

CURRICULUM VITAE

Paolo Campus, Ph.D.

CONTACT INFORMATION

Phone: (734) 834-9649

campusp@gvsu.edu

campuspaolo@gmail.com

Mailing Address

12610 Park Dr.

Wayland, MI, 49348

PROFESSIONAL EXPERIENCE

Grand Valley State University, Allendale, MI..... 2022-present
Visiting Professor of Behavioral Neuroscience, Department of Psychology

Eastern Michigan University, Ypsilanti, MI..... 2021-2022
Part-time lecturer, Department of Psychology

University of Michigan, Ann Arbor, MI..... 2020-2022
Research Specialist Senior, U-M Medical School, Department of Psychiatry
Development of a protocol for the visualization of neurons activated by the exposure to distinct external stimuli by combining protein immunohistochemistry with Intronic fluorescence In-Situ Hybridization
Supervisor: Professor Jonathan D. Morrow

University of Michigan, Ann Arbor, MI..... 2015-2020
Post-doctoral Fellow, Michigan Neuroscience Institute
Effects of chemogenetic and optogenetic manipulations of a distinct cortico-thalamic circuit in an animal model of vulnerability to substance use disorders
Pharmacological manipulation of orexinergic transmission in the lateral hypothalamus on the expression of Pavlovian conditioned reward-directed behaviors Mentor: Professor Shelly B. Fligel

European Centre for Brain Research (CERC), Rome, Italy..... 2014-2015

Research Intern, Santa Lucia Foundation
Development of a protocol for the optogenetic manipulation of neural circuits in mice
Mapping of the functional neuroanatomy of Cortico-Striatal circuits involved in the motivational control of drug-seeking and stress-coping in mice

EDUCATION

Ph.D. in Biopsychology, Sapienza University of Rome, Italy..... December 2014
Dissertation: *“A Genotype-Environment Interaction Modulates the Involvement of Different Memory Systems in Consolidation of Stress-Related Memories”* Advisor: Professor Simona Cabib

M.S. in Cognitive Neuroscience, Sapienza University of Rome, Italy..... October 2011
Honors: *Summa Cum Laude*
Thesis topic: *“Neurobiological substrates of coping strategies after chronic stress exposure in mice”* Advisors: Professor Simona Cabib, Professor Cristina Orsini

B.A. in Cognitive Psychology, Sapienza University of Rome, Italy..... December 2009
Thesis topic: *“Differential roles of dorsal hippocampus and dorsolateral striatum in consolidation of stress-related memories”*
Advisors: Professor Simona Cabib, Professor David Conversi

TEACHING EXPERIENCE

Grand Valley State University, Department of Psychology:

PSY 101: Introductory Psychology..... 2023-present
Description: The course offers an introduction to the field of Psychology, the discipline that studies how and why we think, feel, and behave, through the scientific investigation of mind, brain, and behavior.

PSY 330: Foundations of Behavioral Neuroscience..... 2022-present
Description: The course provides a foundational knowledge of the neurobiological determinants of behavior, including how the brain works, from molecules to neurons to complex neural circuits; the neurobiological mechanisms underlying mental faculties such as sensation & perception, hunger, sleep, cognition, emotion, motivation, learning & memory, consciousness, neurological disorders, and psychiatric disorders.

PSY 300: Research Methods in Psychology..... 2022-present

Description: The course is designed to introduce students to the basic methods used in psychological research. The goal is to promote the development of systematic strategies that students can use to evaluate the validity of research claims, recognize different research designs and their limits, write clearly and cogently about scientific findings, and design an empirical study consistent with the current research standards.

Eastern Michigan University, Department of Psychology:

PSY 457: Physiological Psychology..... 2021-2022

Description: The course explores the biological basis of psychological processes, including the functional anatomy of the brain, brain damage and recovery, how drugs affect drug effects on the mind mental and behavioral processes, how genes affect behavior, the nature of homeostasis, hunger, memory, cognition, emotion, reward, motivation and other widely used psychological concepts.

PSY 633: Cognitive Neuroscience (graduate level)..... 2022

Description: The course provides an intermediate/advanced knowledge of the concepts, ideas, tools, and research strategies used in the field of cognitive neuroscience, with a special emphasis on 1) the exploration of experimental and clinical cases, and, 2) the use of structural and functional neuroimaging methodologies (e.g., fMRI, MRI, PET, MEG, etc.,) to investigate the mechanisms underlying perception, attention, emotion, memory, language, and executive functions (e.g., reasoning, decision making, moral judgment, problem solving, etc.,).

University of Michigan Medical School, Department of Psychiatry:

Research Mentor..... 2020-2022

Mentored and supervised undergraduate students through the Undergraduate Research Opportunity Program (UROP) and the U-M Summer Research Opportunity Program (SROP)

University of Michigan, Michigan Neuroscience Institute:

Research Mentor..... 2015 - 2020

Mentored and assisted new graduate students joining the lab. Mentored and supervised undergraduate students from several programs/courses, including University of Michigan Honors & Non-Honors Research Thesis Program; PSYCH 331: Research Methods in Brain, Behavior; Undergraduate Research Opportunity Program (UROP), and U-M Summer Research Opportunity Program (SROP).

FELLOWSHIPS, HONORS AND AWARDS

Kavli Postdoctoral Travel Award..... 2019

Fellowship, Doctoral School of Neuroscience, Sapienza University of Rome..... 2011

Summa Cum Laude for M.S. in Cognitive Neuroscience..... 2011

PROFESSIONAL AFFILIATION & SERVICE

International Journal of Psychological and Brain Sciences

Editorial Board Member..... 2020-present

Frontiers in Behavioral Neuroscience

Review Editor for Behavioral Endocrinology..... 2022-present

Society for Neuroscience (SfN)

Member..... 2015-2022

European Behavioral Pharmacology Society (EBPS)

Member..... 2018-2022

Federation of European Neuroscience Societies (FENS)

Member..... 2012-2018

GVSU International Faculty & Friends

Member..... 2022-present

PEER-REVIEWED PUBLICATIONS

Iglesias AG, Chiu AS, Wong J, **Campus P**, Li F, Liu Z, Bhatti JK, Patel SA, Deisseroth K, Akil H, Burgess CR, Flagel SB (2023). *Inhibition of Dopamine Neurons Prevents Incentive Value Encoding of a Reward Cue: With Revelations from Deep Phenotyping*. J Neurosci. 2023 Nov 1;43(44):7376-7392. doi: 10.1523/JNEUROSCI.0848-23.2023. Epub 2023 Sep 14.

Cabib S, **Campus P**, Latagliata EC, Orsini C, Tarmati V (2021). *Repetitive and Inflexible Active Coping and Addiction-like Neuroplasticity in Stressed Mice of a Helplessness-Resistant Inbred Strain*. Behav. Sci. 2021, 11, 174. <https://doi.org/10.3390/bs11120174>

Flagel SB, Iglesias A, **Campus P** (2021). *Exploiting Individual Differences in Cue-Reward Learning to Uncover the Neural Circuits That Contribute to Psychopathology*. Biological Psychiatry (2021) 89 (9), S44. <https://doi.org/10.1016/j.biopsych.2021.02.126>

Kuhn BN, **Campus P**, Klumpner MS, Chang SE, Solberg Woods LC, Flagel SB (2021). *Inhibition of a corticothalamic circuit attenuates cue-induced reinstatement of drug-seeking behavior in*

- “relapse prone” rats*. *Psychopharmacology* 239, 1035–1051 (2022). <https://doi.org/10.1007/s00213-02105894-9>
- Lopez SA, Mubarak E, Yang C, Parsegian A, Klumpner MS, **Campus P**, Flagel SB (2021). *Male Goal-Tracker and Sign-Tracker Rats Do Not Differ in Neuroendocrine or Behavioral Measures of Stress Reactivity*. *eNeuro*, 8(3), ENEURO.0384-20.2021. <https://doi.org/10.1523/ENEURO.0384-20.2021>
- Lopez SA, Mubarak E, Yang C, Parsegian A, Klumpner MS, **Campus P**, Flagel SB (2021). Neuroendocrine and behavioral measures of stress-reactivity in male goal-tracker and sign-tracker rats. *bioRxiv*, 2020. DOI: 10.1101/2020.09.04.283549
- Haight JL*, **Campus P***, Maria-Rios CE, Johnson AM, Klumpner MS, Kuhn BN, Covelo IR, Morrow JD, Flagel SB (2020). *The lateral hypothalamus and orexinergic transmission in the paraventricular thalamus promote the attribution of incentive salience to reward-associated cues*. *Psychopharmacology* 237, 3741–3758 (2020). <https://doi.org/10.1007/s00213-020-05651-4>
- Cabib S, **Campus P**, Conversi D, Orsini C, Puglisi-Allegra S (2020). *Functional and Dysfunctional Neuroplasticity in Learning to Cope with Stress*. *Brain Sci.* 2020, 10, 127. <https://doi.org/10.3390/brainsci10020127>
- Campus P**, Covelo IR, Kim Y, Parsegian A, Kuhn BN, Lopez SA, Neumaier JF, Ferguson SM, Solberg Woods LC, Sarter M, Flagel SB (2019). *The Paraventricular Thalamus is a Critical Mediator of Top-Down Control of Cue-Motivated Behavior in rats*. *eLife* 8:e49041. <https://doi.org/10.7554/eLife.49041>
- Campus P**, Canterini S, Orsini C, Fiorenza MT, Puglisi-Allegra S, Cabib S (2017). *Stress-induced reduction of dorsal striatal D2 dopamine receptors prevents retention of a newly acquired adaptive coping strategy*. *Front. Pharmacol.* 2017 Sep 15;315:23-35. <https://doi.org/10.3389/fphar.2017.00621>
- Kuhn, BN, Klumpner MS, Covelo IR, **Campus P**, Flagel SB (2017). *Transient inactivation of the paraventricular nucleus of the thalamus differentially affects cue-induced reinstatement in signtrackers and goal-trackers*. *Psychopharmacology* 235, 999–1014 (2018). <https://doi.org/10.1007/s00213-017-4816-1>
- Campus P**, Maiolati M, Orsini C, Cabib S (2016). *Altered consolidation of extinction-like inhibitory learning in genotype-specific dysfunctional coping fostered by chronic stress in mice*. *Behav Brain Res.* 2016 Dec 15;315:23-35. <https://doi.org/10.1016/j.bbr.2016.08.014>.
- Campus P**, Accoto A, Maiolati M, Latagliata C, Orsini C (2016). *Role of prefrontal 5-HT in the strain-dependent variation in sign-tracking behavior of C57BL/6 and DBA/2 mice*. *Psychopharmacology* 233, 1157–1169 (2016). <https://doi.org/10.1007/s00213-015-4192-7>
- Campus P**, Colelli V, Orsini C, Sarra D, Cabib S (2015). *Evidence for the involvement of extinction-associated inhibitory learning in the forced swimming test*. *Behav Brain Res.* 2014 Oct 17;278C:348-355. <https://doi.org/10.1016/j.bbr.2014.10.009>.
- Colelli V, **Campus P**, Conversi D, Orsini C, Cabib S (2014). *Either the dorsal hippocampus or the dorsolateral striatum is selectively involved in consolidation of forced swim-induced immobility*

depending on genetic background. Neurobiol Learn Mem. 2014 May;111:49-55.
<https://doi.org/10.1016/j.nlm.2014.03.004>.

Colelli V, **Campus P**, Conversi D, Orsini C, Cabib S (2014). *Either the dorsal hippocampus or the dorsolateral striatum is selectively involved in consolidation of forced swim-induced immobility depending on genetic background*. Neurobiol Learn Mem. 2014 May;111:49-55.
<https://doi.org/10.1016/j.nlm.2014.03.004>.

Latagliata EC, Valzania A, Pascucci T, **Campus P**, Cabib S, Puglisi-Allegra S (2014). *Stress-induced activation of ventral tegmental mu-opioid receptors reduces accumbens dopamine tone by enhancing dopamine transmission in the medial pre-frontal cortex*. Psychopharmacology 231, 4099–4108 (2014). <https://doi.org/10.1007/s00213-014-3549-7>

Cabib S, Campus P, Colelli V (2012). Learning to cope with stress: psychobiological mechanisms of stress resilience. Rev Neurosci. 2012;23(5-6):659-72. <https://doi.org/10.1515/revneuro-2012-0080>

BOOK CHAPTERS

Kuhn BN, **Campus P**, Flagel SB (2018) *Neurobiological mechanisms underlying sign-tracking and addiction-related behaviors*. Book Chapter in: Tomie A and Morrow J (ed) Sign-Tracking and Drug Addiction, 1st edn. Maize Books, Ann Arbor, MI, USA.

<http://dx.doi.org/10.3998/mpub.10215070>

INVITED PRESENTATIONS

Campus, P. Establishing a role for the paraventricular nucleus of the thalamus in the attribution of incentive motivational value to reward-associated cues. (2018, January). Winter Conference on Brain Research, January 14-18, Whistler, Canada.

Campus P. Orexinergic transmission in the paraventricular nucleus of the thalamus affects the attribution of motivational value to reward-associated cues. European Behavioral Pharmacology Society Biennial Meeting 2019, August 28-31, 2019, Braga, Portugal.

ABSTRACTS AND CONFERENCE PRESENTATIONS

Iglesias AM, Wong J, **Campus P**, Deisseroth KA, Akil H, Flagel SB. *Optogenetic inhibition of cue-elicited dopamine activity attenuates sign-tracking behavior to a Pavlovian food cue*. (2019, October) Society for Neuroscience, Chicago, IL

Johnson AM, Iglesias AG, **Campus P**, Flagel SB. *Assessing the effects of selective inhibition of neural projections from the lateral hypothalamus to the paraventricular nucleus of the thalamus on Pavlovian conditioned approach behavior.* (2019, October) Society for Neuroscience, Chicago, IL

Campus P, Kim Y, Kuhn BN, Lopez SA, Rivero-Covelo I, Ferguson SM, Sarter M, Flagel SB. *Elucidating the role of cortico-thalamic-striatal circuitry in cue-reward learning.* (2018, November) Society for Neuroscience, San Diego, CA

Lopez SA, Valenta A, **Campus P**, Kennedy RT, Flagel SB. *Elucidating the interaction between glucocorticoids and dopamine in an animal model of individual variation in cue-motivated behaviors.* (2018, November) Society for Neuroscience, San Diego, CA.

Kuhn BN, **Campus P**, Klumpner MS, Flagel SB. *The effects of chemogenetic inhibition of a “top-down” cortico-thalamic circuit on individual variation in cue- and cocaine-induced drug-seeking behavior.* (2018, November) Society for Neuroscience, San Diego, CA.

Campus P, Covelo IR, Kuhn BN, Lopez SA, Ferguson SM, Flagel SB. *Chemogenetic manipulations of prelimbic inputs to the paraventricular nucleus of the thalamus affect the attribution of incentive value to reward-associated cues in sign-trackers.* (2018, May) International Conference for Advanced Neurotechnology, Ann Arbor, MI.

Kuhn BN, **Campus P**, Klumpner MS & Flagel SB. *The effects of chemogenetic inhibition of prelimbic cortical inputs to the paraventricular nucleus of the thalamus on cue- and cocaine-induced drugseeking behavior in sign-trackers and goal-trackers.* (2018, May) International Conference for Advanced Neurotechnology, Ann Arbor, MI.

Bond LG, Johnson AM, **Campus P**, Flagel SB. *Antagonism of orexin 2 receptors in the paraventricular nucleus of the thalamus decreases the incentive motivational value of a reward-cue in signtrackers.* (2018, May) Albert J. Silverman Research Conference, Department of Psychiatry at University of Michigan, Ann Arbor, MI.

Campus P, Covelo IR, Kuhn BN, Lopez SA, Ferguson SM, Flagel SB. *Chemogenetic manipulations of prelimbic inputs to the paraventricular nucleus of the thalamus affect the attribution of incentive value to reward-associated cues in sign-trackers.* (2018, May) Albert J. Silverman Research Conference, Department of Psychiatry at University of Michigan, Ann Arbor, MI.

Kuhn BN, **Campus P**, Klumpner MS & Flagel SB. *The effects of chemogenetic inhibition of prelimbic cortical inputs to the paraventricular nucleus of the thalamus on cue- and cocaine-induced drugseeking behavior in sign-trackers and goal-trackers.* (2018, May) Albert J. Silverman Research Conference, Department of Psychiatry at University of Michigan, Ann Arbor, MI.

Lopez SA, **Campus P**, Parsegian A, Klumpner MS, Flagel SB. *Assessment of stress responsivity in signtrackers and goal-trackers.* (2018, January). Winter Conference on Brain Research, January 1418, Whistler, Canada.

Lopez SA, **Campus P**, Ferguson SM, Klumpner MS, Flagel SB. *Assessment of corticosterone profile and anxiety-related behaviors in sign-trackers and goal-trackers.* (2017, November) Society for Neuroscience, Washington D.C.

Covelo IR, **Campus P**, Kuhn BN, Lopez SA, Ferguson SM, Fligel SB. *Chemogenetic manipulation of prelimbic inputs to the thalamic paraventricular nucleus affects individual differences in response to a reward associated cue.* (2017, November) Society for Neuroscience, Washington D.C.

Campus P, Haight JL, Johnson AM, Klumpner MS, Covelo IR, Fligel SB. *The pharmacological antagonism of orexin/hypocretin receptors decrease the conditioned reinforcing properties of a reward associated cue in sign-tracking rats.* (2017, November) Society for Neuroscience, Washington D.C.

Kuhn BN, Klumpner MS, **Campus P** & Fligel SB. *The role of cortico-thalamic circuitry in the reinstatement of drug-seeking behavior.* (2017, November) Society for Neuroscience, Washington D.C.

Campus P; Canterini S; Orsini C; Fiorenza MT, Cabib S. *Addiction-associated neural phenotypes in mice exposed to a temporary reduction of food availability.* European Behavioral Pharmacology Society Biennial Meeting 2017, August 31-September 3 2017, Heraklion, Crete, Greece.

Campus P; Kim Y; Parsegian A; Rivero-Covelo I; Ferguson SM; Sarter M; Fligel SB. *Elucidating the role of the cortico-thalamic-striatal circuit in cue-reward learning.* European Behavioral Pharmacology Society Biennial Meeting 2017, August 31-September 3 2017, Heraklion, Crete, Greece.

Campus P; Johnson AM; Haight JL; Fligel SB. *Orexin/hypocretin antagonism in the paraventricular nucleus of the thalamus reduces the incentive motivational value of a reward-paired cue in sign-trackers.* 28th Annual Albert J. Silverman Research Conference. March 2017, University of Michigan, Ann Arbor, MI.

Campus P; Kim Y; Parsegian A; Rivero-Covelo I; Ferguson SM; Sarter M; Fligel SB. *Effects of chemogenetic manipulations of prelimbic inputs to the paraventricular nucleus of the thalamus on dopamine release in the nucleus accumbens of sign-trackers and goal-trackers.* Society for Neuroscience Annual Meeting, November 2016, San Diego, CA.

Puglisi-Allegra S, Saccoccio P, Milia C, **Campus P**, Latagliata EC. *Prelimbic α 1-adrenergic receptors modulate extinction of amphetamine-induced conditioned place preference.* Society for Neuroscience Annual Meeting, October 2015, Chicago, IL.

Campus P, Colelli V, Conversi D, Orsini C, Cabib S. *Consolidation of immobility requires stimulation of D2 striatal dopamine receptors and is moderated by stimulation of glucocorticoids receptors in DBA/2J mice.* Frontiers in Stress and Cognition: From Molecules to Behavior. September 23-26, 2012 – Ascona, Switzerland.

Campus P, Colelli V, Conversi D, Orsini C, Cabib S. *The dorsolateral striatum and basolateral amygdala in consolidation of helplessness.* The 8th FENS forum of Neuroscience. July 2012, Barcelona, Spain.

Campus P, Colelli V, Conversi D, Orsini C, Cabib S. *Role of the dorsolateral striatum in consolidation of helplessness.* The Emotional Brain- from Neurobiology to new therapeutic opportunities. Rome, 5-6 September 2011.

PRESS ARTICLES

- Makin S (2020, January 1). Scientists Spot Addiction-Associated Circuit in Rats. Scientific American. <https://www.scientificamerican.com/article/scientists-spot-addiction-associated-circuit-in-rats/>
- eLife. (2019, September 10). Brain circuit controls individual responses to temptation in rats. ScienceDaily. <https://www.sciencedaily.com/releases/2019/09/190910111410.htm>
- Winter L (2020, January 3). Addictive Behavior Control Circuit Discovered in Rat Brains. <https://www.thescientist.com/news-opinion/addictive-behavior-control-circuit-discovered-in-rat-brains-66911>

PERSONAL LINKS

- [Google Scholar](#)
- [ResearchGate](#)
- [ORCID](#)

PROFESSIONAL REFERENCES

- Shelly Flagel, Ph.D.** Associate Professor of Psychiatry; Co-Director, Michigan Neuroscience Institute; Research Associate Professor, Michigan Neuroscience Institute; Associate Director Academic Program, Neuroscience Graduate Program, University of Michigan.
Email: sflagel@umich.edu.
Phone: (734) 764-6647
- Jonathan Morrow, M.D., Ph.D.** Associate Professor Department of Psychiatry; U-M Addiction Center Practicing Physician with U-M Addiction Treatment Services, Department of Psychiatry, Michigan Medicine.
Email: jonmorro@umich.edu.
Phone: (734) 647-4375
- Simona Cabib, Ph.D.** Full Professor of Biopsychology, Department of Psychology, Sapienza University of Rome.
Email: simona.cabib@uniroma1.it.
Phone: (+1) 06-4991-7526