

## Curriculum Vitae

Joshua S. Beckmann, PhD

### **Personal Information**

Professional Address:

741 S. Limestone  
B453 BBSRB  
Lexington, KY 40536-0509  
(859) 218-1078

email: joshua.beckmann@uky.edu

### **Professional Appointments**

- 2019 – Present Associate Professor, University of Kentucky (UK)  
Cognitive Neuroscience  
Department of Psychology
- 2014 – Present Assistant Professor, UK  
Behavioral Neuroscience and Psychopharmacology  
Department of Psychology
- 2008 – 2014 Postdoctoral Fellow, UK  
Behavioral Neuropharmacology and Neurochemistry
- 2007 – 2008 Visiting Assistant Professor, Western Kentucky University (WKU)  
Psychology Department

### **Education**

- 2007 Southern Illinois University: Brain and Cognitive Science Program  
PhD: Experimental Psychology
- 2005 Southern Illinois University: Brain and Cognitive Science Program  
MA: Experimental Psychology
- 2002 Southern Illinois University: College of Liberal Arts  
BA: Psychology  
BA: Philosophy

## **Honors and Awards**

- 2018 UK Contributions to Undergraduate Education Award (UK)
- 2017 UK Faculty Mentor of the Year Award (UK)
- 2015 B.F. Skinner New Researcher Award – APA Division 25
- 2012 Young Investigator Award: NIDA Frontiers in Addiction Research
- 2009-2011 NIDA T32 – Fellowship in Drug Abuse Behavior (UK)
- 2008-2009 NIDA T32 – Fellowship in Interdisciplinary Drug Abuse Research (UK)
- 2009 Bluegrass Society for Neuroscience Spring Neuroscience Day Presentation Award (UK)
- 2005 Arthur Mendez research award (SIU)
- 2002 Award for Excellence in Philosophy (SIU)
- 2002 Undergraduate Research Forum Presentation Award (SIU)

## **Research Interests**

Behavioral Pharmacology  
Neuropharmacology  
Quantitative models of learning, memory and decision-making  
Experimental analysis of behavior

## **Teaching Interests**

Behavioral Pharmacology  
Neuropharmacology  
Behavioral Neuroscience  
Learning and memory  
Statistics and research methods  
Quantitative Modeling

## **Teaching Experience**

### *Courses-Teaching Assistant:*

2004 – 2007 Research and Statistical Methods, SIU

### *Courses Taught:*

2007 - 2008 Introduction to Psychology, WKU  
Cognitive Psychology, WKU  
Psychology of Learning, WKU  
Advanced Topics in Cognition, WKU  
Research and Statistical Methods, SIU

2014 – Present, UK

Advanced Behavioral Neuroscience  
Behavioral Pharmacology  
Learning and Behavior  
Brain and Behavior  
Judgment and Decision-making

## **Professional Service**

### *Ad hoc reviewer for:*

*Behavioural Brain Research; Behavioural Processes; Brain Structure and Function; Comparative Cognition and Behavior Reviews; Developmental Cognitive Neuroscience; Drug and Alcohol Dependence; Experimental and Clinical Psychopharmacology; Learning and Behavior; Journal of the Experimental Analysis of Behavior; Journal of Psychopharmacology; Journal of Neuroscience Methods; Journal of Visualized Experiments; Neuropharmacology; Neuropsychopharmacology; Neurotoxicity Research; Pharmacology, Biochemistry, and Behavior; Physiology and Behavior; PLOS One; Psychopharmacology; Quarterly Journal of Experimental Psychology; Scientific Reports*

2017 Awards board member for the American Psychological Association-Division 25

2015 Chair for the American Psychological Association-Division 25 Basic Dissertation Award

2009 – 2010 Postdoctoral Representative for the Bluegrass Chapter of the Society for Neuroscience

2004 - 2005 President of Cognitive Science Registered Student Organization, SIU

2003 - 2004 Secretary of Cognitive Science Registered Student Organization, SIU  
Member of Cognitive Science Colloquium external speaker board, SIU  
Member of Cognitive Science Colloquium budget committee, SIU

### **Professional Organizations**

Society for Neuroscience  
College on Problems of Drug Dependence  
American Psychological Association  
Society for Quantitative Analysis of Behavior  
Association for Behavior Analysis

### **Mentorship**

McAallister Stephens – MA committee chair (2018-present)

Seth Batten – PhD committee chair (2015-2019)

Aaron Smith – MA committee member (2015); NIDA T32 supervisor (2017-present);  
PhD committee chair (2016-2019)

Sarah Maggio – PhD committee member (2018-2019)

Jonathan Chow – MA committee member (2014); NIDA T32 supervisor (2014-2016);  
PhD committee chair (2014-2018)

Justin Strickland – MA committee member (2017); PhD committee member (2018-  
2019)

Jacob Case – MA committee member (2017)

Meredith Saunders – PhD committee member (2018)

### **Funding**

K99/R00 DA033373 (9/12 – 9/17): The role of tonic and phasic glutamate release in  
incentive salience and cocaine reinforcement.

Role: Principal Investigator

Total Budget: \$762,287

UK VPR Research Support Grant (5/01/15 – 5/01/16): Obesity: homeostatic regulation  
and reward.

Role: Principal Investigator

Total Budget: \$20,000

Ro1 DA045023 (7/1/18 – 4/30/2023): A translational determination of the neurobehavioral mechanisms of maladaptive dynamic choice in cocaine use disorder.  
Role: Principal Investigator (MPI)  
Total Budget: \$3,360,890

Ro1 DA047368 (4/1/19 – 4/30/2024): A translational determination of the mechanisms of maladaptive dynamic choice in opioid use disorder.  
Role: Principal Investigator (MPI)  
Total Budget: \$3,596,253

**Publications** (\* = first-author student publications)

Young ME, Rogers ET, **Beckmann JS** (2005). Causal impressions: Predicting when, not just whether. *Memory and Cognition*, 33: 320-331.

Young ME, **Beckmann JS**, Wasserman EA (2006). The pigeon's perception of Michotte's launching effect. *Journal of the Experimental Analysis of Behavior*, 86: 223-237.

**Beckmann JS**, Young ME (2007). The feature positive effect in the face of variability: novelty as a feature. *Journal of Experimental Psychology: Animal Behavior Processes*, 33: 72-77.

**Beckmann JS**, Young ME (2009). Stimulus dynamics and temporal discrimination: implications for pacemakers. *Journal of Experimental Psychology: Animal Behavior Processes*, 35(4): 525-537.

Marusich JA, **Beckmann JS**, Gipson CD, Bardo MT (2010). Methylphenidate as a reinforcer for rats: contingent delivery and escalation. *Experimental and Clinical Psychopharmacology*, 18(3): 257-266. PMID: PMC3164353

**Beckmann JS**, Siripurapu KB, Nickell J, Horton DB, Denehy ED, Vartak A, Crooks PA, Dwoskin LP, Bardo MT (2010). The novel pyrrolidine nor-lobelane analog UKCP-110 (*cis*-2,5-di-(2-phenethyl)-pyrrolidine hydrochloride) inhibits VMAT2 function, methamphetamine-evoked dopamine release, and methamphetamine self-administration in rats. *The Journal of Pharmacology and Experimental Therapeutics*, 335(3): 841-851. PMID: PMC2993560

**Beckmann JS**, Marusich JA, Gipson CD, Bardo MT (2011). Novelty seeking, incentive salience, and acquisition of cocaine self-administration in rats. *Behavioural Brain Research* 216(1): 159-165. PMID: PMC2975769

Gipson CD, **Beckmann JS**, Marusich JA, El-Maraghi S, Bardo MT (2011). Effect of environmental enrichment on escalation of cocaine self-administration in rats. *Psychopharmacology* 214(2): 557-566. PMID: PMC3166517

- Horton DB, Siripuralu KB, Norrholm SD, Culver JP, Hojahmat M, **Beckmann JS**, Harrod SB, Deaciuc AG, Bardo MT, Crooks PA, Dwoskin LP (2011). meso-Transdiene analogs inhibit vesicular monoamine transporter-2 function and methamphetamine-evoked dopamine release. *The Journal of Pharmacology and Experimental Therapeutics* 336(3): 940-951. PMID: PMC3061531
- Marusich JA, **Beckmann JS**, Gipson CD, Bardo MT. (2011). Cue effects on methylphenidate self-administration in rats. *Behavioural Pharmacology* 22(7): 714-717. PMID: PMC3199218
- Gipson CD, Yates J. **Beckmann JS**, Marusich JA, Zentall TR, Bardo MT (2011). Social facilitation of d-amphetamine self-administration in rats. *Experimental and Clinical Psychopharmacology* 19(6): 409-419. PMID: PMC3224199
- Beckmann JS**, Bardo MT (2012). Environmental enrichment reduces attribution of incentive salience to a food-associated stimulus. *Behavioural Brain Research* 226(1): 331-334. PMID: PMC3687775
- Yates JR, Marusich JA, Gipson CD, **Beckmann JS**, Bardo MT (2012). High impulsivity in rats predicts amphetamine conditioned place preference. *Pharmacology, Biochemistry and Behavior* 100(3): 370-376. PMID: PMC3242916
- Marusich JA, McCuddy WT, **Beckmann JS**, Gipson CD, Bardo MT (2012). Strain differences in self-administration of methylphenidate and sucrose pellets in a rat model of ADHD. *Behavioural Pharmacology* 22(8): 794-804. PMID: PMC3381430
- Beckmann JS**, Denehy ED, Zheng G, Crooks PA, Dwoskin LP, Bardo MT (2012). The effects of the novel VMAT2 inhibitor, GZ-793A, on methamphetamine reward in rats. *Psychopharmacology* 220(2): 395-403. PMID: PMC3390966
- Gipson CD, **Beckmann JS**, Adams ZW, Marusich JA, Nesland T, Yates JR, Kelly TH, Bardo, MT (2012). A translational behavioral model of mood-based impulsivity: Implications for drug self-administration. *Drug and Alcohol Dependence* 122(1-2): 93-99. PMID: PMC3270200
- Beckmann JS**, Gipson CD, Marusich JA, Bardo MT (2012). Escalation of cocaine intake with extended access in rats: dysregulated addiction or regulated acquisition? *Psychopharmacology* 222(2): 257-267. PMID: PMC3677022
- Alvers KA, **Beckmann JS**, Zheng G, Crooks PA, Dwoskin LP, Bardo MT (2012). Selectively blocking the vesicular monoamine transporter (VMAT2) attenuates both methamphetamine- and cue-induced reinstatement in rats. *Psychopharmacology* 224(2): 255-262. PMID: PMC3680349

- Alvers KA, Marusich JA, Gipson CD, **Beckmann JS**, Bardo MT (2012). Environmental enrichment during development decreases intravenous self-administration of methylphenidate at low unit doses in rats. *Behavioural Pharmacology* 23(7): 650-657. PMID: PMC3674782
- Yates JR, **Beckmann JS**, Meyer AC, and Bardo MT (2013) Concurrent choice for social interaction and amphetamine in conditioned place preference: effects of age and housing condition. *Drug and Alcohol Dependence* 129(3): 240-246. PMID: PMC3628407
- Laude LR, **Beckmann JS**, Daniels CW, and Zentall TR (2014) Impulsivity affects suboptimal gambling-like choice by pigeons. *Journal of Experimental Psychology: Animal Learning and Cognition* 40(1): 2-11.
- Yates JR, Batten SR, Bardo MT, and **Beckmann JS** (2015). Role of ionotropic glutamate receptors in delay and probability discounting in the rat. *Psychopharmacology* 232(7): 1187-1196. PMID: PMC4361294
- Beckmann JS** and Chow JJ (2015). Isolating incentive salience: value, choice, and persistence. *Learning & Memory*. 22(2):116-127. PMID: PMC4341364
- Darna M, **Beckmann JS**, Gipson CD, Bardo MT, and Dwoskin LP (2015) Effect of environmental enrichment on dopamine and serotonin transporters and glutamate neurotransmission in medial prefrontal and orbitofrontal cortex. *Brain Research* 1599: 115-125. PMID: PMC4344853
- Darna M, Chow JJ, Yates JR, Charnigo RJ, **Beckmann JS**, Bardo MT, and Dwoskin LP (2015). Role of serotonin transporter in rat orbitofrontal cortex in impulsive choice. *Behavioural Brain Research* 293: 234-142. PMID: PMC4808810
- Beckmann JS**, Smith AM, Pivavarchyk M, Horton DB, McIntosh JM, Crooks PA, Bardo MT, and Dwoskin LP (2015). r-bPiDI acts selectively at  $\alpha 6\beta 2$  nicotinic receptors to decrease nicotine-evoked dopamine release and nicotine reinforcement. *Neurochemical Research* 40(10): 2121-2130. PMID: PMC4639919
- Yates JR, Darna M, **Beckmann JS**, Dwoskin LP, and Bardo MT (2016). Individual differences in impulsive action and dopamine transporter function in the rat orbitofrontal cortex. *Neuroscience* 313: 122-129. PMID: PMC4695254
- Bolin BL, Lile JA, Marks KR, **Beckmann JS**, Rush CR, and Stoops WW (2016) Bupirone maintenance reduces sexual risk-taking intent but does not alter the abuse-related effects of cocaine in cocaine users. *Experimental and Clinical Psychopharmacology* 24(3): 162-173. PMID: PMC4896094

- Strickland JC, Abel JM, Lacy, RT, **Beckmann JS**, Witte MA, Lynch WJ, and Smith M (2016) Resistance exercise training decreases cocaine self-administration and normalizes BDNF expression in the nucleus accumbens. *Drug and Alcohol Dependence* 163: 186-194. PMID: PMC4880539
- \*Chow JJ, Darna M, Nickell J, and **Beckmann JS** (2016) Toward isolating the role of dopamine in acquisition of incentive salience attribution. *Neuropharmacology* 109: 320-331. PMID: PMC4970875
- Hofford RS, **Beckmann JS**, and Bardo MT (2016) Rearing environment differentially modulates cocaine self-administration after opioid pretreatment: a behavioral economics analysis. *Drug and Alcohol Dependence* 167: 89-94. PMID: PMC5037017
- \*Smith AP, Bailey AR, Chow JJ, **Beckmann JS**, and Zentall TR (2016) Suboptimal choice in pigeons: stimulus value predicts choice over frequencies. *PLOS One* 11(7): e0159336. PMID: PMC4956316
- \*Smith AP, **Beckmann JS**, and Zentall TR (2017) Mechanisms of midsession reversal accuracy: memory for preceding events and timing. *Journal of Experimental Psychology: Animal Learning and Cognition* 43(1): 62-71. PMID: 27786507
- \*Chow JJ, Smith A, Wilson AG, Zentall T, and **Beckmann JS** (2017) Suboptimal choice in rats: incentive salience attribution promotes maladaptive decision-making. *Behavioural Brain Research* 320: 244-254. PMID: PMC5241164
- \*Smith AP, **Beckmann JS**, and Zentall T (2017) Gambling-like behavior in pigeons: 'jackpot' signals promote maladaptive risky decision-making. *Scientific Reports* 7(1): 6625. PMID: PMC5529572
- Hofford RS, Chow JJ, **Beckmann JS**, and Bardo MT (2017) Effects of environmental enrichment on self-administration of the short-acting opioid remifentanyl in male rats. *Psychopharmacology* 234(23-24):3499-3506. PMID: NA
- Strickland JC, **Beckmann JS**, Rush CR, and Stoops WW (2017) A pilot study of loss aversion for drug and non-drug commodities in cocaine users. *Drug and Alcohol Dependence* 180:223-226. PMID: PMC5679721
- \*Chow JJ and **Beckmann JS** (2018) NMDA receptor blockade specifically impedes the acquisition of incentive salience attribution. *Behavioural Brain Research* 338:40-46. PMID: PMC5681870
- \*Smith AP, Zentall T, and **Beckmann JS** (2018) The role of 'jackpot' stimuli in maladaptive decision-making: dissociable effects of D1/D2 agonists and antagonists. *Psychopharmacology* 235(5):1427-1437. PMID: NA

- \*Batten SR and **Beckmann JS** (2018) Stimulus control of drug seeking: multimodal reinstatement. *Addiction Biology* PMID: PMC5807245
- \*Batten SR, Pomerleau F, Quintero J, Gerhardt G, and **Beckmann JS** (2018) The role of glutamate signaling in incentive salience: Second-by-second glutamate recordings in awake Sprague Dawley rats. *Journal of Neurochemistry* 154(4):276-286. PMID: PMC5980676
- Yates JR, Bardo MT, and **Beckmann JS** (2018) Environmental enrichment and drug value: a behavioral economic analysis in male rats. *Addiction Biology* PMID: NA
- Namba MD, Tomek SE, Olive MF, **Beckmann JS**, and Gipson CD (2018) The winding road to relapse: Forging a new understanding of cue induced reinstatement models and their associated neural mechanisms. *Frontiers in Behavioral Neuroscience* PMID: PMC5811475
- Weiss VG, Yates JR, **Beckmann JS**, Hammerslag LR, Bardo MT (2018) Social reinstatement: a rat model of peer-induced relapse. *Psychopharmacology* PMID: PMC6252116
- Strickland JC, Marks KR, **Beckmann JS**, Lile JA, Rush, CR, Stoops WW (2018) Contribution of cocaine-related cues to concurrent monetary choice in humans. *Psychopharmacology* PMID: PMC6162111
- Zentall TR, Smith AP, **Beckmann JS** (2019) Differences in rats and pigeons suboptimal choice may depend on where those stimuli are in their behavior system. *Behav Processes* PMID: NA
- Beckmann JS**, Chow JJ, and Hutsell BA (in press) Cocaine-associated decision-making: Toward isolating preference. *Neuropharmacology*
- Powell GL, Cabrera-Brown G, Namba MD, Neisewander JL, Marusich JA, **Beckmann JS**, Gipson CD (in press) Economic demand analysis of within-session dose-reduction during nicotine self-administration. *Drug and Alcohol Dependence*
- \*Batten SR, Hicks KB, Dwoskin LP, **Beckmann JS** (under review) Isolating reward changes in diet-induced obesity: a demand analysis.

### **Presentations**

**Beckmann JS**, Young, ME, and Ellefson MR. (November, 2002). *Learning about the importance of occurrence and non-occurrence*. Poster presented at the annual meeting of the Judgment and Decision Making Society, Kansas City, MO.

**Beckmann JS**, Jacobs EA, and Martinez, JL. (May, 2004). *Percentile reinforcement of long interresponse times in humans: Molar versus molecular control of*

*responding*. Poster presented at the annual meeting of the Association for Behavior Analysis. Boston, MA.

**Beckmann JS**, Jacobs, EA, and Martinez, JL. (November, 2004). *Percentile reinforcement of long interresponse times in humans: Molar versus molecular control of responding*. Poster presented at the annual meeting of the Psychonomic Society. Minneapolis, MN.

Young ME, **Beckmann JS**, and Wasserman EA. (March, 2005). *The pigeon's discrimination of Michotte's launching effect*. Paper presented at the annual Conference on Comparative Cognition, Melbourne, FL.

Nikonova O, Young ME, and **Beckmann JS**. (March, 2005). *Contingency versus mechanism in causal comparisons*. Poster presented at the annual Conference on Comparative Cognition, Melbourne, FL.

**Beckmann JS**, Young ME, and Nikonova O. (March, 2005). *Stimulus dynamics and duration judgments*. Poster presented at the annual Conference on Comparative Cognition, Melbourne, FL.

**Beckmann JS**, Young ME, and Nikonova O. (May, 2005). *Temporal bisection judgments and stimulus dynamics*. Poster presented at the annual meeting of the Society for Quantitative Analyses of Behavior. Chicago, IL.

**Beckmann JS**, Grabowska K., and Jacobs EA. (May, 2005). *Social foraging: The ideal free distribution and differences in competitive ability*. Poster presented at the annual meeting of the Association for Behavior Analysis. Chicago, IL.

**Beckmann JS** and Young ME. (March, 2006). *Novelty as a feature in the feature positive effect in humans*. Poster presented at the annual Conference on Comparative Cognition, Melbourne, FL.

**Beckmann JS** and Young ME. (March, 2007). *Effects of stimulus dynamics on temporal discrimination*. Paper presented at the annual Conference on Comparative Cognition, Melbourne, FL.

**Beckmann JS** and Young ME. (May, 2007). *Effects of stimulus dynamics on temporal discrimination*. Poster presented at the annual meeting of the Society for Quantitative Analyses of Behavior. San Diego, CA.

**Beckmann JS** and Young ME. (June, 2007). *Temporal discrimination within dynamic environments*. Paper presented at the annual meeting of Illinois Data. Bloomington-Normal, IL.

**Beckmann JS** and Young ME. (November, 2007). *Stimulus dynamics alter the perception of time: Faster is longer*. Paper presented by M.E. Young at the annual meeting of the Psychonomic Society, Long Beach, CA.

- Beckmann JS** and Young ME. (May, 2008). *Dynamics and Pacemakers*. Paper presented at the annual meeting of the Association for Behavior Analysis, Chicago, IL.
- Beckmann JS**, Siripurapu KB, Nickell JR, Denehy ED, Bardo MT, Vartak A, Dwoskin LP, and Crooks PA. (March, 2009). *The effects of the pyrrolidine lobelane analog AV-1-228 on dopamine neurochemistry and methamphetamine self-administration in rats*. Poster presented at the annual Bluegrass Society for Neuroscience Spring Neuroscience Day, Lexington, KY.
- Beckmann JS**, Bardo MT, and Killeen PR. (May, 2009). *The effects of D-amphetamine on behavioral momentum, Pavlovian conditioning and operant conditioning in a novel continual reconditioning task*. Poster presented at the annual meeting for the Society for the Quantitative Analysis of Behavior, Phoenix, AZ.
- Beckmann JS**, Horton DB, Siripurapu KB, Denehy ED, Zheng G, Crooks PA, Dwoskin LP, and Bardo MT. (June, 2009). *(R)-cis-N-(2,3-dihydroxypropyl)-2,6-di-(4-methoxyphenylethyl)piperidine hemisulfate (GZ-793A) specifically blocks methamphetamine reinforcement, without producing tolerance, in rats*. Paper presented at the annual meeting of the College on Problems of Drug Dependence, Reno, NV.
- Gipson CD, **Beckmann JS**, and Bardo MT. (September, 2009). *Effect of environmental enrichment on escalation of cocaine self-administration in rats*. Poster presented at the biannual meeting of the European Behavioural Pharmacology Society, Rome, Italy.
- Horton DA, Zheng G, **Beckmann JS**, Deaciuc AG, Bardo MT, Crooks PA, and Dwoskin LP. (October, 2009). *N-substituted methamphetamine derivatives as novel vesicular monoamine transporter (VMAT2) inhibitors*. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.
- Beckmann JS**, Marusich JA, Killeen PR, and Bardo MT. (May, 2010). *Looking beyond breakpoint in methylphenidate self-administration under a progressive ratio schedule of reinforcement*. Poster presented at the annual meeting of the Society for the Quantitative Analysis of Behavior, San Antonio, TX.
- Beckmann JS** and Bardo MT. (June, 2010). *Individual differences in incentive salience attribution to a food-associated cue modulate both novelty seeking and acquisition of cocaine self-administration in rats*. Paper presented at the annual meeting of the College on Problems of Drug Dependence, Scottsdale, AZ.
- Dwoskin LP, **Beckmann JS**, Horton DB, Alvers KM, Siripurapu KB, Nickell JR, Kilbourn MR, Zheng G, Crooks PA, and Bardo MT. (July, 2010). *GZ-793A, a diol analog of lobelane, inhibits the neurochemical effects of methamphetamine and*

*specifically decreases methamphetamine self-administration and reinstatement.* Poster presented by 2<sup>nd</sup> author at the annual meeting of Translational Research in Methamphetamine Addiction Conference, Pray, MT.

Gipson CD, Perry JL, Meyer AC, Yates JR, **Beckmann JS**, and Bardo MT. (November, 2010). *Role of dopamine and serotonin receptors in orbitofrontal cortex on impulsive choice in rats.* Poster presented at the annual meeting of the Society for Neuroscience, Sand Diego, CA.

Dwoskin LP, **Beckmann JS**, Horton DB, Siripurapu K., Alvers KA, Zheng G, Crooks PA, and Bardo MT. (June, 2011). *Preclinical evaluation of GZ-793A as a pharmacotherapy for methamphetamine abuse.* Poster presented at the annual meeting of the College on Problems of Drug Dependence, Hollywood, FL.

**Beckmann JS**, Gipson CD, and Bardo MT. (June, 2011). *Stimulus control of escalated cocaine intake and escalation under short-access conditions.* Poster presented at the annual meeting of the College on Problems of Drug Dependence, Hollywood, FL.

Horton DB, **Beckmann JS**, Alvers KM, Siripurapu K, Zheng G, Crooks PA, Bardo MT, and Dwoskin LP. (August, 2011). *GZ-793A specifically inhibits methamphetamine self-administration and reinstatement through potent and selective inhibition of VMAT2 function.* Poster presented at the biannual meeting of the European Behavioural Pharmacology Society, Amsterdam, Netherlands.

**Beckmann JS**, Gipson CD, Marusich JA and Bardo MT. (August, 2011). *Contextual control of escalated cocaine intake in rats.* Poster presented at the biannual meeting of the European Behavioural Pharmacology Society, Amsterdam, Netherlands.

Yates JR, **Beckmann JS**, and Bardo, MT. (May, 2012). *Behavioral economic assessment of price and consumption of cocaine self-administration in high and low impulsive rats.* Poster presented at the annual meeting of the Society for the Quantitative Analysis of Behavior, Seattle, WA.

**Beckmann, JS**, Chow, JJ, and Bardo, MT. (October, 2012). *NMDA receptor function and the expression and induction of incentive salience attribution.* Poster presented at the annual meeting on FRONTIERS In Addiction Research – NIDA Mini-Convention, New Orleans, LA.

Sen Somkuwar S, Sanabria F, **Beckmann JS**, Bardo MT , Katak KM, Dwoskin LP (October, 2012). *Impulsivity in a rodent model of ADHD: Impairments in response inhibition and disturbances in timing.* Poster presented at the annual meeting on FRONTIERS In Addiction Research – NIDA Mini-Convention, New Orleans, LA.

- Chow JJ, **Beckmann JS**, and Bardo MT. (October, 2012). *The role of D1 and D2 dopamine receptors on incentive salience attribution and subsequent cocaine acquisition*. Poster presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.
- Sen Somkuwar S, Sanabria F, **Beckmann JS**, Kantak KM, Bardo MT, Dwoskin LP (October, 2012). *Impulsivity and timing disturbances assessed by DRL schedules in a rat model of ADHD*. Paper presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.
- Beckmann JS**, Yates, JR and Bardo, MT. (May, 2013). *Environmental enrichment specifically reduces essential value of cocaine within a threshold procedure*. Poster presented at the annual meeting of the Society for the Quantitative Analysis of Behavior, Minneapolis, MN.
- Beckmann JS**. (June, 2013). *The role of NMDA glutamate receptors in a model of abuse vulnerability*. Paper presented at the annual meeting of the College on Problems of Drug Dependence, San Diego, CA.
- Chow JJ, Bardo MT and **Beckmann JS**. (June, 2013). *Strain differences in sign-tracking and goal-tracking as an indicator of abuse vulnerability in rats*. Poster presented at the annual meeting of the College on Problems of Drug Dependence, San Diego, CA.
- McCuddy T, **Beckmann JS** and Bardo MT. (June, 2013). *Multiple schedules as a model to test cue effects of drug and natural reinforcers*. Poster presented at the annual meeting of the College on Problems of Drug Dependence, San Diego, CA.
- Chow JJ and **Beckmann JS** (November, 2013). *Dissociating sign- and goal-tracking using a 2-CS Pavlovian conditioned approach task*. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.
- Beckmann JS**, Chow JJ, Pomerleau F, Bardo MT and Gerhardt G. (November, 2013). *Isolating the role of glutamatergic signaling in the attribution of incentive salience*. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.
- Chow JJ and **Beckmann JS** (June, 2014). *The role of glutamate in incentive value attribution: acquisition and expression*. Poster presented at the annual meeting of the College on Problems of Drug Dependence, San Juan, Puerto Rico.
- Beckmann JS** (August, 2014). *Appetitive discrimination memory differentially engages striatal and cortical glutamate signaling in rodents and non-human primates*. Paper presented at the biannual meeting of the International Society for Monitoring Molecules in Neuroscience, Los Angeles, CA.

Chow JJ, Darna M and **Beckmann JS** (November, 2014). *The role of D1 and D2 receptors in incentive value attribution*. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

Miller E, Pomerleau P, Huettl P, Quintero JE, Batten SR, **Beckmann JS**, AI Y, Lundblad M, Jakobsson J, Hampson RE, Deadwyler SA, and Gerhardt G. (November, 2014). *Optogenetic-induced glutamate release in the rodent hippocampus and frontal cortex*. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

Darna M, Chow JJ, Yates JR, **Beckmann JS**, Charnigo R, Bardo MT, and Dwoskin LP. (November, 2014). *Dopamine and serotonin transporter function in rat orbitofrontal cortex as contributors to impulsive choice and impulsive action*. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

**Beckmann JS**, Batten SR, Quintero JE, and Gerhardt G. (December, 2014). *Glutamate dynamics in the rat nucleus accumbens core and prelimbic cortex during Pavlovian Conditioned Approach*. Poster presented at the annual meeting of the American College of Neuropsychopharmacology, Phoenix, AZ.

**Beckmann JS** (May 2015). The relative role of stimulus-reinforcer vs. response-reinforcer relationships in sign-tracking, goal-tracking and subsequent conditioned reinforcement within Pavlovian conditioned approach. Invited paper presented at the annual meeting of the Association for Behavior Analysis, San Antonio, TX.

Chow and **Beckmann JS** (May 2015). The role of glutamate in Pavlovian valuation. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

Chow JJ and **Beckmann JS** (June 2015). Examining different choice procedures to study cocaine vs. food reward. Poster presented at the annual meeting of the College on Problems of Drug Dependence, Phoenix, AZ.

**Beckmann JS** (August 2015). Incentive salience: sign-tracking, goal-tracking, and implications for substance abuse. Invited address presented at the annual meeting of the American Psychological Association, Toronto, ON.

**Beckmann JS** (October 2015). Role of phasic glutamate release in incentive salience and cocaine reinforcement. Invited address at the University of South Carolina Hard Data Café series, Columbia, SC.

Chow JJ and **Beckmann JS** (November 2015). Cocaine vs. food choice under a dependent schedule. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.

Smith AB, Chow JJ, Bailey A, Zentall TR, and **Beckmann JS** (November 2015). Incentive salience attributed to a reward-associated stimulus promotes suboptimal choice in pigeons and rats. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.

**Beckmann JS** (January 2016). Phasic glutamate signaling, incentive salience attribution, and cocaine reinforcement. Invited address to the Johns Hopkins Behavioral Pharmacology Research Unit, Baltimore, MD.

Chow JJ and **Beckmann JS** (May 2016). Procedural determinants of cocaine vs. food choice. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

Batten SR and **Beckmann JS** (May 2016). Evaluating sucrose and saccharin value in diet-induced obese rats. Poster presented at the annual meeting of the Barnstable Brown Obesity and Diabetes Research Day, Lexington, KY.

**Beckmann JS** (June 2016). Procedural determinants of drug choice. Paper presented at the annual meeting of the International Study Group Investigating Drugs as Reinforcers, Palm Springs, CA.

Chow JJ and **Beckmann JS** (June 2016). Remifentanil vs. food choice under a dependent schedule. Paper presented at the annual meeting of the College on Problems of Drug Dependence, Palm Springs, CA.

Batten SR and **Beckmann JS** (June 2016). Combining multiple schedules of reinforcement with glutamate biosensors to examine the effects of cocaine and food on prelimbic and accumbal glutamatergic signaling. Poster presented at the annual meeting of the Bluegrass Chapter for Society for Neuroscience, Lexington, KY.

Smith AB, Hofford RS, Zentall TR, and **Beckmann JS** (November 2016). Cued 'jackpots' associated with incentive salience reduce probabilistic discounting that is resistant to dopaminergic challenges in rats. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Chow JJ and **Beckmann JS** (November 2016). Modulating Remifentanil Choice. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Batten SR and **Beckmann JS** (November 2016). Combining multiple schedules of reinforcement with glutamate biosensors to examine the relative effects of

cocaine and food on prelimbic and accumbal glutamatergic signaling. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

**Beckmann JS** (May 2017). Modeling drug-associated decision making: Toward dissociating intake from preference. Invited address to the Arizona State University Psychology Department.

Smith AP and **Beckmann JS** (November 2017). Informative cues, food, and drug reward modulate risky decision-making in a probabilistic foraging task. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

Chow JJ and **Beckmann JS** (November 2017). Every reinforcer matters – Cocaine vs. food choice. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

Batten SR and **Beckmann JS** (November 2017). Evaluating sucrose and saccharin value in diet-induced obese rats. Poster presented at the annual meeting of the Society for Neuroscience, Washington DC.

Strickland JC, Marks KR, **Beckmann JS**, Lile JA, Rush CR, and Stoops WW (March 2018). Contribution of Cocaine-Related Cues to Concurrent Monetary Choice in Humans. Oral communication presented at the annual Behavior, Biology, and Chemistry: Translational Research in Addiction Conference, San Antonio, TX.

Smith AP and **Beckmann, JS** (October 2018). Simultaneous tracking of expressed and encoded opioid subjective reward value. Poster presented at the annual meeting of the Society for Neuroeconomics. Philadelphia, PA.

Batten SR, Chow JJ, and **Beckmann, JS** (October 2018). Exploring the role of orbitofrontal cortex function in drug-related decision-making. Poster presented at the annual meeting of the Society for Neuroeconomics. Philadelphia, PA.

**Beckmann JS** (January 2019). Modeling substance use disorder vulnerability: drug-associated decision-making. Paper presented at the annual Winter Conference on Brain Research meeting. Snowmass, CO

**Beckmann JS** (April 2019). Modeling drug-associated decision-making. Invited address at the annual meeting for the Midwestern Psychological Association. Chicago, IL