

CURRICULUM VITAE (abridged)

Catherine A. Christian-Hinman
(Catherine A. Christian)

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EDUCATION

Smith College – Northampton, Massachusetts September 1997 – May 2001
A.B. in Neuroscience and Italian Language & Literature
Awarded *cum laude* with Highest Honors in Neuroscience
Honors Research Advisor: Mary Harrington, Ph.D.
Honors Thesis: *Interactions of Photic and Non-Photic Stimuli in Resetting Circadian Rhythms*

Università Vita-Salute San Raffaele – Milan, Italy October 2001 – July 2002
Fulbright Fellow in Psychology/Neuroscience

University of Virginia – Charlottesville, Virginia August 2002 – November 2007
Ph.D. in Neuroscience (conferred January 2008)
Laboratory of Suzanne Moenter, Ph.D.
Dissertation Committee: Douglas Bayliss, Ph.D.; Jaideep Kapur, M.D., Ph.D.; Michael Menaker, Ph.D.; Margaret Shupnik, Ph.D.
Dissertation: *Diurnal and Estradiol-Dependent Regulation of the Neuroendocrine Signal for Ovulation*

Cold Spring Harbor Laboratory – Cold Spring Harbor, New York June 2005
Ion Channel Physiology

POSTDOCTORAL RESEARCH TRAINING

University of Virginia – Charlottesville, Virginia December 2007 – June 2008
Postdoctoral Research Associate in Medicine – Endocrinology and Metabolism
Laboratory of Suzanne Moenter, Ph.D.

Stanford University School of Medicine – Stanford, California June 2008 – June 2014
Postdoctoral Fellow in Neurology and Neurological Sciences
Laboratory of John Huguenard, Ph.D.

ACADEMIC FACULTY APPOINTMENTS

University of Illinois Urbana-Champaign – Urbana, Illinois August 2014 – present
Associate Professor with tenure in Molecular and Integrative Physiology (2021–present)

Assistant Professor in Molecular and Integrative Physiology (2014–2021)
Assistant Professor in the University of Illinois College of Medicine at Urbana (2014–2019)

Affiliations:

Beckman Institute for Advanced Science and Technology (2015–present)
Neuroscience Program (2014–present)
Program in Endocrinology, Embryology, and Reproduction (2014–present)

HONORS AND AWARDS

1998-2001	First Group Scholar (top 10% of class) and Dean's List, Smith College
1999	Howard Hughes Undergraduate Fellowship, Smith College/Univ. of Calif., Davis
2000-2001	Arnold and Mabel Beckman Foundation Science Scholarship, Smith College
2000	Phi Beta Kappa, Junior Member, Smith College
2001	Sigma Xi, Associate Member, Smith College
2001-2002	Fulbright Fellowship to Italy, U.S. Department of State
2003, 2004	Honorable Mention, National Science Foundation Graduate Research Fellowship
2005	First Prize, Huskey Graduate Research Exhibition, University of Virginia
2006	Endocrine Society Travel Award
2006	Outstanding Neuroscience Graduate Student Award, University of Virginia
2006	Michael J. Peach Outstanding Graduate Student Award, University of Virginia
2006	Society for Neuroscience Graduate Student Travel Award
2007	Award for Excellence in Scholarship in the Sciences & Engineering, Univ. of Virginia
2007	Women in Endocrinology Young Investigator Award
2007	Lalor Foundation Merit Award, Society for the Study of Reproduction
2008	Endocrine Scholars Award, The Endocrine Society
2009	University of Virginia nominee, CGS/UMI Distinguished Dissertation Award
2010	Katharine McCormick Travel Grant, Stanford University School of Medicine
2012	Society for Neuroscience Postdoctoral Fellow Travel Award
2013	Grass Foundation-American Epilepsy Society Young Investigator Travel Award
2016, 2021	List of Teachers Ranked as Excellent, University of Illinois at Urbana-Champaign
2017	Neuroscience Program nominee, Blavatnik Award for Young Scientists, UIUC
2020-2021	Center for Advanced Study Fellow, University of Illinois Urbana-Champaign

RESEARCH SUPPORT

Current

NIH R01 NS105825 "Neural and pituitary mechanisms linking epilepsy to co-morbid reproductive endocrine dysfunction."

April 1, 2018 – March 31, 2023

\$1,093,750 direct costs

Role: PI

NIH R21 NS124980 "Differential roles of neuronal and astrocytic aromatase in status epilepticus and chronic epilepsy."

September 30, 2021 – February 28, 2024

\$275,000 direct costs

Role: PI

American Epilepsy Society/Hope for Hypothalamic Hamartomas Seed Grant, "Developing a mouse model of hypothalamic hamartoma."

March 1, 2022 – February 28, 2024

\$20,000 direct costs

\$2,060 supplemental direct costs, Hope for Hypothalamic Hamartomas

Role: PI

NIH RF1 NS126061 BRAIN Initiative: “Miniaturized silicon neurochemical probe to monitor brain chemistry.”

May 3, 2022 – April 30, 2025

\$2,160,426 direct costs (\$161,981 to Christian-Hinman)

Role: Co-I (Lead PI: Yurii Vlasov)

NIH R21 AG077694 “Roles of neuroestradiol in comorbid hyperexcitability and seizure susceptibility in Alzheimer Disease.”

May 15, 2022 – April 30, 2024

\$275,000 direct costs

Role: PI

Primary sponsorship of **NIH F31 NS124306** Individual Predoctoral National Research Service Award, “Epilepsy-Associated Dysfunction in the Kisspeptin-GnRH Neural Circuit,” for Mr. Robbie Ingram.

February 1, 2022 – January 31, 2025

\$135,605 direct costs

Previous

NIH T32 GM008328 Institutional NIH Predoctoral Training Grant, “Predoctoral Training in Neuroscience.” Appointed September 1, 2002 – August 31, 2003

NIH F31 NS053253 Individual Predoctoral National Research Service Award, “Central Synaptic Mechanisms Regulating Ovulation.” December 1, 2005 – November 30, 2007 (Role: PI)

NIH T32 NS007280 Institutional NIH Postdoctoral Training Grant, “Epilepsy Training Program.” Appointed June 24, 2008 – June 23, 2011

Epilepsy Foundation of America Postdoctoral Research Fellowship, “Dynamics of Glial and Neuronal Release of Endozepines in the Thalamus.” July 1, 2011 – June 30, 2012 (Role: PI)

Stanford University School of Medicine Katharine McCormick Advanced Postdoctoral Fellowship, “Optical Stimulation of Astrocytic Endozepine Release in the Thalamus.” October 1, 2012 – December 31, 2013 (Role: PI)

Citizens United for Research in Epilepsy (CURE) Taking Flight Award, “Modulation of GABAergic Transmission and Absence Seizures by Optical Stimulation of Astrocytes.” January 1, 2014 – July 31, 2015. \$100,000 direct costs (Role: PI)

Brain and Behavior Research Foundation NARSAD Young Investigator Grant, “Endozepine/Benzodiazepine Interactions in Modulating Synaptic Inhibition and Cognition.” January 15, 2016 – July 14, 2018. \$70,000 direct costs (Role: PI)

Whitehall Foundation Three-Year Research Grant, “Astrocytic Modulation of Synaptic Inhibition.” March 15, 2016 – March 30, 2020. \$207,659 direct costs (Role: PI)

Brain Research Foundation Fay/Frank Seed Grant, “Optoglia Modulation of Inhibition and Seizure Susceptibility.” June 1, 2016 – November 30, 2018. \$80,000 direct costs (Role: PI)

Primary co-sponsorship of **Beckman Institute Graduate Fellowship** for Ms. Jiang Li, August 16, 2016 – July 15, 2017 (co-sponsor: Dr. Mark Nelson) \$25,000 direct costs

NIH S10 OD023569 “An upright multiphoton microscope for biomedical research applications.” March 1, 2017 – February 28, 2018. \$770,546 direct costs (Role: Minor User; PI: Daniel Llano)

Primary co-sponsorship of **Beckman Institute Postdoctoral Fellowship** for Dr. Courtney Sobieski, (co-sponsors: Dr. Stephen Boppart, Dr. Justin Rhodes, Dr. Parijat Sengupta) July 1, 2017 – June 30, 2020 (terminated Aug 2018 to accept new position outside UIUC) \$186,000 direct costs

NIH R03 NS103029 “Lateralized targeting of hippocampus to model interactions between epilepsy and reproductive endocrine disorders.” July 15, 2018 – June 30, 2021. \$100,000 direct costs (Role: PI)

NIH R01 NS105825-S1 Research Supplement to Promote Diversity in Health-Related Research, for training Mr. Robbie Ingram. April 1, 2019 – March 31, 2022. \$131,469 direct costs (Role: PI/Mentor)

NIH R03 NS103029-S1 Administrative Supplement for Research on Sex/Gender Influences July 1, 2019 – June 30, 2021. \$32,354 direct costs (Role: PI)

CURE Epilepsy Epilepsy Research Continuity Fund Grant September 1, 2020 – March 31, 2021. \$15,000 direct costs (Role: PI)

PUBLICATIONS

Original Research:

1. **Christian CA**, Harrington ME 2002 Three days of novel wheel access diminishes light-induced phase delays *in vivo* with no effect on *Per1* induction by light. *Chronobiology International* 19:671-682.
2. **Christian CA**, Mobley JL, Moenter SM 2005 Diurnal and estradiol-dependent changes in gonadotropin-releasing hormone neuron firing activity. *Proceedings of the National Academy of Sciences of the United States of America* 102:15682-15687 (Track II/Direct Submission).
3. **Christian CA**, Moenter SM 2007 Estradiol induces diurnal shifts in GABA transmission to gonadotropin-releasing hormone neurons to provide a neural signal for ovulation. *The Journal of Neuroscience* 27:1913-1921.
4. **Christian CA**, Moenter SM 2008 Vasoactive intestinal polypeptide can excite gonadotropin-releasing hormone neurons in a manner dependent on estradiol and gated by time of day. *Endocrinology* 149:3130-3136.
5. **Christian CA***, Glidewell-Kenney C*, Jameson JL, Moenter SM 2008 Classical estrogen receptor α signaling mediates negative and positive feedback on gonadotropin-releasing hormone neuron firing. *Endocrinology* 149:5328-5334. (*equal contribution)

6. **Christian CA**, Moenter SM 2008 Critical roles for fast synaptic transmission in mediating estradiol negative and positive feedback in the neural control of ovulation. *Endocrinology* 149:5500-5508.
7. **Christian CA**, Pielecka-Fortuna J, Moenter SM 2009 Estradiol suppresses glutamatergic transmission to gonadotropin-releasing hormone neurons in a model of negative feedback in mice. *Biology of Reproduction* 80:1128-1135.
8. Paz JT, **Christian CA**, Parada I, Prince DA, Huguenard JR 2010 Focal cortical infarcts alter intrinsic excitability and synaptic excitation in the reticular thalamic nucleus. *The Journal of Neuroscience* 30:5465-5479.
9. **Christian CA**, Herbert AG, Holt RL, Peng K, Sherwood KD, Pangratz-Fuehrer S, Rudolph U, Huguenard JR 2013 Endogenous positive allosteric modulation of GABA_A receptors by *Diazepam binding inhibitor*. *Neuron* 78:1063-1074. (co-corresponding author)
10. **Christian CA**, Huguenard JR 2013 Sniffer Patch Laser Uncaging REsponse (SPLURgE): an assay of regional differences in allosteric receptor modulation and neurotransmitter clearance. *Journal of Neurophysiology* 110:1722-1731.
11. **Christian CA**, Huguenard JR 2013 Astrocytes potentiate GABAergic transmission in the thalamic reticular nucleus via endozepine signaling. *Proceedings of the National Academy of Sciences of the United States of America* 110:20278-20283. (corresponding author)
12. Jewett KA, **Christian CA**, Bacos JT, Lee KY, Zhu J, Tsai NP 2016 Feedback modulation of neural network synchrony and seizure susceptibility by Mdm2-p53-Nedd4-2 signaling. *Molecular Brain* 9:32.
13. Li J, Kim JS, Abejuela VA, Lamano JB, Klein NJ, **Christian CA** 2017 Disrupted female estrous cyclicity in the intrahippocampal kainic acid mouse model of temporal lobe epilepsy. *Epilepsia Open* 2:39-47.
14. Makinson CD, Tanaka BS, Sorokin JM, Wong JC, **Christian CA**, Goldin AL, Escayg A, Huguenard JR 2017 Regulation of thalamic and cortical network synchrony by *Scn8a*. *Neuron* 93:1165-1179.
15. Ujjainwala AL, Courtney CD, Rhoads SG, Rhodes JS, **Christian CA** 2018 Genetic loss of diazepam binding inhibitor in mice impairs social interest. *Genes, Brain and Behavior* 17:e12442.
16. Courtney CD, **Christian CA** 2018 Subregion-specific impacts of genetic loss of diazepam binding inhibitor on synaptic inhibition in the murine hippocampus. *Neuroscience* 388:128-138.
17. Li J, Robare JA, Gao L, Ghane MA, Flaws JA, Nelson ME, **Christian CA** 2018 Dynamic and sex-specific changes in gonadotropin-releasing hormone neuron activity and excitability in a mouse model of temporal lobe epilepsy. *eNeuro* 5:e0273-18.2018

18. Adams CE, DeFazio RA, **Christian CA**, Milesu LS, Schnell S, Moenter SM 2019 Changes in both neuron intrinsic properties and neurotransmission drive the increase in GnRH neuron firing rate during estradiol positive feedback. *The Journal of Neuroscience* 39:2091-2101
19. Ujjainwala AL, Courtney CD, Wojnowski NM, Rhodes JS, **Christian CA** 2019 Differential impacts on multiple forms of spatial and contextual memory in diazepam binding inhibitor knockout mice. *Journal of Neuroscience Research* 97:683-697
20. Pantier LK, Li J, **Christian CA** 2019 Estrous cycle monitoring in mice with rapid data visualization and analysis. *Bio-Protocol* 9:e3354
21. Lawande NV, Ujjainwala AL, **Christian CA** 2020 A single test to study social behavior and repetitive self-grooming in mice. *Bio-Protocol* 10:e3499
22. **Christian CA** 2020 Nucleus-specific modulation of phasic and tonic inhibition by endogenous neurosteroidogenesis in the murine thalamus. *Synapse* 74:e22144
23. Li J, Leverton LK, Naganathanahalli LM, **Christian-Hinman CA** 2020 Seizure burden fluctuates with the female reproductive cycle in a mouse model of chronic temporal lobe epilepsy. *Experimental Neurology* 334:113492.
24. Liu YZ, Renteria C, Courtney CD, Ibrahim B, You S, Chaney EJ, Barkalifa R, Iyer RR, Zurauskas M, Tu H, Llano DA, **Christian-Hinman CA**, Boppart SA 2020 Simultaneous two-photon activation and imaging of neural activity based on spectral-temporal modulation of supercontinuum light. *Neurophotonics* 7:045007.
25. Lee KY, Zhu J, Cutia CA, **Christian-Hinman CA**, Rhodes JS, Tsai NP 2021 Infantile spasms-linked Nedd4-2 mediates hippocampal plasticity and learning via cofilin signaling. *EMBO Reports* 22:e52645.
26. Kim EC, Zhang J, Tang AY, Bolton EC, Rhodes JS, **Christian-Hinman CA**, Chung HJ 2021 Spontaneous seizure and memory loss in mice expressing an epileptic encephalopathy variant in the calmodulin-binding domain of K ν 7.2. *Proceedings of the National Academy of Sciences of the United States of America* 118:e2021265118.
27. Walters JM, Kim EC, Zhang J, Jeong HG, Bajaj A, Baculis B, Tracy G, Ibrahim B, **Christian-Hinman CA**, Llano DA, Huesmann GR, Chung HJ 2022 Pharmacological inhibition of STriatal-Enriched protein tyrosine Phosphatase by TC-2153 reduces hippocampal excitability and seizure propensity. *Epilepsia* 63:1211-1224.
28. Cutia CA, Leverton LK, Ge X, Youssef R, Raetzman LT, **Christian-Hinman CA** 2022 Phenotypic differences based on lateralization of intrahippocampal kainic acid injection in female mice. *Experimental Neurology* 335:114118.
29. Li J, **Christian-Hinman CA** 2022 Epilepsy-associated increase in gonadotropin-releasing hormone neuron firing in diestrous female mice is independent of chronic seizure burden severity. *Epilepsy Research* 184:106948.

30. Ingram RJ, Leverton LK, Daniels VC, Li J, **Christian-Hinman CA** 2022 Increased GABA transmission to GnRH neurons after intrahippocampal kainic acid injection in mice is sex-specific and associated with estrous cycle disruption. *Neurobiology of Disease* 172:105822.

Preprints:

1. Courtney CD, Sobieski C, Ramakrishnan C, Ingram RJ, Wojnowski NM, DeFazio RA, Deisseroth K, **Christian-Hinman CA** 2021 Evaluating the efficacy of Opto α 1AR activation in astrocytes in modulating basal hippocampal synaptic excitation and inhibition. *bioRxiv* 2021.01.06.425606
2. Nagarajan R, Lyu J, Kambali M, Wang M, Courtney CD, **Christian-Hinman CA**, Rudolph U Genetic ablation of dentate hilar somatostatin-positive GABAergic interneurons is sufficient to induce cognitive impairment. *bioRxiv* 2022.11.01.514756
3. Cutia CA, Leverton LK, Weis KE, Raetzman LT, **Christian-Hinman CA** Female-specific pituitary hypersensitivity to gonadotropin-releasing hormone in a mouse model of chronic temporal lobe epilepsy. *bioRxiv* 2022.11.16.516789
4. Cutia CA, Leverton LK, **Christian-Hinman CA** Sex and estrous cycle stage shape left-right asymmetry in chronic hippocampal seizures in mice. *bioRxiv* 2023.01.20.524965

Reviews:

1. Moenter SM, Chu Z, **Christian CA** 2009 Neurobiological mechanisms underlying oestradiol negative and positive feedback regulation of gonadotrophin-releasing hormone neurones. *Journal of Neuroendocrinology* 21:327-333.
2. **Christian CA**, Moenter SM 2010 The neurobiology of preovulatory and estradiol-induced gonadotropin-releasing hormone surges. *Endocrine Reviews* 31:544-577. (corresponding author)
3. **Christian CA**, Reddy DS, Maguire J, Forcelli PA 2020 Sex Differences in the Epilepsies and Associated Comorbidities: Implications for Use and Development of Pharmacotherapies. *Pharmacological Reviews* 72:767-800. (corresponding author)
4. Alquier T, **Christian-Hinman CA**, Alfonso J, Færgeman NJ 2021 From benzodiazepines to fatty acids: Revisiting the role of ACBP/DBI. *Trends in Endocrinology and Metabolism* 32:890-903.

Book Chapters:

1. **Christian CA** 2017 Neurophysiology of Gonadotropin-Releasing Hormone Neurons. Invited chapter in *Hormones, Brain and Behavior*, 3rd edition, Donald W. Pfaff and Marian Joëls, eds. Oxford: Academic Press. Vol. 3, pp. 379-400.
2. **Christian-Hinman CA**, Harden CL 2021 Hormone Changes in Epilepsy. Invited chapter in *Epilepsy: A Comprehensive Textbook*, 3rd edition, Jerome Engel, Jr. and Solomon L. Moshé, eds. Wolters Kluwer Health. In press

Commentaries:

1. **Christian CA** 2016 Seizure Activity and Intervention Efficacy are Shaped by REMnants of Preceding Brain States. *Epilepsy Currents* 16:164-165.
2. **Christian CA** 2016 A Nose for Seizures: A Potential Role for Olfaction in the Co-Morbidity of Depression and Epilepsy? *Epilepsy Currents* 16:256-257.
3. **Christian CA** 2017 Mom Genes: A Role for Loss of Maternal *Ube3a* in GABAergic Neurons in Angelman Syndrome. *Epilepsy Currents* 17:237-238.
4. Sobieski C, **Christian CA** 2017 Developmental Inflammation Takes a Toll: Early Immune Responses Increase Seizure Susceptibility via Astrocytic TLR4 Signaling. *Epilepsy Currents* 17:370-371
5. **Christian CA** 2018 Persistent Protection Against Pathology and Paroxysms by P2X7R Antagonism. *Epilepsy Currents* 18:42-44.
6. **Christian CA** 2018 The Perils of Generalizing About GABA in Seizure Generalization. *Epilepsy Currents* 18:113-114.
7. Courtney CD, **Christian CA** 2019 Inhibition Gets a New KAR Smell. *Epilepsy Currents* 19:187-189.
8. Lozano L, **Christian CA** 2020 Show Me the Meaning of Being Lonely (and Its Effects on Seizure Burden and Comorbidities). *Epilepsy Currents* 20:48-50.
9. Courtney CD, **Christian-Hinman C** 2020 Assessin' the Vexin' Connexin Between Severity of Epilepsy and Hippocampal Gliosis. *Epilepsy Currents* 20:294-296.
10. **Christian-Hinman CA** 2021 Is On-Demand Dynorphin Destined to Be in Demand to Decrease Seizures? *Epilepsy Currents* 21:48-50.

OTHER RESEARCH PRODUCTS

1. **BurstAnalysis:** MATLAB code to construct interspike interval (ISI) scatter plots and histograms, identify optimal burst ISI threshold, identify which neurons are bursting neurons, and evaluate bursting neurons for detailed burst properties (2018)
<https://github.com/ChristianLabUIUC/BurstAnalysis>
2. **EstrousCycle:** Python code for mouse estrous cycle plot visualization and analysis (2019)
<https://github.com/ChristianLabUIUC/EstrousCycle>
3. **SeizureDetector:** Python code for a machine learning algorithm to detect spontaneous seizures in hippocampal EEG recordings from mice (2020)
<https://github.com/ChristianLabUIUC/SeizureDetector>

INVITED PRESENTATIONS

Local Presentations

- 2006 Graduate Biosciences Symposium, University of Virginia
- 2007 Neuroscience Graduate Program, University of Virginia
- 2010 Stanford Institute for Neuro-Innovation and Translational Neurosciences (SINTN) Research Conference, Stanford University School of Medicine
- 2015 Department of Molecular and Integrative Physiology, UIUC
- 2015 Reproductive Biology Seminar Series, UIUC
- 2016 Neuroscience Program, UIUC
- 2017 Reproductive Biology Seminar Series, UIUC
- 2017 "Synapse: A Collaborative Neuroscience Conference," Carle Neuroscience Institute, Carle Hospital/Beckman Institute
- 2020 Keynote Speaker, Neuroscience Program Open House, UIUC
- 2020 Department of Molecular and Integrative Physiology, UIUC
- 2020 Intelligent Systems Research Theme External Review, Beckman Institute
- 2021 Beckman Director's Seminar Series, Beckman Institute
- 2021 UIUC Representative, Big 10 Neuroscience Seminar Series
- 2023 Frontiers in Miniature Brain Machinery Seminar Series, UIUC

External Presentations

- 2007 Biological Sciences Colloquium, Smith College
- 2007 Department of Neurobiology, Harvard Medical School
- 2007 Department of Neurology and Neurological Sciences, Stanford University
- 2007 Department of Neurobiology and Physiology, Northwestern University
- 2013 Department of Biological Sciences, Smith College
- 2013 Department of Neurobiology and Anatomical Sciences, University of Mississippi Medical Center
- 2013 Department of Biology, Boston University
- 2013 Department of Pharmacology, Perelman School of Medicine, University of Pennsylvania
- 2014 Department of Biology, University of Massachusetts, Amherst
- 2014 Department of Cellular and Physiological Sciences, University of British Columbia
- 2014 Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign
- 2014 Department of Anatomy and Neurobiology, University of California, Irvine
- 2014 Department of Biomedical Sciences, Colorado State University
- 2016 Department of Neuroscience, University of Minnesota
- 2016 6th Gordon Research Conference on Mechanisms of Epilepsy and Neuronal Synchronization, Girona, Spain
- 2016 Department of Biology, Wabash College
- 2017 Department of Neuroscience, Tufts University School of Medicine
- 2017 Scientific Symposium on "Sex and the Seizure," 71st Annual Meeting of the American Epilepsy Society, Washington, D.C.
- 2018 Department of Physiology, Northwestern University Feinberg School of Medicine
- 2019 Department of Integrative Physiology, University of Colorado, Boulder
- 2020 Neuroscience Seminar Series, University of California, Riverside
- 2020 Department of Physiology, Southern Illinois University
- 2020 Neuroscience Colloquium, Department of Psychological Sciences, Purdue University

- 2020 Neuroscience Graduate Program Seminar Series, University of Virginia
- 2020 Departments of Neurosciences and Cardiometabolism, Centre Hospitalier de l'Université de Montréal, Montreal, Canada
- 2021 Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford
- 2021 Sensory Biology Center Seminar Series, University of Wyoming
- 2021 Investigators Workshop, 75th Annual Meeting of the American Epilepsy Society, Chicago, IL
- 2022 Basic Science Skills Workshop, "Addressing Sex as a Biological Variable in Epilepsy and Beyond," 76th Annual Meeting of the American Epilepsy Society, Nashville, TN
- 2022 Neuroendocrinology Special Interest Group, "Females and Cycling Hormones in Epilepsy - Misconceptions, Methods, Mechanisms," 76th Annual Meeting of the American Epilepsy Society, Nashville, TN
- 2022 "Introduction to Sex Differences in Epilepsy," Dialogues to Transform Epilepsy Special Lecture, 76th Annual Meeting of the American Epilepsy Society, Nashville, TN

ABSTRACTS

1. **Christian CA**, Mobley JL, Moenter SM 2005 Time-of-day and estradiol-dependent changes in GnRH neuron firing activity in a mouse model exhibiting daily LH surges. 87th Annual Meeting of the Endocrine Society, San Diego, CA.
2. **Christian CA**, Moenter SM 2005 Vasoactive intestinal polypeptide can excite GnRH neurons in an estradiol-dependent manner. 38th Annual Meeting of the Society for the Study of Reproduction, Québec City, Québec, Canada. (*selected for oral presentation*)
3. **Christian CA**, Moenter SM 2005 GABAergic signaling to GnRH neurons increases near LH surge onset. 35th Annual Meeting of the Society for Neuroscience, Washington, D.C.
4. **Christian CA**, Moenter SM 2006 Diurnal signals from multiple populations of GABAergic neurons are associated with induction and maintenance of the GnRH surge. 88th Annual Meeting of the Endocrine Society, Boston, MA. (*selected for oral presentation*)
5. **Christian CA**, Moenter SM 2006 GABAergic transmission to GnRH neurons increases in association with induction and maintenance of the GnRH surge. National Institute of Mental Health Predoctoral Research Festival, Bethesda, MD.
6. Moenter SM, **Christian CA** 2006 Mechanisms of the neuroendocrine signal for ovulation. 29th Annual Meeting of the Japan Neuroscience Society, Symposium on Neurobiology of Reproduction, Kyoto, Japan.
7. Moenter SM, **Christian CA**, Chu Z 2006 An electrophysiological approach to gathering data needed to model the gonadotropin-releasing hormone neural network. Society for Industrial and Applied Mathematics, Life Sciences Symposium on Modeling in Endocrinology, Raleigh, NC.

8. **Christian CA**, Moenter SM 2006 Estradiol increases activity of GABA afferents to GnRH neurons during the LH surge. 36th Annual Meeting of the Society for Neuroscience, Atlanta, GA.
9. **Christian CA**, Moenter SM 2007 Investigating sources of GnRH surge-associated increases in GABA transmission to GnRH neurons. 89th Annual Meeting of the Endocrine Society, Toronto, Ontario, Canada.
10. **Christian CA**, Moenter SM 2007 Differential synaptic mediation of estradiol negative and positive feedback effects on GnRH neuron firing activity. 40th Annual Meeting of the Society for the Study of Reproduction, San Antonio, TX. (*selected for oral presentation*)
11. **Christian CA**, Moenter SM 2007 Diurnal changes in NMDA and AMPA/KA receptor-mediated glutamate transmission to GnRH neurons are associated with the GnRH/LH surge. 37th Annual Meeting of the Society for Neuroscience, San Diego, CA.
12. **Christian CA**, Glidewell-Kenney C, Jameson JL, Moenter SM 2008 Estrogen response element (ERE)-dependent ER α signaling is required for estradiol negative and positive feedback effects on GnRH neuron firing activity. 90th Annual Meeting of the Endocrine Society, San Francisco, CA.
13. Moenter SM, **Christian CA** 2008 Interactions between circadian clocks and E₂ in generating negative and positive feedback regulation of GnRH neurons. Symposium on Clocks and Reproduction, Korean Endocrine Society, Seoul, South Korea.
14. **Christian CA**, Moenter SM 2008 Estradiol suppresses glutamatergic transmission to GnRH neurons during negative feedback. 38th Annual Meeting of the Society for Neuroscience, Washington, D.C.
15. Moenter SM, **Christian CA** 2008 Neurobiological mechanisms underlying estradiol negative and positive feedback regulation of GnRH neurons. United States/Japan Bilateral Symposium on Neurobiology of Steroid Hormone Receptors, Gifu, Japan.
16. **Christian CA**, Huguenard JR 2009 Nucleus-specific and age-dependent effects of benzodiazepine receptor blockade in the thalamus during early postnatal development. 39th Annual Meeting of the Society for Neuroscience, Chicago, IL.
17. **Christian CA**, Kozitza R, Peng K, Rudolph U, Huguenard JR 2010 Disruption of the GABA_AR α 3 subunit benzodiazepine binding site alters intra-thalamic inhibition and absence seizures. 3rd Gordon Research Conference on Mechanisms of Epilepsy and Neuronal Synchronization, Waterville, ME. (*selected for oral presentation*)
18. **Christian CA**, Rudolph U, Huguenard JR 2010 Effects of endozepines on synaptic integration in the thalamic reticular nucleus. 40th Annual Meeting of the Society for Neuroscience, San Diego, CA.

19. **Christian CA**, Rudolph U, Huguenard JR 2011 Glial cells are sources of endozepines in the thalamic reticular nucleus. 41st Annual Meeting of the Society for Neuroscience, Washington, D.C.
20. **Christian CA**, Huguenard JR 2011 Diazepam binding inhibitor-lacking *nm1054* mutant mice exhibit deficient endozepine signaling in the thalamic reticular nucleus. 65th Annual Meeting of the American Epilepsy Society, Baltimore, MD.
21. **Christian CA**, Herbert AG, Huguenard JR 2012 Diazepam binding inhibitor potentiates synaptic inhibition in the thalamic reticular nucleus and endogenously suppresses seizures. 4th Gordon Research Conference on Mechanisms of Epilepsy and Neuronal Synchronization, Waterville Valley, NH.
22. **Christian CA**, Huguenard JR 2012 Astrocytes modulate synaptic inhibition in the thalamic reticular nucleus via constitutive endozepine signaling mediated by diazepam binding inhibitor. 42nd Annual Meeting of the Society for Neuroscience, New Orleans, LA.
23. **Christian CA**, Foo LC, Barres BA, Huguenard JR 2013 Thalamic astrocytes potentiate GABA transmission. 6th Gordon Research Conference on Glial Biology: Functional Interactions among Glia and Neurons, Ventura, CA. (*selected for oral presentation*)
24. **Christian CA**, Huguenard JR 2013 Astrocytes potentiate GABAergic transmission in the thalamic reticular nucleus via endozepine signaling. 5th Gordon Research Conference on Inhibition in the CNS, Les Diablerets, Switzerland. (*selected for oral presentation*)
25. **Christian CA**, Huguenard JR 2013 Neurosteroidogenesis modulates thalamic activity via nucleus-specific effects on phasic and tonic inhibition. 43rd Annual Meeting of the Society for Neuroscience, San Diego, CA.
26. **Christian CA**, Huguenard JR 2013 Diazepam binding inhibitor knockout mice display increased absence seizures and loss of thalamic endozepine signaling. 67th Annual Meeting of the American Epilepsy Society, Washington, D.C. (*selected for oral presentation*)
27. Makinson CD, Sorokin J, **Christian CA**, Huguenard JR 2015 Thalamic hyperexcitability in the *Scn8a* model of absence epilepsy. 45th Annual Meeting of the Society for Neuroscience, Chicago, IL.
28. Makinson CD, Sorokin J, Wong J, **Christian CA**, Goldin A, Escayg A, Huguenard JR 2016 Diametric regulation of thalamic and cortical network synchrony by *Scn8a* (Nav1.6). 6th Gordon Research Conference on Mechanisms of Epilepsy and Neuronal Synchronization, Girona, Spain
29. Li J, Abejuela VA, Kim JS, Lamano JB, Ghane MA, Reynish D, **Christian CA** 2016 Elevated gonadotropin-releasing hormone neuron firing activity in a female mouse model of temporal lobe epilepsy. 46th Annual Meeting of the Society for Neuroscience, San Diego, CA.

30. Courtney CD, **Christian CA** 2017 Divergent effects of loss of diazepam binding inhibitor signaling on synaptic inhibition in hippocampal CA1 and dentate gyrus. 47th Annual Meeting of the Society for Neuroscience, Washington, D.C.
31. Li J, Robare J, Ghane MA, Nelson ME, **Christian CA** 2017 Estrous cycle stage-dependent and sex-specific alterations of GnRH neuron firing activity in a mouse model of temporal lobe epilepsy. 47th Annual Meeting of the Society for Neuroscience, Washington, D.C.
32. Sobieski C, Wojnowski NM, Ramakrishnan C, DeFazio RA, Deisseroth K, **Christian CA** 2018 Optogenetic stimulation of astrocytic G_q signaling differentially alters synaptic transmission in hippocampal CA1 and layer V of sensorimotor cortex. 48th Annual Meeting of the Society for Neuroscience, San Diego, CA.
33. Li J, Robare J, Gao L, Ghane MA, Flaws JA, Nelson ME, **Christian CA** 2018 Ovarian-cycle-linked and sex-specific changes in GnRH neuron firing and excitability in a mouse model of temporal lobe epilepsy. 7th Gordon Research Conference on Mechanisms of Epilepsy and Neuronal Synchronization, West Dover, VT.
34. Li J, Robare J, Gao L, Ghane MA, Flaws JA, Nelson ME, **Christian CA** 2018 Ovarian-cycle-linked and sex-specific changes in GnRH neuron firing and excitability in a mouse model of temporal lobe epilepsy. 72nd Annual Meeting of the American Epilepsy Society, New Orleans, LA.
35. Courtney CD, Sobieski C, Wojnowski NM, Ramakrishnan C, Ingram R, DeFazio RA, Deisseroth K, **Christian CA** 2019 Optogenetic stimulation of astrocytes alters synaptic transmission in hippocampal CA1 in an opsin- and stimulation-specific manner. 8th Gordon Research Conference on Inhibition in the CNS, Newry, ME.
36. Courtney CD, Sobieski C, Wojnowski NM, Ramakrishnan C, Ingram R, DeFazio RA, Deisseroth K, **Christian CA** 2019 Optogenetic stimulation of astrocytes alters synaptic transmission in hippocampal CA1 in an opsin- and stimulation-specific manner. 49th Annual Meeting of the Society for Neuroscience, Chicago, IL.
37. Walters J, Jang SS, Jeong H, **Christian CA**, Chung HJ 2019 Sex differences in KA-induced seizure propensity by genetic and pharmacological inhibition of brain-specific tyrosine phosphatase STEP. 49th Annual Meeting of the Society for Neuroscience, Chicago, IL.
38. **Christian CA**, Pantier LK, Naganatanahalli LM, Li J 2019 Seizure burden changes with the reproductive cycle in the intrahippocampal kainate mouse model of temporal lobe epilepsy. 73rd Annual Meeting of the American Epilepsy Society, Baltimore, MD.
39. Cutia CA, Levertson 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

40. Ingram RJ, Li J, **Christian-Hinman CA** 2020 GABAergic transmission to GnRH neurons is increased in diestrous females in a mouse model of temporal lobe epilepsy. 74th Annual Meeting of the American Epilepsy Society, held online
41. Nagarajan R, Lyu J, Kambali M, Wang M, Courtney CD, **Christian-Hinman CA**, Rudolph U 2021 Genetic ablation of dentate hilar somatostatin-positive GABAergic interneurons is sufficient to induce cognitive impairment. 50th Annual Meeting of the Society for Neuroscience, held online
42. Cutia CA, Leverton LK, **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.
43. Ingram RJ, Li J, **Christian-Hinman CA** 2021 iGluR-dependent GABAergic transmission to GnRH neurons is increased in diestrous females in a mouse model of temporal lobe epilepsy. 75th Annual Meeting of the American Epilepsy Society, Chicago, IL.
44. Ingram RJ, Leverton LK, Daniels VC, Li J, **Christian-Hinman CA** 2022 Increased GABA transmission to GnRH neurons after intrahippocampal kainic acid injection in mice is sex-specific and associated with estrous cycle disruption. 1st Gordon Research Conference on Hypothalamus, Ventura, CA.
45. Cutia CA, Leverton LK, Weis KE, Raetzman LT, **Christian-Hinman CA** 2022 Female-specific pituitary hypersensitivity to GnRH in a mouse model of chronic temporal lobe epilepsy. 76th Annual Meeting of the American Epilepsy Society, Nashville, TN.