

**Curriculum Vitae**  
Donna Calu Gogerdchi, PhD  
Assistant Professor, Department of Anatomy and Neurobiology  
University of Maryland School of Medicine

**Date** July 9, 2021

**Contact Information**

20 Penn Street, HSF II Rm S203C  
Baltimore, MD 21201  
443-302-9139 (office) /301-717-2650 (home office)  
[dcalu@som.umaryland.edu](mailto:dcalu@som.umaryland.edu)

**Education**

2000-2004 B.S. University of Maryland, College Park, MD, Neurobiology and Physiology  
2004-2010 Ph.D. University of Maryland SOM, Baltimore, MD, Neuroscience, Thesis title: "Neural correlates of variations in event processing in the basolateral and central nuclei of the amygdala," mentor Geoffrey Schoenbaum

**Post Graduate Education and Training**

2010-2011 Postdoctoral Fellow, National Institute on Drug Abuse, Intramural Research Training Program, Behavioral Neuroscience Research Branch, mentor Yavin Shaham  
2011-2015 Early Independent Scientist, National Institute on Drug Abuse Intramural Research Program, Behavioral Neuroscience Research Branch

**Employment History**

**Academic Appointments**

2015-present Assistant Professor, Department of Anatomy and Neurobiology, University of Maryland School of Medicine

**Professional Society Memberships**

2004-present Society for Neuroscience, member  
2021 Pavlovian Society, member

**Honors and Awards**

2001-2003 University of Maryland; Biology Academic Honors  
2007-2010 National Research Service Award; National Institute of Mental Health  
2010 PhD Thesis Project Award; University of Maryland Graduate Program in Life Sciences  
2010 Top Junior Investigator Data Presentation; Winter Conference on Brain Research  
2011 Early Independent Scientist Position; National Institutes of Health; NIDA-IRP  
2011 Cold Spring Harbor Laboratory Course on Cell Biology of Addiction; awarded enrollment  
2013 Excellence in Scientific Research, Toni Shippenberg Fellow Award, NIDA-IRP  
2013 Winter Conference in Brain Research Travel Fellowship, WCBR 2014

- 2016 Outstanding Young Scientist, Maryland Science Center, Maryland Academy of Sciences  
 2017 Nominated by UMSOM for Blavatnik National Awards for Young Scientist, Life Sciences Category  
 2019 PECASE: Presidential Early Career Award for Scientists and Engineers  
 2019 Alumnus Award, University of Maryland Graduate Program in Life Sciences

### **Administrative Service**

### **Institutional Service**

University of Maryland School of Medicine (UMSOM) / University of Maryland, Baltimore (UMB)

- 2016- present Thesis committee member (1-2 committees/yr), Program in Neuroscience, UMB  
 Qualifying Exam Committee member (1-2 committees/yr), Program in Neuroscience, UMB  
 Advisory committee member(1-2 committees/yr), Program in Neuroscience, UMB  
 Interviewer for Medical School Admissions (5-10 applicants/yr)  
 2016-2017 School of Medicine Council, Alternate member for Department of Anatomy & Neurobiology  
 Nomination review committee for GPILS and OPS Awards, Program in Neuroscience  
 Faculty representative  
 2017- present Chair of Neurobiology Seminar Series for Department of Anatomy and Neurobiology  
 Program in Neuroscience Retreat Committee member, UMB  
 2017- 2018 Co-Chair Anatomy and Neurobiology Faculty Search Committee  
 2017-2019 Program in Neuroscience Seminar Committee member  
 2018-2019 School of Medicine Council, Representative for Department of Anatomy & Neurobiology  
 2018-2020 Program in Neuroscience Curriculum Committee member  
 2018- present Chair of Program in Neuroscience Retreat  
 Chair of Neurobiology Seminar Series, Department of Anatomy and Neurobiology  
 Program in Neuroscience Training Committee member, Admissions Committee  
 2019-2020 School of Medicine Council, Alternate for Department of Anatomy & Neurobiology  
 2020- 2021 Anatomy and Neurobiology Chair for Neuroscience, Anatomy, Pharmacology, and Physiology Seminar Series (virtual seminar series jointly held by listed departments)  
 2021-present Medical Scientist Training Program (MSTP) Admissions Committee

### **Local and National Service**

### **Journal Review *Ad Hoc***

- 2010-present *Ad Hoc* reviewer for *Journal of Neuroscience* (1-10x/yr), *Neuroscience* (1-2x/yr)  
 2012-present *Ad Hoc* reviewer for *Addiction Biology* (1x/yr)  
 2014- present *Ad Hoc* reviewer for Behavioral Neuroscience (1-3x/year)  
 2015- present *Ad Hoc* reviewer for Frontiers in Behavioral Neuroscience (1-5/yr),  
 Neuropsychopharmacology (1-3/yr)  
 2016-present *Ad Hoc* reviewer for Behavioural Brain Research (1-3x/yr)  
 2017-present *Ad Hoc* reviewer for Scientific Reports (1x), Synapse (1x), Neuropharmacology (1x/yr),  
 Cell Reports (1x)  
 2018-present *Ad Hoc* reviewer for Behavioral Processes (1x), Neurobiology of Learning and Memory (1-2/yr), Nature Communications (1x)

- 2019-present *Ad Hoc* reviewer for Progress in Neuropsychopharmacology and Biological Psychiatry (1x), Physiology and Behavior (1-3x/yr), Journal of Experimental Psychology: Animal Learning and Cognition (1-2x/yr), eLife (1-2x/yr)
- 2021 *Ad Hoc* reviewer for eNeuro (1x)
- 2021 *Ad Hoc* reviewer for International Journal of Nueropsychopharmacology (1x)

### **Editorial Positions**

- 2018-present Associate Editor for Journal of Neuroscience (4-8x/year)
- 2020-present Review Editor for Decision Neuroscience; Frontiers in Neuroscience, Frontiers in Psychology (4-8x/yr)
- 2021-present Review Editor for Frontiers in Behavioral Neuroscience, Learning and Memory (4-8x/year)

### **NIH Grant Peer Review**

- 2019 *Ad Hoc* grant reviewer for Center on Compulsive Behaviors NIAAA/NIDA/NIMH IRP Study Section for Postdoctoral Fellowships
- 2021 *Ad Hoc* grant reviewer for Neurobiology of Motivated Behavior (NMB) NIH Study Section

### **International and Conference Program Peer Review**

- 2013 *Ad Hoc* grant reviewer for French National Research Agency
- 2015 *Ad Hoc* grant reviewer for Israel Science Foundation
- 2016 *Ad Hoc* grant reviewer for Marsden Fund, Royal Society of New Zealand
- 2017 Abstract Reviewer for program selection; Cosyne Annual Meeting

### **Panels/Symposia Chaired**

- 2012 Panel Chair, "Controlling the brain with light: An optogenetic approach to study the neural circuit basis of behavior," Winter Conference on Brain Research, Snowbird, UT
- 2017 Panel Chair, "Complimentary Computational and Experimental Approaches for Understanding Sign- and Goal-Tracking Trait Differences," Big Sky, MT
- 2018 Panel Chair, "Associative brain mechanisms underlying adaptive and maladaptive behavior," International Behavioral Neuroscience Society meeting, Boca Raton, FL

### **Scientific Panels/Workshops/ Special Symposiums**

- 2014 Lecturer, NIDA Summer Student Seminar Series, Baltimore, MD
- 2015 Panelist, "Future of the PhD," Academic Path representative, NIDA IRP, Baltimore, MD
- 2018 Panelist, "Future of the PhD," Academic Path representative, NIDA IRP, Baltimore, MD
- 2018 Panelist, "New Faculty Panel," Office of Postdoctoral Scholars and the GPILS/OPS Career and Professional Development, UMB, Baltimore, MD
- 2019-2020 Panelist, "Hypothesis Testing", Proseminar Course, Program in Neuroscience, UMB, Baltimore, MD
- 2020 Panelist, "Career Development Panel," Graduate Research Seminar, ME, cancelled due to pandemic

### **Other Service**

- 2010-2013 F1000 Associate Faculty Member, post-publication review contributor (4-5/yr)
- 2014 Outreach lecturer to disadvantaged and special education high school students; Winter Conference on Brain Research School Outreach Program, Colorado
- 2015 Poster Judge, Greater Baltimore Society for Neuroscience Meeting, UMB, MD

2016 International Thesis Reader, PhD, University of New South Wales, Sydney, Australia  
 2016 Poster judge, International Behavioral Neuroscience Society Meeting, Budapest, Hungary  
 2018 Poster Judge, Greater Baltimore Society for Neuroscience Meeting, The Johns Hopkins University, MD  
 2018-present Laboratory demonstration for NOVA Baltimore City Schools Fall Lab Tour, UMSOM, MD  
 2019 Poster judge, Graduate Research Conference, Amygdala in Health and Disease, MA  
 2019-2020 Mock Study Section for Graduate NRSA (2 students), UMB, Baltimore MD  
 2020-present Mentor, Women in Learning Mentor Program, Pavlovian Society  
 2021 Mentor, MiNDS Mentor Mid-Atlantic Neuroscience Diversity Scholars Program; NIH funded program for undergraduates that are under-represented minorities in sciences, UMSOM  
 2021 Poster judge, Graduate Research Conference, Baltimore, MD (virtual)

## **Teaching Service**

### **High School Student Mentoring**

2011-21 Mentor, 8 high school students, 2 URM, 4 women, daily contact for the summer or semester, Malik Carrol (2012-3), Satvik Pendem (2013-4), Emily Park (2014-5), Caleb Park (2018), Camron Piotrowski (2018), Anne Tobin (2018-19), Fayth Pearson (2018), Monali Gandhi (2021), Schools include Long Reach High School, Friends School, Baltimore, BASIS Independent McLean High School

### **Undergraduate Student Mentoring**

2017 Mentor, URM summer visiting undergraduate, Janai Williams, City College of New York  
 2019 Mentor, summer visiting undergraduate, Jules Chabot, Wesleyan University, CT  
 2019 Mentor, summer visiting undergraduate, Anne Tobin, Haverford College, PA  
 2020 Mentor, spring semester visiting undergraduate, Hope Nyardi, Stevenson University, MD  
 2021 Mentor, URM summer MiNDS Scholar, Naru Kang, University of Maryland, College Park

Total: 5 undergraduates; 2 URM, 4 women, daily contact for the summer or semester

### **Post-Graduate Mentoring**

*NIDA IRP* all daily contact (parenthetical denotes next position(s))

2011-2013 Mentor, postbaccalaureate, Alex Kawa, (graduate student at University of Michigan Psychology Department, Terry Robinson lab, postdoc at Oregon Health and Science University, Marina Wolf lab)

2013-2015 Mentor, postbaccalaureate, Sam Bacharach, (graduate student at UMB, Program in Neuroscience)  
 Mentor, postbaccalaureate, Kimberly Fiscella (medical student at University of Rochester, NY)  
 Mentor, postbaccalaureate, Ellen Lesser (graduate student at University of Washington Graduate Program in Neuroscience)

*UMSOM* all daily contact (parenthetical denotes next position(s))

2016-present Mentor, graduate student, Sam Bacharach, Program in Neuroscience, UMB

2017-present Mentor, graduate student, Utsav Gyawali, Program in Neuroscience, UMB

2020-present Mentor, graduate student, Catherine Stapf; Program in Neuroscience, UMB

### **Postdoctoral Fellow Mentoring**

*NIDA IRP*      *all daily contact* (parenthetical denotes next position(s))

2012-2014      Mentor, postdoctoral fellow Yu-Wei Chen (postdoc at National Institute on Environmental Health Sciences, NC)

*UMSOM*      *all daily contact* (parenthetical denotes next position(s))

2015-2017      Mentor, postdoctoral fellow, Helen Nasser, (Senior Lecturer, Faculty in Department of Psychology at the Institute for Social Neuroscience in Melbourne, Australia and Researcher for Epigenes)

2017-present      Mentor, postdoctoral fellow, David Martin

2018-present      Mentor, postdoctoral fellow, Sara Keefer

2018-2020      Mentor, postdoctoral fellow, Daniel Kochli, (Visiting Assistant Professor; Psychology; Washington College, Chestertown, MD)

### **Faculty Mentoring Committee**

2021              Marco Venniro, PhD, Assistant Professor in Anatomy and Neurobiology

### **Medical Student Teaching**

2016              Preceptor, Medical Neuroscience, Discussion Journal Club, MS1, 1<sup>st</sup> year students, 15-20 learners, 10 contact hours

2016-2019      Structure and Development, MS1, UMSOM, Histology of the Epithelium Lecture, 1<sup>st</sup> year students, ~155 learners, 1 contact hour,

2017-2019      Structure and Development, MS1, UMSOM, Gut Development Lecture, 1<sup>st</sup> year students, ~155 learners, 1 contact hour

2021              UMSOM Digestion and Hormones course, MS1, MEDS 514 Gastrointestinal Embryology, 1<sup>st</sup> year students, ~155 learners, 1 contact hour

UMSOM Skin, Bones, and Musculature course; Development of Limbs and Joints, MS2, MEDS 522 (Fall 2021)

4-year Student Evaluation Average 4.1 out of 5.0, improving from 3.8 (2016) to 4.2 (2020)

### **Postgraduate Teaching**

2010              Systems and Cognitive Neuroscience, University of Maryland School of Medicine (8-10 students, 1 contact hour)

2012              Statistics and Experimental Design, National Institute on Drug Abuse (10-15 learners, 2 contact hours)

2012-2014      Theories of Addiction, National Institute on Drug Abuse (8-10 learners, 2 contact hours)

2014              Addiction; Cocaine and Psychostimulants, Joint NIDA IRP – Johns Hopkins Medical School Course, The Johns Hopkins University School of Medicine (8-10 learners, 2 contact hours)

- 2015-2020 Systems and Cognitive Neuroscience, Hippocampus Lecture and Learning and Memory Lecture; GPILS641 (1<sup>st</sup> year graduate students, 8-10 learners, 2 contact hours)
- 2015-present Research Ethics, UMB; Ethical use of animals in research and/or Authorship and Publication; CIPP907 (8-10 learners, 1.5 contact hours)
- 2016 Foundations of Research and Critical Thinking, UMB; Alternative Hypothesis Testing Interface of Pain, Affect, and Addiction, Behavioral models of addiction, Program in Neuroscience, UMB, (8-10 learners, 1.5 contact hours)
- 2017 Addiction minicourse; Animal models and historical perspectives; Program in Neuroscience, UMB, (8-10 learners, 2 contact hours)
- 2020 Cellular Basis of Synaptic Physiology and Pharmacology; CNS Recording in vivo; GPILS 620 (8-10 learners, 2 contact hours)
- 2020-present Advanced Neuroscience Investigation; Amygdala in motivation and flexibility; Program in Neuroscience, UMB GPLS 655 (10-15 learners, 2 contact hours)  
Addiction minicourse; Animal models and historical perspectives; Program in Neuroscience, UMB (8-10 learners, 2 contact hours)

### **Course Direction**

- 2021-date Course co-director GPLS691; Current topics and techniques in neuroscience (fall semester, 1<sup>st</sup> and 2<sup>nd</sup> year graduate students, ~15-20 learners, 20 contact hours)

### **Grant Support**

#### **Active grants**

- 2/1/2017-1/31/2020 PI: 0% effort allowed  
“Individual Differences in Attention Signaling in Amygdala Circuits”  
McKnight Endowment Fund for Neuroscience; McKnight Memory and Cognitive Disorders Award  
Annual direct costs: \$90,000  
Total direct costs: \$270,00 over three years with two years of no cost extension after 1/31/2020
- 9/1/2017- 7/31/2023 PI: 40% effort  
“Role of basolateral amygdala projections in mediating individual differences in motivation and flexibility”  
R01DA043533 with PECASE Award: 1-year funding extension  
Annual direct costs: \$250,000  
Total direct costs: \$1,500,000 over six years

#### **Other Active Support**

- 6/1/21 to 4/30/26 Co-Inv. Calu 5% effort with PI: Chang, and Co-Inv. Frenkel, Heredia, Lobo, Gendelman  
“MR-guided focused ultrasound to eradicate CNS viral reservoirs and promote neurogenesis in the HIV-infected brain  
DP1 Chang

#### **Pending grants**

- Submitted 7/5/2021 MPI: Calu 40% effort with Cheer  
“Sign- and goal-tracking differences in endocannabinoid control of striatal dopamine and adaptive behavior”

Annual direct costs: \$349,161  
Direct costs: \$1,745,806.19 over 5 years

Submitted 2/1/2021 Co-Investigator Calu 10% with Linda Chang, Victor Frenkel  
“Focused ultrasound for neuromodulation in the treatment of opioid addiction”  
Focused Ultrasound Foundation; General Awards Track  
Direct costs: \$143,499 for 1 year

### **Completed grants/awards**

7/10/07-7/09/10 PI: 100% effort  
“Role of orbitofrontal signaling of expected outcomes in Pavlovian blocking”  
F31 MH080514, National Research Service Award

10/1/2011-8/31/2015 PI: 100% effort  
Early Independent Scientist Position (current Early Independent Award equivalent)  
NIH/National Institute on Drug Abuse/Intramural Research Program

1/15/2017-1/14/2019 PI: 1% effort allowed  
“Role of Amygdala Projections in Incubation of Fear and Drug Craving”  
NARSAD Young Investigator Grant Award, Brain and Behavior Research  
Foundation  
Annual direct costs: \$35,000  
Total direct costs: \$70,000 over two years

### **Trainee funding**

4/6/2020-4/5/2023 PI: Bacharach  
“The role of Cannabinoid Receptor-1 in modulating addiction vulnerability”  
Mentor (Calu): F31 DA050367, National Research Service Award  
Annual direct costs: \$38,376  
Total direct costs: \$115,128 over three years

4/1/2021-3/31/2024 PI: Keefer  
“Individual differences in cortical-striatal pathway utilization regulating flexibility”  
Mentor (Calu): F32 DA053772, National Research Service Award  
Annual direct costs: \$70,550  
Total direct costs: \$211,650 over three years

### **Publications**

#### **Peer-reviewed journal articles**

1. Stalnaker TA, Roesch MA, Franz TM, **Calu DJ** and Schoenbaum G. (2007) Cocaine-induced decision-making deficits are mediated by miscoding in basolateral amygdala. *Nature Neuroscience*. 10(8):949-51. *Conducted in vivo neural recordings and contributed to manuscript preparation.*
2. **Calu, DJ**, Roesch MA, Stalnaker TA, and Schoenbaum G. (2007) Associative encoding in posterior piriform cortex during odor discrimination and reversal learning. *Cerebral Cortex*. 17:1342-1349.
3. **Calu DJ**, Stalnaker TA, Franz TM., Singh T, Shaham Y, and Schoenbaum G. (2007) Withdrawal from cocaine self-administration produces long-lasting deficits in orbitofrontal-dependent reversal learning in rats. *Learning and Memory*. 14:325-328.

4. Roesch MA\*, **Calu DJ\***, and Schoenbaum G. (2007) Dopamine neurons encode the better option in rats deciding between differently delayed or sized rewards. *Nature Neuroscience*. 10(12):1615-24. *\*co-first author, contributed equally to the work.*
5. Roesch MA, **Calu DJ**, Burke KA, and Schoenbaum G. (2007) Should I stay or should I go? Transformation of time-discounted rewards in orbitofrontal cortex and associated brain circuits. *Annals of the New York Academy of Sciences*. 1104:21-34. *Conducted in vivo neural recordings and contributed to manuscript preparation.*
6. Stalnaker TA, Roesch MA, Burke KA, **Calu DJ**, and Schoenbaum G. (2007) Neural correlates of inflexible behavior in the orbitofrontal-amygdalar circuit after cocaine exposure. *Annals of the New York Academy of Sciences*. 1121:598-609. *Conducted in vivo neural recordings and contributed to manuscript preparation.*
7. **Calu DJ**, Schoenbaum G. (2008). Cocaine-paired cues activate aversive representations in accumbens neurons. *Neuron*. 57(5):633.
8. Takahashi YK, Roesch MA, Stalnaker TA, Haney RZ, **Calu DJ**, Taylor A.R., Burke K.A., Schoenbaum G. (2009) The orbitofrontal cortex and ventral tegmental area are necessary for learning from unexpected outcomes. *Neuron*. 62(2):269-80. *Conducted in vivo neural recordings and contributed to manuscript preparation.*
9. Haney RZ, **Calu DJ**, Takahashi YK, Hughes B., Schoenbaum G. (2010) Inactivation of the central but not the basolateral nucleus of the amygdala disrupts learning in response to over-expectation of reward. *Journal of Neuroscience*. 30(8):2911-7. *Conducted in vivo pharmacological inactivation and contributed to manuscript preparation.*
10. Roesch MA, **Calu DJ**, Esber GR, Schoenbaum G. (2010) Neural correlates of variations in event processing during learning in basolateral amygdala. *Journal of Neuroscience*. 30(7):2464-71. *Conducted in vivo neural recordings and contributed to manuscript preparation.*
11. **Calu, DJ**, Roesch, MA, Haney, RZ, Holland, P.C., Schoenbaum, G. (2010). Neural correlates of variations in event processing during learning in central nucleus of amygdala. *Neuron*. 68(5):991-1001.
12. Roesch MR, **Calu DJ**, Esber GR, Schoenbaum G. (2010) All that glitters ... dissociating attention and outcome expectancy from prediction errors signals. *Journal of Neurophysiology*. 104(2):587-95. *Contributed to manuscript preparation.*
13. Badiani A, Belin D, Epstein DH, **Calu DJ**, Shaham Y. (2011) Opiate versus psychostimulant addiction: the differences do matter. *Nature Reviews Neuroscience*. 12(11):685-700. *Authored sections in review and contributed to manuscript preparation.*
14. Pickens CL, **Calu DJ**. (2011) Alcohol reward, dopamine depletion, and GDNF. *Journal of Neuroscience*. 31(42):14833-4.
15. Pickens CL, Cifani C, Navarre BM, Eichenbaum H, Theberge FR, Baumann MH, **Calu DJ**, Shaham Y. (2012) Effect of fenfluramine on reinstatement of food seeking in female and male rats: implications for the predictive validity of the reinstatement model. *Psychopharmacology*. 221(2):341-53. *Conducted behavioral pharmacology experiments and contributed to manuscript preparation.*
16. Cifani C, Koya E, Navarre BM, **Calu DJ**, Baumann MH, Marchant NJ, Liu QR, Khuc T, Pickel J, Lupica CR, Shaham Y, Hope BT. (2012) Medial prefrontal cortex neuronal activation and synaptic alterations after stress-induced reinstatement of palatable food seeking: a study using c-fos-GFP



transgenic female rats. *Journal of Neuroscience*. 32(25):8480-90. *Conducted behavioral pharmacology experiments and contributed to manuscript preparation.*

17. **Calu DJ**, Kawa AB, Marchant NJ, Navarre BM, Henderson MJ, Chen B, Yau H-J, Bossert JM, Schoenbaum G, Deisseroth K, Harvey BK, Hope BT, Shaham Y. (2013) Optogenetic inhibition of dorsal medial prefrontal cortex attenuates stress-induced reinstatement of palatable food seeking in female rats. *Journal of Neuroscience*. 33(1):214-26.
18. Bossert JM, Marchant NJ, **Calu DJ**, Shaham Y. (2013) The reinstatement model of drug relapse: recent neurobiological findings, emerging research topics, and translational research. *Psychopharmacology*. 229(3):453-76. *Authored sections of the review and contributed to manuscript preparation.*
19. Chen, YW, Fiscella, KA, **Calu, DJ**. (2014) Effect of cafeteria diet history on cue-, pellet-priming-, and stress-induced reinstatement of food seeking in female rats. *PLoS One*. Jul 15; 9(7):e102213.
20. **Calu, DJ**, Chen, YW, Kawa, AB, Shaham, Y. (2014) The use of the reinstatement model to study relapse to palatable food seeking during dieting. *Neuropharmacology NIDA 40th Anniversary Special Issue*. 76 (B):395–406.
21. Caprioli D, **Calu D**, Shaham Y. (2014) Loss of phasic dopamine: a new addiction marker? Commentary. *Nature Neuroscience*. 17(5):644-6. *Co-authored preview.*
22. Chen, YW, Fiscella, KA, Bacharach, SZ, Tanda, G, Shaham, Y, **Calu, DJ**. (2015) Effect of yohimbine on reinstatement of operant responding in rats is dependent on cue contingency but not food reward history. *Addiction Biology*. Epub ahead of print Jul, 20(4):690-700.
23. Nasser, HM\*, Chen, YW\*, Fiscella, KA, **Calu, DJ**. (2015) Individual variability in behavioral flexibility predicts sign-tracking tendency. *Frontiers in Behavioral Neuroscience*. Nov 3; 9:289. eCollection.
24. **Calu, D**, Nasser, H, Shaham, Y. (2015) Unexpected results on the role of nucleus accumbens dopamine in stress-induced relapse. Commentary. *Biological Psychiatry*. 77(10):848-9.
25. Kourrich, S, **Calu, DJ**, Bonci, A. (2015) Intrinsic plasticity: an emerging player in addiction. *Nature Reviews Neuroscience*. 16(3):173-8.
26. Nasser, HM, Lafferty, DL, Lesser, EN, Bacharach, SZ, **Calu, DJ**. (2017). Disconnection of basolateral amygdala and insular cortex disrupts conditioned approach in Pavlovian lever autoshaping. *Neurobiology of Learning and Memory*. 2017 Nov 21;147:35-45.
27. Nasser HM, **Calu DJ**, Schoenbaum G and Sharpe MJ. (2017) The dopamine prediction error: contributions to associative models of reward learning. *Frontiers in Psychology*. 8:244. *Co-authored sections of the review and contributed to manuscript preparation.*
28. Bacharach, SZ\*, Nasser, HM\*, Zlebnik, NE, Dantrassy, HM, Cheer, JF, **Calu, DJ**. (2018) Cannabinoid receptor-1 signaling contributions to sign-tracking and conditioned reinforcement in rats. *Psychopharmacology*. doi: 10.1007/s00213-018-4993-6 \*equal contribution.
29. Lee, B, Gentry, RN, Bissonette, GB, Herman, RJ, Mallon, JJ, Bryden, DW, **Calu, DJ**, Schoenbaum, G, Coutureau, E, Marchand, AR, Khamassi, M, and Roesch, MR. (2018) Manipulating the revision of reward value during the intertrial interval increases sign tracking and dopamine release. *PLoS Biology*;16(9):e2004015. doi: 10.1371/journal.pbio.2004015. *Contributed to experimental design, interpretation, and manuscript preparation.*

30. Bacharach SZ, **Calu DJ**. (2019) Stability of individual differences in sucralose taste preference. *PLoS ONE*. 14(5): e0216431. doi.org/10.1371/journal.pone.0216431.
31. Martin, DA, **Calu, DJ** (2019). Probing the Motivational Circuitry of Binge Eating. *Neuropsychopharmacology*. 2019 Nov 18. Online ahead of print. DOI: 10.1038/s41386-019-0568-4
32. Keefer SE, Bacharach, SB, Kochli, DE, Chabot, JM, **Calu, DJ**. (2020) Effects of limited and extended Pavlovian training on devaluation sensitivity of sign-and goal-tracking rats. *Frontiers in Behavioral Neuroscience*. 04 February 2020;14:3.\*featured Editor's Pick 2021 collection
33. Martin, DA, Gyawali, U, **Calu, DJ**. (2020) Effects of 5-HT 2A Receptor Stimulation on Economic Demand for Fentanyl After Intermittent and Continuous Access Self-Administration in Male Rats. *Addiction Biology*. 2020 May 26; e12926.
34. Kochli, DE, Keefer, SE, Gyawali, U, **Calu, DJ**. (2020) Basolateral amygdala to nucleus accumbens projections differentially mediate flexibility of sign- and goal-tracking rats. *Frontiers in Behavioral Neuroscience*. Nov 25;14:593645.
35. Gyawali, UG, Martin, DA, Sulima, A, Rice, KC, **Calu, DJ**. (2020) Role of BNST CRFR1 receptors in incubation of fentanyl seeking. *Frontiers in Behavioral Neuroscience*. Aug 28; 14:153.
36. Keefer, SE, Gyawali, U., **Calu, DJ**. (2021). Choose your path: Divergent basolateral amygdala efferents differentially mediate incentive motivation, flexibility and decision-making. *Behavioural Brain Research*. 409:113306. doi: 10.1016/j.bbr.2021.113306. Online ahead of print.

## **Major Invited Seminars**

### **Local**

1. National Institute of Health Early Independent Scientist Lecture, National Institutes of Health, Bethesda, MD. "Reward prediction and attention signals in the brain; implications for learning and addiction," 2011.
2. NIDA-IRP Women Scientist Advisor Award Ceremony, NIDA IRP, Baltimore, MD. "Individual differences in stimulus processing: implications for learning and addiction," 2013.
3. University of Maryland School of Medicine, Anatomy and Neurobiology department seminar series. Baltimore, MD. "Brain mechanisms underlying individual differences in natural and drug reward seeking," 2014.
4. National Institute on Alcohol Abuse and Alcoholism; Rockville, MD. "Behavioral insights into incentive and flexible learning strategies," 2016.
5. Board of Visitors, University of Maryland SOM, "Brain Circuit Basis of Addiction Vulnerability," 2018.
6. Neurology Grand Rounds, UMSOM, "Probing Addiction Vulnerability: Amygdala mechanisms driving motivation and flexibility," 2018.
7. American University Center for Behavioral Neuroscience, Washington D.C. "Amygdala mechanisms driving individual differences in Pavlovian approach and flexibility," 2018.

8. University of Maryland SOM Council meeting, Baltimore MD. "The brain circuit basis of addiction vulnerability," 2019.
9. NIDA Headquarters, Division of Neuroscience and Behavior, Bethesda, MD. "Probing Addiction Vulnerability: Amygdala Mechanisms Driving Motivation and Flexibility," 2019.
10. Keynote lecture 42<sup>nd</sup> annual Graduate Research Conference, University of Maryland School of Medicine, Baltimore, MD, "The brain circuit basis of addiction vulnerability," 2020.
11. National Institute on Drug Abuse, Intramural Research Program (scheduled for 5/12/2020 but cancelled due to pandemic).

### **National**

1. 45th Winter Conference on Brain Research, Snowbird, UT. "Optogenetic investigation of reinstatement of food seeking," 2012.
2. 7th Brain Research Conference on Optogenetics and Pharmacogenetics. New Orleans, LA. "Optogenetic study of relapse to food seeking in female rats" talk given by post-baccalaureate student, Alex Kawa, 2012.
3. 47th Winter Conference on Brain Research, Steamboat Springs, CO. "Inhibition of dorsal medial prefrontal cortex (mPFC) attenuates yohimbine-induced reinstatement," 2014.
4. 48th Winter Conference on Brain Research, Big Sky, MT. "Insensitivity to outcome devaluation in sign-tracking rats." 2015.
5. 49th Winter Conference on Brain Research, Breckenridge, CO. "Behavioral insights into incentive and flexible learning strategies." 2016.
6. 51st Winter Conference on Brain Research, Whistler, Canada. "Amygdalar mechanisms driving individual differences in Pavlovian approach and flexibility," Panel on individual differences in substance abuse, 2018.
7. International Behavioral Neuroscience Society meeting, Boca Raton, FL. "Amygdala mechanisms driving individual differences in Pavlovian approach and flexibility," 2018.
8. 52nd Winter Conference on Brain Research, Aspen, CO. "CB1 Signaling modulates Pavlovian appetitive processes in sign- and goal-tracking rats," talk given by graduate student, Sam Bacharach, 2019.
9. Gordon Research Conference, Amygdala in Health and Disease, Easton MA, "Probing Addiction Vulnerability: Amygdala Mechanisms Driving Motivation and Flexibility," Symposium on Addiction. 2019.
10. Yale University, Department of Molecular Psychiatry, New Haven, CT. "Brain basis of Pavlovian incentive processes in sign- and goal-tracking rats," 2019.

### **International**

1. Addiction in Theory Meeting, London, UK. “Behavioral Insights from Incentive Learning; Addiction, Cognitive Strategy, and the Brain,” 2016.
2. International Behavioral Neuroscience Society Annual Meeting, Budapest, Hungary. “Sign-tracking; A failure in flexibility,” 2016.
3. Associative Learning Symposium, Gregynog, Wales, UK. “Behavioral insights from incentive learning; Addiction, Cognitive Strategy and the Brain,” 2017.
4. Concordia University Department of Psychology, Montreal, Canada. Colloquium, “Amygdala mechanisms driving individual differences in Pavlovian approach and flexibility,” 2018.
5. Concordia University Department of Psychology, Montreal, Canada. Seminar, “Cannabinoid receptor-1 signaling modulates Pavlovian and instrumental appetitive motivation,” 2018.
6. European Behavioral Pharmacology Society Annual Meeting, Braga-Porto Portugal, “CB1 Signaling modulates Pavlovian appetitive processes in sign- and goal-tracking rats,” symposium on Endocannabinoids, 2019

### **Future Confirmed Invited Seminars**

1. Pavlovian Society Annual Meeting, invited lecture, Ann Arbor, MI, Sept 30<sup>th</sup> -Oct 2<sup>nd</sup>, 2021
2. McKnight Neuroscience Conference, invited talk, Aspen, CO, Oct 30<sup>th</sup>-Nov 1<sup>st</sup>, 2021

### **Media Reports**

1. “NIH’s First Intramural Early Independent Scientists” The NIH Catalyst, National Institutes of Health, Office of the Director, Vol. 22 Issue 4, July–August 2014, By Rachel Scheinert, NIMH; <https://irp.nih.gov/catalyst/v22i4/nih-s-first-intramural-early-independent-scientists>
2. Maryland Science Center Feature, “2016 Outstanding Young Scientist Recipient: Donna Calu, Ph.D.,” <https://www.youtube.com/watch?v=SN44wkQi6bc>
3. Pavlovian Society Featured Faculty, March 2020; by Sydney Trask, <https://sydneytrask.github.io/Pavlovian-Society-Featured-Faculty/index.html>
4. “NIH Avant Garde Award for out-of-box, innovative concept to cure HIV and treat addiction” featured as collaborator, in <https://www.medschool.umaryland.edu/news/2021/UM-School-of-Medicine-Researchers-Receive-NIH-Avant-Garde-Award-for-Out-Of-Box-Concept-to-Cure-HIV-and-Treat-Co-Existing-Addiction.html> and AAAS EurekAlert!, July 6, 2021. [https://www.eurekalert.org/pub\\_releases/2021-07/uoms-nag070221.php](https://www.eurekalert.org/pub_releases/2021-07/uoms-nag070221.php)