**Stephen V. Mahler, Ph.D.**

Assistant Professor

Department of Neurobiology & Behavior

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<http://faculty.sites.uci.edu/mahlerlab/>

**Education and Training:**

Postdoctoral Fellow (2009-2015). Medical University of South Carolina, Gary Aston-Jones Lab

Biopsychology Ph.D. (2009). University of Michigan, Kent C. Berridge Lab

Biopsychology M.S. (2006). University of Michigan, Kent C. Berridge Lab

Social Sciences M.A. (2003). University of Chicago, Harriet de Wit Lab

Psychology B.S. with Honors (2001). Loyola University Chicago

**Honors and Awards:**

Associate Member, American College of Neuropsychopharmacology (2019)

Co-Chair, European Behavioral Pharmacology Society Panel (2019)

Hellman Fellow, Cross-Disciplinary Award for Early Career Investigator (2018)

Co-Chair and Presenter, American College of Neuropsychopharmacology Panel (2018)

Publons Peer Review Award, Top 1% Reviewer in Neuroscience and Behavior (2018)

Co-Chair, Winter Conference on Brain Research Panel (2017 & 2018)

Winter Conference on Brain Research Travel Award (2017)

“Hot Topic” Presentation at American College of Neuropsychopharmacology Meeting (2014)

Co-Chair, Society for Neuroscience meeting mini-symposium (2013)

American College of Neuropsychopharmacology Meeting Young Investigator Travel Award (2012)

Poster Selected for Display in NIDA Director’s Offices (2012)

NIDA Travel Award for the Society for Neuroscience Conference (2012 & 2014)

Faculty of 1000 Associate Member Travel Award (2012)

Society for Neuroscience Chapter Award (South Carolina Chapter; 2011)

University of Michigan Wyvell Award: Best Biopsychology Dissertation (2009)

Michigan Society for Neuroscience Conference: Best Graduate Student Poster (2008)

American Psychological Association CARE Imprinting Travel Award (2007)

International Behavioral Neuroscience Society Travel Award (2006 & 2013)

NSF Graduate Research Fellowship Honorable Mention (2004)

Rackham Graduate School Travel Grants (2004-2006)

NIDA Travel Grant (CPDD Annual Meeting; 2003)

Phi Beta Kappa (2001)

*Magna Cum Laude*, Loyola University Chicago (2001)

Psi Chi (1997)

Golden Key (1997)

National Merit Scholar (1995)

**Current Funding:**

1. ICAL: Impact of Cannabinoids Across Lifespan: NIDA P50 Center of Excellence (PI: Daniele Piomelli;

Mahler: Behavioral Project Director; 2018-2022)

2. ICAL: Impact of Cannabinoids Across Lifespan: NIDA P50 Center of Excellence (Mahler: Animal Core

Director; 2018-2022)

3. Hellman Foundation Fellowship (2018)

**Prior Fellowships and Grants:**

School of Biological Sciences/School of Medicine Seed Grant (2017-18) Co-I: Gary Lynch

National Institute on Drug Abuse; R00 Pathway to Independence (2015-19)

National Institute on Drug Abuse; K99 Pathway to Independence (2013-2015)

National Institute on Drug Abuse; F32 Individual Postdoctoral NRSA Fellowship (2010-2012)

National Institute on Drug Abuse; F31 Individual Predoctoral NRSA Fellowship (2006-2009)

**Publications** (*Google Scholar h-Index:* 20):

*Preprints:*

Levis, SC, Bentzley, BS, Molet, J, Bolton, JL, Perrone, CR, Baram, TZ, & Mahler, SV. (re-submitted) On the

origins of vulnerability to opioid addiction. *Preprint:* <https://doi.org/10.1101/716522>

*Published/In Press:*

33. Farrell, MR, Ruiz, CM, Castillo, E, Faget, L, Khanbijian, C, Liu, S, Schoch, H, Rojas, G, Hnasko, TS, &

**Mahler, SV.** (in press). Ventral pallidum is essential for cocaine relapse after voluntary abstinence in rats. Neuropsychopharmacology.

**\*Featured in “Research Highlight” article:** Ventral pallidum: a promising target for addiction intervention.

McGovern, DJ & Root, DH, Neuropsychopharmacology

**\*Cover Image (December 2019)**

32. Bonaventura, J, Eldridge, MA, Hu, F, Gomez, JL, Sanchez-Soto, M, Abramyan, AM, Lam, S, Boehm, M,

Ruiz, CM, Farrell, MR, Moreno, A, Faress, IMG, Andersen, N, Lin, JY, Moaddel, R, Morris, P, Shi, L, Sibley, DR, **Mahler, SV**, Nabavi, S, Pomper, MG, Bonci, A, Horti, AG, Richmond, BJ & Michaelides, M. (in press). High-potency ligands for DREADD imaging and activation in rodents and monkeys. Nature Communications.

31. Jayachandran, M, Linley, S, Schlecht, M, **Mahler, SV**, Vertes, RP, Allen, TA. (in press). Prefrontal

pathways provide top down control of memory for sequences of events. Cell Reports.

30. Halbout, B, Marshall, AT, Azimi, A, Liljeholm, M, **Mahler, SV**, & Ostlund, SB. (in press). Chemogenetic

inhibition of ventral tegmental area dopamine neurons or their inputs to the nucleus accumbens disrupts cue-triggered reward seeking but not reward taking. eLife.

29. **Mahler, SV**, Brodnik, ZD, Cox, BM, Buchta, WC, Bentzley, BS, Quintanilla, J, Cope, ZA, Lin, EC, Riedy,

MD, Scofield, MD, Messinger, J, Ruiz, CM, Riegel, AC, España, RA & Aston-Jones, G. (2019). Chemogenetic manipulations of ventral tegmental area dopamine neurons reveal multifaceted roles in cocaine abuse. Journal of Neuroscience, 39(3), 503-518.

28. Mitchell, MR, Berridge, KC, **Mahler, SV.** (2018). Nucleus accumbens shell hedonic hotspot:

Endocannabinoid enhanced ‘liking’ requires endogenous opioid signals. Cannabis & Cannabinoid Research, 3(1), 166-170. doi: 10.1089/can.2018.0021

27. Bolton, JL, Ruiz, CM, Rismanchi, N, Sanchez, GA, Castillo, E, Huang, J, Cross, C, Baram, TZ & **Mahler,**

**SV.** (2018). Early-Life Adversity Facilitates Acquisition of Cocaine Self-Administration and Induces Persistent Anhedonia. Neurobiology of Stress, 8, 57-67.

26. Farrell, MR, Schoch, H, & **Mahler, SV**. (2018). Modeling Cocaine Relapse in Rodents: Behavioral

Considerations and Circuit Mechanisms. Progress in Neuropsychopharmacology & Biological Psychiatry, 87(Pt A), 33-47.

25. **Mahler, SV** & Aston-Jones, G. (2018). CNO evil? Considerations for the use of DREADDs in behavioral

neuroscience. Neuropsychopharmacology, 43, 934-936.

24. **Mahler, SV.** (2018). Stay alert: don’t get hurt. Nature Neuroscience, 21(1), 3-5.

23. James, MH, McGlinchey, EM, Vattikonda, A, **Mahler, SV** & Aston-Jones, G. (2018). Cued reinstatement

of cocaine- but not sucrose-seeking is dependent upon dopamine signaling in prelimbic cortex and is associated with recruitment of prelimbic neurons that project to contralateral nucleus accumbens core.

International Journal of Neuropsychopharmacology, 21(1), 89-94.

22. Schoch, H, Huerta, MY, Ruiz, CM, Farrell, MR, Jung, KM, Huang, JJ, Campbell, RR, Piomelli, D & **Mahler,**

**SV**. (2018). Adolescent cannabinoid exposure increases natural reward seeking and alters learning. Psychopharmacology, 235(1), 121-134.

21. Buchta, WC, **Mahler, SV**, Harlan, B, Aston-Jones, G, Riegel, AC. (2017). Dopamine terminals from the

ventral tegmental area gate intrinsic inhibition in the prefrontal cortex. Physiological Reports, 5(6), e13198

20. James, MH, **Mahler, SV**, Moorman, DE, & Aston-Jones, G. (2017). A decade of orexin/hypocretin in

addiction: Where are we now? Current Topics in Behavioral Neuroscience, 33, 247-282.

19. McGlinchy, EM, James, MH, **Mahler, SV**, Pantazis, C & Aston-Jones (2016). Prelimbic to accumbens core

pathway is recruited in a dopamine-dependent manner to drive cued reinstatement of cocaine seeking. Journal of Neuroscience, 36(33), 8700-11.

18. Smith, KS, Bucci, DJ, Luikart, BW, & **Mahler, SV**. (2016) DREADDs: Use and application in behavioral

neuroscience. Behavioral Neuroscience, 130(2), 137-55.

17. **Mahler, SV**, Moorman, DE, Smith, RJ, James, MH & Aston-Jones, G. (2014). Motivational activation: A

unifying hypothesis of orexin/hypocretin function. Nature Neuroscience, 17(10), 1298-1303.

16. **Mahler, SV**, Vazey, EM, Beckley, JT, Keistler, CR, McGlinchy, EM, Kaufling, J, Wilson, SP, Deisseroth, K,

Woodward, JJ & Aston-Jones, G (2014). Designer receptors show role for ventral pallidum input to ventral tegmental area in cocaine seeking. Nature Neuroscience, 17(4), 577-585.

15. **Mahler, SV**, Hensley-Simon, M, Tahsili-Fahadan, P, LaLumiere, RT, Thomas, C, Fallon, RV, Kalivas, PW

& Aston-Jones, G. (2014). Modafinil attenuates reinstatement of cocaine seeking: Role for cystine-glutamate exchange and metabotropic glutamate receptors. Addiction Biology, 19(1), 49-60.

14. **Mahler, SV**, Smith, RJ & Aston-Jones, G. (2013). Interactions between VTA orexin and glutamate in cue-

induced reinstatement of cocaine seeking in rats. Psychopharmacology, 226, 687-698.

13. **Mahler, SV**, Moorman, DE, Feltenstein, ME, Cox, BM, Ogburn, KB, Bachar, M, McGonigal, JT, Ghee, SM

& See, RA (2013). A rodent “self- report” measure of methamphetamine craving? Rat ultrasonic vocalizations during methamphetamine self-administration, extinction, and reinstatement. Behavioural Brain Research, 236, 78-89.

12. **Mahler, SV**,&Aston-Jones, GS. (2012). Fos activation of selective afferents to ventral tegmental area

during cue-induced reinstatement of cocaine seeking in rats. Journal of Neuroscience, 32(38), 13309-13325.

**\*Featured in “Journal Club” article:** Cole, S, Furlong, TM & Perry CJ. (2013). “Recruitment of multiple

pathways to ventral tegmental area during cocaine-seeking behavior” Journal of Neuroscience, 33(6), 2239-41.

11. **Mahler, SV**, Smith, RJ, Moorman, DE, Sartor, GC & Aston-Jones, G. (2012). Multiple roles for

orexin/hypocretin in addiction. Progress in Brain Research, 198, 79-121.

10. **Mahler, SV** & Berridge, KC. (2012). What and when to ‘want?’ Amygdala opioid focusing of incentive

salience on cues for sugar and sex. Psychopharmacology. 221, 407-26.

9. **Mahler, SV** & de Wit, H (2010). Cue reactors: Individual differences in cue-induced craving after food or

smoking abstinence. PLoS One 5(11): w15475. Doi:10.1371/journal.pone.0015475

8. Smith, KS, **Mahler, SV**, Peciña, S & Berridge, KC (2010). Hedonic hotspots: Generating sensory pleasure

in the brain. In: ML Kringelbach & KC Berridge (Eds.). Pleasures of the Brain. Oxford University Press: Oxford UK.

7. **Mahler, SV** & Berridge, KC. (2009). Which cue to ‘want?’ Central amygdala opioid activation enhances

and targets incentive salience on a prepotent reward cue. Journal of Neuroscience, 29(20), 6500-13.

6. **Mahler, SV**, Smith, KS & Berridge, KC. (2007). Endocannabinoid hedonic hotspot for sensory pleasure:

Anandamide in nucleus accumbens shell enhances 'liking' of a sweet reward. Neuropsychopharmacology, 32(11), 2267-78.

5. Acheson, A, **Mahler, SV**, Chi, H & de Wit, H. (2006) Differential effects of nicotine on alcohol consumption

in men and women. Psychopharmacology, 186(1), 54-63.

4. **Mahler, SV** & de Wit, H. (2005). Effects of haloperidol on reactions to smoking cues in humans.

Behavioural Pharmacology, 16(2), 123-6.

3. Alsene, KA, **Mahler, SV**, & de Wit, H. (2005). Effects of *d*-amphetamine and smoking abstinence on cue-

induced cigarette craving. Experimental and Clinical Psychopharmacology, 13(3), 209-18.

2. Young, EM, **Mahler, S**, Chi, H, & de Wit, H. (2005). Mecamylamine and ethanol preference in healthy

volunteers. **Alcoholism**: **Clinical** & **Experimental** **Research**. 29(1), 58-65.

1. Roney, JR, **Mahler, SV** & Maestripieri, D. (2003). Behavioral and hormonal responses of men to brief

interactions with women. Evolution and Human Behavior, 24, 365-375.

**Committee Service:**

*UCI Ph.D. Committees:*

Mitchell Farrell (Chair; Stephen Mahler Laboratory; 2016-Present; ***NIDA F31 NRSA Recipient***).

Sophia Levis (Stephen Mahler and Tallie Baram Laboratories; 2018-Present)

Julian Quintanilla (Gary Lynch and Stephen Mahler Laboratories; 2018-Present)

Alberto Lopez (Marcelo Wood Laboratory; 2016-2018)

Rianne Campbell (Marcelo Wood Laboratory; 2016-Present)

Jessica Yaros (Mike Yassa Laboratory; 2019-Present)

Yasmine Sherafat (Christie Fowler Laboratory; 2019-Present)

Angelene Eugene (Christie Fowler Laboratory; 2019-Present)

Steven Granger (Mike Yassa Laboratory; 2019-Present)

*UCI Rank and Tenure Committees:*

Three Tenure Review Committees (2016-18)

 Four Merit Review Committees (2016-18)

*Other UCI Service:*

University of California Irvine Center for Addiction Neuroscience (ICAN), Executive Committee (2015-Present).

University of California ICAL: Impact of Cannabinoids Across Lifespan, Executive Committee (2018-Present).

Awards and Honors Committees: Judging honors theses, choosing award-winning students (2017-Present).

Graduate Curriculum Committee: Redesigning 1st year Interdepartmental Neuroscience Program core

curriculum (2017-Present)

**Peer Reviewing Service:**

Top Ten Most Peer Reviews, *Neuropsychopharmacology* (2015; 2017)

Publons “Top 1% Peer Reviewer” (2018)

Ad Hoc Reviewer for *Addiction Biology,* *Behavioural Brain Research, Biological Psychiatry, Brain, Behavior, and Evolution, Brain Research, British Journal of Pharmacology, Cannabis & Cannabinoid Research, European Neuropsychopharmacology, International Journal of Neuropsychopharmacology, Journal of Neuroscience, Nature Communications, Nature Neuroscience, Neuropsychopharmacology, Neuroscience, Physiology and Behavior,* *PLoS One,* *PNAS*, and *Psychopharmacology*

**Teaching Experience:**

**Classroom Teaching:**

***The University of California, Irvine.***

*--Biology 38: Mind, Memory and the Brain* (Undergraduate Non-Majors)

*--Neuroscience 110: Neurobiology & Behavior* (Undergraduate Bio Majors)

*--Neurobiology & Behavior 209: Behavioral Neuroscience* (1st Year Ph.D. Students)

*--Neurobiology & Behavior 207: Systems Neuroscience* (1st Year Ph.D. Students)

*--Neurobiology & Behavior 233: Drug Addiction* (Upper Level Ph.D. Students)

***The University of Michigan.***

Graduate Student Instructor:

“Introduction to Biopsychology” (Fall 2004, Fall 2005)

Teaching Assistant:

 “Drugs of Abuse: Brain and Behavior” (2007)

**UCI Laboratory Mentorship:**

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| --- | --- | --- |
| **Postdocs** | **Grad Students** (R=rotation) | **Undergraduates** **\***UROP, **#**Bio199, **@**NIDA Funded |
| Hannah Schoch (2015-17) | Mitchell Farrell (2016-Present) | Erik Castillo |
|  | Julian Quintanilla (2017-Present) | Jenny Cevallos***\**#** |
|  | Sophia Levis (MD/PhD; 2018-Present) | Leyu Chiu |
|  |  | Christopher Cross |
|  | Rianne Campbell (R;2016) | Gregory de Carvalho |
|  | Yasmine Sherafat (R; 2017) | Jasmine Heyer |
|  | Andrew Chen (R; 2017) | Jeff Huang***\**#** |
|  | Elizabeth Hubbard (R; 2018) | Michelle Huerta**@** |
|  | Rachael Hokensen (R; 2018) | Christine Khanbijian**#** |
|  |  | Gagandeep Lal |
|  |  | Stephanie Lenogue**@** |
|  |  | Siyu Liu**#** |
|  |  | Adam Manoogian |
|  |  | Iohanna Pagnoncelli |
|  |  | Gerardo Rojas**@** |
|  |  | Eden Harder**\*#** |
|  |  | Christina Perrone**#** |
|  |  | Drew Justeson**#** |
|  |  | Samantha Rodriguez**#** |
|  |  | Jeanine Esteban**#** |
|  |  | Johanna Montesinos**#** |

**Outreach and Commitment to Diversity:**

Neuroscience Outreach:

--Center for Neurobiology of Learning and Memory High School Lecture on Addiction (2019)

--Volunteer Outreach, Addiction Awareness: Compton Unified High School District

--Myrtle Philip Community School, (6th grade), Whistler, BC, Canada (2018)

--Bozeman, MT High School Outreach (2015)

–Medical University of South Carolina Brain Awareness Week (2011-14)

–Ashley Hall High School research and medicine immersion (2010-14)

Research Talks to URM-Oriented Universities and Groups:

 --Building Infrastructure Leading to Diversity Colloquium; Cal State Long Beach (2018)

 --Minority Science Training Program; UC Irvine (2015)

Mentoring:

 --NIDA Diversity Summer Internship Program (2015-17)

 --Postdoc Association career dialogue panel (2016-17)

 --Current Lab Composition: 6/10 URM, 6/10 female