

## CURRICULUM VITAE

Jeff Beeler, Ph.D.

### WORK ADDRESS

Queens College, CUNY  
Dept. of Psychology  
65-30 Kissena Blvd.  
Science Building, E318  
Flushing, NY 11367

### CONTACT INFORMATION

Office: Science Building E312  
Email: jbeeler [at] qc.cuny.edu

### EDUCATION

University of Chicago	Ph.D. in Neurobiology	Dec 2003
University of Illinois at Chicago	M.S.W., Mental Health Concentration	May 1992
Arizona State University	B.A. <i>cum laude</i> , Secondary Education	Dec 1987

### ACADEMIC APPOINTMENTS

Chair, Psychology Dept, Queens College		2019- present
Graduate Center, Biology (Neuroscience)	Professor	2019- present
Graduate Center, Psychology (Behav-Cog Neuroscience)	Professor	2019- present
Queen's College, CUNY Department of Psychology	Professor (tenured) PRIMARY	2019- present
Graduate Center, Biology (Neuroscience)	Associate Professor	2015- 2019
Graduate Center, Psychology (Behav-Cog Neuroscience)	Associate Professor	2013- 2019
Queen's College, CUNY Department of Psychology	Associate Professor (untentured) PRIMARY	2013- 2019
University of Chicago Department of Neurobiology	Research Associate (Associate Professor)	2012-2013
University of Chicago Department of Neurobiology	Research Associate (Assistant Professor)	2007-2012
University of Chicago Department of Neurobiology	Postdoctoral Fellow	2004-2007
University of Chicago School of Social Service Administration	Lecturer	1998-2007

## RESEARCH INTERESTS

Information processing and plasticity in basal ganglia circuitry and its contribution to motivational plasticity, behavioral flexibility and neuropsychiatric disorders (Parkinson's disease, obesity, eating disorders, addiction, depression).

## ACTIVE GRANTS

"Visualizing obesity-induced changes in dopamine reinforcement"

Principal Investigator: Jeff Beeler

Agency: NIH/NIDA

Type: R15

Direct Costs: \$300,000/ 3 years

Period: 7/15/2021 to 6/30/2024

"Vulnerability and resilience to anorexia nervosa: testing a dopamine based two-stage model"

co-Principal Investigator: Jeff Beeler (collaborator, Nesha Burghardt, Hunter College)

Klarman Foundation

Direct Costs: \$750,000/ 3 years

Period: 9/1/2020 to 8/31/2023

"Dissecting contributions of different D2R populations to activity and appetite"

Principal Investigator: Jeff Beeler

Agency: NIH/NIDA

Type: R15

Direct Costs: \$300,000/ 3 years

Period: 3/1/2018 to 2/28/2022 (no cost extension)

"Regulation of new corticostriatal learning via silent synapses"

Principal Investigator: Jeff Beeler

Agency: Whitehall Foundation

Costs: \$225,000/ 3 years

Period: 5/1/2017 to 4/30/2022 (no cost extension)

## COMPLETED GRANTS

External:

"Assessing aberrant motor learning in Parkinson's patients"

Principal Investigator: Jeff Beeler

Agency: NIH/NINDS

Type: R21

Direct Costs: \$275,000/ 2 years

Period: 4/1/2014 to 3/31/2016 (no-cost extension to 4/30/2017)

"Nicotine mitigates dopamine blockade-induced aberrant plasticity and learning"

Role: Co-Investigator

Agency: NIH/NINDS 1R21NS083383-01

Type: R21

Direct Costs: \$275,000/ 2 years

Period: 4/01/2013 to 3/31/2015

"Pharmacological targets facilitating non-drug reward and extinction of drug-seeking"

Principal Investigator: Jeff Beeler

Agency: NIH/NIDA 1R01DA02587-01  
Type: R01  
Direct Costs: \$250,000/year  
Period: 9/19/2008 to 5/31/2013

"Genetic manipulation of phasic dopamine activity"  
Principal Investigator: Jeff Beeler  
Agency: NIDA  
Type: F32  
Direct Cost: \$~50,000/year  
Period: 11/1/2005 to 10/31/2007

Internal:

"Photometry System"  
Principal Investigator: Jeff Beeler  
Agency: PSC-CUNY  
Type: traditional B  
Direct Costs: \$6,000 (1 year)  
Period: July 2019 - June 2021 (no cost extension)

"Monitoring on-going dopamine activity in awake, behaving mice  
in a model of anorexia nervosa"  
Principal Investigator: Jeff Beeler  
Agency: PSC-CUNY  
Type: traditional B  
Direct Costs: \$6,000 (1 year)  
Period: July 2020 - June 2021

"Optogenetic dissection of insula-based cognitive control in a mouse model"  
Principal Investigators: Jeff Beeler and Jin Fan (co-PIs)  
Agency: Queens College  
Type: Research Enhancement  
Costs: \$16,000  
Period: 1/1/2018 to 8/31/2018

"Bridge Funds"  
Principal Investigator: Jeff Beeler  
Agency: Queens College  
Type: Research Enhancement  
Direct Costs: \$5000  
Period: 1/1/2017 – 8/31/2017

Summer Advanced Grant Writing Award (SAGA)  
Principal Investigator: Jeff Beeler  
Agency: CUNY Office of Research  
Grant Type: travel award  
Direct Costs: **\$1,000**  
Budget Period: 2/01/2017 – 8/31/2017

"An optogenetic technique for measuring synaptic strength"

Principal Investigator: Jeff Beeler  
Agency: PSC-CUNY  
Type: traditional B  
Direct Costs: \$6,000 (1 year)  
Period: July 2016 - June 2017

"Developing a genetic toolbox for research into corticostriatal plasticity"  
Principal Investigator: Jeff Beeler  
Agency: PSC-CUNY  
Type: traditional B  
Direct Costs: \$6,000 (1 year)  
Period: July 2015 - June 2016

"Development of a mouse virtual reality homepage system"  
Principal Investigator: Jeff Beeler  
Agency: PSC-CUNY  
Direct Costs: \$6,000  
Period: 7/1/2014 to 6/30/2015

"Mouse Touchscreen System"  
Principal Investigator: Jeff Beeler  
Agency: Queens College  
Type: Research Enhancement  
Direct Costs: \$4950  
Period: 12/9/2014 – 6/30/2015

"Optogenetic equipment"  
Principal Investigator: Jeff Beeler  
Agency: CUNY  
Type: COPS  
Direct Costs: \$31,986  
Period: 2013

### **TRAINING AND MENTORING (Current)**

Rudy Faust (2021-), postdoctoral fellow focusing on cost-benefit encoding in the basal ganglia and context encoding in dopamine signals.

Allison Meyers (2015-), doctoral student in neuroscience focusing on patch-clamp electrophysiology in striatum.

Devry Mourra (2014-), initially in my lab as post-baccalaureate and now as a doctoral student. Conducting cyclic voltammetry experiments measuring dopamine release in vivo in anesthetized mice.

Elias Hournay (2020-), MA student focusing on using fiber photometry to characterize dopamine and acetylcholine interactions on choice behavior.

Federico Gnazzo (2017-), undergraduate then MA student working on optogenetics (optical ICSS) and confocal microscopy (dendrite quantification).

Steve Cobos (2018-), undergraduate then MA student working on behavioral characterization of *fdrd2-adora-cre* and *fdrd2-chat-cre* mice as undergraduate, work he will extend to characterization of dopamine signaling as a MA student

Kunhee Lee (2019-), MS student from the Graduate Center Cognitive Neuroscience Master's program. Kunhee will be using fiber photometry to examine the role of dopamine in behavioral thrift

### **TRAINING AND MENTORING (Completed)**

Larry Chan (2018-2021), undergraduate using DiI and confocal to characterize structural changes associated with environmental economic conditions.

Aaron Goldblatt (2018-2020), computer science undergraduate working on developing DIY open field equipment.

Jessica Lungu (2017-2020), undergraduate characterizing *fA2A* KO mice behaviorally.

Maryia Kazlouskaya (2018-2019), undergraduate working on qPCR

Josie Cooke (2016-2018), undergraduate working on how connectivity differentially changes in the direct and indirect pathways across learning and setting up brain clearing (CUBIC, iDISCO) and light sheet microscopy in the lab. Marshall Scholar matriculated at Imperial College, London.

En Lin (2018), computer science student developed online mouse colony management system for the lab.

Joseph Khafi (2016-2018), undergraduate worked with optogenetic and HFD studies. Accepted into Dental school.

Aska Gurung (2016-2017), undergraduate worked on FSCV, making electrodes and doing anesthetized FSCV.

Jacob Tabor (2015-2017), undergraduate worked primarily on genotyping.

Sam Cain (2015-2017), doctoral student, examining the effects of chronic nicotine on behavioral flexibility and regulation of neural substrate growth and proliferation.

Philip Clark (2015-2017), Master's student in neuroscience focusing dopamine regulation of appetitive behavior using fast-scan cyclic voltammetry (chronic recording) in awake, behaving animals.

Chris Guevara (2015-2017), Master's student (Columbia) using optogenetics to probe dopamine's role in energizing behavior and reinforcement learning.

Steven Gluf (2015-16), Master's student in neuroscience focusing on adaptations induced by pharmacological down-regulation of dopamine. Currently a technician in Anne Churchland's lab prior to applying to doctoral programs.

Alex White (2014-16), computer science student who has been working with me building a touchscreen based mouse homepage operant system. Currently working in industry as a software engineer.

Ala Jaarah (2014-2016), MA student worked on effect of rapamycin administration on HFD induced insulin resistance.

Danielle Alocius (2014-15), computer science student who worked extensively on a project building a touchscreen mouse homepage operant system. Danielle is currently employed at IBM as an engineer on their operating system team.

Jianxun Xia (2014-16), postdoctoral fellow focusing on corticostriatal plasticity. Completing second postdoc at City College with Jack Martin.

Monika Shpokayte (2013-15), undergraduate who has effectively set up pharmacogenetics (DREADDs) in my lab, including setting up microinjection surgeries for virally mediate genetic expression. Currently working at a biotech startup.

Aron Weinberg (2013-15), undergraduate who used quantitative PCR to examine changes in dopamine related gene expression under chronic nicotine, related to understanding nicotine's protective effect in Parkinson's disease. Aron is applying to graduate school to be a Physician's Assistant.

Jessica Koranda, graduate student in Neurobiology, served as co-advisor and thesis committee member. Jessica nicotinic regulation of dopamine and protective effects against aberrant learning.

Mari Murakami, supervised her senior honors thesis project "The role of taste, metabolic value and dopamine in feeding behavior." Mari graduated and is pursuing medical school.

Zhen Fang Huang Cao, supervised her senior honors thesis project "The nigrostriatal pathway as an effector for locomotor psychostimulation and sensitization to cocaine." Zhen completed her PhD and is currently a postdoc at Rockefeller.

### **SERVICE (Professional)**

Section Editor, *NeuroReport*, 2014 to present

Academic Editor, *PLoS One*, 2011 to present.

Review Editorial Board, *Frontiers in Decision Neuroscience*, 2012 to present.

Lead Associate Editor, Special Topic, *Dopamine and behavioral flexibility: the problem of modifying established behavior*, *Frontiers in Decision Neuroscience*, in progress.

Ad hoc member, NIH Study Section, Biobehavioral Regulation, Learning and Ethology (BRLE), (6/2013, 10/2014, 2/2015, 10/2015, 2/2016); S10 mechanism study section (10/2016)

Grant Reviewer (outside expert), French National Research Agency, March 2013

### **SERVICE (Institutional)**

2021-present CUNY Research Strategic Design Team

2020-present Queens College Budget Task Force

2019-present College Budget Committee

2019-present	College Executive Committee (alternate)
2019-present	Committee to form independent Neuroscience program at GC, member
2019-present	Chair, Psychology Department, Queens College
2018-2019	Member, Psychology Dept Personnel and Budget Committee
2018-2019	Queens College Graduate Advisory Council, member
2018-present	CUNY Central Animal Use Advisory Committee
2018-2019	co-chair, MCD/CNC scientific retreat
2017-2018	co-chair, MCD/CNC scientific retreat
2016-2019	Director, Psychology Dept. Teaching Apprentice Program
2016-2019	Director, Behavioral Neuroscience MA
2016-2019	Director, General Psychology MA
2016-2019	Chair, Psychology Dept MA program committee
2016-2019	Advisor to Psychology Dept MA Student Advisory committee
2016- present	Executive Committee, Behavioral-Cognitive Neuroscience doctoral program
2015-16	co-director CUNY Neuroscience Collaborative Colloquia/Seminar Series
2015-16	co-chair, Admissions Committee, CUNY Neuroscience Collaborative,
2015-2016	Advisor/Organizer, Queens College Neuroscience Social Seminar Series,
2015- present	IACUC member, Queens College
2015	Middle States Self-Study, Psychology Dept, conducted alumni survey
2014-15	Admissions Committee (2014-15), CUNY Neuroscience Collaborative
2011-2013	University of Chicago, <i>Institutional Animal Care and Use Committee</i>

### PAST HONORS AND AWARDS

2012	NIDA/NIAAA/APA (Divisions 28 & 50) Early Career Investigators Travel Award
2012	Travel Fellow, Winter Conference on Brain Research
2005-2007	Individual Postdoctoral Training Grant (NRSA), F32 DA020427-01 “Genetic manipulation of phasic dopamine activity” (NIDA)
1996-1998	Phoenix Fellowship, University of Chicago
1982-1987	National Merit/DuBois Scholarship

### TEACHING EXPERIENCE

Instructor, Basic Neuroscience: Molecular Neuroscience (Neuro MA core)	2019-present
Neuroscience II: Behavioral Neuroscience (grad), Graduate Center, CUNY	2017-2019
Graduate Seminar, Theoretical Neuroscience (grad), Graduate Center, CUNY	2016
Instructor, Clinical Psychopharmacology (grad), Queens College, CUNY	2017-present
Instructor, Molecular Neuroscience (grad), Queens College, CUNY	2016-2017
Master Instructor, Psychopharmacology (undergrad), Queens College, CUNY	2013-2019
Master Instructor, Human Motivation (undergrad), Queens College, CUNY	2013-2019
Instructor, Psychopharmacology (graduate), Queens College, CUNY	2013-2015
Instructor, Human Motivation (undergrad), Queens College, CUNY	2013-2014
Sole lecturer/developed course, <i>Biomedical Perspectives in Social Work</i> (20 lectures) School of Social Service Administration, University of Chicago.	2004-2007
Teaching Assistant. <i>Cognitive Neuroscience</i> , University of Chicago.	2003, 2004
Teaching Assistant. <i>Cellular Neurobiology</i> , University of Chicago.	2001
Sole lecturer/developed course, <i>Sexuality and Social Work Practice</i> (20 lectures) School of Social Service Administration, University of Chicago.	1998-2003
Co-instructor with Dr. Bert Cohler, <i>Psychiatric Illness and the Life Course</i> , Undergraduate course, University of Chicago.	1998

## CLINICAL EXPERIENCE

Clinical Consultant (Independent)	2006-2010
Somerset House, Chicago IL. Clinical Services Trainer, Social Services Dept.	1995-1999
Somerset House, Chicago, IL. Specialized Services Coordinator, Social Services Dept.	1993-1995
MacNeal Hospital, Berwyn, IL. Emergency Room Social Worker, Emergency Dept.	1992-1994
Hartgrove Hospital, Chicago, IL. Resource Social Worker, Psychiatry Dept.	1992-1993
Lutheran General Hospital, Park Ridge, IL. Social Work Internship, Psychiatry Dept.	1991-1992

## PEER REVIEW ACTIVITIES --- JOURNALS

eLife, Current Biology, Neuropsychopharmacology, Journal of Neurophysiology, Physiology and Behavior, Journal of Physiology, International Journal of Obesity, Journal of Neurochemistry, Cognitive, Affective and Behavioral Neuroscience, Behavioral Brain Research, European Journal of Neuroscience, International Journal of Neuropsychopharmacology, Life Sciences, Lab Animal, PLoS One, Human Mutation, Neuroscience Letters, Frontiers in Decision Neuroscience, Human Mutation, International Journal of Developmental Neuroscience, Basal Ganglia, Behavioral Neuroscience, Neuroreport, Obesity, New York Academy of Sciences, Molecular Neurobiology, Addiction Biology, Progress in Neurobiology, Scientific Reports, Lab Animal, Biology of Sport, Hormones and Behavior, Nature Communications

## PROFESSIONAL AFFILIATIONS

Society for Neuroscience

## PEER REVIEWED PUBLICATIONS

Gnazzo, F.G., Mourra, D., Guevara, C. and **Beeler, J.A.** (2021). Chronic food restriction enhances dopamine mediated intracranial self-stimulation. *NeuroReport*, 32(13), pp 1128-1133.

**Beeler, J. A.** and Burghardt, N. S. (2021). Activity-based Anorexia for Modeling Vulnerability and Resilience in Mice. *Bio-protocol* 11(9): e4009. DOI: [10.21769/BioProtoc.4009](https://doi.org/10.21769/BioProtoc.4009).

**Beeler, J.A.**, and Burghardt, N.S. (2021). Commentary on Vulnerability and Resilience to Activity-Based Anorexia and the Role of Dopamine. *Journal of Experimental Neurology*, 2, 21–28.

**Beeler, J.A.**, Mourra, D., Zanca, R.M., Kalmbach, A., Gellman, C., Klein, B.Y., Ravenelle, R., Serrano, P., Moore, H., Rayport, S., et al. (2020). Vulnerable and Resilient Phenotypes in a Mouse Model of Anorexia Nervosa. *Biological Psychiatry* S0006322320317443.  
<https://doi.org/10.1016/j.biopsych.2020.06.030>

Mourra, D. Gnazza, F., Cobos, S. and **Beeler J.A.** (2020) Striatal dopamine D2 receptors regulate cost sensitivity and behavioral thrift. *Neuroscience*, 425, pp. 134-145.  
doi: 10.1016/j.neuroscience.2019.11.002.

**Beeler, J.A.** and Dreyer, J.K. (2019) Synchronicity: The role of midbrain dopamine in whole-brain coordination. *eNeuro*, 6(2). doi: [10.1523/ENEURO.0345-18.2019](https://doi.org/10.1523/ENEURO.0345-18.2019)

Koranda, J. and **Beeler, J.A.** (2019). Nicotine in aberrant learning and corticostriatal plasticity. In *The Neuroscience of Nicotine: Mechanisms and Treatment*. Ed., V.R. Preedy, Elsevier, Inc., pp. 181-189

**Beeler, J.A.**, and Mourra, D. (2018). To Do or Not to Do: Dopamine, Affordability and the Economics of Opportunity. *Frontiers in Integrative Neuroscience* 12. <https://doi.org/10.3389/fnint.2018.00006>



Meyers, A.M., Mourra, D., and **Beeler, J.A.** (2017). High fructose corn syrup induces metabolic dysregulation and altered dopamine signaling in the absence of obesity. *PLoS ONE* 12. <https://doi.org/10.1371/journal.pone.0190206>

Xia, J, Meyers, A.M., and **Beeler, J.A.** (2017). Chronic nicotine alters corticostriatal plasticity in the striatopallidal pathway mediated by NR2B-containing silent synapses. *Neuropsychopharmacology*, Nov; 42(12):2314-2324. Epub 2017 May 2. <https://doi.org/10.1038/npp.2017.87>

Koranda, J., Krok, A.C., Xu, J., McGehee, D.S., \***Beeler, J.A.**, Zhuang, X. (2016). Chronic nicotine mitigates aberrant inhibitory motor learning induced by motor experience under dopamine deficiency, *J Neurosci.* 36 (19), 228-5240. \*corresponding author

Jakowec, MW, Wang, Z, Holschneider, D, **Beeler J**, Petzinger, GM (2016) Engaging cognitive circuits to promote motor recovery in degenerative disorders: Exercise as a learning modality. *Journal of Human Kinetics*, v52, 35-51.

**Beeler, JA**, Faust, RP, Turkson, S, Ye, H. and Zhuang, X. (2016). Low dopamine D2 receptor increases vulnerability to obesity via reduced physical activity not increased appetitive motivation. *Biological Psychiatry*, 79(11), 887-897.

Petzinger, G. M., D.P. Holschneider B. E. Fisher, S. McEwen, N. Kintz, M. Halliday, W. Toy, J. W. Walsh, **J.A. Beeler**, M. W. Jakowec (2015). The effects of exercise on dopamine neurotransmission in Parkinson's disease: Targeting neuroplasticity to modulate basal ganglia circuitry. *Brain Plasticity*, v1 (1), 29-39.

Augustin, S., **Beeler, J.A.**, McGehee, D.S., and Zhuang, X. (2014). Cyclic AMP and afferent activity govern bidirectional synaptic plasticity in striatopallidal neurons. *J Neurosci*, v34, pp. 6692-6699. PMID: PMC4012319

Koranda, J.L., Cone, J.J., McGehee, D.S., Roitman, M.F., \*\***Beeler, J.A.** and Zhuang, X (2014). Nicotinic activation scales dynamic range of dopamine release in-vivo. *J Neurophysiology*, v 111, pp 103-111. PMID: PMC3921376 \*\* co- senior author

**Beeler, JA**, Cools, R, Luciana, M, Ostlund, SB, Petzinger, G, eds. (2014). Dopamine and behavioral flexibility: the problem of modifying established behavior. *Frontiers in Neuroscience* ebook

**Beeler, J.A.**, Cools, R., Luciana, M., Ostlund, S.B., Petzinger, G. (2013). A kinder, gentler dopamine . . . highlighting dopamine's role in behavioral flexibility. Editorial introduction to Special Topic on Dopamine and behavioral flexibility, *Frontiers in Neuroscience*, 8, 4. DOI: 10.3389/fnins.2014.0004

**Beeler, J.A.**, Jakowec, M., Petzinger, G. (2013). The enemy within: propagation of aberrant corticostriatal plasticity to cortical function in Parkinson's disease. Invited review, *Frontiers in Neurology*, v4, DOI=10.3389/fneur.2013.00134.

Petzinger, G, Fisher, B.E., Jacobson, S., **Beeler, J.A.**, Walsh, J.P. and Jakowec, M.W. (2013). Exercise-enhanced neuroplasticity targeting motor and cognitive circuitry in Parkinson's disease. *Lancet Neurology*, v12, pp. 716-726.

**Beeler, J.A.**, McDaid, J, Frank, MJ, Alexander, E., Turkson, S., Bernandez, M.S., McGehee, D.S. and Zhuang, X. (2012). A role for dopamine-mediated learning in the pathophysiology and treatment of Parkinson's disease. *Cell Reports*, v2(6), p 1747. DOI: 10.1016/j.celrep.2012.11.014.

**Beeler, J.A.** (2012). Thorndike 2.0: Dopamine and the regulation of thrift. Invited Focused Review, *Frontiers in Behavioral Neuroscience*, *Front. Neurosci.* DOI: doi:10.3389/fnins.2012.00116.

**Beeler, J.A.**, Frazier, C.R.M., Zhuang, X. (2012). Putting desire on a budget: dopamine and energy expenditure, reconciling reward and resources. *Frontiers in Integrative Neuroscience*, v. 6:49. DOI: 10.3389/fnint.2012.00049

**Beeler, J.A.**, McCutcheon, J.E., Cao, Z.F.H., Murakam, M., Roitman, M.F., Zhuang, X. (2012). Taste uncoupled from nutrition fails to sustain reinforcing properties of food, *European Journal of Neuroscience*, epub ahead of print. DOI: 10.1111/j.1460-9568.2012.08167.x

**Beeler, J.A.**, Frazier, C.R.M., Zhuang, X. (2012). Dopaminergic enhancement of local food seeking is under global homeostatic control. *European Journal of Neuroscience*, v 35, pp.146-159.

McCutcheon, J.E., \***Beeler, J.A.**, Roitman, M.F. (2012). Sucrose-predictive cues evoke greater phasic dopamine release than saccharin-predictive cues. *Synapse*, 66(4), pp. 346-351. \***co- first author**

**Beeler, J.A.** (2011). Preservation of function in Parkinson's disease: what's learning got to do with it? *Brain Research*, v 35(1), pp 96-113.

Cortright JJ, Lorrain DS, **Beeler JA**, Tang WJ, Vezina P. (2011). Previous exposure to delta9-tetrahydrocannabinol enhances locomotor responding to but not self-administration of amphetamine. *J Pharmacol Exp Ther*, 337(3):724-33. Epub 2011 Mar 9.

**Beeler, J.A.**, Daw, N., Frazier, C.R.M., Zhuang, X. (2010). Tonic dopamine modulates exploitation of reward learning, *Frontiers in Behavioral Neuroscience*, 4(170).

**Beeler, J.A.**, Cao, Z.F.H., Khierbek, M.A, Ding, Y., Koranda, J, Kang, U., Zhuang, X. (2010) Dopamine-dependent motor learning: insight into l-dopa's long-duration response. *Annals of Neurology*, 67(5), p. 639-47.

Kheirbek, M.A., **Beeler, J.A.**, Chi, W. and Zhuang, X. (2010) A molecular dissociation between cued and contextual learning. *Learning and Memory*, 17(3), 148-154.

Kheirbek, M.A., Britt, J.P., **Beeler, J.A.**, Ishikawa, Y., McGehee, D.S., Zhuang, X. (2009) Adenylyl cyclase type 5 is critical for corticostriatal plasticity and striatum-dependent learning. *Journal of Neuroscience*, 29(39), p. 12115-24.

**Beeler, J.A.**, Cao, Z.F., Kheirbek, M.A., & Zhuang, X. (2009). Loss of cocaine locomotor response in Pitx3-deficient mice lacking a nigrostriatal pathway. *Neuropsychopharmacology*, 34(5), p. 1149.

Kheirbek M.A., **Beeler J.A.**, Ishikawa Y. & Zhuang X. (2008) A cyclic AMP pathway underlying reward prediction in associative learning. *Journal of Neuroscience*, 28(44), p. 11401.

- Frazier, C.R.M., Mason, P., Zhuang, X., & **Beeler, J.A.** (2008). Sucrose exposure in early life alters adult motivation and weight gain. *PloS One*, 3(9), p. e3221.
- Beeler, J** (2007). Should I stay or should I go: the neural substrates of being in the right place at the right time. (Invited Editorial Focus). *J Neurophys*, 97(3), 1878-9.
- Cagniard, B, **Beeler, JA**, Britt, J, McGehee, D, Marinelli, M and Zhuang, X (2006). Dopamine scales performance in the control of voluntary behavior. *Neuron*, 51, 1-7.
- Beeler, JA**, Prendergast, B, and Zhuang, X. (2006). Low amplitude entrainment of mice and the impact of circadian phase on behavior tests, *Physiology and Behavior*, 87(5), 870-880.
- Hong, J, **Beeler, J**, Zhukovskaya, NL, He, W, Tang, WJ and Rosner, MR (2005). Anthrax edma factor potency depends on mode of cell entry. *Biochem. Biophys. Res. Commun*, 335, 850-857.
- Beeler, JA**, Yan, SZ, Bykov, S, Murza, A, Asher, S, Tang, WJ (2004) A soluble C1b protein and its regulation of soluble type 7 adenylyl cyclase. *Biochemistry*, 43, 15463-15471.
- Beeler, JA** and Tang, WJ. (2004). Expression and purification of soluble adenylyl cyclase from *Escherichia coli*. *Methods in Molecular Biology*, 237, 39-53.
- Yan SZ, **Beeler JA**, Chen Y, Shelton RK, Tang WJ (2001). The regulation of type 7 adenylyl cyclase by its C1b region and E. coli peptidyl prolyl isomerase, SlyD. *J Biol Chem*, 276, 8500-8506.
- Kim JH, **Beeler JA**, Vezina P. (2000). Group II, but not group I, metabotropic glutamate receptors in the rat nucleus accumbens contribute to amphetamine-induced locomotion. *Neuropharmacology*, 29(10),1692-9.
- Beeler, JA** & DiProva, V (1999) Adjustment of families following disclosure of homosexuality by a family member: Themes discerned in narrative accounts. *Journal of Marital and Family Therapy* 25(4) 443-459.
- Beeler, JA**, Rosenthal, A, & Cohler, BJ (1999). Patterns of caregiving and support provided to older psychiatric patients placed in long-term care. *Psychiatric Services* 50(9), 1222-1224.
- Cook, Judith A., Cohler, Bertram J, Pickett, Susan A., and **Beeler, JA**. (1997). Life Course and Severe Mental Illness: Implications for Caregiving Within the Family of Later Life. *Family Relations* 46, 427-436.

#### MEETING ABSTRACTS/POSTERS/PRESENTATIONS

- Meyers, A. and **Beeler, J.A.** (2018). Environmental regulation of silent synapses. Neuroscience Annual Meeting, San Diego, CA.
- Mourra, D., Gnazzo, F. and **Beeler, J.A.** (2018). Striatal dopamine D2 receptors regulate cost sensitivity and behavioral thrift. Neuroscience Annual Meeting, San Diego, CA.
- O'Brien, C, Torossian, A., Perez, A., Wodinsky, K, Newman, J, Beeler, J.A., Pytte, C (2017). Increased dopamine reduces hippocampal and striatal neurogenesis in a DAT knockdown mouse model. Neuroscience Annual Meeting, Washington DC.

- Xia, J and **Beeler, J.A.** (2016). Chronic nicotine induces neuroadaptations in striatopallidal D2-pathway mediated by NR2B-expressing silent synapses. Abstract/poster, Society for Neuroscience Annual Meeting, San Diego, CA.
- Meyers, A., Mourra, D. and **Beeler, J.A.** (2016). Chronic high fructose corn syrup induces metabolic disorder and impaired dopamine function in the absence of obesity. Abstract/poster, Society for Neuroscience Annual Meeting, San Diego, CA.
- Dessources, C, Khafi, J, Cain, S and **Beeler, J.A.** (2016). Differential D2 dopamine receptor modulation of selective cell populations. Global CUNY. New York, NY. (*undergraduate poster*).
- Dessources, C, Khafi, J, Cain, S and **Beeler, J.A.** (2016). Differential D2 dopamine receptor modulation of selective cell populations. Annual Biomedical Research Conference for Minority Students. Tampa, FL. (*undergraduate poster*).
- Dessources, C, Khafi, J, Cain, S and **Beeler, J.A.** (2016). Differential D2 dopamine receptor modulation of selective cell populations. Metropolitan Association of College and University Biologists (MACUB). Old Westbury, NY. (*undergraduate abstract*).
- Krok, A.C., Koranda, J.L., **Beeler, J.A.**, Zhuang, X (2015). Chronic caffeine mitigates aberrant motor learning: Insights into reduced Parkinson's disease risk in caffeine drinking populations. Abstract/poster, Society for Neuroscience Annual Meeting, Chicago, IL.
- Koranda, J., Krok, A.C., McGehee, D.S., **Beeler, J.A.**, Zhuang, X (2015). Pre- and post-synaptic mechanisms for nicotine's protective effect against Parkinson's disease. Abstract/poster, Society for Neuroscience Annual Meeting, Chicago, IL.
- Beeler, J.A.**, Turkson, S. and Zhuang, X. (2013). Reduced dopamine D2 receptor activity promotes obesity through energetic thrift not increased consumption. Abstract/poster, *Society for Neuroscience Annual Meeting*, San Diego, CA.
- Korand, J.L., **Beeler, J.A.**, and Zhuang, X. (2013). Reduced Parkinson's risk in smokers: chronic nicotine may confer neuroprotection by decreasing aberrant corticostriatal plasticity. Abstract/poster, *Society for Neuroscience Annual Meeting*, San Diego, CA.
- Faust, R.P., Zhuang, X. and **Beeler, J.A.** (2013). A home-cage paradigm for studying behavioral inhibition in the mouse. Abstract/poster, *Society for Neuroscience Annual Meeting*, San Diego, CA.
- Chi, W., Frazier, C., Xu, L., **Beeler, J.A.**, Zhuang, X. (2013). Increased dopamine induces lethal foraging in *Drosophila*. Abstract/poster, Drosophila Genetics Research Conference, Washington, D.C.
- Beeler, J.A.**, Frank, MJ, Alexander, E., and Zhuang, X. (2012). The relationship between dopamine-mediated learning and performance: A2A antagonism selectively targets aberrant learning induced by dopamine blockade. Nanosymposium, *Society for Neuroscience Annual Meeting*, New Orleans, LA.
- McDaid, J., **Beeler, J.A.**, Zhuang, X. and McGehee, D.S. (2012). D2 receptor inhibition in the dorsolateral striatum facilitates A2A receptor mediated plasticity and aberrant motor learning. Nanosymposium, *Society for Neuroscience Annual Meeting*, New Orleans, LA.

- Augustin, S.M., **Beeler, J.A.**, McGehee, D.S. and Zhuang, X. (2012). Cyclic AMP levels in medium spiny neurons in the indirect pathway play a central role in the directionality of corticostriatal plasticity. Nanosymposium, *Society for Neuroscience Annual Meeting*, New Orleans, LA.
- Koranda, J., **Beeler, J.A.**, Cone, J.J., Roitman, M.F. and Zhuang, X. (2012). In-vivo characterization of nAChR modulation of DA release in the dorsolateral striatum. Nanosymposium, *Society for Neuroscience Annual Meeting*, New Orleans, LA.
- Beeler, J.A.** and Zhuang, X. (2012). Putting desire on a budget: dopamine and energy economics. Poster, American Psychological Association Annual Convention, Orlando, FL.
- Murakami, M., Cao, Z.F.H., McCutcheon, J.E., Roitman, M.F., Zhuang, X., **Beeler, J.A.** (2011). The relative contribution of taste and nutritional value to reinforcement. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- Beeler, J.A.**, Frazier C.R.M., Zhuang, X. (2011). Dopaminergic enhancement of local food seeking is under global homeostatic control. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- Koranda, J., **Beeler, J.A.**, Alexander, E., Cao, Z.F.H., Zhuang, X. (2011). Differential contribution of dopamine D1- and D2- signaling in the striatum to motor learning and relearning. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- Kheirbek, M.A., Chi, W., Ding, Y., Won, L., **Beeler, J.A.**, Kang, U.J., Zhuang, X. (2011). Genetic mouse models of dopamine-independent motor control. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- Frazier, C.R.M., **Beeler, J.A.**, and Zhuang, X. (2011). Hyperdopaminergic activity protects against obesity in leptin deficient mice. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- McCutcheon, J.E., **Beeler, J.A.**, Roitman, M.F. (2011) Phasic dopamine is selectively evoked in nucleus accumbens core for a caloric vs. a non-caloric reward. *Society for Neuroscience Annual Meeting*, Washington, D.C.
- Beeler, J.A.**, Cao, Z.F.H., Kheirbek, M.A., Ding, Y., Koranda, J., Kang, U., Zhuang, X. (2009). The role of dopamine in motor learning and unlearning and its implication in L-Dopa's long-duration response in Parkinson's disease. *Society for Neuroscience Annual Meeting*, Chicago, IL.
- Beeler, J.A.**, Daw, N., Frazier, C.R.M., Zhuang, X. (2009). Decision-making in hyperdopaminergic mice is less influenced by recent reward in a novel, home-cage free operant choice task. *Society for Neuroscience Annual Meeting*, Chicago, IL.
- Kheirbek, M.A., **Beeler, J.A.**, Chi, W., and Zhuang, X. (2009). A molecular dissociation between cued and contextual learning. *Society for Neuroscience Annual Meeting*, Chicago, IL.
- Britt, J.P., Kheirbek, M.A., **Beeler, J.A.**, Ishikawa, Y., Zhuang, X. and McGehee, D.S. (2008) Cyclic AMP contributes to dopaminergic regulation of corticostriatal plasticity. *Society for Neuroscience Annual Meeting*, Washington, D.C.

Sprow, G.M., Mahler, S.V., Berridge, K.C., **Beeler, J.A.** and Zhuang, X. (2008) Hyperdopaminergic mice exhibit enhanced 'wanting' but normal modulation of 'liking'. *Society for Neuroscience Annual Meeting*, Washington,

**Beeler J.A.**, Cao Z.F.H., Kheirbek M.A. & Zhuang X. (2007). Dissociation of reinforcement and locomotor effects of cocaine in pitx3 deficient mice, *Gordon Conference on Catecholamines*, Oxford, UK.

Kheirbek M., Frazier C., **Beeler J.** & Zhuang X. (2006) Adenylyl cyclase type V mediates dopamine dependent corticostriatal neuroplasticity. *Society for Neuroscience Annual Meeting*, Atlanta, GA.

Cagniard, B, **Beeler, JA**, Britt, J, McGehee, D, Marinelli, M and Zhuang, X (2005). Dopamine scales performance in the control of voluntary behavior. *Society for Neuroscience Annual Meeting*, Atlanta, GA.

## INVITED TALKS

**Beeler, J.A.** (2019). Invited speaker. When good exercise goes bad: anorexia nervosa, Neuroplasticity Retreat, USC, Lake Arrowhead, CA.

**Beeler, J.A.** (2018). Invited speaker. Dopamine: the neural Chi. Hilliard Discussion 8, Huffines Institute for Sports Medicine and Human Performance, Texas A&M, College Station, TX.

**Beeler, J.A.** (2018). Invited speaker. Dopamine cell synchrony: consensus signaling through model selection. Laboratory for Neural Computation and Cognition, Brown University. Providence, RI.

**Beeler, J.A.** (2018). Invited speaker. Dopamine and activity regulation: role in obesity and anorexia nervosa. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK/NIH). Endocrinology Grand Rounds. Bethesda, MD.

**Beeler, J.A.** (2017, Nov). Dopamine and activity regulation: role in obesity and anorexia nervosa. Invited speaker. CUNY Neuroscience Collaborative seminar series, NYC.

**Beeler, J.A.** (2017). Dopamine and activity regulation: Role in obesity and anorexia nervosa. Invited talk, CUNY Neuroscience Collaborative seminar series, NY, NY.

**Beeler, J.A.** (2017). Invited speaker. Just do it: physical activity and the brain. Panel: the role of dopamine in physical activity. Obesity Society Annual Meeting, Washington, DC.

**Beeler, J.A.** (2017). In good times and bad: environmental regulation of dopamine and corticostriatal plasticity. Invited Speaker. University of Maryland, Neurobiology Seminar Series, Baltimore, MD.

**Beeler, J.A.** (2017) Aberrant learning and neuroprotection in PD: reprise and reappraisal. Invited speaker. Neuroplasticity and brain repair retreat. Lake Arrowhead, CA.

**Beeler, J.A.** (2017). Adapting decision-making parameters to environmental conditions: the role of dopamine. Invited talk, CUNY Neuroscience Collaborative seminar series, NY, NY.

- Beeler, J.A.** (2016). Silent synapses and synaptopathy in Parkinson's disease. Invited speaker, meeting: Aberrant plasticity and circuit mechanisms in neurological and psychiatric disorders. Beijing, China.
- Beeler, J.A.** (2016). The sound of silence: new frontiers in dopamine and thrift. University of Connecticut. Storrs, CN.
- Beeler, J.A.** (2016). Targeting synaptopathy in PD: are synaptic changes induced by chronic nicotine neuroprotective? Neuroplasticity and brain repair retreat. Lake Arrowhead, CA.
- Beeler, J.A.** (2016). Resolving the paradox of chronic nicotine and Parkinson's disease: a role for silent synapses? Brooklyn College, Brooklyn, NY.
- Beeler, J.A.** (2015) The paradox of chronic nicotine and neuroprotection against PD. USC Neuroplasticity and Brain Repair Retreat. Invited participant. Catalina Island, Los Angeles CA.
- Beeler, J.A.** (2014) When good learning goes bad: aberrant synaptic plasticity and Parkinson's disease. Invited speak, 10th Annual International Congress on Non-Motor Dysfunctions in Parkinson's Disease and Related Disorders. Nice, France (Dec 4-7).
- Beeler, J.A.** (2014) A double-edged sword: targeting synaptic plasticity as a strategy for neuroprotection. Invited speaker. Behavioral and cognitive neurosciences colloquium, The Graduate Center, CUNY.
- Beeler, J.A.** (2013) The evolution of organismal budgeting: dopamine, economic thrift and energy management. Invited speaker, Albert Einstein College of Medicine.
- Beeler, J.A.** (2013). The enemy within: aberrant learning and cortical decompensation. Invited participant in collaborative research retreat, Neuroplasticity and repair in neurodegenerative disorders. May 9-12, Lake Arrowhead, Los Angeles, CA.
- Beeler, J.A.** (2013). Invited speaker, Adapting to economies of reward: dopamine in health and disease. Queens College, CUNY, New York, NY.
- Beeler, J.A.** (2012). Session moderator, basal ganglia plasticity and addiction. Conference, *Plasticity in the basal ganglia: dopamine and beyond*, Beijing, China.
- Beeler, J.A.** (2012). Invited speaker, When plasticity goes bad: aberrant learning and Parkinson's disease. Conference, *Plasticity in the basal ganglia: dopamine and beyond*, Beijing, China.
- Beeler, J.A.** (2012). Aberrant corticostriatal plasticity as therapeutic target in PD. Invited participant, USC Neurology group retreat, Lake Arrowhead (Los Angeles), CA.
- Beeler, J.A.** (2012). Presentation to Rush movement disorder group. Aberrant learning in PD patients: update and pilot study. *Rush Medical Center*, Chicago, IL.
- Beeler, J.A.** (2012). Invited speaker, Aberrant Learning and Parkinson's Disease. *Barrow Neurological Institute*, Phoenix, AZ.
- Beeler, J.A.** (2012). Presentation to Northwestern movement disorder group. Aberrant learning in PD patients: update and pilot study. *Northwestern University*, Chicago, IL.

- Beeler, J.A.** (2012). Dopamine and energy economics: Putting desire on a budget. *Loyola University*. Chicago, IL.
- Beeler, J.A.** (2012). Invited participant in panel on action selection, behavioral choice and dopamine (Paul Phillips, chair). *Winter Brain*. Snowbird, UT.
- Beeler, J.A.** (2011). Presentation to University of Chicago neurology research group. Two sides of a coin: integrating dopamine's role in performance and learning. Chicago, IL.
- Beeler, J.A.** (2011). Presentation to Rush University neurology research group. Two sides of a coin: integrating dopamine's role in performance and learning. Chicago, IL.
- Beeler, J.A.** (2011). Presentation to Northwestern neurology research group. Preservation of function in Parkinson's: a role for learning and corticostriatal plasticity. Chicago, IL.
- Beeler, J.A.** (2009). Invited speaker. To do or not to do: The role of aberrant learning in action selection and Parkinson's disease. Purdue Calumet, IN.
- Beeler, J.A.** (2008). Invited speaker. The role of dopamine in motor learning and performance optimization. *International Symposium on Drug Addiction: Mechanisms and Therapeutic Approaches*, Kunming, China.