

CURRICULUM VITAE

Christie D. Fowler, PhD

*Department of Neurobiology and Behavior
University of California, Irvine*

ACADEMIC APPOINTMENTS:

6/02-5/03: Instructor, Department of Psychology/Program in Neuroscience, Florida State University, Tallahassee, FL

8/06-12/07: Adjunct Faculty, Department of Psychology, Indian River State College, Fort Pierce, FL

8/06-5/10: Affiliated Faculty of Psychology, Wilkes Honors College, Florida Atlantic University, Jupiter, FL

4/14-present: Assistant Professor, Department of Neurobiology and Behavior, University of California Irvine, Irvine, CA

POSTDOCTORAL EXPERIENCE:

9/04-10/05: Postdoctoral Research Fellow, Laboratory of Dr. Bruce Trapp, Lerner Research Institute, Cleveland Clinic Foundation, Cleveland, OH

1/08-6/12: Research Associate, Laboratory of Dr. Paul Kenny, Molecular Therapeutics, The Scripps Research Institute, Jupiter, FL

6/12-3/14: Staff Scientist, Laboratory of Dr. Paul Kenny, Molecular Therapeutics, The Scripps Research Institute, Jupiter, FL

EDUCATION:

9/95-5/98: BA, *summa cum laude*, Dept. of Psychology, Baldwin-Wallace College, Berea, OH

8/99-4/01: MS, Department of Psychology, Florida State University, Tallahassee, FL

8/99-8/04: PhD, Laboratory of Dr. Zuoxin Wang, Program in Neuroscience, Florida State University, Tallahassee, FL

Minor: College Teaching, Department of Educational Leadership and Policy Studies

RESEARCH FUNDING SUPPORT:

Ongoing Research Support

06/2012-07/2017

NIH-1K99DA032543 NIH Pathway to Independence Award (K99/R00)

The Habenulo-Interpeduncular Pathway and Nicotine

The goal of this study is to investigate the role of discrete brain pathways and neurotransmitter systems in mediating an inhibitory signal that regulates motivation to consume nicotine.

07/2015-06/2020

NIH-1DP1DA039658 NIDA Avenir Award for Genetics or Epigenetics of Substance Abuse (DP1/DP2)

Circulating miRNAs and Epigenetic Regulation in Nicotine Addiction

The goal of this study is to examine whether extracellular miRNAs derived from choroid plexus integrate into habenular neurons and thereby regulate gene expression to influence nicotine reinforcement and aversion.

Completed Research Support

04/2009-03/2012

NIH-NIDA026693 National Research Service Award (postdoctoral)

The $\alpha 5$ Nicotinic Acetylcholine Receptor in Nicotine Dependence

The goal of this study is to examine the role of the $\alpha 5$ nicotinic acetylcholine receptor subunit in regulating nicotine reinforcement and the actions of nicotine on brain reward systems in mice with null mutation in the $\alpha 5$ subunit gene.

08/2001-08/2004

NIH-NIMH64352 National Research Service Award (predoctoral)

Social Experience and Adult Neurogenesis

The goal of this study was to examine the effects of social environment and gonadal steroid hormones on adult neurogenesis in the amygdala, hypothalamus, and hippocampus of highly social and asocial voles.

AWARDS & HONORS:

1995-1998 Presidential Scholarship, Baldwin-Wallace College
1996-1998 Pi Gamma Mu (National Social Science Honorary)
1996-1998 Psi Chi (National Psychology Honorary)
1997-1998 Order of Omega (National Greek Leadership Honorary)
1997-1998 Dayton C. Miller Honor Society (Outstanding Scholarship Honorary), Baldwin-Wallace College
1998 William Prokasy Psychology Alumni Award, Psychology Dept., Baldwin-Wallace College
1999 Art and Sciences Fellowship Award, College of Arts and Sciences, FSU
1999 Conference Travel Award, FSU Congress of Graduate Students
2000-2001 NIH Predoctoral Training Grant in the Neurosciences Recipient, PI: Michael Rashotte, FSU Graduate Student Training Grant
2000 B.W. Robinson Memorial Endowment for the Neurosciences Award, Tallahassee Memorial Hospital
2001 Society for Behavioral Neuroendocrinology Student Poster Award, Scottsdale, AZ
2001 NIMH Travel Award for the Society for Behavioral Neuroendocrinology, Scottsdale, AZ
2001 Beidler Award, Program in Neuroscience, FSU
2001 B. W. Robinson Memorial Endowment for the Neurosciences Award, Tallahassee Memorial Hospital
2003 Daisy Parker Flory Graduate Scholar Award, Phi Kappa Phi honor society, FSU
2003 B.W. Robinson Memorial Endowment for the Neurosciences Award, Tallahassee Memorial Hospital
2004 Graduate Student Leadership Award, FSU
2009 NIDA Mini-convention "Frontiers in Addiction Research" Travel Award
2010 American College of Neuropsychopharmacology (ACNP) Travel Award, Miami, FL
2012 Travel Award, NIDA/INSERM Workshop on US-France Collaboration on Drug Abuse and Addiction Research, New Orleans, LA
2014 Invited Report on Progress in Brain Research, Dana Foundation, "Using Optogenetics and Designer Receptors Exclusively Activated by Designer Drugs (DREADDs)", Fowler, Lee & Kenny
2015 Fellow, Center for the Neurobiology of Learning and Memory (CNLM)
2015 Avenir Award, NIDA
2016 Associate Member, American College of Neuropsychopharmacology (ACNP)
2016 'Scientist to Watch', *The Scientist* magazine

Invited Talks:

2002 Panel Speaker, Society for Behavioral Neuroendocrinology, Amherst, MA
2003 Speaker, Graduate Research Day, Psychology Department, FSU
2010 Panel Speaker, ACNP annual meeting, Miami, FL
2010 Speaker: Paper Presentation, Society for Research on Nicotine and Tobacco, Baltimore, MD
2011 Panel Speaker, Nicotinic Acetylcholine Receptors as Therapeutic Targets: Frontiers in Basic Research & Clinical Science, Washington, DC
2011 Seminar Speaker, Max Planck Research Forum, Max Planck Florida Institute, Jupiter, FL
2011 'Hot Topics' Speaker, ACNP annual meeting, Waikoloa Beach, Hawaii
2012 Panel Speaker, Society for Research on Nicotine and Tobacco, Houston, TX
2014 Visiting Scientist, Center for Substance Abuse Research, Temple University, Philadelphia, PA
2014 Panelist, Orange County Graduate Women in Science, Networking Workshop
2015 Speaker, Rushton Symposium, Neuroscience Program, Florida State University, Tallahassee, FL
2015 Speaker, Integrative Center for Addictions, University of California Los Angeles, Los Angeles, CA

2015 Speaker, Minority Science Programs Theory and Research Seminar, Francisco J. Ayala School of Biological Sciences, University of California Irvine, Irvine, CA
2015 Speaker, 9th Annual Health Professions Conference, Mount San Antonio College, Walnut, CA
2015 Speaker, 1st Annual Translational Nicotine Research Group Symposium, UC Los Angeles, Los Angeles, CA
2015 Speaker, Department of Pharmaceutical Sciences, Western University's College of Pharmacy, Pomona, CA
2016 Speaker, California State University Long Beach, Building Infrastructure Leading to Diversity (BUILD Program), Long Beach, CA
2016 Speaker, Addiction Symposium, University of California Irvine, Irvine, CA
2016 Speaker, Department of Psychology, University of Michigan, Ann Arbor, MI
2016 Speaker, Committee on the Neurobiology of Addictive Disorders, The Scripps Research Institute, La Jolla, CA
2016 Speaker, Claremont Colleges (Pomona College, Scripps College, Claremont McKenna College, Harvey Mudd College, and Pitzer College), Claremont, CA
2016 Speaker, American Society for Exosomes and Microvesicles (ASEMV) annual meeting, Pacific Beach, CA
2017 Speaker, Irvine Center for Addiction Neuroscience (ICAN) annual meeting, Irvine, CA
2017 Speaker, Pharmacology Program Seminar Series, UCI, Irvine, CA
2017 Speaker, University of Nebraska Medical Center, Omaha, NE
2017 Symposia Speaker (3 separate panels), Society for Research on Nicotine and Tobacco (SRNT) annual meeting, Florence, Italy
2017 Speaker, Center for the Neurobiology of Learning and Memory (CNLM) annual meeting, Irvine, CA
2017 Speaker, Department of Psychiatry, University of California San Diego (UCSD), San Diego, CA

Grant Reviewer:

2013 Ad Hoc reviewer, Agence Nationale De La Recherche (French National Research Agency)
2014 Ad Hoc reviewer, Agence Nationale De La Recherche
2014 Reviewer, Special Emphasis Panel (UH2/UH3), National Institute on Drug Abuse (NIDA)
2015 Reviewer, Special Emphasis Panel (UH2/UH3), NIDA
2015 Reviewer, Special Emphasis Panel (U01), NIDA
2015 Reviewer, Special Emphasis Panel (R21/R33), NIDA
2016 Reviewer, UC Center for Accelerating Innovation (CAI), NIDA
2016 Reviewer, Ad Hoc, Research "Center of Excellence" Panel (P50), NIDA
2016 Reviewer, Netherlands Organization for Health Research and Development (ZonMw)
2016 Reviewer, Special Emphasis Panel (U01), NIDA
2017 Reviewer, Ad Hoc, Molecular Neuropharmacology and Signaling Study Section (MNPS), NIH
2017 Reviewer, Phase I, Avenir Award Program for Genetics or Epigenetics of Substance Use Disorders (DP1), NIDA
2017 Reviewer, ZDA1 SXM-M, Extracellular Vesicle Tools, Technologies, and Products for Neuroscience Research (R41/R42/R43/R44), NIH
2017 Reviewer, Special Emphasis Panel (U01), NIDA

Journal Reviewer (various years):

Journal of Neuroscience; Neuropsychopharmacology; Neuropharmacology; Nicotine & Tobacco Research; eNeuro; Psychopharmacology; Behavioural Brain Research; Biochemical Pharmacology; Behavioral Neuroscience; Biological Psychiatry; Neuroscience; American Journal of Drug and Alcohol Abuse; British Journal of Pharmacology; Addiction Biology; Hormones and Behavior; Frontiers in Human Neuroscience; PLOS ONE; BioMed Research International; Genes, Brain and Behavior; The Pharmacogenomics Journal; Psychiatry Research

Journal Editorial Board Service:

2014-2016 Editor, *Neuro-Open Journal*

2015-present Associate Editor, *Journal of Neuroscience*

Professional Committee Service:

2013 Abstract Reviewer, Society for Research on Nicotine and Tobacco (SRNT) Annual Meeting, Basic Science Division

2013-15 Basic Science Network Advisory Committee, SRNT

2014 Abstract Review Committee, SRNT Annual Meeting, Basic Science Division

2015 Organizer & Symposium Program Co-Chair, Translational Nicotine Research Group

2015 Abstract Review Committee, SRNT Annual Meeting, Basic Science Division

2015 Co-Organizer, Annual Symposium, Center for the Neurobiology of Learning and Memory (CNLM), UC Irvine

2015-16 Co-Organizer, ICAN Annual Symposium, UC Irvine

2016 SRNT Session Chair, SRNT Annual Meeting

2016 Abstract Review Committee, SRNT Annual Meeting, Preclinical and Basic Science Division

2016-17 Co-Organizer, ICAN Annual Symposium, UC Irvine

2015-present Interdepartmental Neuroscience Program (INP) Executive Committee, UC Irvine

2015-present ICAN Executive Committee

2015-present Co-Chair, Basic Science Network, SRNT

2017-present Membership Advisory Taskforce, American College of Neuropsychopharmacology (ACNP)

Professional Society Membership:

American College of Neuropsychopharmacology (ACNP) (*International*)

Society for Neuroscience (SfN) (*International*)

Society for Research on Nicotine and Tobacco (SRNT) (*International*)

Professional Women's Nexus (PWN) (*International*)

American Society for Exosomes and Microvesicles (ASEMV) (*National*)

Academic and Professional Women UCI (*Local*)

PUBLICATIONS (15 most significant denoted in red text):

1. Liu Y, **Fowler CD**, Young LJ, Yan Q, Insel TR and Wang ZX (2001) Expression and estrogen regulation of brain-derived neurotrophic factor gene and protein in the forebrain of female prairie voles. *J. Comp. Neurol.*, 433:499-514. PMID: 11304714

2. Liu Y, **Fowler CD** and Wang ZX (2001) Ontogeny of brain-derived neurotrophic factor gene expression in the forebrain of prairie and montane voles. *Dev. Brain Res.*, 127:51-61. PMID: 11287064

3. Liu Y, Curtis JT, **Fowler CD**, Spencer C, Houpt T, and Wang ZX (2001) Differential expression of vasopressin, oxytocin, and corticotrophin-releasing hormone messenger RNA in the paraventricular nucleus of the prairie vole brain following stress. *J. Neuroendo.*, 13:1059-1065. PMID: 11722702

4. **Fowler CD**, Liu Y, Ouimet C, and Wang ZX (2002) The effects of social environment on adult neurogenesis in the female prairie vole. *J. Neurobiol.*, 51: 115-128. PMID: 11932953

5. **Fowler CD**, Freeman ME, and Wang ZX (2003) Newly proliferated cells in the adult male amygdala are affected by gonadal steroid hormones, *J. Neurobiol.*, 57(3):257-269. PMID: 14608662

6. **Fowler CD** and Wang ZX (2003) Adult neurogenesis in the mammalian brain: exogenous and endogenous influences. *Acta Zoologica Sinica*, 49:151-162.

7. **Fowler CD**, Johnson F and Wang ZX (2005) Estrogen regulation of cell proliferation and distribution of estrogen receptor-alpha in the brains of adult female prairie and meadow voles. *J. Comp. Neurol.*, 489(2):166-179. PMID: 15984004

8. **Fowler CD**, Liu Y and Wang ZX (2007) Estrogen and adult neurogenesis in the amygdala and hypothalamus. *Brain Res. Rev.*, 57(2):342-351. PMID: 17764748

9. Young EA, **Fowler CD**, Kidd G, Chang A, Rudick R, Fisher E and Trapp BD (2008) Imaging

- correlates of decreased axonal Na⁺/K⁺ ATPase in chronic multiple sclerosis lesions. *Ann. Neurol.*, 63:428-435. PMID: 18438950
10. **Fowler CD** and Kenny PJ (2008) Subtypes of nicotinic acetylcholine receptors in addiction, dependence and withdrawal: Evidence from genetically modified mice. *Behav. Pharmacol.*, 19(5-6):461-484. PMID: 18690103
 11. Schaefer A, Im HI, Veno MT, **Fowler CD**, Min A, Intrator A, Kjemis J, Kenny PJ, O'Carroll D and Greengard P (2010) Argonaute 2 in dopamine 2 receptor-expressing neurons regulate cocaine addiction. *J. Exp. Med.*, 207(9): 1843-51. PMID: 20643829
 12. **Fowler CD** and Kenny PJ (2011) Intravenous nicotine self-administration and cue-induced reinstatement in mice: effects of nicotine dose, rate of drug infusion and prior instrumental training. *Neuropharm.*, 61:687-698. PMID: 21640128
 13. **Fowler CD** and Kenny PJ (2011) Utility of genetically modified mice for understanding the neurobiology of substance use disorders. *Human Genetics*, 131:941-57. PMID: 22190154
 14. Tuesta LM, **Fowler CD** and Kenny PJ (2011) Recent advances in understanding nicotinic receptor signaling mechanisms that regulate drug self-administration behavior. *Biochem. Pharmacol.*, 82:984-995. PMID: 21740894
 15. **Fowler CD**, Liu Q, Johnson PM, Marks MJ and Kenny PJ (2011) Habenular $\alpha 5^*$ nicotinic receptor signaling controls nicotine intake. *Nature*, 471(7340):597-601. PMID: 21278726
 16. Hollander JA, Pham D, **Fowler CD** and Kenny PJ (2012) Hypocretin-1 receptors regulate the reinforcing and reward-enhancing effects of cocaine: pharmacological and behavioral genetics evidence. *Front Behav Neurosci.*, 6:47. PMID: 22837742
 17. **Fowler CD** and Kenny PJ (2012) Habenular signaling in nicotine reinforcement. *Neuropsychopharm.*, 37(1): 306-7. PMID: 22157872
 18. Lotfipour S, Leach P, Byun JS, **Fowler CD**, Murphy NP, Kenny PJ, Gould TJ and Boulter J (2013) Targeted deletion of the mouse $\alpha 2$ nicotinic acetylcholine receptor subunit gene *Chrna2* potentiates nicotine-modulated behaviors. *J Neurosci*, 33(18): 7728-41. PMID: 23637165
 19. **Fowler CD** and Kenny PJ (2013) Nicotine aversion: Neurobiological mechanisms and relevance to tobacco dependence vulnerability. *Neuropharm.*, 76 PtB:533-44. PMID: 24055497
 20. **Fowler CD**, Tuesta LM and Kenny PJ (2013) Role of $\alpha 5^*$ nicotinic acetylcholine receptors in the effects of acute and chronic nicotine treatment on brain reward function in mice. *Psychopharm.*, 229(3): 503-13. PMID: 23958943
 21. Ochoa V, Loeffler AJ, **Fowler CD**. (2015) Emerging role of the cerebrospinal fluid – neuronal interface in neuropathology. *Neuro Open J.*, 2(3): 92-98.
 22. **Fowler CD** (2017) The habenulo-interpeduncular pathway and nicotine withdrawal. In FS Hall, JW Young & A Der-Avakian (Eds.), *Negative affective states and cognitive impairments in nicotine dependence* (pp. 192-204). San Diego, CA: Elsevier.
 23. Tuesta LM, Chen Z, Duncan A, **Fowler CD**, Ishikawa M, Lee BR, Liu XZ, Lu Q, Cameron M, Hayes MR, Kamenecka TM, Pletcher M, and Kenny PJ (2017) GLP-1 acts on habenula avoidance circuits to control nicotine intake. *Nature Neuroscience*, 20(5): 708-716. PMID: 28368384
 24. Lallai V and **Fowler CD** (2017) More than just chillin': Interactive effects of menthol and nicotine in drug reward. *Neuropsychopharmacology*, epub ahead of print. PMID: 28553838
 25. **Fowler CD**, Gipson CD, Kleykamp A, Rupprecht LE, Rees VW, Gould TJ, Oliver J, Bagdas D, Damaj MI, Schmidt HD, Harrell PT, Duncan A, and DeBiasi M, on behalf of the Basic Science Network of the Society for Research on Nicotine and Tobacco (2017) Basic science and public policy: Informed regulation for nicotine and tobacco products. *Nicotine and Tobacco Research*, in press.
- Manuscripts Submitted/In Preparation:**
26. Chen E, Lallai V, Grimes NP, Pushkin AN, Fowler JP and **Fowler CD**. Altered baseline and nicotine-mediated behaviors and cholinergic profiles in ChAT-Cre mouse lines. *Journal of*

Neuroscience, Submitted.

27. Bobadilla AC, Heinsbroek JA, Gipson CD, Griffin WC, **Fowler CD**, Kenny PJ, Kalivas PW
Corticostriatal plasticity, neuronal ensembles and regulation of drug-seeking behavior.

Progress in Brain Research, Submitted.

28. Ochoa V, Lallai V, Grimes N, Sequeira PA, Cartagena P, Limon A, Coutts M, Fowler JP, Stein R, Monuki E, Bunney W, and **Fowler CD**. Cholinergic signaling mechanisms in the choroid plexus mediate gene and miRNA expression. *In preparation.*

Abstracts:

1. **Fowler CD**, Liu Y, Jia X, and Wang ZX (2000) The influence of social experience on neurogenesis in the forebrain of adult female prairie voles. *Neuroendocrine Workshop: Estrogen, Growth Factors and Neuroplasticity*. Toronto: American Neuroendocrine Society.
2. Liu Y, **Fowler CD**, Young LJ, Insel TR, and Wang ZX (2000) Estrogen regulates BDNF gene and protein expression in the prairie vole brain. *Neuroendocrine Workshop: Estrogen, Growth Factors and Neuroplasticity*. Toronto: American Neuroendocrine Society, Toronto.
3. Liu Y, **Fowler CD**, and Wang ZX (2000) Ontogeny of brain-derived neurotrophic factor gene expression in the forebrain of prairie and montane voles. *Soc. Neurosci. Abs.*, 26, p. 586. New Orleans, LA: Society for Neuroscience.
4. **Fowler CD**, Liu Y, Jia X, and Wang ZX (2000) Social experience alters neurogenesis in the brain of adult female prairie voles. *Soc. Neurosci. Abs.*, 26, p. 54. New Orleans, LA: Society for Neuroscience.
5. **Fowler CD**, Liu Y, Ouimet C, and Wang ZX (2001) Mating and social environment differentially affect adult neurogenesis in the female prairie vole. *Hormones & Behavior*, 39: 331. Cincinnati, OH: Society for Behavioral Neuroendocrinology.
6. **Fowler CD**, Liu Y, and Wang ZX (2001) Gonadal hormones affect adult neurogenesis in the amygdala of female and male meadow voles. *Soc. Neurosci. Abs.*, 27, Program No. 587.5. San Diego, CA: Society for Neuroscience.
7. Liu Y, Curtis JT, **Fowler CD**, Meredith M, and Wang ZX (2001) Chemosensory cues affect adult neurogenesis in female, but not male, prairie voles. *Soc. Neurosci. Abs.*, 27, Program No. 587.4. San Diego, CA: Society for Neuroscience.
8. **Fowler CD** and Wang ZX (2003) Estrogen differentially influences cell proliferation in the amygdala and ventromedial hypothalamus of adult female prairie and meadow voles. *Soc. Neurosci. Abs.* 28, Program No. 348.2. New Orleans, LA: Society for Behavioral Neuroendocrinology.
9. **Fowler CD** and Wang ZX (2004) Species differences in the distribution of estrogen receptor α and the regulation of cell proliferation in the brains of adult female prairie and meadow voles. Program No. 150.3. *2004 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
10. **Fowler CD**, Chang A, Yin X and Trapp BD (2005) Na⁺/K⁺ ATPase expression on axons in normal human white matter and multiple sclerosis lesions. Program No. 101.8. *2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
11. Wang ZX, **Fowler CD** and Liu Y (2007) Estrogen, amygdala, and adult neurogenesis. *Soc. Behav. Neuroendocrin. Abs.*, S10. Pacific Grove, CA: Society for Behavioral Neuroendocrinology.
12. Liu Y, Curtis JT, **Fowler CD**, Meredith M and Wang ZX (2007) Chemosensory cues affect adult neurogenesis in the amygdala of prairie voles in a sex-specific manner. *Soc. Behav. Neuroendocrin. Abs.*, P1.26. Pacific Grove, CA: Society for Behavioral Neuroendocrinology.
13. **Fowler CD** and Kenny PJ (2008) Intravenous nicotine self-administration in mice. *2008 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
14. **Fowler CD** and Kenny PJ (2009) Alpha 5-containing nicotinic acetylcholine receptors regulate nicotine intake: Role of the medial habenula. *ACNP 2009 Abstract Viewer/Itinerary Planner*. Hollywood, FL: American College of Neuropsychopharmacology.

15. **Fowler CD** and Kenny PJ (2009) Intravenous nicotine self-administration in wildtype and $\alpha 5$ nicotinic acetylcholine receptor subunit knockout mice. *NIDA 2009 Frontiers in Addiction Research Abs.*, 19. Chicago, IL: National Institute on Drug Abuse.
16. **Fowler CD** and Kenny PJ (2009) Intravenous nicotine self-administration in wildtype and $\alpha 5$ nicotinic acetylcholine receptor subunit knockout mice. *2009 Abstract Viewer/Itinerary Planner*. Chicago, IL: Society for Neuroscience.
17. **Fowler CD**, Hollander JA and Kenny PJ (2010) Translational approaches for nicotine dependence: Utility of genetically modified mice. *ACNP 2010 Abstract Viewer/Itinerary Planner*. Miami Beach, FL: American College of Neuropsychopharmacology.
18. **Fowler CD**, Lu Q and Kenny PJ (2010) Alpha 5-containing nicotinic acetylcholine receptors regulate nicotine intake: Role of the medial habenula and interpeduncular nucleus. *SRNT 2010 Abstract Viewer/Itinerary Planner*. Baltimore, MD: Society for Research on Nicotine and Tobacco.
19. Tuesta LM, Johnson PM, **Fowler CD** and Kenny PJ (2010) Differential role for $\alpha 3$ -containing nicotinic acetylcholine receptors in nicotine and cocaine reward. *2010 Abstract Viewer/Itinerary Planner*. San Diego, CA: Society for Neuroscience.
20. **Fowler CD**, Lu Q and Kenny PJ (2011) The involvement of alpha3-containing nicotinic acetylcholine receptors in the habenulo-interpeduncular pathway in nicotine selfadministration. *ACNP 2011 Abstract Viewer/Itinerary Planner*. Waikoloa, HI: American College of Neuropsychopharmacology.
21. Lotfipour S, **Fowler CD**, Murphy NP, Kenny PJ, and Boulter J (2011) Role of the alpha-2 nicotinic acetylcholine receptor subunit in nicotine reinforcement and withdrawal. *ACNP 2011 Abstract Viewer/Itinerary Planner*. Waikoloa, HI: American College of Neuropsychopharmacology.
22. **Fowler CD** and Kenny PJ (2011) The $\alpha 5$ nicotinic acetylcholine receptor subunit and aversive learning. *2011 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
23. Tuesta LM, Johnson PM, **Fowler CD** and Kenny PJ (2011) $\alpha 3$ -containing nicotinic receptors regulate the psychomotor stimulant and reinforcing properties of cocaine. *2011 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
24. **Fowler CD** and Kenny PJ (2012) Nicotinic-mediated effects on brain reward function are modulated by $\alpha 5$ -containing nicotinic acetylcholine receptors. *ACNP 2012 Abstract Viewer/Itinerary Planner*. Hollywood, FL: American College of Neuropsychopharmacology.
25. **Fowler CD** and Kenny PJ (2012) Nicotinic acetylcholine receptors expressed in the habenulo-interpeduncular pathway regulate nicotine reinforcement. *NIDA/INSERM Workshop on US-France Collaboration on Drug Abuse and Addiction Research*. New Orleans, LA: NIDA/INSERM.
26. **Fowler CD**, Lu Q and Kenny PJ (2012) Alpha3-containing nicotinic acetylcholine receptors expressed in the habenulo-interpeduncular pathway regulate nicotine reinforcement. *2012 Abstract Viewer/Itinerary Planner*. New Orleans, LA: Society for Neuroscience.
27. Tuesta LM, **Fowler CD**, Lu Q and Kenny PJ (2012) Role of glucagons-like peptide-1 (GLP-1) receptors in nicotine reinforcement. *2012 Abstract Viewer/Itinerary Planner*. New Orleans, LA: Society for Neuroscience.
28. **Fowler CD** (2012) New insights into neural circuitries regulating nicotine intake: Role for nicotinic acetylcholine receptors in the habenulo-interpeduncular pathway. *SRNT 2012 Workshop "Cholinergic regulation of addiction and disease: understanding mechanisms and identifying novel therapeutic targets"*. Houston, TX: Society for Research on Nicotine and Tobacco.
29. Lotfipour S, **Fowler CD**, Leach P, Murphy NP, Kenny PJ, Gould T and Boulter J (2012) Role of alpha2-containing nicotinic acetylcholine receptors in nicotine-facilitated contextual and cued fear conditioning, reinforcement and withdrawal in the mouse. *SRNT 2012 Abstract Viewer/Itinerary Planner*. Houston, TX: Society for Research on Nicotine and Tobacco.

30. **Fowler CD**, Lee B and Kenny PJ (2013) Cocaine sensitivity is regulated by striatal $\alpha 5$ -containing nicotinic acetylcholine receptors. *ACNP 2013 Abstract Viewer/Itinerary Planner*. Hollywood, FL: American College of Neuropsychopharmacology.
31. **Fowler CD** and Kenny PJ (2013) Hypocretin modulation of nicotine-mediated alterations in brain reward function are dependent on required level of effort. *2013 Abstract Viewer/Itinerary Planner*. San Diego, CA: Society for Neuroscience.
32. Loeffler A, Fowler JP, Wang S and **Fowler CD** (2016) BAC-ChAT-Cre mice exhibit altered intravenous nicotine self-administration. *SRNT 2016 Abstract Viewer/Itinerary Planner*. Chicago, IL: Society for Research on Nicotine and Tobacco.
33. Ochoa V and **Fowler CD** (2016) Altered Expression of Circulating miRNAs During Chronic Nicotine Self-Administration in Rats. *Keystone: Exosome/Microvesicles: Novel Mechanisms of Cell-Cell Communication*. Keystone, CO: Keystone Symposia on Molecular and Cellular Biology.
34. Loeffler A and **Fowler CD** (2016) Circuit busting depression: Novel pathway mediating antidepressant behavior. *CNLM 2016 Annual Meeting Datablitz Session*. Irvine, CA: Center for the Neurobiology of Learning and Memory.
35. Ochoa V and **Fowler CD** (2016) Altered extracellular microRNA expression with intravenous nicotine self-administration. *ASEMV 2016 Program*. Pacific Beach, CA; American Society for Extracellular Microvesicles.
36. Ochoa V and **Fowler CD** (2016). Chronic intravenous nicotine self-administration alters the expression of choroid plexus RNA in rats. *2016 Abstract Viewer/Itinerary Planner*. San Diego, CA: Society for Neuroscience.
37. Loeffler A, Chen E, Fowler JP, Nosrati F, Grimes NP and **Fowler CD** (2016) ChAT-BACCre and ChAT-IRES-Cre mouse lines exhibit differential patterns of intravenous nicotine self-administration. *2016 Abstract Viewer/Itinerary Planner*. San Diego, CA: Society for Neuroscience.
38. Grimes NP, Fowler JP and **Fowler CD** (2016) Interpeduncular alpha5 nicotinic receptor neurons mediate nicotine reinforcement and aversion. *ACNP 2016 Abstract Viewer/Itinerary Planner*. Hollywood, FL: American College of Neuropsychopharmacology.
39. Ochoa V and **Fowler CD** (2016) Nicotinic modulation of the choroid plexus and altered circulating microRNA expression during chronic nicotine self-administration. *NIDA Genetics Consortium Meeting*. Bethesda, MD: National Institute on Drug Abuse.
40. **Fowler CD** (2017) Nicotinic receptor circuits mediating reinforcement and aversion; Symposia session: The CHRNA5-A3-B4 gene cluster: From discovery to causality, mechanism and therapeutics. *SRNT 2017 Abstract Viewer/Itinerary Planner*. Florence, Italy: Society for Research on Nicotine and Tobacco.
41. **Fowler CD** and Buczynski M (2017) Symposia session: Endocannabinoid modulation of nicotine dependence: Symposium in memoriam of Dr. Larry Parsons. *SRNT 2017 Abstract Viewer/Itinerary Planner*. Florence, Italy: Society for Research on Nicotine and Tobacco.
42. Lallai V, Sherafat Y and **Fowler CD** (2017) Identification of novel targets for tobacco and nicotine therapeutics. *Moving Molecules from the Academic Lab to the Clinic Symposium*. Irvine, CA: UCI Chao Family Comprehensive Cancer Center and Department of Chemistry.
43. Chen E and **Fowler CD** (2017) CHAT-BAC-Cre and CHAT-IRES-CRE Mice Exhibit Altered Behavioral Phenotypes. *Excellence in Research, University of California Irvine*. Irvine, CA: School of Biological Sciences.

*Awarded 'Poster Award for Excellence in Research' to Edison Chen (undergraduate student researcher in Fowler lab)

44. Lallai V and **Fowler CD** (2017) Epigenetic implications for extracellular signaling factors in nicotine dependence. *2017 Abstract Viewer/Itinerary Planner*. San Diego, CA: Society for Neuroscience.

COURSES TAUGHT

University of California, Irvine

Neurobiology of Addiction (N233, graduate upper level, course coordinator, co-taught)
Spring 2017

Neuropharmacology (N153, undergraduate upper level, independently taught)
Spring, 2015; Spring, 2016; Spring, 2017

Behavioral Neuroscience (N209, graduate lower level, co-taught as 1 of 5 instructors)
Spring, 2015; Spring, 2016; Spring, 2017

Neurobiology and Behavior (N110, undergraduate lower level, co-taught as 1 of 3 instructors)
Spring, 2016

Florida Atlantic University Wilkes Honors College

Honors Behavioral Neuroscience (PSY4930, special interest, independently taught)
Fall, 2006; Fall, 2007; Fall, 2009

Honors Drugs and Behavior (PSY4930, special interest, independently taught)
Spring, 2007; Fall, 2007

Honors Sensation and Perception (PSY4930, special interest, independently taught)
Spring, 2007

Honors Psychobiology of Crime (PSY4930, special interest, independently taught)
Spring, 2008

Indian River State College

Introduction to Psychology (PSY2012, independently taught)
Fall, 2006; Fall, 2007

Human Development (DEP2004, independently taught)
Spring, 2007; Fall, 2007

Florida State University

Brain and Behavior (PSB2000)
Summer, 2002 (independently taught); Spring, 2003 (co-instructor)

Teaching Certificates

College Teaching Certificate, Department of Educational Leadership and Policy Studies
Awarded: Fall 2003

Teaching Certificate, Program in Instructional Excellence, 2003