching, poster presentation and scientific peer review, scientific writing, writing for lay audiences, and interviewing. This course prepared our trainees for enhanced opportunities in science communication, leadership, and scholarship by the use of innovative educational approaches.

Lecturing is minimized, replaced by hands-on experience with teaching tools (Webcam, Echo360, Blackboard, LectureTools) and student presentations, writing, and practice interviews critiqued by peers and guest experts.

In 2022, I undertook a major revision of the Grant Writings Course to ensure that participants from all basic science tracks submit an NIH training grant or the equivalent shortly after qualifying in their PhD program. The changes included a complete revamping of the schedule and course organization, changing it from a 2 to 3 credit class. As co-director with Dr. Jason Huntley, I organized presentations by students previously successful in obtaining an F31 and eight faculty members with experience obtaining grants to provide talks and materials to students enrolled in the course. (*Topics included: Overview of NIH F31 components, Structure and purpose of Aims section, how to use feedback, Writing Styles and Principles, Scoring criteria, Research Strategy, the Importance of Co-sponsor Selection, How the Environment is Reviewed, Introduction to the Sponsored Research Office, Budget, Biosketch, Applicant's Background and Goals, and Selection of Sponsor Sections, Training in Responsible Conduct of Research, Description of Institutional Environment, Sponsor Statement, Resource Sharing Plan, Vertebrate Animals, Facilities and Equipment Sections, and Final Editing for Clarity and Conciseness.*) The second half of each class is run as a mock study section, during which the directors and students provide weekly feedback to other students as they revise their draft applications. The RSP office was brought in to assist students in preparing their online application for submission through ASSIST. In 2023, Dr. Huntley stepped down leaving me to direct the course. It was expanded to serve 12 students while preserving a 1:4 ratio of instructor to student for the feedback section of the course by bringing on two additional mentors from the molecular medicine and cancer biology tracks.

MENTORING:

Junior Faculty

Sinead O'Donovan, PhD (Mentoring Committee Member) 2021-2024
Jeannie Padowski, PhD (Mentoring Committee Member) 2021
Shahnawaz Imam, DVM, PhD (Mentoring Committee Chair) 2021-2025
James Burkett, PhD (Mentoring Committee Chair) 2021-present
Tao Yang, PhD (Mentoring Committee Member) 2023-present
Lauren DePoy, PhD (Mentoring Committee Member) 2025-present

Postdoctoral Trainees

Joseph Marino, Ph.D.
2009-2013
Currently Chair, Department of Kinesiology at Appalachian State University

Abigail Dowling, M.D.
2010-2013
Currently a postdoctoral fellow at the University of Michigan

Kathryn Smedlund, Ph.D.,
2022-2024

Muhammad Naveed, Ph.D.,
2023-present

PhD Students

MAJOR ADVISOR

Xiaoliang Qiu, MD, Ph.D.
Ph.D. program, Cardiovascular and Metabolic Disease Track
Department of Physiology and Pharmacology
June 2010- June 2013
After a postdoc at SUNY Stonybrook, became an inpatient Internist in Yale New Haven Hospital in Connecticut

Latrice Faulkner, Ph.D.
Ph.D. program, Cardiovascular and Metabolic Disease Track
Department of Physiology and Pharmacology
June 2011-2016
After a research postdoc at the University of Michigan, became a Research Administration Fellow at the University of Michigan

Erin Semple, M.D., Ph.D.
M.D./Ph.D. program, Neurosciences and Neurological Disorders Track
Department of Neurosciences
2015- June 2017
Currently a practicing Psychiatrist with Atrium Health Behavioral Health in Charlotte, North Carolina

Mengjie Wang, Ph.D.
Ph.D. program, Cardiovascular and Metabolic Disease Track
Department of Physiology and Pharmacology
2014-2019
Currently a postdoctoral fellow with Dr. Yong Xu at the University of South Florida.

Iyad Manaserh, Ph.D.
Ph.D. program, Cardiovascular and Metabolic Disease Track
Department of Physiology and Pharmacology
2015-2018
After a Postdoctoral Fellowship at Cleveland Clinic with Sarah M Schumacher, joined Novartis as a Medical Science Liaison.

Shermel Sherman, Ph.D.
Ph.D. program, Cardiovascular and Metabolic Disease Track
Department of Physiology and Pharmacology
2017-2020
After a postdoctoral fellowship at UCSF, joined BrainXell in San Diego in 2022

Mitchell Harberson
Ph.D. program, Cardiovascular and Metabolic Disease Track
Postdoctoral fellow in the Martemyanov lab at the University of Miami Miller School of Medicine.
2018-2024

Joseph Dale
Ph.D. program
Training in Molecular and translational Cell Dynamics Program (T32GM144873)
Department of Biology
2022-present

David Luis Jaramillo

M.D./Ph.D. program, Neurosciences and Neurological Disorders Track
Department of Neurosciences
June 2024- present

GRADUATE STUDENT ADVISORY COMMITTEE MEMBER

Sumona Ghosh Lester
Kelly Ledford
Thomas Bowman
Payal Patel
Anita Sexena
Garrett Heinrich
Laura Halpin
Harshal Waghulde
Simona Ghanem
Prabhatchandra Dube
Hilda Gadieh
Saja Khuder
Youjie Zhang
Lilli Fishman
Shermel Sherman (Master's Program)
Ahmed Al-Khudhair, BVM, MPH, MSBS
Kelsey Murphy
Amit Chougule
Syed Abdul Moiz Hasan *Thesis Committee Chair*
Nicholas Henckel
Nicole Bell (2020-current)
Emily J. Crowe (2021-current)
Brooke Ring (2022-current)
Breanna Coffman (2024-current)
Tania Akter Jhuma (2024-current)

Ph.D. Student Program Rotations *(BMSP 639/839; 3 credit hours)*

Xiaoliang Qiu, Winter 2009
Ying Nie, Fall 2010
Latrice Faulkner, Winter 2010
Shuhao Qiu, Spring 2011
Yongheng Wang, Fall 2012
Kristen Robinson, Spring 2013
Mengjie Wang, Fall 2013
Carmen Marie Mitchell, Spring 2014
Amit Chougule, Winter 2016
Nichole Harless, Summer 2016
Raghd Abu Helal, Summer 2016
Shermel Sherman, Summer 2016
Emily Otmanowski, Summer 2022
David Jaramillo, Summer 2022
Justin Davis, Summer 2022
Joseph Dale, Fall 2022
Wisdom Ahlidja, Fall 2023 (MoME)
Tania Akter, Winter 2023 (MoME)

Grace Shephard, Spring 2024 (NND)
David Jaramillo, Spring 2024 (MD/PhD)
Joanna Stuck, Spring 2024 (MD/PhD)

Medical Students

Research in Biomedical Science: M. D. Program 4th Year Elective *(INDI 726; 12 credit hours)*
Julie Morrison, April-May 2012

Medical Student Summer Research *(INDI 5050; 10 credit hours)*
Jeff Iler, May-Aug. 2010
Jasmin Darling, May-Aug. 2011
Dana Doctor, May-Aug. 2013
Amelia Heston, May-Aug. 2014
Michael Stauber, May-Aug. 2014
Patrick Sullivan, May-Aug. 2015
Gage Trott, May-Aug. 2015
Casey Ryan, September-Aug. 2018-2020
Austin Meehl, Sept-Aug. 2018-2020
Tanvi Desai, September-Aug. 2018-2020
Trisha Clark, September-Aug. 2018-2020
Zoe Parlier, May- 2024

Medical Student Continuing Research
Alisha Sangal, Sept. 2015-2018
Jessica Braun, Sept. 2021-2022
Courtney Gorrell, Sept. 2021-2022
Nora Abdul-Aziz, Sept. 2022-current
Mahra Crone, Sept. 2022-current
Shivani Ambardekar, Sept. 2023-current

Master's Students

MSBS-MS Scholarly Projects *(INDI 6980; 9 credit hours)*
Sai Gadde *(Co-Advisor with Dr. David Giovannucci)* Jan.-Aug. 2011
Gage L Trott, Jan.-Aug. 2014
Bradley Marchese, Jan.-Aug. 2014
Kaitlyn M Garcia, Jan.-Aug. 2014
Smit Kiran Shah, Jan.-Aug. 2014
Julia L Shreve, Jan.-Aug. 2014
Firas Shalabi, Jan.-Aug. 2015
Jieshen Wu, Jan.-Oct. 2015
Emily Maly, Nov. 2015-2016
Shokufeh Nourollahi, Nov. 2015-Sept. 2016
Yetunde Badmus, Nov. 2015-July 2017
Sara Singhal, Jan. 2016-July 2017
Seamus Pugh, Sept. 2016-July 2017
Sampath B Choppara, Sept. 2016-2018
Samyuktha Ravi, Sept. 2016-2018

Radha Patel, Sept. 2018-2019
Tori Carney, Sept. 2018-2019
Naveen Rehman, Sept. 2018-2019
James Oberhaus, Sept. 2018-2019
Matthew Tille, Sept. 2019-2020
Jessica Braun, Sept. 2019-2021
Courtney Gorrell, Sept. 2019-2021
Timothy Chrisman, Sept. 2019-2020
Brandon Sharkey, Sept. 2019-2020
Hassan Delgado, Sept. 2019-2020
Mahra Crone, Sept. 2021-2022
Jawad Mahmoud, Sept. 2021-2022
Ariane Crabb, Sept. 2022-2023
Megan Del Vecchio, Sept 2023-2024
Jenna Boone, Sept 2024-2025
Brittany Stone, Sept 2024-2025
Jaret Dye, Jan-July 2025

MSBS-Bioinformatics Thesis Projects *(BIPG6990; 6 credit hours)*
Brian Howard *(Major Advisor)* June-Aug. 2010
Marziyeh Salehi (Co-Advisor) Sept 2022 -Aug 2024

Physician's Assistant Program Scholarly Project *(PHYA 6610; 1 credit hour)*
Sarah Golden (Major Advisor) December 2021 – June 2022

Undergraduate Trainees

U Toledo Students (BIOL 4910; 6 credit hours)
Laura Nedorezov *(Major Advisor for Honors Thesis)* June 2010-Aug. 2012
Christopher Jennings, June 2012-Aug. 2012
Alisha Sangal *(Major Advisor for Honors Thesis)* June 2013-Aug. 2015
Amy Custer, June 2015-Aug. 2015
Nadeen Sarsour *(Thesis Advisor)* March 2016-June 2017
Judy Daboul *(Thesis Advisor)* March 2016-June 2017
Marina Atallah, March 2019-August 2022
Ashima Thusu, Summer 2018
Niraj Gupta, Summer 2019
Ramya Talla *(Thesis Advisor)* March 2023-June 2024
Khushi Nagdev, September 2024-present
Khushi Nasrit, September 2024-present

Non-U Toledo Students
Omar Elmadhoun (University of Michigan) June-Aug. 2010
Laura Mueller (DAAD German Academic Exchange Service) June -Aug. 2010
Benjamin Bryant (Carnegie Mellon) June-Aug. 2012
Shermaine Hutchens (Bowling Green State University) September 2015 – August 2016
Riley Powers (Bowling Green State University) Summer 2018
Samin Vahid (BIHE - *Major Advisor for Honors Thesis)* November 2022 - 2024

Highschool Trainees

Syifa Sjah, June-Aug. 2012

Selin Longmire, Aug. 2016-July 2017
Ramya Talla, Fall 2019

ENHANCEMENT OF TEACHING AND PROFESSIONAL SKILLS:

Preparing Future Faculty Program, Northwestern University
2001-2002

Effective Teachers Series, U Texas Southwestern Medical Center
2006-2007

U Toledo Teaching Workshop: Faculty Development for Basic Science Faculty.
June 27th-30th 2011

U Toledo Speed Mentoring Day (College of Medicine and Life Sciences, UT IDEAL)
April 4, 2012

Endocrine Society "How to Secure Promotion and Tenure Workshop"
June 2012

New Neuroscience Faculty Conference, Cold Spring Harbor Laboratory
(co-hosted by NIMH, NINDS, and Cold Spring Harbor)
March 19, 2012

To Tenure and Beyond: Building an Intentional Career in STEM, (co-sponsored by U Toledo and BGSU) August-November, 2012

Junior Faculty Mentoring Sessions for the College of Medicine
Research Advisory Council (Coordinated/facilitated by Dr. Akira Takashima)
2012-2016

Tech Talks, Green Screen Session, University Teaching Centers
January 27th, 2014

COM Academy of Educators Educational Symposium,
March 28th, 2014

Faculty Development Session on interactive teaching,
April 9th, 2014

LectureTools Workshop,
August 2014

Evidence-Based Teaching in Higher Education: Strategies to Improve Student Learning (Webinar)
February 25, 2016

Commitment to Excellence in Medical Education seminar series
Monthly, 2016-2018

Junior Faculty Mentoring Session (led by Dr. Robert McCullumsmith)
July, 2021

Course in "Optimizing the Practice of Mentoring" (online)
Offered by the National Research Mentoring Network (NRMN) and University of

Minnesota Clinical and Translational Science Institute (CTSI)
July 30, 2021

Raising a Resilient Scientist Series (online)
Offered by the NIH Office of Intramural Training and Education for mentors of students and postdoctoral fellows
5 units consisting of a lecture and facilitated discussion with peers
November, 2022-March 2023

Leadership Development Series
6 sessions on skills for how to effectively lead and manage teams
University of Toledo, Human Resources
Fall 2023 cohort

The 12-week Year Workshops
Productivity skills for individuals and teams
Online
Sept 28 2023 & Sept 19, 2024

Mid-Career Faculty Development Bootcamp
6 hours online covering: Tools and tactics for leadership, Establishing effective mentoring relationships, Navigating conflict resolution and difficult conversations, Maintaining resilience and work-life balance strategies, Career advancement through prioritization and time efficiency
Offered by Rush University, Rosalind Franklin University, and Southern Illinois University
February 6-8, 2024

Faculty Development – A Primer: "Leadership,"
COMLS Office of Faculty Development & Affairs, University of Toledo
September 11, 2025

AWARDS AND COMMENDATIONS:

Achievement Award for Math and Science, Bank of America, 1993.

Inducted, the Cum Laude Society, 1993.

Elected as member, Sigma Xi scientific research society, 1997
For research achievement.

Competitive travel grant, Office of the Vice President for Research, Northwestern University, 2002.

NIH Loan Repayment Program Award in Fertility and Contraception Research, 2007
Supports promising careers in fertility-related academic research by repaying the researcher's college loans.

Society for Neuroscience Travel Award Winner, 2008

NIH Loan Repayment Program Award in Fertility and Contraception Research, 2009

NIH Loan Repayment Program Award in Fertility and Contraception Research, 2011

National Conference on Undergraduate Research Travel Award Winner, trainee Laura Nedorezov, 2011

Experimental Biology Annual Meeting Travel Award Winner, trainee Joseph Marino, 2012

Promotion and Tenure Travel Award, the Endocrine Society, June 2012
For attendance at how to secure promotion and tenure workshop

Undergraduate Research Recognition Award, May 2012
To acknowledge dedication in advancing undergraduate research at the university of Toledo

Early Investigator Award, the Endocrine Society, June 2013
International award for early career investigators in recognition of their accomplishments in endocrine research.

Theodosiou Young Investigator Award, Sigma Xi, August 2013
International honor society for science and engineering.

Endocrine Society Flare Fellow Featured Article Recognition, for a high Altimetric Attention Score publication, 2013

Faculty of 1000 Prime Recommendation, for a publication ranked in the top 2% in Physiology, 2013

Dean's Award for Mentoring, U Toledo College of Medicine and Life Sciences, 2014

Endocrine Society Presidential Poster Competition Winner, trainee Latrice Faulkner, 2015

U Toledo Biomedical Research Innovation Award, 2016

NICHD nominee for the Presidential Early Career Award for Scientists and Engineers (PCASE), 2016

Best U Toledo Physiology Faculty Mentor, student's choice award, 2017

National Institute of Child Health and Human Development (NICHD)'s strategic planning working group appointee, 2018

Society for Behavioral Neuroendocrinology Travel Award Winner, trainee Shermel Sherman, 2019

University of Toledo President's Award for Excellence in Grantsmanship, 2019

Dean's Award for Research Excellence, U Toledo College of Medicine and Life Sciences, 2021

Taylor and Francis Top Author Recognition, for having one of the most highly cited papers in the previous five years, 2022

Society for Behavioral Neuroendocrinology Elsevier Travel Award Winner, trainee Joseph Dale, 2024

Society for Behavioral Neuroendocrinology Online Research Symposium Postdoc Poster Award, trainee Muhammad Naveed, Sept. 2024

Recognition for Undergraduate Mentorship, Office of Undergraduate Research and Creative Activity Exhibition, University of Toledo, December 6, 2024

Dr. Christopher Cooper Fellow, Toledo Medical Research Society, University of Toledo College of Medicine and Life Sciences, FY2023–present. Conferred August 21, 2025.

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES:

Sigma Xi
Associate Member, 1997-present

Center for Reproductive Science at Northwestern University
Member 1998-2003

Chair of organizing committee for 23nd Annual Minisymposium on Reproductive Biology, October 2002
Moderator for 23nd Annual Minisymposium on Reproductive Biology, October 2001

Endocrine Society
Associate Member, 2003-present

Symposium chair (by invitation). Endocrine Society annual meeting June 2011 (*Molecular Mechanisms Underlying Coordinated Control of Energy Balance*)

Invited commentator for clinical practice guideline on the diagnosis and treatment of Polycystic Ovary Syndrome, February 2013

Invited commentator for clinical practice guideline on The Adverse Health Consequences of the Use of Performance Enhancing Drugs by Recreational Weightlifters and Athletes, February 2013

Committee on Inclusion and Opportunity Member, 2017-2020
Work group on trainee and faculty development programs.
Mentor at CODI sponsored trainee dinner, pre-MD and pre-PhD table

Abstract reviewer, Endocrine Society annual meeting, 2017, 2022

Presidential Poster Competition Judge, ENDO 2017, 2018, 2023, 2024

Symposium Chair "Membrane Receptors Linking Metabolism and Reproduction", June 16th, ENDO 2023

Member, Trainee and Career Development Core Committee, Endocrine Society, 2025–2028

Women in Endocrinology
Full Member, 2018-present
Awards Committee
Member, 2021
Chair, 2022 - present

Pan American Neuroendocrine Society
Member, 2019-present
Session co-chair, Annual Meeting 2019 in New Orleans
Council nominee, 2021
Membership Committee member, 2024-present

Society for Neuroscience
Member 2003-present

Council on Undergraduate Research
U Toledo Institutional Member
Reviewer for Proceedings of the National Conference on Undergraduate Research, 2010

American Diabetes Association
Member, 2010-present
Volunteer, ADA Diabetes Walk, October 2009
Abstract Reviewer, Annual Scientific Session, 2015, 2022, 2025

Association for Women in Science
Dedicated to increasing the number of women obtaining degrees in science and technology.
Member, 2015-2016
Reviewer for Graduate Women in Science Fellowship applications, March 2016

Association for Baha'i Studies
Member, 2016 – present

Society for the Study of Reproduction (SSR)
Regular Member, 2017 – present
Future Meetings Committee Member, 2019-2020

Society for Behavioral Neuroendocrinology (SBN)
Regular Member, 2016-present
Poster judge, 2019, 2021 annual meeting
Meet the professor volunteer, 2019, 2021 annual meeting
Symposium chair. SBN annual meeting June 2024 (*Social Motivation: The Behavioral Influence of Oxytocin and Vasopressin)*
SBN Professional Development session presenter on Lab Management and Organization, June 2022
Professional Development Committee
Member, 2021 - 2022
Co-Chair, 2022 – 2024
Secretary, 2024-2027

The Obesity Society
Member, 2020-2021
Abstract Scorer, April 2024

American Physiological Society
Active Member, 2021-present
Endocrinology and Metabolism section, 2021-present
CNS section, 2021-present
Exercise &Metabolism Section sponsored Awards reviewer, 2023
Abstract Reviewer, 2023, 2025
Mentoring on the Go program for the American Physiology Summit, 2023

Juvenile Diabetes Research Foundation
Team leader, JDRF Walk, June 4th, 2022
Team leader, JDRF Walk, September 9th, 2023

International Neuroendocrine Federation
International Congress of Neuroendocrinology
Metabolism Symposium co-chair, August 2022

American Association for the Advancement of Science
Supporting Member, June 2024-present

Case Western Reserve University, CTSC T32 Postdoctoral Training Program
Approved Mentor, 2025–present

EDITORIAL BOARDS:

Frontiers in Translational and Clinical Endocrinology
Guest Associate Editor 2011-2020
Associate Editor 2021-present
Guest Editor for Special Issue "Genetic Obesity" 2022-2023
Associate Editor, Obesity Section 2023-present

American Journal of Physiology Endocrinology and Metabolism
Editorial Board Member
2015-present (renewed 2022)

Metabolites
Editorial Board Member 2020-2025
Guest Editor for Special Issue "Metabolism and Reproduction" published February, 2022
Guest Editor, Special Issue: Obesity, Hormones, and Metabolic Complications of Pregnancy, 2025

PLOS Genetics
Guest Editor, December 2021

Proceedings of the National Academy of Sciences (PNAS)
Guest Editor, 2025

JOURNAL PEER REVIEW:

American Journal of Physiology: 2015, 2016, 2017, 2018, 2019, 2022
Appetite
Asian Journal of Andrology: 2018
BBA: Molecular Basis of Disease: 7/4/2013
Biology of Sex Differences: 2023
British Journal of Pharmacology: 2022
Cardiovascular Diabetology
Cell & Tissue Research
Cell Metabolism
Cellular and Molecular Life Sciences: 8/21/2023
eLife: 9/6/2023, 5/20/2024, 8/22/2024
EMBO Reports: 2020
Endocrine
Endocrinology: 2018, 2019, 2021, 2022, 2023, 3/4/2025
Experimental and Clinical Endocrinology & Diabetes
Frontiers in Neuroendocrinology: 2018
Genome Medicine: 8/24/2023
Gut Microbes: 2023, 12/2025
International Journal of Fertility and Sterility
Journal of Clinical Investigation: 9/28/2024
JCI Insight: 2020
Journal of Endocrinology: 2022
Journal of Molecular Endocrinology: 2016
Journal of Neuroendocrinology: 2023
Journal of Neuroscience: 2017, 2022, 5/7/2024
Metabolism (Clinical and Experimental): 3/18/2018, 7/8/2019, 8/9/2019, 12/3/2021, 2024
Molecular and Cellular Endocrinology: 6/4/2015, 10/3/2016, 6/12/2020, 8/12/2020
Molecular Metabolism: 11/27/2019, 9/23/2022, 11/15/2022, 8/30/2024
Molecular Neurobiology: 7/25/2024
Neuroendocrinology
Neurology International
Neuropeptides
Neuropharmacology: 11/29/2024
Obesity
Physiological Genomics: 2020
PLoS One
Reproduction
Reproductive Biology: 3/12/2019
Reproductive Sciences
Science: 10/2022
Scientific Reports: 12/2024
The FASEB Journal: 2018

STUDY SECTIONS & REVIEW PANELS:

National Institutes of Health (NIH)
NICHD Fertility and Infertility Branch
SCCPIR U54 Panel
Mail Reviewer

March 2013

National Science Foundation (NSF)
Neural Systems Cluster (BIO/IOS)
Mail Reviewer
October 2014, 2019

American Diabetes Association (ADA)
75th Scientific Session
Abstract Reviewer
January 2015, 2022, 2025

National Institutes of Health (NIH)
Molecular, Cellular, and Developmental Neuroscience Study Section (MDCN-R 86)
R15 AREA Applications Panel
Phone Reviewer
March 2015 meeting

National Institutes of Health (NIH)
Integrative and Clinical Endocrinology and Reproduction Study Section (ICER)
Ad hoc Reviewer
Washington, D.C
June 2016 meeting

National Institutes of Health (NIH)
Integrative Physiology of Obesity and Diabetes Study Section (IPOD)
Ad hoc Reviewer
Washington, D.C
October 2016 meeting

National Institutes of Health (NIH)
NIDDK Diabetic Complications Consortium
Ad hoc reviewer, Pilot and Feasibility proposals
July 2019

Augusta University NIDDK-sponsored Diabetic Complications Consortium
DiaComp Funding Program Grant Reviewer
October 2019

Health Research Council of New Zealand
Sir Charles Hercus Research Fellowship Reviewer
July 2020

Swiss National Science Foundation
Ad hoc reviewer
August 21, 2020

Human Frontier Science Program Organization
Research Grant awards reviewer
December, 2020

National Institutes of Health (NIH)
Integrative Physiology of Obesity and Diabetes Study Section (IPOD)

aka Pathophysiology of Obesity and Metabolic Disease Study Section (POMD)
Standing Member
October 2017- June 2021

UK Research and Innovation (UKRI), Biotechnology and Biological Sciences Research Council (BBSRC)
Mail/online Reviewer
October 2016, November 2019, November 2021, February 2025, October 2025

Michigan Diabetes Research Center
National Institutes of Health sponsored Pilot & Feasibility Study Grants Program
Grants Program Advisory Council
November 24, 2020-present

National Institutes of Health (NIH)
Ad hoc reviewer, Metabolic Phenotyping in Live Models of Obesity and Diabetes (MPMOD) Consortium, July 2022

National Institutes of Health (NIH)
Integrative and Clinical Endocrinology and Reproduction Study Section (ICER)
Ad hoc Reviewer
Washington, D.C
June 2023 meeting

National Science Foundation (NSF)
Division of Integrative Organismal Systems (IOS)
Ad hoc Reviewer
online
October 2023 meeting

National Institutes of Health (NIH)
Special emphasis panel, Neurological and Neuropsychological Injuries and Disorders
ZRG1 CN-T (02)
Ad hoc Reviewer, online
November 30th, 2023

UK Research and Innovation (UKRI)
OPP317: MRC: Neurosciences and mental health
Ad hoc Reviewer
online
Jan 2024

National Institutes of Health (NIH)
Special Emphasis Panel/Scientific Review Group 2025/01 ZMH1 ERB-G (01) R
Ad hoc Reviewer
online
November 2024 meeting

National Institutes of Health (NIH)
Pathophysiology of Obesity and Metabolic Disease (POMD) Study Section
Ad hoc Reviewer

online
June 2025 meeting

National Institutes of Health (NIH)
Behavioral Neuroendocrinology, Neuroimmunology, Rhythms, and Sleep (BNRS)
Ad hoc Reviewer
online
October 2025 meeting

Wellcome Trust (UK)
Career Development Award.
Ad hoc Reviewer
online
Nov–Dec 2025

INSTITUTIONAL COMMITTEES:

University

Core Facility Workgroup
Purpose to identify procedures to improve core facility operations and availability at U Toledo. Chaired by Elsa Nadler, 2014

University of Toledo Faculty Senate
Committee on Faculty Affairs Member, 2014-2018

University of Toledo Graduate Council
Curriculum Committee Member, 2015-2018

University of Toledo Research Council
Appointed Member, 2016-2017, 2018-2019
deArce proposal reviewer, Spring 2016, 2017
NSF MRI proposal reviewer, November 2016
Hiring Committee for Associate VP of Research, RSP, Fall 2016
STEM innovation pre-proposal reviewer, November 2016
Inquiry Panel on research integrity case, March 22 2017-April 26 2017

College

College of Medicine & Life Sciences Faculty Council
Departmental Representative, 2009-2019
Secretary, 2012-2014
Member, Elections Committee, 2009
Chair, Elections Committee, 2012-2014
Chair, Committee on Faculty Workload Metrics, April 2014- July 2015
Co-chair, Committee on Faculty Affairs, 2020-2023
Co-chair, Faculty Affairs Subcommittee on Faculty Salary Equity, 2020-2023
Vice President, Fall 2022-Summer 2023
President, Fall 2023-Summer 2024
Past President, Fall 2024-Summer 2025
Co-chair, Academic Affairs Committee, 2025-current

Liaison Committee on Medical Education (LCME) Visit,
Junior faculty representative, May 1, 2013

Council of Biomedical Graduate Students
Faculty Advisor, 2015-2016

MSBS-MS Steering Committee
Member, 2016-2018

(MD) Admissions Committee (Dr. Menon chair, UTCOMLS Standing Committee)
Applicant Interviewer, 2011-present
Member, 2015-2023
Responsibilities: Attend at least four interview days per year, with each session lasting two hours (8h/year); Complete 25-30 subcommittee final evaluations per year (15h/year); Review and vote on the decisions for 50-60 candidates each month (8h/yr); Attend four one-hour update meetings each year.
Co-Chair, 2023-2024
Vice Chair, 2024-present
Vice Chair, Multiple Mini Interview Subcommittee, 2026

Neuroscience Department Chair Search Committee
Member, 2015-2016
Member, 2017-2018

Department of Medical Microbiology and Immunology Chair Search Committee
Member 2017

Selection Committee for Dean's Award for Graduate Mentoring
Member, November 2015

Curriculum Task Force
Participant in Annual Curriculum Retreat, October 2015, 2016
Reproductive Medicine Co-chair, 2016
Member, Gastro-Endo-Repro Thread, 2017-2018

Hiring Committee for Senior Associate Dean for UME
Member, 2019

Dean's Advisory Committee on Inclusion and Opportunity (Dr. Wishner chair, UTCOMLS Standing Committee)
Member 2018-present

Standing Committee for Student Appeals
Member, 2020-2022

Dual Degree Standing Committee Program (Dr. Smith chair, UTCOMLS Standing Committee)
Member, 2021-present

Strategic Planning Committee (Goal 1: Ensure Student Success From Recruitment Through Graduation)
Member, 2024

Research Steering Committee (Dr. Zhang chair)

Member, 2024-present

Standing Committees Oversight Committee (Dr. Carlson chair, UTCOMLS Standing Committee)
Member, 2025-present

Promotion Mentoring Committee (Dr. Stepkowski chair, UTCOMLS Standing Committee)
Member, 2025-present
Ad hoc Professionalism Committee (Dr. Carlson chair)
Member, October 2025-present

Department and Centers

Center for Diabetes and Endocrine Research
Steering Committee Member 2009-present
Journal club organizer, September 2011-2021
Data club organizer, September 2012-2021
Steering Committee Chair, 2012-2019
Associate Director for Basic Research, 2019-present

Graduate PhD Track in Molecular Medicine
Admissions Committee Member, 2014-2018
Curriculum Committee Member, 2015-2017
Admissions Committee Chair, 2015-2018, 2021-present
Track Director, 2021-present

Department of Physiology & Pharmacology
Faculty Search Committee Member, 2015-2017, 2021
Seminar series organizer, September 2015-2016
APT Committee, March 2018-2019, 2024-present
TLC/GradStairs Student Forum Director, 2015-2017, 2020-2022
Chair, organizing committee of the 50th Annual Pharmacology Research Colloquium. Toledo, OH June 21st, 2024

Member, Education Leadership Team, Department of Physiology and Pharmacology, University of Toledo College of Medicine and Life Sciences, 2021–present

Department of Medical Education
APT Committee, 2024-2025

Graduate PhD track in Neurosciences and Neurological Disorders
Steering Committee Member, 2015-2016

Department of Neurosciences
APT Committee Member, 2019
Faculty Search Committee Member, 2020-2021

Michigan Diabetes Research Center/Caswell Diabetes Institute Metabolism, Obesity and Diabetes
Member, 2011-present
Abstract Reviewer, Diabetes Symposium March 2019
Poster Judge, Diabetes Symposium 2019, 2022, 2023, 2024, 2025
Grants Program Advisory Council member, 2020, 2021, 2022-2027

The U Toledo Biomarker Discovery & Translational Bioscience Center
Supporting Member, 2012-present

Other

Annual Pharmacology Research Colloquium
Judge, 2010 (Michigan State University)
Judge, June 2011 (University of Toledo)
Judge, June 2013 (Wayne State)
Judge, June 2017 (Wayne State)
U Toledo Liaison for 2022 meeting (Michigan State University)

University of Toledo Graduate Research forum
Judge, 2010
Judge, 2012
Judge, 2014
Judge, 2016
Judge, 2021

Baha'i Institute of Higher Education
Research Ethics Committee co-chair, 2021-present

INVITED LECTURES, SEMINARS, AND SYMPOSIA:

"The Role of Insulin and Leptin Signaling in Hypothalamic POMC neurons"
Department of Physiology
University of Alabama at Birmingham,
June 2008

"The Role of Insulin and Leptin Signaling in Hypothalamic POMC neurons"
Department of Human Nutrition, Foods and Exercise
Virginia Polytechnic Institute and State University
September 2008

"A Short Introduction to Obesity and Diabetes Research"
Diabetes Update: The Big Game
Regional conference involving Ohio State, University of Michigan, and U Toledo
CME credit available
Toledo OH
November 2009

"PCOS: New Insights and Treatments"
Symposium on Diabetes in Women: Energy Balance, Osteoporosis, and Polycystic Ovarian Syndrome Regional conference involving Ohio State, University of Michigan, and U Toledo
CME credit available
Toledo OH
May 2011

"Insulin Signaling through Kisspeptin Neurons"
Van der Kloot Symposium
SUNY Stony Brook
October 2013

"Energy Balance and Reproduction"
Michigan Diabetes Research Center MOLESS meeting
University of Michigan
August 2015

"The Role of Insulin and Leptin in the Regulation of Libido and Reproductive Capacity."
Ohio University
February 2016

"The Role of Melanocortins in Regulating Libido and Reproductive Capacity."
Michigan Diabetes Research Center Annual Diabetes Symposium
University of Michigan
March 2016

"The Role of Melanocortins in Regulating Libido and Reproduction."
Center for Diabetes and Metabolic Disease
Indiana University
May 5th 2016

"Melanocortins and Sexual Behavior"
Michigan State University
January 31, 2018

"Dissociating PVH Pathways Controlling Metabolism and Sexual Behavior"
University of Texas Health San Antonio
March 25, 2019

"Brain Insulin Signaling and Fertility"
Kent State
September 20, 2019

"Insulin, Fertility and the Brain"
University of Mississippi (Dept. of Physiology)
March 24, 2021 (virtual)

"Insulin, Fertility and the Brain"
University of Iowa (Dept. of Neuroscience and Pharmacology)
May 25, 2021 (virtual)

"Metabolic infertility and central insulin signaling"
UCSD (Department Obstetrics, Gynecology & Reproductive Sciences)
March 27, 2023 (virtual)

"The Curious Case of Bremelanotide: Unexpected Effects on Behavior in Mice,"
Kent State University, Department of Biological Sciences, Kent, OH
February 21, 2025.

"Obesity, Insulin Resistance, and Female Reproductive Health",
Clinical and Translational Science Collaborative (CTSC)
Symposium: Advancing Frontiers in the Science of Reproduction
Case Western Reserve University, Cleveland, OH
September 25, 2025

PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS:

Lectures

"Tissue-Specific Regulation of Neuropeptide Y1 Receptor Gene Expression by Estrogen."
Hill, Jennifer E., Xu M, Potempa A, and Levine J.E.
10 minute talk
30th Annual Meeting of the Society of Neuroscience.
Spring 2000

"POMC-targeted deletion of PI3K regulatory subunit p85alpha in mice lacking p85beta"
Jennifer W. Hill
15 minute talk
Society for Neuroscience meeting, Washington DC
October 2005

"Reproductive Effects of Disrupted Melanocortin Signaling Accompanying the Metabolic Syndrome"
Jennifer W. Hill
20 minute talk
2nd International Conference on Endocrinology, Chicago, IL
October 2014

"Energy Balance Hormones That Regulate Libido and Reproductive Capacity."
Jennifer W. Hill
30 minute talk: Session "Sex, Drugs, and Rocky Road" Chaired by Gina Leinninger
Endocrine Society Annual Meeting, Boston MA
April 2, 2016

"IGF-1 Receptors in Leptin Responsive Neurons Control Body Weight, Growth and Pubertal Development."
Wang, Mengjie, Iyad Manaserh, and Jennifer W. Hill.
10 minute talk given by trainee
Endocrine Society Annual Meeting, Boston MA.
April 2016. *Outstanding Abstract Award*

"Prenatal Androgen Exposure Increases Risk of Hypertension and Gut Microbiota Dysbiosis in Female Wistar Rats."
Jennifer W. Hill
15 minute talk
Androgen Excess and PCOS Society meeting, Orlando FL.
March 31, 2017

"Insulin Action in Non-Neuronal Cells and the Regulation of Puberty and Reproduction."
Manaserh, Iyad, and Jennifer W. Hill.
10 minute talk given by trainee
8th Annual Midwest Graduate Research Symposium, Toledo OH.
March 2017.

"Prenatal Androgen Exposure Increases Risk of Hypertension and Gut Microbiota Dysbiosis in Female Wistar Rats."
Sherman, Shermel, and Jennifer W. Hill.

10 minute talk given by trainee
1st Northern Ohio Alliances for Graduate Education and the Professoriate (NOA-AGEP) Research Symposium & 8th Annual Midwest Graduate Research Symposium, Toledo OH.
March 2017.

"The Effects of Glutamate on Oxytocin Release."
Badmus, Yetunde, Richard Cantley, and Jennifer W. Hill.
10 minute talk given by trainee
Experimental Biology/APS Biology, Chicago IL.
April 2017.

"Unique Roles for Igf-1r and Insr in Kisspeptin Neurons in the Regulation of Body Weight, Body Length, Glucose Homeostasis and Fertility."
Wang, Mengjie, and Jennifer W. Hill.
10 minute talk given by trainee
Endocrine Society Annual Meeting, Chicago IL.
March 2018.

"Conflicting Desires: A POMC Switch for Breeding and Feeding"
Jennifer W. Hill
30 minute talk
Society for the Study of Reproduction Annual Meeting, San Jose
July 20, 2019

"IGF-1 Signaling in Kisspeptin Neurons."
Wang, Mengjie, and Jennifer W. Hill.
10 minute talk given by trainee
Kisspeptin 2021, online.
April 2021.

"Insulin: An Evolutionary and Human History"
Jennifer W. Hill
50 minute talk to open the conference
MARTS/RSP Conference, online
October 7th, 2021

"Reproductive Roles of IGF1R and IR in Kisspeptin Neurons"
Jennifer W. Hill
10 minute talk
Kisspeptin 2022, Glasgow Scotland
August 6th, 2022

"Bremelanotide, Vasopressin, And The Mc4r: A Functional Role In Male And Female Mice Grooming Behavior"
Joseph Dale and Jennifer W. Hill
20 minute talk given by trainee
Society for Behavioral Neuroscience Annual Conference
June 23rd, 2024
Winner, Elsevier travel award

"Kisspeptin and GnRH: The Gift that Just Keeps on Giving"

Jennifer W. Hill
30-minute invited symposium presentation
Endocrine Society Annual Meeting (ENDO 2025), San Francisco, CA,
July 13, 2025

Panel Discussions

"Lab Management and Organization"
Jennifer W. Hill
55 min, panel of 3
Society for Behavioral Neuroendocrinology, Atlanta GA
Sunday June 26, 2022

Poster Presentations at Conferences and Symposia

1. **Williams, Heather, F. M. Mullins, and Jennifer Danforth (maiden name).** A Comparison of the Effects of Deafening and Vocal Disruption on the Stability of Crystallized Song. *Society for Neuroscience Annual Meeting 1997*. New Orleans, LA.

2. **Xu, M., Jennifer E. Hill, Schwartz N. B., and Jon E. Levine.** Neuropeptide Y (NPY) Null Mutant Mice Exhibit Attenuated Luteinizing Hormone Surges. *Society for Neuroscience Annual Meeting 1999*. Miami Beach, FL.

3. **Hill, Jennifer W., M. Xu, A. Potempa, and J. E. Levine.** Tissue-Specific Regulation of Neuropeptide Y1 Receptor Gene Expression by Estrogen. *Society for Neuroscience Annual Meeting 2000*. New Orleans, LA.

4. **Hill, Jennifer W., M. Xu, A. Potempa, and Jon E. Levine.** Tissue-Specific Regulation of Neuropeptide Y1 Receptor Gene Expression by Estrogen. *Annual Mini-Symposium on Reproductive Biology 2000*. Chicago, IL.

5. **Hill, Jennifer W., M. Xu, and Jon E. Levine.** Neuropeptide Y Potentiates GnRH-Induced LH Release from LbetaT2 Cells and Gonadotrope-Enriched Primary Pituitary Cells. *Society for Neuroscience Annual Meeting 2001*. San Diego, CA.

6. **Hill, Jennifer W., and Jon E. Levine.** Neuropeptide Y Alters GnRH-Induced LH Release from LbetaT2 Cells and Gonadotrope Enriched Primary Pituitary Cells. *Mini-Symposium on Reproductive Biology 2001*. Chicago, IL.

7. **Hill, Jennifer W., and Jon E. Levine.** Abnormal Response of NPY KO Mouse Reproductive Axis to Food-Deprivation but Not Lactation. *Endocrine Society Annual Meeting 2002*. San Francisco, CA.

8. **Hill, Jennifer W., and Joel K. Elmquist.** POMC-Targeted Deletion of PI3K Regulatory Subunit p85α in Mice. *Keystone Symposium on Diabetes Mellitus: Molecular Signaling, Genes and Therapeutics 2004*. Banff, Alberta, Canada.

9. **Hill, Jennifer W., and Joel K. Elmquist.** VMH-Targeted Deletion of PI3K Regulatory Subunit p85α. *Endocrine Society Annual Meeting 2005*. San Diego, CA.

10. **Hill, Jennifer W., and Joel K. Elmquist.** Disruption of PI3K Signaling in POMC Neurons. *Keystone Symposium on Obesity: Peripheral and Central Pathways Regulating Energy Homeostasis 2007*. Keystone, CO.

11. **Hill, Jennifer, C. F. Elias, R. Coppari, N. Balthasar, J. C. Bruning, B. B. Lowell, and J. K. Elmquist.** Simultaneous Deletion of Insulin and Leptin Receptors in POMC Neurons. *Society for Neuroscience Annual Meeting 2008*. Washington, DC.

12. **Hill, Jennifer, Carol F. Elias, Roberto Coppari, Nina Balthasar, Jens C. Bruning, Bradford B. Lowell, and Joel K. Elmquist.** The Reproductive Effect of Simultaneous Deletion of Insulin and Leptin Receptors in POMC Neurons. *Society for Neuroscience Annual Meeting 2009*. Chicago, IL.

13. **Hill, Jennifer W., Angela Burgess, Jens C. Bruning, Bradford B. Lowell, Joel K. Elmquist, and Nader G. Abraham.** The Metabolic Syndrome and Ovarian Dysfunction in Mice. *Society for the Study of Reproduction Annual Meeting 2010*. Milwaukee, WI.

14. **Marino, J. S., L. Fedorova, and Jennifer W. Hill.** Sexual Dimorphism in the Diabetic Phenotype of CEACAM2 Knockout Mice. *Keystone Symposium on Diabetes 2010*. Whistler, British Columbia, Canada.

15. **Peterson, Stephen J., Angela P. Burgess, Ming Li, Dong Hyun Kim, Luca Vanella, Jennifer W. Hill, Nader G. Abraham, and Attallah Kappas.** L-4F Treatment Increases Adiponectin and Normalizes Both Blood Pressure and Abnormal Steroid Hormone Ratios in Male and Female Mice. *American Heart Association High Blood Pressure Research Scientific Sessions 2010*. Washington, DC.

16. **Marino, J. S., A. R. Dowling, X. Qiu, L. Nedorezov, L. F. C. Mueller, and Jennifer W. Hill.** Inflammation but Not Dyslipidemia in a Mouse Model of Polycystic Ovarian Syndrome. *Michigan Metabolomics and Obesity Center Symposium 2010*. Ann Arbor, MI.

17. **Marino, J. S., A. R. Dowling, X. Qiu, L. Nedorezov, L. F. C. Mueller, and Jennifer W. Hill.** Evidence of an Inflammatory State in a Mouse Model of Polycystic Ovarian Syndrome. *Experimental Biology Annual Meeting 2011*. Washington, DC.

18. **Marino, J. S., A. R. Dowling, X. Qiu, L. Nedorezov, L. F. C. Mueller, and Jennifer W. Hill.** Evidence of an Inflammatory State in a Mouse Model of Polycystic Ovary Syndrome. *Endocrine Society Annual Meeting 2011*. Boston, MA.

19. **Qiu, X., L. B. Nedorezov, and Jennifer W. Hill.** Insulin Action in Kiss1 Neurons and the Regulation of Puberty and Reproduction. *Endocrine Society Annual Meeting 2011*. Boston, MA.

20. **Nedorezov, L. B., A. R. Dowling, J. S. Marino, X. Qiu, and Jennifer W. Hill.** Apolipoprotein A-1 Mimetic Treatment of Ovarian Dysfunction in Two Mouse Models of Polycystic Ovarian Syndrome. *Endocrine Society Annual Meeting 2011*. Boston, MA.

21. **Peterson, Stephen J., Jian Cao, Ming Li, L. Vanella, N. Puri, and Jennifer W. Hill.** Apo-Lipoprotein-A1 Mimetic Restores Insulin Sensitivity and Attenuates Systemic Inflammation in Female-Obese Mice Independent of Effects on Body Weight. *American Heart Association High Blood Pressure Research Scientific Sessions 2011*. Orlando, FL.

22. **Nedorezov, L. B., A. R. Dowling, J. S. Marino, X. Qiu, and Jennifer W. Hill.** Apolipoprotein A-1 Mimetic Treatment of Ovarian Dysfunction in Two Mouse Models of Polycystic Ovarian Syndrome. *National Conference on Undergraduate Research 2011*. Ithaca, NY.

23. **Qiu, X., and Jennifer W. Hill.** Insulin and Leptin Action on Kiss1 Neurons and the Regulation of Puberty and Reproduction. *38th Annual Pharmacology Research Colloquium 2011*. Toledo, OH.

24. **Marino, J. S., A. R. Dowling, L. Faulkner, and Jennifer W. Hill.** Evidence that Leptin Signaling in POMC Neurons Regulates HDL-c. *Experimental Biology Annual Meeting 2012*. San Diego, CA.

25. **Qiu, X., A. Dowling, J. Marino, L. Faulkner, L. Nedorezov, and Jennifer W. Hill.** Insulin and Leptin Action on Kiss1 Neurons and the Regulation of Puberty and Reproduction. *Endocrine Society Annual Meeting 2012*. Houston, TX.

26. **Dowling, A. R., L. B. Nedorezov, J. S. Marino, X. Qiu, and Jennifer W. Hill.** Effects of Genetic Background on Insulin Resistance and Fertility in a Polycystic Ovarian Syndrome Mouse Model. *Endocrine Society Annual Meeting 2012*. Houston, TX.

27. **Faulkner, L. D., A. R. Dowling, and Jennifer W. Hill.** Simultaneous Insulin and Leptin Signaling in POMC Neurons Promotes Fertility and Metabolic Homeostasis in Male Rodents. *Endocrine Society Annual Meeting 2012*. Houston, TX.

28. **Dowling, A. R., L. B. Nedorezov, J. S. Marino, X. Qiu, and Jennifer W. Hill.** Effects of Genetic Background on Insulin Resistance and Fertility in a Polycystic Ovarian Syndrome Mouse Model. *Developmental Origins of Disease Symposium 2012*. Ann Arbor, MI.

29. **Hill, Jennifer W., L. D. Faulkner, A. R. Dowling, R. C. Stuart, and E. A. Nillni.** Leptin and Insulin Signaling in POMC Neurons Mediates Metabolic and Reproductive Homeostasis in Male Rodents. *Endocrine Society Annual Meeting 2013*. San Francisco, CA.

30. **Faulkner, L. D., A. R. Dowling, R. C. Stuart, E. A. Nillni, and Jennifer W. Hill.** Leptin and Insulin Signaling in POMC Neurons Mediates Metabolic and Reproductive Homeostasis in Male Rodents. *Keystone Symposium on Neuronal Control of Appetite, Metabolism, and Weight 2013*. Banff, Alberta, Canada.

31. **Marino, Joseph S., Terry Hinds, Rachael A. Hoover, Eric Ondrus, Jeremy L. Onion, Abigail Dowling, Thomas McLoughlin, Edwin R. Sanchez, and Jennifer W. Hill.** PKCθ Contributes to Myotube Formation by Regulating Protein Synthesis. *Experimental Biology Meeting 2013*. Boston, MA.

32. **Faulkner, L. D., A. R. Dowling, R. C. Stuart, E. A. Nillni, and Jennifer W. Hill.** Reduced Melanocortin Production Underlies Impaired Mating Behavior in Males with Neuronal Insulin and Leptin Insensitivity. *Michigan Diabetes Research Center Annual Symposium 2014*. Ann Arbor, MI.

33. **Faulkner, L., R. C. Stuart, E. A. Nillni, and Jennifer W. Hill.** Disrupted Melanocortin Signaling Facilitates Type 2 Diabetes-Associated Erectile Dysfunction. *Keystone Conference on Obesity: A Multi-Systems Perspective 2014*. Vancouver, British Columbia, Canada.

34. **Hill, Jennifer W., L. D. Faulkner, A. R. Dowling, R. C. Stuart, and E. A. Nillni.** Disrupted Melanocortin Signaling Facilitates Type 2 Diabetes-Associated Erectile Dysfunction. *Endocrine Society Annual Meeting 2014*. Chicago, IL.

35. **Wang, Mengjie, Y. Zhang, D. Lan, and Jennifer W. Hill.** The Efficacy of Gonadotropin-Releasing Hormone Analogs Alone or in Combination with Recombinant Human Growth Hormone for the Treatment of Chinese Children with Central Precocious Puberty: A Systemic Review and Meta-Analysis. *Anita Payne Lectureship and Poster Day 2014*. Ann Arbor, MI.

36. **Faulkner, L. D., A. R. Dowling, R. Stuart, E. A. Nillni, and Jennifer W. Hill.** Reduced Melanocortin Production Causes Sexual Dysfunction in Male Mice with POMC Neuronal Insulin and Leptin Insensitivity. *Endocrine Society Annual Meeting 2015*. San Diego, CA.

37. **Wang, Mengjie, and Jennifer W. Hill.** The Efficacy and Safety of GnRHa plus rhGH Combined Treatment of Chinese Children with Central Precocious Puberty. *Keystone Conference on the Neural Control of Metabolic Physiology and Diseases 2015*. Snowbird, UT.

38. **Wang, Mengjie, Y. Zhang, D. Lan, and Jennifer W. Hill.** The Efficacy of Gonadotropin-Releasing Hormone Analogs Alone or in Combination with Recombinant Human Growth Hormone for the Treatment of Chinese Children with Central Precocious Puberty: A Systematic Review and Meta-Analysis. *Endocrine Society Annual Meeting 2015*. San Diego, CA.

39. **Semple, Erin, S. Nourollahi, and Jennifer W. Hill.** Melanocortin 4 Receptors in the Paraventricular Nucleus of the Hypothalamus Influence Metabolism and Sexual Behavior in Transgenic Mice. *Endocrine Society Annual Meeting 2016*. Boston, MA.

40. **Nourollahi, S., Erin Semple, and Jennifer W. Hill.** The Role of Oxytocin Neurons in Alpha-MSH-Induced Sexual Behavior and Function. *Endocrine Society Annual Meeting 2016*. Boston, MA.

41. **Semple, Erin, and Jennifer W. Hill.** Melanocortin 4 Receptors Expressed Only on Sim1 Neurons Are Sufficient for Male Sexual Behavior. *Society for Neuroscience Annual Meeting 2016*. San Diego, CA.

42. **Wang, Mengjie, and Jennifer W. Hill.** Roles of Insulin Receptors and IGF-1 Receptors in Leptin-Responsive Neurons in Regulation of Body Weight, Growth, Pubertal Development and Fertility. *Endocrine Society Annual Meeting 2017*. Orlando, FL.

43. **Sherman, Shermel, Nadeen Sarsour, and Jennifer W. Hill.** Prenatal Androgen Exposure of Single-Injection of Testosterone Induces Cardiovascular and Metabolic Dysfunction in Adult Female Wistar Rats. *Experimental Biology/APS Conference 2017*. Chicago, IL.

44. **Badmus, Yetunde Awwah, Richard Cantley, and Jennifer W. Hill.** The Effects of Glutamate on Oxytocin Release. *Experimental Biology Meeting 2017*. Chicago, IL.

45. **Manaserh, Iyad, Jennifer W. Hill, and Selin Longmire.** Insulin Action in Neuronal and Non-Neuronal Cells and the Regulation of Puberty and Reproduction. *Endocrine Society Annual Meeting 2017*. Orlando, FL.

46. **Jahromi, Marziyeh Salehi, Fahimeh Ramezani Tehrani, and Jennifer W. Hill.** Prenatal

Androgen Exposure of Single-Injection of Testosterone Induces Cardiovascular and Metabolic Dysfunction in Adult Female Wistar Rats. *European Congress of Endocrinology 2017*. Lisbon, Portugal.

47. **Sarsour, Nadeen, and Jennifer W. Hill.** Prenatal Androgen Exposure in Adult Female Wistar Rats. *31st Annual National Conference on Undergraduate Research 2017*. Memphis, TN.

48. **Sherman, Shermel, Nadeen Sarsour, and Jennifer W. Hill.** Prenatal Androgen Exposure of Single-Injection of Testosterone Induces Cardiovascular and Metabolic Dysfunction in Adult Female Wistar Rats. *Keystone Symposium: Gastrointestinal Control of Metabolism 2017*. Copenhagen, Denmark.

49. **Semple, Erin, and Jennifer W. Hill.** Melanocortin 4 Receptors Expressed Only on Sim1 Neurons Are Sufficient for Male Sexual Behavior. *Michigan Diabetes Research Center Annual Symposium 2018*. Ann Arbor, MI.

50. **Semple, Erin A., and Jennifer W. Hill.** Oxytocin Neurons Are Sufficient for MC4R-Mediated Sexual Functions in Mice. *9th International Congress of Neuroendocrinology 2018*. Toronto, Canada.

51. **Manaserh, I. H., Ravi S., and Hill J. W.** Astrocyte-Specific Insulin Receptor Deletion Contributes to Reproductive and Metabolic Dysregulation in Mice. *FASEB Meeting 2018*.

52. **Semple, Erin, and Jennifer W. Hill.** Oxytocin Neurons Are Sufficient for MC4R-Mediated Sexual Function in Mice. *26th Annual Regional Symposium on Research in Psychiatry, Psychology and Behavioral Science 2019*. Toledo, OH.

53. **Semple, Erin, and Jennifer W. Hill.** Oxytocin Neurons Are Sufficient for MC4R-Mediated Sexual Function in Mice. *Neurobiology of Motivated Behavior Symposium 2019*. East Lansing, MI.

54. **Sherman, Shermel, and Jennifer W. Hill.** Spexin/Neuropeptide Q Functions as an Anxiolytic in High-Fat Diet-Fed Female Mice. *Society for Behavioral Neuroendocrinology Annual Meeting 2019*. Bloomington, IN.

55. **Semple, Erin, and Jennifer W. Hill.** Oxytocin Neurons Are Sufficient for MC4R-Mediated Sexual Function in Mice. *Society for Behavioral Neuroendocrinology Annual Meeting 2019*. Bloomington, IN.

56. **Ghadieh, Hilda, Lucia Russo, Harrison Muturi, Simona Ghanem, Iyad Manaserh, Hye Lim Noh, Sujin Suk, Jason Kim, Cara M. Gatto-Weis, and Jennifer W. Hill.** Hyperinsulinemia-Driven Progressive Metabolic Dysfunction in Male Mice with Liver-Specific CEACAM1 Deletion. *Endocrine Society Annual Meeting 2019*. New Orleans, LA.

57. **Sherman, Shermel, Riley Powers, Ashima Thusu, and Jennifer W. Hill.** Spexin Differentially Regulates Adipogenesis in Brown and White Adipose Tissue Depots. *Endocrine Society Annual Meeting 2019*. New Orleans, LA.

58. **Manaserh, Iyad, and Jennifer W. Hill.** Insulin Sensing by Astrocytes Is Critical for Normal Thermogenesis and Body Temperature Regulation. *Endocrine Society Annual Meeting 2020*.

Online (Virtual).

59. **Harberson, Mitchell T., and Jennifer W. Hill.** Pro-Opiomelanocortin Neural Activation and Sexual Interest in Male Mice. *Endocrine Society Annual Meeting 2021*. Online (Virtual).

60. **Harberson, Mitchell, and Jennifer W. Hill.** Characterizing Behaviors Induced by Bremelanotide in Female Mice. *Society for Behavioral Neuroendocrinology Annual Meeting 2022*. Atlanta, GA.

61. **Wang, Mengjie, and Jennifer W. Hill.** Unique and Cooperative Roles of IGF-1R and IR in Kisspeptin Neurons in Reproduction and Metabolism. *International Congress of Neuroendocrinology 2022*. Glasgow, Scotland.

62. **Semple, Erin, and Jennifer W. Hill.** Melanocortin 4 Receptor Signaling in Sim-1 Neurons Permits Sexual Receptivity in Female Mice. *American Physiology Summit 2023*. Long Beach, CA.

63. **Salehi, Marziyeh, and Jennifer W. Hill.** Role of Insulin Signaling in Prostaglandins Synthesis. *University of Michigan RSP/OBGYN Research Forum 2023*. Ann Arbor, MI.

64. **Dale, J., Harberson, M., and Hill J. W.** The Effects of MC4R Activation on Behavioral Activity in Mice. *Dr. Lance D. Dworkin Department of Medicine Research Symposium 2023*. Toledo, OH.

65. **Salehi, Marziyeh, and Jennifer W. Hill.** Role of Insulin Signaling in Prostaglandins Synthesis. *University of Toledo Departments of Psychiatry & Neurosciences Research Symposium 2024*. Toledo, OH.

66. **Harberson, Mitchell, and Jennifer W. Hill.** A Medication for Low Sexual Desire Promotes Self-Grooming and Avoidance Behavior and Inhibits Sexual Desire in Female Mice. *University of Michigan RSP/OBGYN Research Forum 2024*. Ann Arbor, MI.

67. **Harberson, Mitchell, and Jennifer W. Hill.** A Medication for Low Sexual Desire Promotes Self-Grooming and Avoidance Behavior and Inhibits Sexual Desire in Female Mice. *50th Annual Pharmacology Research Colloquium 2024*. Toledo, OH.

68. **Harberson, Mitchell, and Jennifer W. Hill.** A Medication for Hypoactive Sexual Desire Disorder Promotes Stereotypy-Like Self-Grooming Behavior in Male and Female Mice. *Society for Behavioral Neuroendocrinology 2024*. Columbus, OH.

69. **Wang, Mengjie, Muhammad Naveed, Yong Xu, and Jennifer W. Hill.** Insulin-Like Growth Factor (IGF)-1 Acts Through Kiss1 Neurons in Mice to Influence Metabolism and Reproduction. *Society for Behavioral Neuroendocrinology Online Research Symposium 2024*. Columbus, OH.

70. **Wang, Mengjie, and Jennifer W. Hill.** IGF-1 Receptor and Insulin Receptor in LepRb Neurons Coordinates Body Growth, Reproduction, and Metabolism. *Endocrine Society Annual Meeting 2024*. Boston, MA.

71. **Salehi Jahromi M., Smedlund K. B., Ryan W. G., Imami A. S., McCullumsmith R. E., and Hill J. W.** Role of Insulin Signaling in Prostaglandins Synthesis. *Translation: The University of Toledo Journal of Medical Sciences 2024* (published abstract).

72. **David, K., Smedlund K. B., and Hill J. W.** In Vitro Studies of Metabolic Hormone Signaling and Central Control of Fertility. *Department of Neurosciences & Psychiatry Symposium 2025*. University of Toledo, Toledo, OH.

73. **Wang M., Naveed M., Xu Y., and Hill J. W.** Insulin-Like Growth Factor (IGF)-1 Acts Through Kiss1 Neurons to Influence Metabolism and Reproduction. *Cell Symposia: Neurometabolism in Health and Disease 2025*. Shenzhen.

74. **Jenna Boone, Natalie Doumet, Zoe Parlier, Jennifer W. Hill, and Shahnawaz Imam.** Fertility in a Type 1 Diabetes Mouse Model. *Michigan Alliance for Reproductive Technologies and Sciences (MARTS) Meeting 2025*. Wayne State University, Detroit, MI.

75. **LaTrice R. Wilson and Jennifer W. Hill.** Evaluating the Efficacy of Semaglutide in Managing Polycystic Ovary Syndrome: A Pathway to Improve Metabolic Health. *Caswell Diabetes Institute Metabolism, Obesity, Nutrition & Diabetes Symposium 2025*. University of Michigan, Ann Arbor, MI.

76. **Jaramillo, L. D., Smedlund K., Hill J. W., and Manaserh I.** SAT-024 Astrocyte Insulin-Like Peptide Signaling and Control of Murine Sexual Maturation/Function. *Endocrine Society Annual Meeting 2025*.

77. **Jaramillo, L. D., Smedlund K., and Hill J. W.** In Vitro Studies of Metabolic Hormone Signaling and Central Control of Fertility. *Translation: The University of Toledo Journal of Medical Sciences 2025* (published abstract).

MAJOR RESEARCH INTERESTS:

My laboratory's interests lie in understanding hypothalamic homeostatic mechanisms controlling body weight and fertility and the interactions between these two systems. The brain blocks reproduction in animals under metabolic stress. Within the hypothalamus, energy deficits suppress gonadotropin-releasing hormone (GnRH) release necessary to maintain fertility. As many as 5% of women of reproductive age suffer from infertility related to eating disorders. Furthermore, the incidence of exercise-related anovulation may reach as high as 61% in gymnasts and 78% in runners. On the opposite end of the spectrum, obesity and diabetes also negatively affect fertility. As rates of these diseases rise, it is urgent that we unravel the hypothalamic homeostatic mechanisms controlling body weight and fertility and the interactions between these two systems.

The hypothesis underlying my research is that circulating metabolic factors such as leptin, insulin, and IGF-1 are perceived directly or indirectly by GnRH neurons of the hypothalamus and maintain reproductive health. The cornerstone of my laboratory's efforts is timed, targeted genetic manipulation to alter neuronal activity or gene expression. Combined with anatomical, electrophysiological, and physiological techniques, this approach offers a powerful tool for investigating the hypothalamic control of metabolism and fertility and identifying targets for medical treatment.

PAST RESEARCH SUPPORT AND TRAINING GRANTS:

5T32HD007068-23 "Training Program in Reproductive Biology"
National Institutes of Health

05/01-04/03
Direct Costs: $231,655/yr
PI: Dr. Jon E Levine, Department of Biology, Northwestern University
Role: Trainee

F32 DK066972 "Hypothalamic leptin and insulin signaling"
National Institutes of Health
03/04-02/07
Direct Costs: $50,428/yr
Department of Internal Medicine, University of Texas Southwestern at Dallas (transferred from BIDMC)
Role: Principal Investigator

K99/R00HD056491 "Hypothalamic leptin and insulin signals aligning metabolic state and fertility" (Total funding at U Toledo: $739,552)
National Institutes of Health
07/01/2008-06/30/2013
Direct Costs: $164,559/yr
Department of Physiology and Pharmacology, University of Toledo (transferred from UTSW)
Role: Principal Investigator

R21 HD071529 "Inflammatory triggers of polycystic ovarian syndrome" (Total funding: $363,991)
National Institutes of Health
04/01/2012-03/31/2014
Direct Costs: 125,000/yr
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

"POMC neuronal control of hepatic cholesterol turnover"
University of Toledo DeArce-Koch Memorial Endowment Fund
07/2012-07/2013
Direct Costs: $20,000
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

"Inflammatory processes driving insulin resistance in polycystic ovary syndrome"
National Institutes of Health (P30DK092926:5556) &
Michigan Diabetes Research and Training Center Pilot & Feasibility Study Grants Program
01/2014-6/2015
Direct Costs: $54,000
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

F31-HD-75608-02 "Simultaneous insulin and leptin signaling in POMC neurons promotes fertility"
National Institutes of Health
01/01/2013 – 02/28/16
Direct Costs: $42,676/yr
PI: Latrice Faulkner, Graduate Student in Department of Physiology and Pharmacology, U of Toledo
Role: Sponsor

"Intergenerational obesity resulting from lactational impairment "
National Institutes of Health (P30DK092926:5556) &
Michigan Diabetes Research and Training Center Pilot & Feasibility Study Grants Program
01/2016-12/2016
Direct Costs: $10,000
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

3 R01 HD081792-02S1 (Sponsor: Hill) 04/01/2016-03/31/2017 (Total funding: $128,028)
NIH/NICHD
Diversity Supplement
This supplement was intended to support the training of post-baccalaureate researcher Shermaine Hutchins. In the time it took to receive the award, Mr. Hutchins completed his work and was accepted into a professional program. The funding was therefore returned.

"Investigating the Role of the MC4R Oxytocin Signaling in Regulating Female Sexual Behavior"
University of Toledo Biomedical Research Innovation Grant
07/2016-07/2017
Direct Costs: $42,000
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

"Melanocortin Signaling and Female Sexual Dysfunction"
COMLS Bridge Funding
03/2020-03/3021
Direct Costs: $50,000
Role: Principal Investigator

R01 HD081792 "Defective melanocortin signaling underlying T2D-associated erectile dysfunction" (Total funding: $1,632,440)
National Institutes of Health
04/01/2015-03/31/2021 (NCE)
Direct Costs: $260,000/yr (25% effort)
Department of Physiology and Pharmacology, University of Toledo
Role: Principal Investigator

"Astrocyte Insulin Signaling and Thermogenesis"
Dean's Grant Award for Innovative Biomedical Research
04/2021-04/2022
Direct Costs: $50,000
Role: Principal Investigator

F30 AG079633-01 (PI: Smith)
"AMPK localization, expression, and activity in Alzheimer's Disease" (N. Henkel Fellowship)
NIH/NIA
9/1/2022 to 8/31/2023
Direct/Total Cost: $40569.00/yr
Role: Co-I

CURRENT AND PENDING RESEARCH SUPPORT:

24TPA1298609 Transformational Project Award (PI: LiLian Yuan - Des Moines University)
"Estrogen-Mediated Transcriptional Regulation of Exercise Behavior"
American Heart Association
7/1/24-6/30/27
Subaward Direct Costs: $7,273/yr (10% indirect rate)
Role: Consultant

R01 HD104418-01A1 (PI: Hill)
"Astrocyte insulin resistance-induced neuroendocrine defects in pubertal delay and hypogonadotropic hypogonadism" (Total funding: $ 2,687,317)
NIH/NICHD
05/2022-01/2027
Direct Costs: $ 345,073/yr (25% effort)
Role: Principal Investigator

The goals of this project are to 1) define the relevant temporal & spatial parameters of astrocyte insulin signaling, 2) determine the impact of insulin signaling on astrocyte PGE2 gliotransmitter production proximal to reproductive circuits, and 3) determine the molecular role of the insulin/FOXO pathway in astrocyte PGE2 synthesis.

25POST1372121 Postdoctoral Fellowship (PI: Muhammad Naveed)
American Heart Association
01/2025-12/2026
"Mechanisms underlying GLP-1 Modulation of the Gut Microbiome and Hypertension in PCOS"
doi.org/10.58275/AHA.25POST1372121.pc.gr.227339
Direct Costs: $ 79,556/yr
Role: Sponsor

PUBLICATIONS:

Articles Published in Scientific Journals

1. Xu M, Urban JH, **Hill JW**, Levine JE. Regulation of hypothalamic neuropeptide Y Y1 receptor gene expression during the estrous cycle: role of progesterone receptors. Endocrinology. Sep;141(9): 3319-27, 2000

2. Xu M, **Hill JW**, Levine JE. Attenuation of luteinizing hormone surges in neuropeptide Y knockout mice. Neuroendocrinology. Nov; 72(5): 263-71, 2000

3. **Hill JW**, Xu M, Levine JE. Revisiting the reproductive functions of neuropeptide Y. Current Opinion in Endocrinology, Diabetes, and Obesity. 9:203-214, 2002

4. **Hill JW**, Levine JE. Abnormal response of the neuropeptide Y-deficient mouse reproductive axis to food deprivation but not lactation. Endocrinology. 144(5):1780-6, 2003

5. Williams H, Connor DM, **Hill JW**. Testosterone decreases the potential for song plasticity in adult male zebra finches. Horm Behav. Dec;44(5):402-12, 2003

6. **Hill JW**, Urban JH, Xu M, Levine JE. Estrogen Induces Neuropeptide Y (NPY) Y1 Receptor Gene Expression and Responsiveness to NPY in Gonadotrope-Enriched Pituitary Cell Cultures.

Endocrinology. May;145(5):2283-90, 2004

7. **Hill JW**. Leptin, Insulin, AND PTEN: Divergent effects on hypothalamic neurons explained? Cellscience Reviews. 3(2) 42-51, 2006

8. **Hill JW**, Williams KW, Ye C, Luo J, Balthasar N, Coppari R, Cowley MA, Cantley LC, Lowell BB, Elmquist JK. Acute effects of leptin require PI3K signaling in hypothalamic proopiomelanocortin neurons in mice. J Clin Invest. May 1;118(5):1796-1805, 2008

9. **Hill JW**, Elmquist JK, Elias CF. Hypothalamic pathways linking energy balance and reproduction. Am J Physiol Endocrinol Metab. May;294(5):E827-32. Epub 2008 Feb 19, 2008

10. Fukuda M, Jones JE, Olson D, **Hill J**, Lee CE, Gautron L, Choi M, Zigman JM, Lowell BB, Elmquist JK. Monitoring FoxO1 localization in chemically identified neurons. J Neurosci. Dec 10;28(50):13640-8. PMID: 19074037, 2008

11. **Hill JW**, Yong X, Preitner F, Fukuda M, Cho Y, Luo J, Balthasar N, Coppari R, Cantley LC, Kahn B, Zhao JJ, Elmquist JK. Phosphatidyl Inositol 3-Kinase Signaling in Hypothalamic Proopiomelanocortin Neurons Contributes to the Regulation of Glucose Homeostasis. Endocrinology. Nov;150(11):4874-82, 2009

12. **Hill JW**. Gene Expression and the Control of Food Intake by Hypothalamic POMC/CART Neurons. The Open Neuroendocrinology Journal, (Invited Review) *3;21-27,* 2010

13. **Hill JW**, Elias CF, Fukuda M, Williams KW, Berglund ED, Holland WL, Cho Y, Chuang J, Xu Y, Choi M, Lauzon D, Lee CE, Coppari R, Richardson JA, Zigman JM, Chua S, Scherer PE, Lowell BB, Bruning JC, Elmquist JK. Direct Insulin and Leptin Action in Pro-opiomelanocortin Neurons is Required for Normal Glucose Homeostasis and Fertility. Cell Metabolism. Apr 7;11(4):286-97, 2010 PMID: 20374961

14. Xu Y, **Hill JW** (joint first author), Fukuda M, Gautron L, Sohn J, Kim K, Lee CE, Choi MJ, Lauzon D, Dhillon H, Lowell BB, Zigman JM, Zhao JJ, Elmquist JK. PI3K signaling in the ventromedial hypothalamus is required for normal energy homeostasis. Cell Metabolism. July 4;12(1), 88-95, 2010 PMID: 20620998

15. Marino JS, Xu Y, **Hill JW**. Central insulin and leptin-mediated autonomic control of glucose homeostasis. Trends Endocrinol Metab. Apr 12, 2011

16. Patel PR, Ramakrishnan SK, Kaw MK, Raphael CK, Ghosh S, Marino JS, Heinrich G, Lee SJ, Bourey RE, **Hill JW**, Jung DY, Morgan DA, Kim JK, Rahmouni SK, Najjar SM. Increased Metabolic Rate and Insulin Sensitivity in Male Mice Lacking the Carcinoembryonic Antigen-Related Cell Adhesion Molecule 2. Diabetologia. Dec 11, 2011 PMID: 22159884

17. Xu Y, Faulkner L., **Hill JW**. Cross-talk between metabolism and reproduction: The Role of POMC and SF-1 Neurons. (Invited Review) Frontiers in Systems and Translational Endocrinology January 4, 2012

18. Marino JS, Peterson SJ, Li M, Vanella L, Sodhi K, **Hill JW**, Abraham NG. ApoA-1 mimetic restores adiponectin expression and insulin sensitivity independent of changes in body weight in female obese mice. Nutrition and Diabetes. March 2, e33, 2012 PMID: 23169576

19. Marino JS, Iler J, Dowling AR, Chua S, Bruning JC, Coppari R, **Hill JW**. Adipocyte Dysfunction in a Mouse Model of Polycystic Ovary Syndrome (PCOS): Evidence of Adipocyte Hypertrophy and Tissue-Specific Inflammation. PLoS One. 7(10):e48643, 2012 PMID: 23119079

20. **Hill, JW**. PVN Pathways Controlling Energy Homeostasis. (Invited Review) Indian Journal of Endocrinology and Metabolism. Dec;16 (Suppl 3):S627-36, 2012 PMID: 23565499

21. Qiu, X., Dowling, A., Marino J., Faulkner L., Brüning, J., Elias, CF, Bryant B., **Hill, JW.** Delayed Puberty but Normal Fertility in Mice with Selective Deletion of Insulin Receptor from Kiss1 Cells, Endocrinology. Mar;154(3):1337-48, 2013 PMID: 23392256 *Selected for Endocrinology's Thematic Issue, Contributions by Flare Fellows due to its high Altmetric Attention Score and Featured Article designations.*

22. **Hill, JW**, Alreja M., Elias CF. From precocious puberty to infertility: metabolic control of the reproductive function (invited review) Frontiers in Systems and Translational Endocrinology. Front Endocrinol (Lausanne). 2013 Apr 2;4:43.March 2013 PMID: 23565110

23. Marino JS, Hinds TD Jr, Potter RA, Ondrus E, Onion JL, Dowling A, McLoughlin TJ, Sanchez ER, **Hill JW**. Suppression of protein kinase C theta contributes to enhanced myogenesis in vitro via IRS1 and ERK1/2 phosphorylation. BMC Cell Biol. Sep 21;14:39, 2013 PMID: 24053798

24. Makani V, Sultana R, Sie KS, Orjiako D, Tatangelo M, Dowling A, Cai J, Pierce W, Butterfield DA, **Hill J**, Park J. Annexin A1 Complex Mediates Oxytocin Vesicle Transport. J Neuroendocrinol. Oct 3, 2013 PMID: 24118254

25. Dowling AR, Nedorezov LB, Qiu X, Marino JS, **Hill JW**. Genetic factors modulate the impact of pubertal androgen excess on insulin sensitivity and fertility. PLoS One. Nov 20;8(11):e79849, 2013 PMID: 24278193. F1000 Prime Recommended (top 2% in Physiology).

26. Stechschulte LA, Wuescher L, Marino JS, **Hill JW**, Eng C, Hinds TD Jr. Glucocorticoid Receptor β Stimulates Akt1 Growth Pathway by Attenuation of PTEN. J Biol Chem. 289; 25; 17885-17894 June 20. 2014 PMID: 24817119

27. Faulkner LD, Dowling AR, Stuart RC, Nillni EA, **Hill JW**. Reduced melanocortin production causes sexual dysfunction in male mice with POMC neuronal insulin and leptin insensitivity. Endocrinology. Apr;156(4):1372-85, 2015 PMID: 25590244

28. Qiu X, Dao H, Heston A, Garcia KM, Sangal A, Wang M, Dowling, AR, Faulkner L, Molitor SC, Elias CF, **Hill JW**. Insulin and leptin signaling interact in the Kiss1 neuron during the peripubertal period. Plos One May 6;10(5):e0121974, 2015 PMID: 25946091

29. Wang M, Zhang Y, Lan D, **Hill JW**. The Efficacy of GnRHa Alone or in Combination with rhGH for the Treatment of Children with Central Precocious Puberty: A Systematic Review and Meta-Analysis. *Scientific Reports* 2016 Apr 13;6:24259. PMID: 27072597

30. Heinrich G, Russo L, Castaneda T, Pfeiffer V, Ghadieh H, Ghanem S, Wu J, Faulkner L, Ergun S, **Hill J**, and Najjar S. Leptin Resistance Contributes to Obesity in Mice with Null Mutation of Carcinoembryonic Antigen Cell Adhesion Molecule 1. *Journal of Biological Chemistry* Volume: 291 Issue: 21 Pages: 11124-11132 MAY 20 2016

31. **Hill JW** and Faulkner LD. The Role of the Melanocortin System in Metabolic Disease: New Developments and Advances. (Invited Review) *Neuroendocrinology* 104(4):330-346 2017

32. Jahromi MS, Tehrani FR, **Hill JW**, Noroozzadeh M, Zarkesh M, Ghasemi A; Zadeh-Vakili A. Alteration in follistatin gene expression detected in prenatally androgenized rats. *Gynecological Endocrinology* Feb 26:1-5 2017. PMC5724370

33. Garcia-Galiano D, Borges BC, Donato J Jr, Allen SJ, Bellefontaine N, Wang M, Zhao JJ, Kozloff KM, **Hill JW**, Elias CF. PI3Kα inactivation in leptin receptor cells increases leptin sensitivity but disrupts growth and reproduction. *JCI Insight*. 2017 Dec 7;2(23). pii: 96728. PubMed PMID: 29212950.

34. Semple E, **Hill JW**. Sim1 neurons are sufficient for MC4R-mediated sexual function in male mice. *Endocrinology*. 2018 Jan 1;159(1):439-449. PMID: 29059347 *See also Editorial Comment J Urol. 2018 Nov;200(5):948. PMID: 30360347*

35. Shermel B Sherman SB, Sarsour N, Jahromi MS, Schroering A, Mell B, Joe B, **Hill JW**. Prenatal Androgen Exposure Causes Hypertension and Gut Microbiota Dysbiosis. Gut Microbes. 2018 Feb 22:1-45. PMID: 29469650 *2022 TF Top Author paper: among the most highly cited in Gut Microbes in the last five years*

36. Jahromi MS, **Hill JW**, Tehrani FR, Zadeh-Vakili A. Hypomethylation of specific CpG sites in the promoter region of steroidogeneic genes (GATA6 and StAR) in prenatally androgenized rats. Life Sciences, 2018 *Aug 15;*207:105-109.

37. **Hill JW** and Elias CF**.** Neuroanatomical Framework of the Metabolic Control of Reproduction. Physiological Reviews (Invited Review) *Physiol Rev.* 2018 Oct 1;98(4):2349-2380. PMID: 30109817

38. Semple E, Shalabi F, **Hill JW**. Oxytocin Neurons Enable Melanocortin Regulation of Male Sexual Function in Mice. *Mol Neurobiol.* 2019 Feb 12. PMID: 30756300.

39. Manaserh IH, Chikkamenahalli L, Ravi S, Dube PR, Park JJ, **Hill JW**. Ablating astrocyte insulin receptors leads to delayed puberty and hypogonadism in mice. *PLoS Biol.* 2019 Mar;17(3):e3000189. PMID: 30893295; PubMed Central PMCID: PMC6443191.

40. Ghadieh HE, Russo L, Muturi HT, Ghanem SS, Manaserh IH, Noh HL, Suk S, Kim JK, **Hill JW**, Najjar SM. Hyperinsulinemia drives hepatic insulin resistance in male mice with liver-specific Ceacam1 deletion independently of lipolysis. *Metabolism.* 2019 Apr;93:33-43. PubMed PMID: 30664851

41. Wang, Mengjie ; Zhang, Youjie ; Miller, David ; Rehman, Naveen O. ; Cheng, Xi ; Yeo, Ji-Youn ; Joe, Bina ; **Hill, Jennifer W.** Microbial Reconstitution Reverses Early Female Puberty Induced by Maternal High-fat Diet During Lactation ENDOCRINOLOGY (IF 3.934) Volume 161 Issue 2: bqz041Published Jan 8 2020 PMC7035910

42. Chakraborty, Saroj ; Mandal, Juthika ; Yang, Tao ; Cheng, Xi ; Yeo, Ji-Youn ; McCarthy, Cameron G. ; Wenceslau, Camilla F. ; Koch, Lauren G. ; **Hill, Jennifer W**. ; Vijay-Kumar, Matam ; Joe, Bina. Metabolites and Hypertension: Insights into Hypertension as a Metabolic Disorder 2019

Harriet Dustan Award HYPERTENSION (IF 7.713) Volume 75 Issue 6 Page 1386-1396 Originally published 27 Apr 2020

43. Iyad H Manaserh, Emily Maly, Marziyeh Jahromi, Lakshmikanth Chikkamenahalli, Joshua Park and **Jennifer Hill**. Insulin sensing by astrocytes is critical for normal thermogenesis and body temperature regulation. JOURNAL OF ENDOCRINOLOGY (IF 4.041) Volume 247: Issue 1 Page 39-52 Published Oct 2020

44. Kathryn B.Smedlund, **Jennifer W.Hill.** The role of non-neuronal cells in hypogonadotropic hypogonadism. Molecular and Cellular Endocrinology Page 110996 Published 1 December 2020.

45. Maggie Evans, **Jennifer W. Hill**, Gregory Anderson. The role of insulin in the neuroendocrine control of reproduction. Journal of Neuroendocrinology. 2021 Feb 1;33(4):e12930.

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