

## CURRICULUM VITAE

### **Nathan S. Pentkowski, Ph.D.**

Assistant Professor  
University of New Mexico  
Department of Psychology  
Logan Hall RM 108  
Albuquerque, NM 87131  
Office: 505-277-1928  
[pentkowski@unm.edu](mailto:pentkowski@unm.edu)

---

---

## EDUCATION

*University of Hawaii at Manoa, Honolulu, HI*

Ph.D. Psychology. Specialization: Behavioral Neuroscience, May 2007  
Dissertation Chairs: Robert J. Blanchard and D. Caroline Blanchard

*University of Hawaii at Manoa, Honolulu, HI*

M.A. Psychology. Specialization: Behavioral Neuroscience, December 2004

*California State University, Dominguez Hills, Carson, CA*

M.A. Clinical Psychology. Specialization: MFT, August 2002

*Northern Arizona University, Flagstaff, AZ*

B.S. Psychology, Minor Biology, May 1999

---

---

## PROFESSIONAL EXPERIENCE

### *Academic Appointments*

*Assistant Professor*, Department of Psychology, University of New Mexico, 2014 – current

*Postdoctoral Research Associate*, School of Life Sciences, Arizona State University, 2010 –2014  
Advisor: Janet L. Neisewander, Ph.D.

*Postdoctoral Fellow*, Department of Psychology, Arizona State University, 2007 – 2010  
Advisor: Janet L. Neisewander, Ph.D.

*Graduate Research Assistant*, Department of Psychology, University of Hawaii, 2002 – 2007  
Advisors: Robert J. Blanchard, Ph.D. and D. Caroline Blanchard, Ph.D.

### *Clinical Experience*

*Graduate Assistant*, Hawaii State Hospital, Kaneohe, HI, 2002

Responsibilities: taught courses in psychosocial rehabilitation, including Assertiveness Training, Problem Solving and Medication Management.  
Supervisors: Dan Gutkind, Ph.D. and Michi Wong, Ph.D.

*Group Facilitator, Interpersonal and Group Processes*, CSU Dominguez Hills, 2002:

Responsibilities: facilitated structured group exercises and group therapy sessions.  
Supervisor: Beverly B. Palmer, Ph.D.

*Intern, Psychological Services Staff*, Harbor Free Clinic, San Pedro, CA, 2001

Responsibilities: intake and assessment of incoming patients; direct counseling.  
Supervisors: D. Brian Murphy, Ph.D. and Nourit Korzennik, Ph.D.

---

## **TEACHING and MENTORING EXPERIENCE**

### ***Graduate Courses***

*Neuroscience Journal Club*, Arizona State University

*Psychopharmacology: Drugs and Behavior*, University of New Mexico

*Seminar: Cognition, Brain & Behavior*, University of New Mexico

*Seminar: Neurobiology of Addiction*, University of New Mexico

*Seminar: Molecular Psychiatry*, University of New Mexico

### ***Undergraduate Courses***

*Behavioral Neuroscience*, University of Hawaii

*Developmental Psychology*, University of Hawaii

*Psychopharmacology: Drugs and Behavior*, University of New Mexico

*Seminar: Neurobiology of Addiction*, University of New Mexico

*Seminar: Molecular Psychiatry*, University of New Mexico

*Social Psychology*, University of Hawaii

### ***Teaching Assistant***

*Biopsychology*, University of Hawaii

*Mexican-American I*, California State University, Dominguez Hills

*Research Methods*, California State University, Dominguez Hills

### ***Guest Lecturer***

*Grant Writing*, Arizona State University

*Neuroscience Journal Club*, Arizona State University

*Neurobiology of Addiction*, Arizona State University

*Neuropsychopharmacology*, Arizona State University

### ***Graduate Student Advising/Mentoring***

Samuel Bouquin, University of New Mexico, *Thesis Committee Chair*

Kyle Dixon, University of New Mexico, *Thesis Committee Chair*

Ryan Harvey, University of New Mexico, *Thesis Committee Member*

Christy Magcalas, University of New Mexico, *Thesis Committee Member*

Carlos Olguin, University of New Mexico, *Thesis Committee Chair*

Carlos Rodriguez, University of New Mexico, *Thesis Committee Member*

Danielle Rudder, University of New Mexico, *Comprehensive Exam Committee Member*

***Undergraduate Honors Thesis Advising/Mentoring***

Anthony Berger, Arizona State University, *Honors Thesis Committee (Barrett Honors College)*

Sam Brunwasser, Arizona State University, *Honors Thesis Committee (Barrett Honors College)*

Chris Cuyno, University of Hawaii, *Haumana Honors Program*

Mark Ellis, University of Hawaii, *MARK Honors Program*

Coty Gonzales, University of Hawaii, *Haumana Honors Program*

Lanikea B. King, University of Hawaii, *Haumana Honors Program*

Joel Sabugo, University of Hawaii, *MARK Honors Program*

Amy J. Vasconcellos, University of Hawaii, *Haumana Honors Program*

Krishna Yanamandra, Arizona State Univ., *Honors Thesis Committee (Barrett Honors College)*

Tamara Zera, University of New Mexico, *Honors Thesis Advisor*

***Undergraduate Research Assistant Mentoring***

Collectively at Arizona State University, University of Hawaii and University of New Mexico, I have mentored 31 undergraduate students as laboratory research assistants.

---

---

**HONORS and AWARDS**

***Grants***

*Build Infrastructure Leading to Diversity Research Stimulation Grant*, California State University, Long Beach. Role of 5-HT<sub>1B</sub> receptors in nicotine reward during adolescence, 2016 – 2017. Role: Co-Investigator.

*Grice Research Enhancement Faculty Award*, University of New Mexico. Neural basis of enhanced anxiety and memory deficits in Alzheimer's disease, 2016 – 2017. Role: PI.

*Grice Research Enhancement Faculty Award*, University of New Mexico. Role of 5-HT<sub>1B</sub> receptors in nicotine reward in adolescent rats, 2014 – 2015. Role: PI.

*Health Disparities LRP recipient*, National Institutes of Health. The role of ventromedial PFC 5-HT<sub>2C</sub> receptors in cocaine-seeking behavior, 2010 – 2012. Role: PI.

*Ruth L. Kirschstein NRSA recipient*, National Institute on Drug Abuse, 32DA025413. The role of ventromedial PFC 5-HT<sub>2C</sub> receptors in cocaine-seeking behavior, 2009 – 2012. Role: PI.

***Travel Awards***

*NIDA, Young Investigator Travel Award*. The 6<sup>th</sup> Annual Julius Axelrod Lecture, Society for Neuroscience Annual Meeting, New Orleans, LA (2012).

*NIDA Young Investigator Travel Award*. Serotonin Club Silver Anniversary Meeting, Montpellier, France (2012).

*NIDA Early Career Travel Award*. NIDA, NIAAA and APA divisions 28 (Psychopharmacology

and Drug Abuse) and 50 (Addictions) for the 119<sup>th</sup> Annual Convention of the American Psychological Association, Washington, DC (2011).

### ***Press Releases***

*Editor's Choice*, **Pentkowski, N.S.**, Harder, B.G., Brunwasser, S.J., K., Bastle, R.M., Peartree, Yanamandra, N.A., Adams, M.D. and Neisewander, J.L. (2014). Pharmacological evidence for an abstinence-induced switch in 5-HT<sub>1B</sub> receptor modulation of cocaine self-administration and cocaine-seeking behavior. *ACS Chem Neurosci*, 19, 168-76.

*Hot Topics*, Society for Neuroscience (2013). Oliver, R.J., Bastle, R.M., Gardiner, A.S., Wright, C., Saavedra, J.L., **Pentkowski, N.S.**, Allan, A.M., Neisewander, J.L. and Perrone-Bizzozero, N.I. miR-495, a post-transcriptional link between gene expression and the behavioral effects of cocaine.

*Commentary*, highlighting **Pentkowski, N.S.** et al., 2010. Cunningham, K.A., Bubar, M.J. and Anastasio, N.C. (2010). The serotonin 5-HT<sub>2C</sub> receptor in the medial prefrontal cortex exerts rheostatic control over the motivational salience of cocaine-associated cues: New observations from preclinical animal research. *Neuropsychopharmacology*, 35, 2319-21.

*Hot Topics*, Society for Neuroscience (2009). Thiel, K.J., Painter, M., Hills, D., **Pentkowski, N.S.**, Sanabria, F., Neisewander, J.L. Environmental enrichment during drug abstinence attenuates cocaine-seeking behavior.

### **PROFESSIONAL AFFILIATIONS**

*Arizona Imaging and Microanalysis Society (AIMS)*, member

*College on Problems of Drug Dependence*, member

*International Behavioral Neuroscience Society*, member

*International Society for Serotonin Research*, member

*Society for Neuroscience*, member

*Society for Neuroscience, New Mexico Chapter*, member

*Society for Social Neuroscience*, member

### **PROFESSIONAL SERVICE**

#### ***Departmental Service***

*Animal Facilities and Use Committee*, University of New Mexico, 2014 –

*Colloquia and PAL Committee*, University of New Mexico, 2014 –

*Faculty/Student Idea Exchange Committee*, University of New Mexico, 2014 –

*Faculty Member*, Psychology Clinical Neuroscience Center, University of New Mexico, 2015 –

*Search Committee*, Pacific Biosciences Research Center Director, University of Hawaii, 2006

#### ***Editorial and Reviewing Activities***

*Ad-hoc Reviewer*, *Addiction Biology*, 2015 –

*Ad-hoc Reviewer*, ACS Chemical Neuroscience, 2015 –  
*Ad-hoc Reviewer*, Behavioural Brain Research, 2008 –  
*Ad-hoc Reviewer*, Brain Research Bulletin, 2012 –  
*Ad-hoc Reviewer*, Brain Research, 2012 –  
*Ad-hoc Reviewer*, Drug and Alcohol Dependence, 2009 –  
*Ad-hoc Reviewer*, Hormones and Behavior, 2013 –  
*Ad-hoc Reviewer*, International Journal of Neuropsychopharmacology, 2009 –  
*Ad-hoc Reviewer*, Journal of Neuroscience, 2015 –  
*Ad-hoc Reviewer*, Neuropsychopharmacology, 2011 –  
*Ad-hoc Reviewer*, Neuroscience & Biobehavioral Reviews, 2016 –  
*Ad-hoc Reviewer*, Physiology & Behavior, 2012 –  
*Ad-hoc Reviewer*, Psychopharmacology, 2015 –

## BIBLIOGRAPHY

As of July 7<sup>th</sup>, 2017 PubMed and Google Scholar list 27 peer-reviewed manuscripts and 2 book chapters that have been cited 922 times with an average of 31.45 citations per article; my h-index is 17.

### *In Preparation and Under Review*

4. **Pentkowski, N.S.**, Olguin, C. and Martinez, G. Effects of synthetic predator odors on defensive behaviors in adolescent rats: Fear or aversive odorants? *Behav Neurosci, In preparation*. Impact factor: 2.690.
3. Der-Ghazzarian, T.S., Call, T., Scott, S.N., Dai, K., Brunwasser, S.J., Noudali, S.N., **Pentkowski, N.S.** and Neisewander, J.L, Effects of a 5-HT1B receptor agonist on locomotion and reinstatement of cocaine-conditioned place preference after abstinence from repeated injections in mice. *Front Synaptic Neurosci, Under Review*.
2. **Pentkowski, N.S.**, Berkowitz, L., Olguin, C. and Clark B.J. Anxiety-like behavior as an early endophenotype in the TgF344-AD rat model of Alzheimer's disease. *Neurobiol Aging, Under Review*. Impact factor: 5.117.
1. **Pentkowski, N.S.**, Litvin, Y., Blanchard, D.C. and Blanchard, R.J. Effects of predator odor on unconditioned and conditioned defensive behaviors in female Long-Evans rats. *Horm Behav, Under Review*. Impact factor: 3.340.

### *Book Chapters*

2. Blanchard, D.C., Litvin, Y., **Pentkowski, N.S.** and Blanchard, R.J. (2009). Aggression and Defense. In Bernston, G.G. and Cacioppo, J.T. *Handbook of Neuroscience for the Behavioral Sciences*. John Wiley & Sons Inc.
1. Litvin, Y., **Pentkowski, N.S.**, Pobbe, R.L., Blanchard, D.C. and Blanchard, R.J. (2008).

Unconditioned Models of Fear and Anxiety. In Blanchard, R.J., Blanchard, D.C. and Griebel, G. *The Handbook of Anxiety and Fear*. Elsevier Inc.

### ***Empirical Papers***

23. Bastle, R.M., Oliver, R.J., Gardiner, A.S., **Pentkowski, N.S.**, Bolognani, F., Allan, A.M., Chaudhury, T., St. Peter, M., Galles, N., Smith, C., Neisewander, J.L. and Perrone-Bizzozero, N.I. (2017). In silico identification and in vivo validation of miR-495 as a novel regulator of motivation for cocaine that targets multiple addiction-related networks in the nucleus accumbens. *Mol Psychiatry, in press*. Impact factor: 13.314.
22. Rodriguez, C.I., Magcalas, C.M., Barto, D., Fink, B.C., Rice, J.P., Bird, C.W., Davies, S., **Pentkowski, N.S.**, Savage, D.D. and Hamilton, D.A. (2016). Effects of sex and housing on social, spatial, and motor behavior in adult rats exposed to moderate levels of alcohol during prenatal development. *Behav Brain Res*, 313, 233-43. Impact factor: 3.002.
21. Pockros-Burgess, L.A., **Pentkowski, N.S.**, Der-Ghazarian, T. and Neisewander, J.L. (2014). Effects of the 5-HT<sub>2C</sub> receptor agonist CP809101 in the amygdala on reinstatement of cocaine-seeking behavior and anxiety-like behavior. *Int J Neuropsychoph*, 17, 1751-62. Impact factor: 4.333.
20. **Pentkowski, N.S.**, Harder, B.G., Brunwasser, S.J., Bastle, R.M., Peartree, N.A., Yanamandra, K., Adams, M.D. and Neisewander, J.L. (2014). Pharmacological evidence for an abstinence-induced switch in 5-HT<sub>1B</sub> receptor modulation of cocaine self-administration and cocaine-seeking behavior. *ACS Chem Neurosci*, 19, 168-76. Impact factor: 4.348.
19. **Pentkowski, N.S.**, Tovote, P., Blanchard, D.C., Litvin, Y. and Blanchard, R.J. (2013). Cortagine infused into the medial prefrontal cortex attenuates predator-induced defensive behaviors and Fos protein production in selective nuclei of the amygdala in male CD1 mice. *Horm Behav*, 64, 519-26. Impact factor: 3.340.
18. Pockros, L.A., **Pentkowski, N.S.**, Conway, S.M., Ullman, T.E., Zwick, K.R. and Neisewander, J.L. (2012). 5-HT<sub>2A</sub> receptor blockade and 5-HT<sub>2C</sub> receptor activation interact to reduce cocaine hyperlocomotion and Fos protein expression in the caudate-putamen. *Synapse*, 66, 989-1001. Impact factor: 2.026.
17. Bastle, R.M., Kufahl, P.R., Turk, M.N., Weber, S.M., **Pentkowski, N.S.**, Thiel, K.J. and Neisewander, J.L. (2012). Novel cues reinstate cocaine-seeking behavior and Induce Fos protein expression as effectively as conditioned cues. *Neuropsychopharmacol*, 37, 2109-20. Impact factor: 6.399.
16. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Adams, M.D., Neumaier, J.F. and Neisewander, J.L. (2012). Protracted withdrawal from cocaine self-administration flips the switch on 5-HT<sub>1B</sub> receptor modulation of cocaine-abuse related behaviors. *Biol Psychiatry*, 72, 396-404. Impact factor: 11.212.
15. Thiel, K.J., Painter, M.R., **Pentkowski, N.S.**, Mitroi, D., Crawford, C.A. and Neisewander, J.L. (2012). Environmental enrichment counters cocaine abstinence-induced stress and brain reactivity to cocaine cues but fails to prevent the incubation effect. *Addict Biol*, 17, 365-77. Impact factor: 4.547.
14. Peartree, N.A., Hood, L.E., Thiel, K.J., Sanabria F., **Pentkowski, N.S.**, Chandler, K.N. and

- Neisewander, J.L. (2011). Limited physical contact through a mesh barrier is sufficient for social reward-conditioned place preference in adolescent male rats. *Physiol Behav*, 105, 749-56. Impact factor: 2.461.
13. **Pentkowski, N.S.**, Painter, M.R., Thiel, K.J., Peartree, N.A., Cheung, T.H.C., Deviche, P., Adams, M., Alba, J. and Neisewander J.L. (2011). Nicotine-induced plasma corticosterone is attenuated by social interactions in male and female adolescent rats. *Pharmacol, Biochem, Behav*, 100, 1-7. Impact factor: 2.537.
  12. Pockros, L.A., **Pentkowski, N.S.**, Swinford, S.E. and Neisewander, J.L. (2011). Blockade of 5-HT<sub>2A</sub> receptors in the medial prefrontal cortex attenuates reinstatement of cue-elicited cocaine-seeking behavior in rats. *Psychopharmacology (Berl)*, 213, 307-20. Impact factor: 3.540.
  11. Thiel, K.J., **Pentkowski, N.S.**, Peartree, N.A., Painter, M.R. and Neisewander, J.L. (2010). Environmental living conditions introduced during forced abstinence alter cocaine-seeking behavior and Fos protein expression. *Neuroscience*, 171, 1187-96. Impact factor: 3.231.
  10. Thiel, K.J., **Pentkowski, N.S.**, Wenzel, J. and Neisewander, J.L. (2010). Stimulation of dopamine D2/D3 but not D1 receptors in the central amygdala decreases cocaine-seeking behavior. *Behav Brain Res*, 214, 386-94. Impact factor: 3.002.
  9. **Pentkowski, N.S.**, Duke, F.D., Weber, S.M., Pockros, L.A., Teer, A.P., Hamilton, E.C., Thiel, K.J. and Neisewander, J.L. (2010). Stimulation of medial prefrontal cortex 5-HT<sub>2C</sub> receptors attenuates cocaine-seeking behavior. *Neuropsychopharmacol*, 35, 2037-48. Impact factor: 6.399.
  8. Litvin, Y., Tovote, P., **Pentkowski, N.S.**, Spiess, J., Blanchard, D.C. and Blanchard, R.J. (2010). Maternal separation modulates short term behavioral and physiological indices of the stress response. *Horm Behav*, 58, 241-9. Impact factor: 3.340.
  7. Thiel, K.J., Sanabria, F., **Pentkowski, N.S.** and Neisewander, J.L. (2009). Anti-craving effects of environmental enrichment. *Int J Neuropsychoph*, 12, 1151-6. Impact factor: 4.333.
  6. **Pentkowski, N.S.**, Acosta, J., Browning, J. and Neisewander J.L. (2009). Stimulation of 5-HT<sub>1B</sub> receptors enhances cocaine reinforcement yet reduces cocaine-seeking behavior. *Addict Biol*, 14, 419-30. Impact factor: 4.547.
  5. Kufahl, P.R., **Pentkowski, N.S.**, Heintzelman, K. and Neisewander, J.L. (2009). Cocaine-induced Fos expression is detectable in the frontal cortex and striatum of rats under isoflurane but not  $\alpha$ -chloralose anesthesia: implications for fMRI. *J Neurosci Methods*, 181, 241-8. Impact factor: 2.053.
  4. **Pentkowski, N.S.**, Litvin, Y., Blanchard, D.C., Vasconcellos, A., King, L.B. and Blanchard, R.J. (2009). Effects of acidic-astressin and ovine-CRF microinfusions into the ventral hippocampus on defensive behaviors in rats. *Horm Behav*, 56, 35-43. Impact factor: 3.340.
  3. Litvin, Y., Blanchard, D.C., **Pentkowski, N.S.** and Blanchard, R.J. (2007). A pinch or a lesion: A reconceptualization of biting consequences in mice. *Aggress Behav*, 33, 545-51. Impact factor: 2.469.

2. Litvin, Y., **Pentkowski, N.S.**, Blanchard, D.C. and Blanchard, R.J. (2007). CRF type 1 receptors in the dorsal periaqueductal gray modulate anxiety-induced defensive behaviors. *Horm Behav*, 52, 244-51. Impact factor: 3.340.
1. **Pentkowski, N.S.**, Blanchard, D.C., Lever, C., Litvin, Y. and Blanchard, R.J. (2006). Effects of lesions to the dorsal and ventral hippocampus on defensive behaviors in rats. *Eur J Neurosci*, 23, 2185-96. Impact factor: 2.975.

### **Review Papers**

4. Pearson, B.L., Crawley, J.N., **Pentkowski, N.S.** and Summers, C.H. (2017). Curiosity as an approach to ethoexperimental analysis: Behavioral neuroscience as seen by students and colleagues of Bob Blanchard. *Neurosci Biobehav Rev*, 76, 415-22. Impact factor: 8.580.
3. Neisewander, J.L., Cheung, T.H.C. and **Pentkowski, N.S.** (2014). Dopamine D3 and 5-HT<sub>1B</sub> receptor dysregulation as a result of psychostimulant intake and forced abstinence: Implications for medications development. *Special issue: NIDA's 40<sup>th</sup> Anniversary, Neuropharmacology*, 76 Pt B: 301-19. Impact factor: 4.936.
2. Neisewander, J.L., Peartree, N.A. and **Pentkowski, N.S.** (2012). Emotional Valence and context of social influences on drug abuse-related behavior in animal models of social stress and prosocial interaction. *Special issue: Drug Action in Social Context, Psychopharmacology (Berl)*, 224, 33-56. Impact factor: 3.540.
1. Blanchard, D.C., Canteras, N.S., Markham, C.M., **Pentkowski, N.S.** and Blanchard, R.J. (2005). Lesions of structures showing FOS expression to cat presentation: Effects on responsivity to a cat, cat odor, and nonpredator threat. *Neurosci Biobehav Rev*, 29, 1243-53. Impact factor: 8.580.

---



---

### **CONFERENCE ABSTRACTS and POSTER PRESENTATIONS**

55. Der-Ghazarian, T., Scott, S., Noudali, S., Call, T., Dai, K., Brunwasser, S., Garcia, R., Stefanko, K., **Pentkowski, N.S.** and Neisewander, J.L. Effects of a 5-HT<sub>1B</sub> receptor agonist on locomotion and reinstatement of cocaine-conditioned place preference after abstinence from repeated injections in C57BL/6 mice. *International Society on Serotonin Research*, Seattle, WA (2016).
54. Bates, E., Yang, Y., **Pentkowski, N.S.** and Zavala, A.R. Alcohol reward in male and female periadolescent rats: Effects of fixed vs. ascending dosing. *The 29<sup>th</sup> Annual CSU Biotechnology Symposium*, Santa Clara, CA (2017).
53. Der-Ghazarian, T., Scott, S., Noudali, S., Call, T., Dai, K., Brunwasser, S., Garcia, R., Stefanko, K., **Pentkowski, N.S.** and Neisewander, J.L. Effects of a 5-HT<sub>1B</sub> receptor agonist on locomotion and reinstatement of cocaine-conditioned place preference after abstinence from repeated injections in C57BL/6 mice. *Society for Neuroscience*, San Diego, CA (2016).
52. Bates, E.A., **Pentkowski, N.S.** and Zavala, A.R. Alcohol reward in male and female periadolescent rats: Effects of fixed vs. Ascending dosing. *Society for Neuroscience*, San Diego, CA (2016).
51. Dixon, K., Wagner, J., Davis, S. Savage, D. and **Pentkowski, N.S.** Potential interactive



- effects of prenatal alcohol exposure combined with adolescent alcohol and/or nicotine exposure on vulnerability to alcohol and nicotine reward during adulthood. *Society for Neuroscience*, San Diego, CA (2016).
50. Hernandez, K., Salinas, B.J., Abella, A.E., Iniguez, S.D., **Pentkowski, N.S.** and Zavala, A.R. Zolmotriptan, a 5-HT<sub>1B</sub> receptor agonist, modulates the rewarding properties of nicotine in female and male adolescent rats. *Society for Neuroscience*, San Diego, CA (2016).
  49. Garcia, R., **Pentkowski, N.S.**, Venault, J., Leslie, K., Bonadonna, J.P., Cotter, A., Campagna, A., Benson, T., Ennis, K., Olive, M.F. and Neisewander, J.L. Different modulatory effects of the 5-HT<sub>1B</sub> receptor agonist CP 94,253 on methamphetamine self-administration compared to cocaine self-administration. *American Psychological Association*, Toronto, Canada (2015).
  48. Garcia, R., **Pentkowski, N.S.**, Venault, J., Leslie, K., Bonadonna, J.P., Cotter, A., Campagna, A., Olive, M.F. and Neisewander, J.L. Modulatory effects of the 5-HT<sub>1B</sub> receptor agonist, CP 94,253, on methamphetamine self-administration. *Society for Neuroscience*, Chicago, IL (2015).
  47. Bastle, R.M., **Pentkowski, N.S.**, Kufahl, P.R., Peartree, N.A., Chaudhury, T., Smith, C.D., Oliver, R.J., Perrone-Bizzozero, N.I. and Neisewander, J.L. Dynamic changes in nucleus accumbens miR-495 expression across cocaine self-administration, reinstatement and relapse. *Society for Neuroscience*, Chicago, IL (2015).
  46. Hernandez, K., Salinas, B.J., Iniguez, S.D., **Pentkowski, N.S.** and Zavala, A.R. Nicotine-induced conditioned place preference in female and male adolescent rats: Role of conditioning session length. *Society for Neuroscience*, Chicago, IL (2015).
  45. Der-Ghazarian, T., Dai, K., Brunwasser, S., Garcia, K., Stefanko, K., **Pentkowski, N.S.** and Neisewander, J.L. Contribution of stress to the effects of a 5-HT<sub>1B</sub> receptor agonist on cocaine-induced locomotion before and after abstinence from repeated injections in C57BL/6 mice. *Society for Neuroscience*, Chicago, IL (2015).
  44. Bastle, R.M., **Pentkowski, N.S.**, Chaudhury, T., St. Peter, M., Smith, C.D., Galles, N., Leslie, K.R., Oliver, R.J., Gardiner, A.S., Perrone-Bizzozero, N.I. and Neisewander, J.L. Viral-mediated overexpression of miR-495 in the nucleus accumbens shell reduces addiction-related gene expression and motivation for cocaine. *International Behavioral Neuroscience Society*, Victoria BC (2015).
  43. Garcia, R., **Pentkowski, N.S.**, Venault, J., Leslie, K., Bonadonna, J., Cotter, A., Olive, M.F. and Neisewander, J.L. Effects of the 5-HT<sub>1B</sub> receptor agonist CP 94,253 on methamphetamine self-administration. *College on Problems of Drug Dependence*, Phoenix, AZ (2015).
  42. Bastle, R.M., **Pentkowski, N.S.**, Smith, C.D., Chaudhury, T., Leslie, K.R., Oliver, R.J., Gardiner, A.S., Perrone-Bizzozero, N.I. and Neisewander, J.L. Overexpression of miR-495 in the nucleus accumbens shell reduces cocaine-taking and -seeking behavior, but not motivation for food. *Society for Neuroscience*, Washington DC (2014).
  41. Der-Ghazarian, T., Brunwasser, S., Dai, K., **Pentkowski, N.S.** and Neisewander, J.L. Effects of a 5-HT<sub>1B</sub> receptor agonist on cocaine-induced locomotion before and after abstinence in C57BL/6 mice. *Society for Neuroscience*, Washington DC (2014).

40. Bastle, R.M., Oliver, R.J., Gardiner, A.S., **Pentkowski, N.S.**, Perrone-Bizzozero, N.I., Neisewander, J.L. Over-expression of the microRNA miR-495 in nucleus accumbens attenuates cocaine intake on a progressive ratio schedule of reinforcement. *College on Problems of Drug Dependence*, Puerto Rico (2014).
39. Der-Ghazarian, T., Pockros, L., Mirando, R., Brunwasser, S., **Pentkowski, N.S.** and Neisewander, J.L. 5-HT<sub>2A</sub>R antagonism and 5-HT<sub>2C</sub>R stimulation attenuates hyperlocomotion produced by intra-striatal cocaine infusions. Society for Neuroscience, San Diego, CA (2013).
38. Bastle, R.M., **Pentkowski, N.S.**, Turk, M.N., Adams, M.D., Berger, A.L., Dado, N., Smith, K., Hammer, R.P., Perrone-Bizzozero, N.I. and Neisewander, J.L. Regulation of plasticity-related gene expression through miR-495 as a potential mediator of cocaine reinforcement and motivation. *International Behavioral Neuroscience Society*, Malahide, Ireland (2013).
37. Oliver, R.J., Bastle, R.M., Gardiner, A.S., Wright, C., Saavedra, J.L., **Pentkowski, N.S.**, Allan, A.M., Neisewander, J.L. and Perrone-Bizzozero, N.I. miR-495, a post-transcriptional link between gene expression and the behavioral effects of cocaine. *Society for Neuroscience*, San Diego, CA (2013).
36. **Pentkowski, N.S.**, Harder, B.G., Brunwasser, S., Yanamandra, K., Bastle, R.M., Der-Ghazarian, T.S., Adams, M.D., Alba, J. and Neisewander, J.L. The effects of 5-HT<sub>1B</sub> receptors on motivation for cocaine vary depending on the length of abstinence. *Society for Neuroscience*, New Orleans, LA (2012).
35. Pockros, L.A., Der-Ghazarian, T.S., **Pentkowski, N.S.**, Conway, S.M., Zwick, K.R., Harder, B.G. and Neisewander, J.L. Effects of 5-HT<sub>2C</sub> receptor stimulation in the BLA on reinstatement of cocaine-seeking behavior and anxiety-like behavior in the elevated plus-maze. *Society for Neuroscience*, New Orleans, LA (2012).
34. Bastle, R.M., **Pentkowski, N.S.**, Turk, M.N., Adams, M.D., Berger, A.L., Perrone-Bizzozero, N. and Neisewander, J.L. The role of a microRNA, miR495, in regulating target gene expression and cocaine self-administration in rats. *Society for Neuroscience*, New Orleans, LA (2012).
33. Bastle, R.M., Dickey, E.D., Thiel, K.J., **Pentkowski, N.S.**, Hammer, R.P. Jr., Neisewander, J.L. Region-specific changes in zif268 mRNA following cocaine self-administration, abstinence and extinction training. *The 4th ASU-BNI Neuroscience Symposium*, Phoenix, AZ (2012).
32. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Adams, Neumaier, J.F. and Neisewander, J.L. Protracted withdrawal from cocaine self-administration flips the switch on 5-HT<sub>1B</sub> receptor modulation of cocaine reinforcement. *American College of Neuropsychopharmacology*, Kona, HI (2011).
31. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Adams, M., Alba, J., Neumaier, J.F. and Neisewander, J.L. Abstinence from cocaine self-administration switches the function of 5-HT<sub>1B</sub> receptors from enhancing drug reinforcement to blunting drug seeking. *Society for Neuroscience*, Washington, DC (2011).
30. Pockros, L.A., **Pentkowski, N.S.**, Weber, S.M. and Neisewander, J.L. Stimulation of

- serotonin 2C receptors in the mPFC attenuates cocaine-induced hyperlocomotion and alters Fos expression in brain regions containing dopamine neurons. *Society for Neuroscience*, Washington, DC (2011).
29. Bastle, R.M., Kufahl, P.R., Turk, M., **Pentkowski, N.S.**, Thiel, K.J., Weber, S.M. and Neisewander, J.L. Novel and conditioned stimuli reinstate extinguished reward-seeking behavior and induce similar patterns of fos expression. *Society for Neuroscience*, Washington, DC (2011).
  28. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Adams, M., Jensen, A., Valles, C., Alba, J., Liu, S., Robertson, L., Neumaier, J.F. and Neisewander, J.L. Elevated expression of serotonin 1B (5-HT<sub>1B</sub>) receptors in the mesolimbic pathway enhances the reinforcing effects of cocaine yet reduces cocaine-seeking behavior. *Society for Neuroscience*, San Diego, CA (2010).
  27. Pockros, L.A. **Pentkowski, N.S.**, Berger, A.L. and Neisewander, J.L. Synergistic effects of 5-HT<sub>2A</sub> receptor blockade and 5-HT<sub>2C</sub> receptor activation on inhibition of spontaneous locomotion. *Society for Neuroscience*, San Diego, CA (2010).
  26. Neisewander, J.L., Thiel, K.J., **Pentkowski, N.S.**, Painter, M.R., Peartree, N.A., Mitroi, D. and Crawford, C.A. Environmental enrichment during abstinence from cocaine self-administration attenuates cocaine-seeking behavior and functional brain activation in rats. *Society for Neuroscience*, San Diego, CA (2010).
  25. Pockros, L.A., **Pentkowski, N.S.**, Swinford, S.E., Robertson, L.M., Ostos, M. and Neisewander, J.L. Blockade of 5-HT<sub>2A</sub> receptors in the medial prefrontal cortex attenuates cue-elicited reinstatement of cocaine-seeking behavior in rats. Oral Communication, *The College on Problems of Drug Dependence*, Scottsdale, AZ (2010).
  24. Thiel, K.J., Engelhardt, B., Hood, L.E., **Pentkowski, N.S.**, Peartree, N.A., Painter, M.R. and Neisewander, J.L. Preclinical examination of environmental enrichment as an anti-relapse strategy. Oral Communication, *The College on Problems of Drug Dependence*, Scottsdale, AZ (2010).
  23. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Liu, S., Neumaier, J.F. and Neisewander, J.L. Elevated expression of 5-HT<sub>1B</sub> receptors in the mesolimbic pathway enhances the reinforcing effects of cocaine using the self-administration model in rats. *Society for Neuroscience*, Chicago, IL (2009).
  22. Pockros, L.A., **Pentkowski, N.S.**, Swinford, S.E., Shepard, A.J. and Neisewander, J.L. Blockade of 5-HT<sub>2A</sub> receptors in the prefrontal cortex attenuates cue- and cocaine-primed reinstatement of cocaine-seeking behavior in rats. *Society for Neuroscience*, Chicago, IL (2009).
  21. Perrone-Bizzozero, N., Nixon, S., Bolognani, F., Kufahl, P.R., **Pentkowski, N.S.** and Neisewander, J.L. Decreased expression of miR-495 in the nucleus accumbens after cocaine exposure. *Society for Neuroscience*, Chicago, IL (2009).
  20. Kufahl, P.R., Heintzelman, K., Thiel, K.J., **Pentkowski, N.S.**, Vargas, C., Hood, L and Neisewander, J.L. A novel cue reinstates extinguished cocaine-seeking behavior. *Society for Neuroscience*, Chicago, IL (2009).
  19. Thiel, K.J., Painter, M., Hills, D., **Pentkowski, N.S.**, Sanabria, F., Neisewander, J.L.

- Environmental enrichment during drug abstinence attenuates cocaine-seeking behavior. *Society for Neuroscience*, Chicago, IL (2009).
18. Thiel, K.J., Painter, M., Hills, D., Crow, A., Cuhaciyan, C., Sanabria, F., **Pentkowski, N.S.** and Neisewander, J.L. Protective effects of environmental enrichment on cocaine-seeking behavior during abstinence. *The College on Problems of Drug Dependence*, Reno, NV (2009).
  17. **Pentkowski, N.S.** and Neisewander, J.L. Stimulation of medial prefrontal cortex 5-HT<sub>2C</sub> attenuates cocaine-seeking, but not cocaine self-administration. *American College of Neuropsychopharmacology*, Scottsdale, AZ (2008).
  16. **Pentkowski, N.S.**, Duke, F., Hamilton, E.C. and Neisewander, J.L. Stimulation of medial prefrontal cortex 5-HT<sub>2C</sub> attenuates cocaine-seeking, but not cocaine self-administration. *Society for Neuroscience*, Washington, DC (2008).
  15. Kufahl, P.R., **Pentkowski, N.S.**, Routt, V.T., Duke, F. and Neisewander, J.L. Cocaine-induced Fos expression is detectable in the frontal cortex and striatum of rats under isoflurane but not alpha-chloralose anesthesia: Implications for fMRI. *Society for Neuroscience*, Washington, DC (2008).
  14. **Pentkowski, N.S.**, Browning, J., Acosta, J.I., Hamilton, L., Duke, F. and Neisewander, J.L. Stimulation of 5-HT<sub>1B</sub> receptors enhances cocaine reinforcement yet reduces cocaine-seeking behavior. *International Behavioral Neuroscience Society*, St. Thomas, USVI (2008).
  13. Litvin, Y., Tovote, P., **Pentkowski, N.S.**, Spiess, J., Blanchard, D.C. and Blanchard, R.J. Maternal separation effects on adaptive fear responses, stressor-induced corticosterone secretion, and related gene expression in the hippocampus. *Society for Neuroscience*, San Diego, CA (2007).
  12. **Pentkowski, N.S.**, Vasconcellos, A., Sabugo J., Blanchard, D.C. and Blanchard, R.J. Effects of ovine-CRF and acidic-astressin infusions into the ventral hippocampus on defensive behaviors in rats. *Society for Neuroscience*, Atlanta, GA (2006).
  11. Litvin, Y., Blanchard, D.C., Stocker, H., **Pentkowski, N.S.** and Blanchard, R.J. Effects of selective CRF receptor agonist infusion into the dorsal periaqueductal gray on defensive behaviors in Swiss-Webster mice. *Society for Neuroscience*, Atlanta, GA (2006).
  10. **Pentkowski, N.S.**, Blanchard, D.C., Lever, C. and Blanchard, R.J. Effects of lesions to the dorsal and ventral hippocampus on defensive behaviors in rats. *Society for Neuroscience*, Washington DC (2005).
  9. Litvin, Y., Blanchard, D.C., **Pentkowski, N.S.**, Yang, M. and Blanchard, R.J. A pinch or a lesion: Consequences of biting in mice. *Society for Neuroscience*, Washington DC (2005).
  8. Markham, C.M., **Pentkowski, N.S.**, Blanchard, R.J. and Blanchard, D.C. Disruption in defensive behavior toward predatory stimuli following lesions of the bed nucleus of the stria terminalis. *Society for Neuroscience*, Washington DC (2005).
  7. Blanchard, D.C., Yang, M., Markham, C.M., Farrokhi, C.F., **Pentkowski, N.S.**, Blanchard,

- R.J. and Griebel, G. Diazepam and buspirone effects in C57/BL/6J mice in the rat exposure test. *Society for Neuroscience*, San Diego, CA (2004).
6. **Pentkowski, N.S.**, Blanchard, D.C. and Blanchard, R.J. Effects of ibotenic acid lesions of the dorsal hippocampus on defensive behaviors in rats. *Society for Neuroscience*, San Diego, CA (2004) and at the *International Behavioral Neuroscience Society*, Key West, FL (2004).
  5. Herrera, E., **Pentkowski, N.S.** and Dowds, D. The importance of intimacy, communication, and commitment in relationship satisfaction. *Western Psychological Association*, Irvine, CA (2002).
  4. Santos, S.J., **Pentkowski, N.S.**, Lirios, N. and Dowds, D. Barriers to bicultural competence in young adults. *Western Psychological Association*, Irvine, CA (2002).
  3. Santos, S.J., **Pentkowski, N.S.**, Lirios, N. and Dowds, D. The Development of biculturalism in young adults. *Western Psychological Association*, Irvine, CA (2002).
  2. Palmer, B.B., Dowling, R. and **Pentkowski, N.S.** Decision-making in heterogeneous versus homogeneous groups. *Malaysian Psychological Association* (2001).
  1. Henschel, D., Gritney, K., Reigadas, E. and **Pentkowski, N.S.** Personality and presidential choices. *American Psychological Society*, Toronto, Canada (2001).

#### COLLOQUIA and INVITED PRESENTATIONS

14. **Pentkowski, N.S.** Serotonin 1B and 2C receptor subtypes as novel targets for treating psychostimulant addiction. *HSC Neuroscience Symposium*, University of New Mexico, Albuquerque, NM (2017).
13. Neisewander, J.L., **Pentkowski, N.S.**, Garcia, R. and Der-Ghazarian, T. Dysregulation of 5-HT<sub>1B</sub> receptors and its implications for novel treatments in drug dependence. *International Society on Serotonin Research*, Seattle, WA (2016).
12. **Pentkowski, N.S.** A transgenic rat model of Alzheimer's disease. *Psychology Junior Honors Seminar*, University of New Mexico, Albuquerque, NM (2016).
11. **Pentkowski, N.S.** 5-HT<sub>1B</sub> receptors: A cause and a cure for cocaine addiction? Cavanaugh Cognitive Rhythms and Computation Lab, University of New Mexico, Albuquerque, NM (2016).
10. **Pentkowski, N.S.** Neurobiology of defensive and addictive behaviors. *Psychology Junior Honors Seminar*, University of New Mexico, Albuquerque, NM (2015).
9. **Pentkowski, N.S.** Neurobiology of addiction. *Psychology Addiction Seminar*, University of New Mexico, Albuquerque, NM (2015).
8. **Pentkowski, N.S.** The good and the bad: Social influences on drug abuse. *International Behavioral Neuroscience Society*, Victoria, BC (2015).
7. **Pentkowski, N.S.** Serotonin-1B receptors: A novel target for relapse prevention? *Department of Psychology*, University of New Mexico, Albuquerque, NM (2013).
6. **Pentkowski, N.S.** and Neisewander, J.L. The influence of 5-HT<sub>1B</sub> receptors on cocaine abuse-related behaviors. *4<sup>th</sup> ASU-BNI Neuroscience Symposium*, Phoenix, AZ (2012).

5. **Pentkowski, N.S.**, Harder, B., Brunwasser, S., Bastle, R.M., Der-Ghazarian, T., Alba, J., Adams, M. and Neisewander, J.L. Stimulation of serotonin-1B receptors attenuates cocaine-abuse related behaviors following protracted withdrawal. *The College on Problems of Drug Dependence*, Palm Springs, CA (2012).
  4. **Pentkowski, N.S.**, Cheung, T.H.C., Toy, W.A., Liu, S., Neumaier, J.F. and Neisewander, J.L. Elevated expression of 5-HT<sub>1B</sub> receptors in the mesolimbic pathway enhances the reinforcing effects of cocaine using the self-administration model in rats. Oral Communications 2: Up Front with Drug Addiction: Role of Frontal Cortex. *The College on Problems of Drug Dependence*, Scottsdale, AZ (2010).
  3. **Pentkowski, N.S.**, Duke, F., Weber, S., Hamilton, E.C., Pockros L.A. and Neisewander, J.L. Stimulation of medial prefrontal cortex 5-HT<sub>2C</sub> attenuates cocaine-seeking, but not cocaine self-administration. Oral Communications 11: Upping the Ante, Craving Psychostimulants. *The College on Problems of Drug Dependence*, Reno, NV (2009).
  2. **Pentkowski, N.S.** Neural mechanisms of unconditioned and conditioned defense. *Behavioral Neuroscience Colloquium*, Arizona State University, Tempe, AZ (2008).
  1. **Pentkowski, N.S.** mPFC CRF<sub>1</sub> activation: Effects on defensive behavior. *Specialized Neuroscience Research Program Colloquium*, University of Hawaii, Honolulu, HI (2007).
- 

## COLLABORATORS

Robert J. Blanchard, Ph.D. Professor, Department of Psychology, University of Hawaii at Manoa, Honolulu, HI 96822. (808) 956-8004; [blanchar@hawaii.edu](mailto:blanchar@hawaii.edu)

D. Caroline Blanchard, Ph.D. Professor, Pacific Biosciences Research Center and John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI 96822. (808) 956-8067; [blanchar@hawaii.edu](mailto:blanchar@hawaii.edu)

Janet L. Neisewander, Ph.D. Professor, School of Life Sciences, Arizona State University, Tempe, AZ 85287. (480) 965-0209; [janet.neisewander@asu.edu](mailto:janet.neisewander@asu.edu)

John F. Neumaier, M.D., Ph.D. Professor, Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA 98104. (206) 897-5803; [neumaier@uw.edu](mailto:neumaier@uw.edu)

Chris M. Markham, Ph.D. Assistant professor, Department of Psychology, Morehouse College, Atlanta, GA 30314. (404) 681-2800; [chris.markham@morehouse.edu](mailto:chris.markham@morehouse.edu)

Arturo R. Zavala, Ph.D. Assistant Professor, Department of Psychology, California State University Long Beach, Long Beach, CA 90840. (562) 985-8696; [arzavala@csulb.edu](mailto:arzavala@csulb.edu)