



Heath D. Schmidt, Ph.D.
Curriculum Vitae
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Contact Information

Department of Biobehavioral Health Sciences
School of Nursing

Department of Psychiatry
Perelman School of Medicine
University of Pennsylvania
125 South 31st Street, Rm 2214
Philadelphia, PA 19104-3403

Office: (215) 573-8291; (215) 898-5020
Lab: (215) 573-5204
FAX: (215) 573-2041
e-mail: hschmidt@nursing.upenn.edu
website: <https://schmidtlab.org>

Education

Ph.D.	2007	Boston University School of Medicine, Boston, MA (Pharmacology and Biomedical Neurosciences)
B.S.	1999	George Washington University, Washington, DC (Biological Sciences; English Minor)

Professional Experience

2021-present	Killebrew-Censits Chair of Undergraduate Education, University of Pennsylvania School of Nursing, Philadelphia, PA
2018-present	Associate Professor (tenured), Department of Biobehavioral Health Sciences, University of Pennsylvania School of Nursing, Philadelphia, PA Date of appointment: July 1, 2018
2015-2018	Assistant Professor (tenure-track), Department of Biobehavioral Health Sciences, University of Pennsylvania School of Nursing, Philadelphia, PA
2011-2015	Research Assistant Professor of Neuroscience, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, PA
2008-2011	Research Associate, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, PA
2008	Adjunct Teaching Faculty/Lecturer, Department of Psychology, Yale University, New Haven, CT
2006-2008	Post-Doctoral Fellow, Genes and Behavior Program/Laboratory of Molecular Psychiatry, Department of Psychiatry, Yale University School of Medicine, New Haven, CT: Dr. Ronald S. Duman, advisor
2005-2006	Lecturer, Department of Pharmacology, Boston University School of Medicine, Boston, MA: Dr. Carol Walsh, supervisor
2002-2006	Instructor, Boston University Metropolitan College and School of Medicine, Boston, MA: Connie Phillips and Gloria Vachino, supervisors
2002-2006	Graduate Student, Department of Pharmacology/Program in Biomedical Neurosciences, Boston University School of Medicine, Boston, MA: Dr. R. Christopher Pierce, advisor
1999-2002	Research Assistant, Department of Pharmacology, Boston University School of Medicine, Boston, MA: Drs. David Farb and Shelly Russek, supervisors
1998-1999	Undergraduate Research Assistant, Departments of Biology and Biochemistry, George Washington University, Washington, DC: Drs. Randall Packer and Jack Vanderhoek, supervisors
1998-1999	Undergraduate Teaching Assistant, Department of Biology, George Washington University, Washington, DC: Dr. Randall Packer, supervisor

Grants and Awards

Active

1 R01 DA 053296-01 Schmidt (co-I) 04/01/2021 – 03/31/2026
 NIH/NIDA \$3,131,206.00 total costs
Altered Midbrain GABAergic Circuitry Drives Great Cocaine Self-Administration
 The ultimate goal of this project is to reverse cocaine-induced neuroadaptations in midbrain GABAergic circuits in order to prevent craving-induced relapse.
 Role: co-I

2 R01 DK 105155-04A1 Schmidt (co-I) 06/01/2021 – 06/30/2026
 NIH/NIDDK \$3,669,886.00 total costs
Amylin Modulates Food Reward
 The major goal of this project is to understand how central amylin modulates food intake.
 Role: co-I

2 R01 DA 037897-05A1 Schmidt (PI) 08/15/2019 – 03/01/2024
 NIH/NIDA \$2,088,719 total costs
The Role of Central GLP-1 Receptors in Animal Models of Cocaine Addiction
 The ultimate goal of this project is to identify novel pharmacotherapies for cocaine craving and relapse.

1 R21 DA 045792-01A1 Schmidt (PI) 09/30/19 – 08/31/2021
 NIH/NIDA \$446,275 total costs
Trans-Generational Effects of Nicotine Self-Administration
 The major goal of this project is to characterize the trans-generational effects of paternal nicotine self-administration and identify the potential epigenetic mechanisms that may be associated with increased nicotine taking in subsequent generations.

Novo Nordisk Schmidt (co-I) 06/01/2018 – 05/31/2021
 Investigator-Sponsored Study \$512,194.74 total costs
Re-Purposing Liraglutide for Smoking Withdrawal-Induced Bodyweight Gain
 This is a clinical trial to assess the efficacy of liraglutide in reducing smoking withdrawal-induced bodyweight gain.

University Research Foundation (URF) Faculty Mentoring Undergraduate Research Award
 University of Pennsylvania \$8,000 total costs 04/01/2021 – 12/31/2021
Striatal Amylin Receptors: Potential New Therapeutic Targets for Treating Opioid Use Disorder
 The major goal of this proposal is to identify the cell type-specific functional role of striatal amylin receptors on opioid taking and seeking.
 Role: PI

PA Department of Health Formula Funds – 579703 06/01/2019 – 05/31/2023
 Investigator-Sponsored Study \$120,000 total costs
Transgenerational Effects of Paternal Nicotine
 The ultimate goal of this proposal is to characterize the heritable effects of paternal nicotine taking.
 Role: PI

Inactive Grants and Awards

Howard Hughes Medical Institute Gilliam Fellowship for Advanced Study
 Nicole Hernandez (PI) \$149,040 total costs 09/01/2017 – 08/31/2020
The Role of Hindbrain GLP-1 in Cocaine Seeking
 This is a three-year HHMI pre-doctoral fellowship with a professional development component for mentors.

Mereness Mental Health Grant Schmidt (PI) 03/01/2019 – 02/28/2020
 Office of Nursing Research/UPenn \$15,000 total costs
Amylin-Mediated Neural Mechanisms Regulating Opioid Taking and Seeking
 The major goal of this grant is to investigate the role of amylin in mediating opioid taking and seeking.

1 R01 DA037897-01A1 Schmidt (PI) 03/01/2015 – 12/31/2019
 NIH/NIDA \$1,125,000 total costs
The Role of Central GLP-1 Receptors in Animal Models of Cocaine Addiction
 The ultimate goal of this project is to identify novel pharmacotherapies for cocaine craving and relapse.

University Research Foundation (URF) Faculty Mentoring Undergraduate Research Award
 University of Pennsylvania \$8,000 total costs 04/01/2019 – 12/31/2019
Cell Type-Specific Effects of Amylin on Opioid-Mediated Addiction-like Behaviors and Analgesia
 The major goal of this proposal is to identify the role of amylin receptors expressed on D1R- and D2R-expressing MSNs in opioid reinforcement and analgesia.
 Role: PI

Jean B. Kempner Post-Doctoral Fellowship 09/01/2017 – 02/28/2019
 UTMB Yafang Zhang (PI) \$52,920 total costs
Amylin: A Potential Therapeutic Target for Opioid Relapse
 This is a one-year post-doctoral fellowship to study central amylin signaling in a rodent model of opioid relapse.

2 R01DA15214-12A1 Pierce (PI) 06/01/2015 – 01/31/2019
 NIH/NIDA \$1,692,000 total costs
mPFC, N. Accumbens and Reinstatement of Cocaine Seeking
 The major goal of this project is to assess the roles of dopamine and glutamate in the medial prefrontal cortex and nucleus accumbens in the reinstatement of cocaine-seeking behavior in rats.
 Role: co-I

1 R21 DA 039393-01 Schmidt (PI) 04/01/2016 – 03/31/2018
 NIH/NIDA \$445,250 total costs
Trans-Generational Effects of Nicotine Self-Administration
 The major goal of this project is to characterize the trans-generational effects of paternal nicotine self-administration and identify the potential epigenetic mechanisms that may be associated with increased nicotine taking in subsequent generations.

Inactive Grants and Awards (cont'd)

Mereness Mental Health Grant Schmidt (PI) 03/01/2016 – 02/28/2017
 Office of Nursing Research/UPenn \$25,000 total costs
Modeling Compulsive Intake of Opioid Analgesics in Rats: A New Paradigm for Studying the Biological Factors Underlying Prescription Opioid Abuse
 The major goal of this grant is to establish a model of prescription opioid taking and seeking in the lab and to investigate the role of amylin in mediating opioid reinforcement and analgesia.

University Research Foundation (URF) Faculty Mentoring Undergraduate Research Award
 University of Pennsylvania \$8,000 total costs 04/01/2018 – 12/31/2018
Identifying Novel Neural Circuits Regulating Drug-Seeking Behavior in Rats
 The major goal of this proposal is to identify novel hindbrain circuits that regulate cocaine seeking.
 Role: PI

1R21DA037892-01A1 Sadri-Vakili (PI) 04/01/2015 – 03/31/2017
 NIH/NIDA \$175,000 total costs
ADAR2 Editing of GluA2 and Cocaine Reinstatement
 The major goal of this project is to investigate GluA2 editing in the nucleus accumbens in cocaine reinstatement.
 Role: co-I

5 R01DA33641-03 Pierce (PI) 06/01/2015 – 03/31/2017
 NIH/NIDA \$1,683,010 total costs
Transgenerational Inheritance of a Cocaine Resistance Phenotype
 The major goal of this project is to assess the role of BDNF in the resistance to cocaine self-administration among the offspring of cocaine-experienced sires.
 Role: co-I

K01 DA30445, H.D. Schmidt (PI) 9/15/2010 – 8/31/2015
 NIH/NIDA ~\$683,000 total costs
Epigenetics and Incubation of Cocaine Craving
 The major goal of this project is to elucidate the epigenetic mechanisms underlying the increases in BDNF transcription associated with the incubation of cocaine craving.

DK19525, H.D. Schmidt (PI) 04/01/2014 – 12/31/2015
 UPenn/IDOM \$40,000 total costs
Examination of the Behavioral and Molecular Mechanisms that Mediate Hyperphagia-Induced Increases in Body Weight During Nicotine Withdrawal
 The major goal of this project is to establish a novel rodent model of withdrawal-induced hyperphagia and bodyweight gain following nicotine self-administration and identify novel molecular substrates underlying these withdrawal phenotypes.

IRG-78-002-35, H.D. Schmidt (PI) 04/01/2014 – 05/31/2015
 UPenn/Abramson Cancer Center \$30,000 total costs
Modeling Trans-Generational Susceptibility to Nicotine Dependence in Rats
 The major goal of this project is to characterize addiction-like heritable phenotypes in offspring and grandoffspring of nicotine-experienced sires.

Inactive Grants and Awards (cont'd)

University Research Foundation (URF) Award Schmidt (PI) 02/01/2014 – 12/31/2014
 University of Pennsylvania \$35,000 total costs
The Role of Central GLP-1Rs in Preclinical Models of Cocaine Addiction
 The major goal of this proposal is to investigate the role of glucagon-like peptide 1 (GLP-1) receptors in the brain in rodent models of cocaine taking and seeking.

P50-CA-143187, C. Lerman (PI) Schmidt (co-I) 09/01/2013 – 07/31/2014
 UPenn/CIRNA \$25,000 total costs
Screening Novel Smoking Cessation Medications in Preclinical Models of Nicotine Addiction
 The goal of this project is to determine the efficacy of novel subtype-selective nAChR agonists in animal models of nicotine taking and seeking.

IRG-78-002-31, Schmidt (PI) 02/01/2012 – 12/31/2012
 UPenn/Abramson Cancer Center \$30,000 total costs
Preclinical Screening of Anti-Smoking Drugs in Animal Models of Nicotine Self-Administration
 The major goal of this project is to examine the efficacy of acetylcholinesterase inhibitors in nicotine taking and seeking behaviors in rats.

P50-CA-143187, C. Lerman (PI) Schmidt (co-I) 08/01/2010 – 07/31/2011
 UPenn/CIRNA \$20,000 total costs
The Role of the COMT val Polymorphism in Nicotine Self-Administration and Reinstatement
 The goal of this project was to establish mouse nicotine self-administration in order to study the genetic bases underlying nicotine addiction.

5 T32 MH014276-33, R.S. Duman (PI) 09/01/2006 – 08/31/2008
 NIH/NIMH Training Grant in Biological Sciences

F31 DA16824, H.D. Schmidt (PI) 08/01/2003 – 07/31/2006
 NIH/NIDA \$129,742 total costs
 “Eph Receptors and Behavioral Sensitization to Cocaine”

5 T32 GM008541-10, D.H. Farb (PI) 08/02/2002 – 07/31/2003
 NIH/NIGMS Training Grant in Biomolecular Pharmacology

Honors and Awards

2020 Dean's Award for Distinguished Teaching
 2020 Cover Art. “Systemic exendin-4 crosses the blood brain barrier and distributes to the nucleus accumbens shell where it binds GLP-1 receptors on D1R- and D2R-expressing medium spiny neurons.” *Neuropsychopharmacology*. Vol 45, Issue 3, February 2020.
 2019 Opponent. *The Gut Brain-Axis and Alcohol-Medicated Behaviors: The Amylin Story*. A dissertation defense by Aimilia Lydia Kalafateli. Sahlgrenska Academy, Institute of Neuroscience and Physiology, University of Gothenburg, Sweden.
 2018 SRNT Best Paper Award for “Basic science and public policy: Informed regulation for nicotine and tobacco products.” *Nicotine & Tobacco Research*. Jun 7; 20(7): 789-799. PMID: PMC5991436
 2018 *Neuropsychopharmacology* Editor's Choice Paper: “Glucagon-like peptide-1 receptor activation in the ventral tegmental area attenuates cocaine seeking in rats.” *Neuropsychopharmacology*. Sep; 43(10): 2000-2008. PMID: PMC6098066

Honors and Awards (cont'd)

2017	Winter Conference on Brain Research Travel Fellowship, Annual Winter Conference on Brain Research meeting in Big Sky, MT
2013	Certificate of Excellence in Reviewing, <i>Progress in Neuropsychopharmacology & Biological Psychiatry</i>
2013	Society for Research on Nicotine and Tobacco Travel Award, 2013 Society for Neurosciences meeting in San Diego, CA
2006	Henry Russek Student Achievement Award (most outstanding graduate student in the BUSM Pharmacology Department; \$1,500.00 prize)
1999	Graduated <i>Summa cum laude</i> , The George Washington University
1999	Phi Beta Kappa, The George Washington University
1995	Eagle Scout, B.S.A. Troop #233, Dauphin, PA

Community Outreach

2020 to present	Mentor, Neuroscience Exploration Under Review of Neuroscientists (NEURON); International Youth Neuroscience Association (IYNA)
12/06/18	Lecturer, The Penn Neuroscience Public Lecture Series, Philadelphia, PA
2014 to 2019	Member, SRNT Basic Science Network Advisory Committee
2011 to present	Brain Awareness Day, Franklin Institute, Philadelphia, PA
2009 to 2011	Mentor, Quaker City Wheelmen Juniors Development Program
1999 to 2006	Big Brother, Big Brothers of Massachusetts Bay
1999 to 2002	Boston University School of Medicine Outreach Van Project

Professional Societies

2020 to present	Howard Hughes Medical Institute (HHMI) Gilliam Advisor Alumni
2018 to present	Society for the Study of Ingestive Behavior
2013 to present	Molecular and Cellular Cognition Society
2012 to present	Society for Research on Nicotine and Tobacco
2009 to 2011	European Behavioural Pharmacology Society
2007 to 2010	Science Alliance of the New York Academy of Sciences
2006 to 2008	National Post-Doctoral Association
2003 to present	Society for Neuroscience
1999 to present	Golden Key National Honor Society

Editorial Activities:
Editorial Board: Review Editor

Frontiers in Molecular Neuroscience

Ad hoc referee

Addiction Biology	Canadian Journal of Pharmacology & Physiology
American Journal on Addictions	British Journal of Pharmacology
Behavioural Brain Research	Depression Research & Treatment
Behavioral Neuroscience	Developmental Neuroscience
Biological Psychiatry	Drug & Alcohol Dependence
Biological Psychology	European Journal of Neuroscience
Brain Research	European Journal of Pharmacology
British Journal of Pharmacology	

Ad hoc referee (cont'd)

European Neuropsychopharmacology	Pharmacology, Biochemistry and Behavior
Journal of Affective Disorders	Physiology & Behavior
Journal of Epidemiology & Community Health	PLoS One
Journal of Neurochemistry	Post-Graduate Medicine
Journal of Neurophysiology	
Journal of Student Nursing Research	Journal of Neuroscience
Military Behavioral Health	Journal of Psychopharmacology
Nature	Progress in Neuropsychopharmacology & Biological Psychiatry
Neuropharmacology	Psychoneuroendocrinology
Neuropsychopharmacology	Psychopharmacology
Neuroscience Letters	Translational Psychiatry
Neurotoxicity Research	The American Journal on Addictions
Nicotine & Tobacco Research	The International Journal of Neuropsychopharmacology
Pharmacogenomics	World Journal of Biological Psychiatry
Pharmacology & Experimental Therapeutics	

Grant Review

NIH

04/03/2020	Special Emphasis Panel: ZRG1 BBBP-Y(03)
07/30/2019	Neuropharmacology Special Emphasis Panel: ZRG1 BBBP-J(02)
04/04/2019	Neuropharmacology Special Emphasis Panel: ZRG1 MDCN-C(04)
01/15/2019	Avenir Award Program for Genetics or Epigenetics of Substance Use Disorders (DP1): 2019/05 ZDA1 IXN-O (04) S
07/11/2018	Neuropharmacology Special Emphasis Panel: ZRG1 MDCN-G(04)
06/12/2018	Lasker Clinical Research Scholars Program (Si2/R00)
03/02/2015	Cutting-Edge Basic Research Awards (CEBRA) NIDA: ZDA1 JXR-G (10) S meeting

Non-NIH

07/31/2020	TWF - Tyrolean Science Fund (German) Medical University of Innsbruck, Austria
06/12/2018	American Cancer Society Pilot Grants: Abramson Cancer Center UPenn
04/30/2018 - present	Office of the Vice Provost of Research URF Grants; UPenn
12/16/2015 - present	Office of Nursing Research Pilot Grants; School of Nursing, UPenn
06/04/2013	French National Research Agency ANR/CNSA "Mental Health – Addictions" (SAMENTA)
09/15/2013	US Army: Military Operational Medical Research Program (RAD) American Institute of Biological Sciences
05/05/2009	Israel Science Foundation The Israel Academy of Sciences and Humanities

Academic Service

University of Pennsylvania

2020-present	Center for Undergraduate Research Foundation (CURF) Grants Committee: Office of the Vice Provost for Education
2018-present	University Research Foundation (URF) Grants Committee: Office of the Vice Provost of Research
2018-2021	STEM Fellowships Committee: Office of the Vice Provost of Education
2017-present	Animal Program Advisory Committee (APAC) member: Office of the Vice Provost for Research

School of Nursing

2020	BHS Chair Search Committee – participating faculty member
2019-present	Ph.D. Progressions Committee – participating faculty member
2019-present	Nominations and Appointments Committee – Chair and participating faculty member
2019	Nursing Faculty Awards Review Task Force
2016-2018	Basic Science Task Force – participating faculty member
2016-2017	Laboratory of Innovative and Translational Nursing Research (LITNR) Task Force – participating faculty member
2016-present	Student Awards Task Force – participating faculty member
2016-present	Office of Nursing Research – Pilot Grant Reviewer
2015-present	Nursing Graduate Group – participating faculty member
2015-present	Faculty Mentor (10 Undergraduate nursing students & 3 Graduate PhD nursing students)

Perelman School of Medicine

2019-present	Pharmacology Graduate Group, curriculum committee standing member
2017-present	Pharmacology Graduate Group, executive committee standing member
2016-present	Pharmacology Graduate Group, participating faculty member
2014-present	Neuroscience Graduate Group, admissions committee standing member
2013	Neuroscience Graduate Group, <i>ad hoc</i> admissions committee member
2012-2014	Neuroscience Graduate Group, rotation talks committee member
2012-present	Neuroscience Graduate Group, participating faculty member

Boston University School of Medicine

2005	Appointed Co-Chair of a Committee Formed to Revise the Curriculum of the Department of Pharmacology at the Boston University School of Medicine
2004-2005	Department of Pharmacology Graduate Education Committee (Student Representative)

Teaching Experience

University of Pennsylvania (2009-present)

School of Nursing

Course Director

Advanced Pharmacology & Therapeutics for Advanced Nursing Practice (Graduate Students)
Fall 2015 – present
Opioids: From Receptors to Epidemics (Undergraduate & Graduate Students)
Fall 2018 – present (co-direct with Dr. Peggy Compton)

Teaching Experience (cont'd)

Lecturer

Advanced Pharmacology & Therapeutics for Advanced Nursing Practice (Graduate Students)

Fall 2015 – present

- Lecture on Management of Pain
- Lecture on Mood Disorders
- Lecture on Epilepsy
- Lecture on Parkinson's Disease

Opioids: From Receptors to Epidemics (Undergraduate & Graduate Students)

Fall 2018 – present

- Lecture on Pain
- Lecture on Opioid Analgesic Pharmacology
- Lecture on Opioid Addiction
- Lecture on Animal Models of Addiction

Perelman School of Medicine

Course Director

Systems Neuroscience: Neuroscience Core III (Graduate Students)

Spring 2012 – 2019: Co-Director of Limbic System module (w/ Dr. Chris Pierce)

Neuroscience Graduate Group Journal Club (Graduate Students)

Fall 2013, Spring 2014, Fall 2015

Advanced Topics in Neuropsychopharmacology (Graduate Students)

Fall 2010, Spring 2013: Co-Director Substance Abuse module (w/ Dr. Chris Pierce)

Lecturer

Medical Pharmacology (Graduate Students)

Fall 2019 – present

- Lecture on the Pharmacology of Substance Use Disorders

PGY2 Psychiatry Resident Didactic Lectures (Psychiatry Residents)

Spring 2019 – present

- Lecture on the Brain Disease Model of Addiction

PGY4 Psychiatry Resident Integrative Case Conference (Psychiatry Residents)

Spring 2016 – present

- Lecture on Neurobiological and Psychosocial Approaches to Drug Addiction

Systems Neuroscience: Neuroscience Core III (Graduate Students)

Spring 2009 – present

- Lecture on Behavioral Models of Drug Abuse and Dependence
- Lecture on Drug Addiction and the Limbic System
- Lecture on the Role of the Striatal Complex in the Persistence of Drug Addiction
- Lecture on the Habenula, Aversion and Nicotine Addiction

Advanced Topics in Neuropsychopharmacology (Graduate Students)

Fall 2010, Spring 2013

- Lecture on Cellular and Molecular Mechanisms of Psychostimulant Addiction
- Lecture on Nicotine Addiction
- Lecture on Endocannabinoids and Addiction

Teaching Experience (cont'd)

Behavioral Neuroscience (Graduate Students)

Fall 2010

- Lecture on Animal Models of Addiction & Cocaine-Induced Neuroadaptations

College of Arts and Sciences

Lecturer

Drugs, Mind and Behavior (Undergraduate Students)

Fall 2018, 2019

- Lecture on Cocaine Use Disorder

Yale University (2008)

Course Director and Primary Lecturer

Neuropsychopharmacology (Undergraduates) – Spring 2008

Boston University School of Medicine (2001-2006)

Lecturer & Teaching Assistant

Introduction to Pharmacology (Graduate Students and Professionals) – Spring 2004 - 2006

- Lecture on CNS Diseases and Pharmacotherapeutics

Graduate Teaching Assistant

Molecular Neurobiology and Pharmacology (Graduate Students) – Spring 2001, Spring 2002

Boston University Metropolitan College and School of Medicine; CityLab (2001-2006)

Course Director and Primary Lecturer

Biomedical Laboratory and Clinical Sciences (Undergraduates) – Spring 2001-2006

Introduction to Cell Culture Techniques (Undergraduates) – Fall 2005, Fall 2006

George Washington University (1998-1999)

Teaching Assistant

Introduction to Biology, Human Physiology, General Ecology (Undergraduates)

Thesis Advisees

Doctoral (Primary Mentor)

Rachel Herman (2020-present) – Neuroscience PhD Student

Nicole Hernandez (2015-2020) – Neuroscience PhD Student

Jaclynn Elkind (2017-2018) – Nursing PhD Student

Rachel Lipsky (2017-2018) – Nursing PhD Student

Doctoral (Secondary Mentor)

Shoshana Aronowitz (2017-2020) – Nursing PhD Student

 Thesis Advisees (cont'd)

Doctoral (Co-Mentor w/ Dr. Chris Pierce)

Leonardo Guercio (PhD, 2017) "Influence of Local and Circuit-Wide Modulation of the Mesocorticolimbic Reward System on the Reinstatement of Cocaine Seeking"

Current position: Science Program Coordinator, Blackfynn

Samantha White (PhD, 2013) "A Critical Role for Accumbal Calcium-Permeable AMPA Receptors in the Reinstatement of Cocaine Seeking"

Current position: Science Communication and Coordination Specialist at NIH/NINDS

Fair Vassoler (PhD, 2012) "Deep brain stimulation in cocaine reinstatement and the inheritance of a cocaine-resistant phenotype"

Current position: Research Assistant Professor, Tufts University (Boston, MA)

 Mentoring

Undergraduates (Primary Mentor)

Jennifer Ben Nathan	(current)	Honors/Awards: Penn Undergraduate Research Mentoring Award (\$4,500)
Sana Zeb	(current)	Honors/Awards: Penn Undergraduate Research Mentoring Award (\$4,500)
Riley Merkel	(current)	Honors/Awards: Pincus-Magaziner Family Undergraduate Research and Travel Award (\$1,000); Biological Basis of Behavior Summer Research Fellowship (\$4,500)
Suditi Rahematpura	(current)	Honors/Awards: Vagelos Undergraduate Research Award (\$1000); Jumpstart for Juniors Research Grant (\$2000)
Kamryn Stecyk	(current)	
Amanda Moreno	(current)	Honors/Awards: Career Services Award (\$3,900); 2019 College Alumni Society Research Grant (\$1,000); The Mary L. And Matthew S. Santirocco College Alumni Society Undergraduate Research Grant (\$1,000); Ernest M. Brown, Jr. College alumni Society Undergraduate Research Grant (\$1,000); University Scholar
Michelle Kahng	(BS, 2020; UPenn)	Honors/Awards: Louis H. Castor, M.D., C'48 College Alumni Undergraduate Research Grant (\$1,500)
Vanessa Weir	(BS, 2019; UPenn)	Honors/Awards: Pincus-Magaziner Family Undergraduate Research Award (\$500); The Mary L. And Matthew S. Santirocco College Alumni Society Undergraduate Research Grant (\$1,500); Stellar Award for best presentation of a honor's thesis; Rose Research Award (\$1,000); 1 st place undergraduate poster presentation 2019 Annual Meeting of the Philadelphia Chapter of SfN
Jordan Wolfheimer	(BS, 2017; UPenn)	Honors/Awards: Jumpstart for Juniors research grant (\$1,000)
Daria Lukasz	(BS, 2016; UPenn)	
Jordan Karsch	(BS, 2015; UPenn)	
Julia Sigman	(BS, 2015; UPenn)	

Mentoring (cont'd)

Undergraduates (Primary Mentor)

Kelsey Ige	(BS, 2014; UPenn) Honors/Awards: Vagelos Undergraduate Research Award (\$1,500)
Shayna Friedman	(BS, 2012; UPenn) Honors/Awards: Stephen J. Fluharty Award (\$1,000)
Alycia Lee	(BS, 2012; UPenn)
Blake Kimmey	(BS, 2011; UPenn)
Inhyo Choi	(BS, 2011; UPenn)
Michael McMullen	(BS, 2010; UPenn)
Thomas J. Hopkins	(BS, 2010; UPenn)
Judy Yee	(BS, 2007; Boston University); Honors/Awards: Undergraduate Research Opportunities Program research award (\$3,000).

Research Assistants (Primary Mentor)

Kael Ragnini	2019-present
Christopher Turner	2015-2018 (UPenn): neuroscience graduate student, Univ. of Michigan
John Maurer	2014-2017 (UPenn): pharmacology graduate student, Univ. of Penn
Duncan Van Nest	2014-2016 (UPenn): medical student, Thomas Jefferson University
Adrian Arreola	2012-2014 (UPenn): dental student, Univ. of Penn
Blake Kimmey	2011-2013 (UPenn): postdoctoral fellow, Univ. of Penn
Thomas Hopkins	2010-2011 (UPenn): Medical Doctor
Rachel Schassburger	2009-2011 (UPenn): ULAR scientist, Pennsylvania State University

Thesis Committee Memberships

Lisa Wooldridge	(PhD in Neuroscience) UPenn, Greg Corder, advisor
Adrienne Jo	(PhD in Pharmacology) UPenn, Elizabeth Heller, advisor
Delaney Fischer	(PhD in Neuroscience) UPenn, Elizabeth Heller, advisor
Caela Long	(PhD in Neuroscience) UPenn, Kelly Jordan-Scuitto & Judith Grinspan, advisors
Aimilia Lydia Kalafateli	(PhD in Neuroscience and Physiology) University of Gothenburg, Sweden, Elisabet Jerlhag, advisor
Kryshawna Beard	(PhD in Pharmacology) UPenn, David Meaney, advisor
Nitsan Goldstein	(PhD in Neuroscience) UPenn, Nick Betley, advisor
Marco Carpenter	(PhD in Pharmacology) UPenn, Elizabeth Heller, advisor
Ruthie Wittenberg	(PhD in Neuroscience) UPenn, John Dani, advisor
Emily Black	(PhD in Neuroscience) Drexel University, Rodrigo Espana, advisor
Kate Brynildsen	(PhD in Neuroscience) UPenn, Julie Blendy, advisor
David Reiner	(PhD in Neuroscience) UPenn, Matthew Hayes, advisor
Blake Kimmey	(PhD in Neuroscience) UPenn, John Dani, advisor
Hermínio Guajardo	(PhD in Neuroscience) UPenn, Rita Valentino, advisor
Cheyenne Allenby	(PhD in Pharmacology) UPenn, Caryn Lerman, advisor
Lori Ann Winner	(PhD in Nursing) UPenn, Rosemary Polomano, advisor
Nicolas Giordano	(PhD in Nursing) UPenn, Rosemary Polomano, advisor

Publications (*h-index* = 34)

64. Angarita GA, Matuskey D, Pittman B, Costeines JL, Potenza MN, Jastreboff AM, **Schmidt HD** and Malison RT (2021). Testing the effects of the GLP-1 receptor agonist exenatide on cocaine self-administration and subjective responses in humans with cocaine use disorder. *Drug and Alcohol Dependence*. Feb 15; 221: 108614 [Epub ahead of print]
63. Leon RM, Borner T, Stein LM, Urrutia NA, De Jonghe BC, **Schmidt HD** and Hayes MR (2021). Activation of PPG neurons following acute stressors differentially involves hindbrain serotonin in male rats. *Neuropharmacology*. Feb 10; 187: 108477. [Epub ahead of print]
62. Aronowitz SV, Compton P and **Schmidt HD** (2021). Innovative approaches to educating future clinicians about opioids, pain, addiction and health policy. *Pain Management Nursing*. Feb; 22(1): 11-14.
61. Guercio LA, Wimmer ME, **Schmidt HD**, Swinford-Jackson SE, Pierce RC and Vassoler FM (2020). Deep brain stimulation of the infralimbic cortex attenuates cocaine priming-induced reinstatement of drug seeking. *Brain Research*. Nov 1; 1746: 147011. PMID: PMC7484137.
60. Fortin SM, Lipsky RK, Lhamo R, Chen J, Kim E, Borner T, **Schmidt HD** and Hayes MR (2020). GABA neurons in the nucleus tractus solitarius express GLP-1 receptors and mediate the anorectic effects of liraglutide in rats. *Science Translational Medicine*. Mar 4; 12(533). PMID: PMC7211411.
59. Turner C, De Luca M, Wolfheimer J, Hernandez N, Madsen KL and **Schmidt HD** (2020). Administration of a novel high affinity PICK1 PDZ domain inhibitor attenuates cocaine seeking in rats. *Neuropharmacology*. Mar 1; 164: 107901. PMID: PMC6954965.
58. Zhang Y, Kahng MW, Elkind JA, Weir, VR, Hernandez NS, Stein LM and **Schmidt HD** (2020). Activation of GLP-1 receptors attenuates oxycodone taking and seeking without compromising the antinociceptive effects of oxycodone in rats. *Neuropsychopharmacology*. Feb; 45(3): 451-461. PMID: PMC6969180.
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Book Chapters

4. Maurer JJ and **Schmidt HD** (2019). Nicotine Addiction and alpha4beta2 nicotinic acetylcholine receptors (Chapter 31). *Neuroscience of Nicotine: Mechanisms and Treatment* 1st edition. Elsevier, Academic Press. 243-250. ISBN: 9780128130353.
3. **Schmidt HD**, McGinty JF, West AE and Sadri-Vakili G (2013). Epigenetics and psychostimulant addiction. Mar 1; 3(3). *Addiction*. Cold Spring Harbor Press. 135-152. ISBN 978-1-936113-47-7
2. **Schmidt HD** and Pierce RC (2013). The role of glutamate receptors in addiction. In: *Biological Research on Addiction: Comprehensive Addictive Behaviors and Disorders*. Elsevier Inc., San Diego: Academic Press, 241-50. ISBN: 9780123983350.
1. **Schmidt HD**, Vassoler FM and Pierce RC (2011). Neurobiological factors of drug dependence and addiction. April 15. *Substance Abuse 5th Edition: Chapter 5*. Lippincott Williams & Willkins. 55-78. ISBN-10: 1605472778.

Book Reviews

2. *How to write a paper: 4th edition* (2008). BMJ Books & Blackwell Publishing: Malden, MA. ISBN: 978-1405167734.
Reviewed by **Heath D. Schmidt**. *Yale Journal of Biology and Medicine*. 2009 June; 82(2): 90-91.
1. *Culture of human stem cells (culture of specialized cells)* (2007). John Wiley & Sons, Inc.: Hoboken, New Jersey. ISBN: 978-0470052464.
Reviewed by **Heath D. Schmidt**. *Yale Journal of Biology and Medicine*. 2008 Sept; 81(3): 154-155.

Invited Seminars

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| February 24, 2020 | <i>Translating Preclinical Studies into New Medication to Treat Substance Use Disorders: A Focus on Central Glucagon-like Peptide-1 Signaling</i> . 499 Research Seminar. Biological Basis of Behavior Program. University of Pennsylvania, Philadelphia, PA. |
| January 28, 2020 | <i>A Novel Role for Glucagon-like Peptide-1 (GLP-1) Receptors in Opioid-Mediated Behaviors</i> . 2020 Winter Conference on Brain Research. Big Sky, MT. |
| November 21, 2019 | <i>GLP-1 Acts on Reward Circuits to Regulate Cocaine-Seeking Behavior</i> . Sahlgrenska Academy, Institute of Neuroscience and Physiology, University of Gothenburg, Sweden. |
| February 21, 2019 | <i>Teaching Outside Your Area of Expertise</i> . Center for Teaching and Learning. University of Pennsylvania, Philadelphia, PA. |
| February 19, 2019 | <i>Drug Seeking Behavior and Addiction</i> . Student Health Services CME Seminar Series: 1 CME credit. University of Pennsylvania, Philadelphia, PA. |
| February 05, 2019 | <i>Central GLP-1 Receptors: Novel Molecular Targets for Cocaine Use Disorder</i> . Center for Substance Abuse Research. Temple University. Philadelphia, PA. |

 Invited Seminars (cont'd)

- November 13, 2018 *Targeting Central GLP-1 Circuits to Reduce Cocaine Addiction*. T32 Research on Vulnerable Women, Children and Families Seminar Series. School of Nursing, University of Pennsylvania, Philadelphia, PA.
- July 20, 2018 *Can GLP-1 Receptor Agonists be Repurposed for Cocaine Addiction?* 26th Annual Meeting of the Society for Studies of Ingestive Behavior. Bonita Springs, FL.
- April 11, 2018 *Can Anti-Diabetic Drugs be Repurposed for Treating Cocaine Addiction?* 34th Annual Mahoney Institute for Neurosciences (MINS) Symposium. "Year of Addiction". University of Pennsylvania, Philadelphia, PA.
- March 26, 2018 *Can Anti-Diabetic Drugs be Repurposed for Treating Cocaine Addiction?* BSTP Seminar Series. Department of Psychiatry, Yale University, New Haven, CT.
- February 23, 2018 *Paternal Nicotine Self-Administration is Associated with Increased Vulnerability to Nicotine-Taking Behavior in Offspring*. 24th Annual Society for Research on Nicotine and Tobacco Meeting. Baltimore, MD.
- December 15, 2017 *Can Peripheral Satiety Factors Reduce Addiction-like Behaviors?* Neurobiology of Stress Seminar Series. Children's Hospital of Pennsylvania, Philadelphia, PA.
- December 06, 2017 *HIJACKED: The Addicted Brain*. The Penn Neuroscience Public Lecture Series. TED-style talk entitled "Can Anti-Diabetic Drugs Be Used to Treat Cocaine Addiction". University of Pennsylvania, Philadelphia, PA.
- October 21, 2016 *GLP-1 Pharmacotherapies as a Treatment for Cocaine Addiction*. Monthly Seminar Series. Center for Weight and Eating Disorders. University of Pennsylvania, Philadelphia, PA.
- February 23, 2016 *Central Glucagon-like Peptide-1 Signaling: A Novel Mechanism Underlying Cocaine Addiction*. Monthly Seminar Series. Department of Pharmacology and Physiology. Drexel University College of Medicine. Philadelphia, PA.
- December 22, 2014 *Novel Molecular and Neuroendocrine Mechanisms Underlying Cocaine Taking and Seeking in Rats*. Treatment Research Center Seminar. University of Pennsylvania, Philadelphia, PA.
- December 12, 2014 *Novel Roles for GluA2 Editing and GLP-1 Receptors in Cocaine Addiction*. Neurobiology of Stress Seminar Series. Children's Hospital of Pennsylvania, Philadelphia, PA.
- November 18, 2014 *Novel Pharmacotherapies for Drug Addiction: Insights from Animal Models*. Nursing seminar series. School of Nursing. University of Pennsylvania. Philadelphia, PA.
- September 04, 2014 *Novel Molecular and Neuroendocrine Mechanisms Underlying Cocaine Taking and Seeking in Rats*. Department of Pharmacology. University of Texas Health Sciences Center in San Antonio. San Antonio, TX.

Invited Seminars (cont'd)

- July 19, 2012 *Re-purposing Acetylcholinesterase Inhibitors to Treat Nicotine Addiction.* Work in Progress Seminar in the Center for Neurobiology and Behavior. University of Pennsylvania. Philadelphia, PA.
- May 10, 2011 *PKC: A biochemical bridge linking nucleus accumbens metabotropic and AMPA receptors in cocaine seeking.* Neuroscience Seminar: McLean Hospital, Harvard Medical School. Belmont, MA.
- November 8, 2011 *Cocaine-induced neuroadaptations and their effects on drug craving and relapse.* Department of Pharmacology and Center for Substance Abuse Research Seminar: Temple University School of Medicine. Philadelphia, PA.
- March 15, 2009 *Peripheral BDNF administration produces antidepressant-like behavioral and cellular responses.* WIP Seminar in the Center for Neurobiology and Behavior. University of Pennsylvania. Philadelphia, PA.
- April 8, 2008 *Neurotrophic and Neurogenic Actions of Antidepressants.* Ray Fuller Symposium: "Antidepressants for the New Millennium: Circumventing the Monoamine Synapse." Experimental Biology 2008/ASPET Centennial Meeting. San Diego, CA.
- June 16, 2006 *The limbic circuitry underlying the reinstatement of cocaine-seeking behavior in rats.* Department of Psychiatry, Yale University. New Haven, CT.
- April 22, 2006 *A novel role for the pedunculo-pontine tegmental nucleus in the circuitry underlying reinstatement of cocaine-seeking behavior.* Henry I. Russek Student Achievement Day. Department of Pharmacology, Boston University. Boston, MA.
- January 24, 2006 *The limbic circuitry underlying the reinstatement of cocaine-seeking behavior in rats.* University of Minneapolis. Minneapolis, MN.
- January 12, 2006 *Intra-accumbal shell administration of the D1-like dopamine receptor agonist SKF-81297 promotes cocaine seeking by activating L-type calcium channels and calcium/calmodulin-dependent protein kinase II.* 39th Winter Conference on Brain Research. Steamboat Springs, CO.
- October 12, 2005 *Intra-accumbal shell administration of the D1-like dopamine receptor agonist SKF-81297 promotes cocaine seeking by activating I-type calcium channels and calcium/calmodulin-dependent protein kinase II.* 2nd Annual NEPRC/BUMC Summit. New England Primate Research Center; Harvard University.
- January 18, 2005 *Dopamine, ephrins, and the mesocorticolimbic circuitry underlying the reinstatement of cocaine seeking.* Ph.D. Student Progress Report Seminar. Department of Pharmacology; Boston University School of Medicine.
- June 22, 2004 *Administration of D1-like or D2 dopamine receptor agonists into the nucleus accumbens shell reinstates cocaine-seeking behavior.* 1st Annual NEPRC/BUMC Summit. New England Primate Research Center; Harvard University.
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Professional Meetings: Program Organization and Invited Presentations

- September 16, 2020 Schmidt, H.D. (participant), Hodgson N., Chao A., Compton P. "Lessons Learned from Research in the COVID Era: Ramping Down, Ramping Up & Going Virtual." *Office of Nursing Research Colloquia*. University of Pennsylvania, Philadelphia, PA.
- February 25, 2018 **Schmidt, H.D.** (co-chair) and Ashare R. "Preclinical Studies to Inform Tobacco Use Treatment." *Society for Research on Nicotine and Tobacco Annual Meeting*. Baltimore, MD.
- February 24, 2018 **Schmidt, H.D.** (participant), Levin E., Gould T., McCarthy D., Stroud L. "Transgenerational Effects of Parental Nicotine and Tobacco Exposure on Emotion Cognition and Reward." *Society for Research on Nicotine and Tobacco Annual Meeting*. Baltimore, MD.
- March 23, 2017 **Schmidt, H.D.** (participant), Ashare R., Falcone M. "Translating Basic Science into Better Smoking Cessation Treatments: From Humans to Rodents and Back Again." *Psychiatry Research Symposium*. University of Pennsylvania. Philadelphia, PA.
- January 29, 2017 **Schmidt, H.D.** (participant), Turner J., Young J., Parikh V. "Emerging insights into the cellular and cognitive substrates of nicotine addiction." *Winter Conference on Brain Research*. Big Sky, MT.
- Sept 28, 2016 **Schmidt, H.D.** (participant). Ashare R., Loughhead J., Lerman C. "Translating neuroscience, pharmacology and behavioral science into improved treatments for smoking cessation." *Accelerating the Pathway from Ideas to Efficacy: Developing More Effective Interventions for Lifestyle Behaviors Related to Chronic Diseases*. NIH Workshop. Bethesda, MD.
- June 12, 2016 **Schmidt, H.D.** (participant), Nazarin A., Bruijnzeel, A., Leggio L., Lynch M. "The Role of Central Glucagon-like Peptide-1 Receptors in Cocaine Addiction." *Influence of Metabolic Hormones on Reward Processing and Addiction Symposium*. College on Problems of Drug Dependence annual Meeting. La Quinta, CA.
- March 16, 2012 "The role of acetylcholinesterase inhibitors in nicotine taking and seeking in rats." Society for Research on Nicotine and Tobacco annual meeting, Boston, MA.
- November 2, 2012 **Schmidt, H.D.** (organizer and participant), W. Berrettini, J. Blendy, R. Ashare. Nicotine Addiction Symposium: Novel Targets for Nicotine Dependence. *Center for Neurobiology and Behavior Retreat*. University of Pennsylvania, Philadelphia, PA. November 2, 2012.

Papers Presented at Professional Meetings

- BC Reiner, RC Crist, Y Zhang, TN Ferraro, **HD Schmidt** and W Berrettini. Transcriptomic characterization of the nucleus accumbens in an animal model of opioid use disorder using single-nuclei RNA sequencing. *NIH/NIDA Genetics Consortium Meeting*. (2021)
- A Moreno, Y Zhang and **HD Schmidt**. GLP-1 receptor activation in the nucleus accumbens shell regulates oxycodone-mediated behaviors. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2020).

- RA Merkel, K Ragnini, N Hernandez, L Woolridge and **HD Schmidt**. A paradoxical role of amygdalar GLP-1 signaling in drug-seeking behavior. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2020).
- S Zeb, RA Merkel, VR Weir and **HD Schmidt**. Chemogenetic activation of the endogenous NTS to VTA GLP-1 signaling pathway reduces cocaine seeking in rats. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2020).
- J Ben Nathan, A Moreno, Y Zhang and **HD Schmidt**. Novel, cell type-specific roles for nucleus accumbens amylin receptors in oxycodone taking in rats. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2020).
- CE Geisler, J Gaisinsky, A White, **HD Schmidt** and MR Hayes. VTA amylin-induced attenuation of motivated feeding involves prefrontal cortex projections. *The Obesity Society Annual Meeting: ObesityWeek*. Atlanta, GA (Nov 2020).
- RL Ashare, EP Wileyto, E Logue-Chamberlain, F Leone, C Lerman and **HD Schmidt**. Effects of galantamine on cognition and smoking abstinence in treatment-seeking smokers using a medication screening paradigm. *Society for Research on Nicotine and Tobacco, 26th Annual Meeting*. New Orleans, LA (March 2020)
- GA Angarita, B Pittman, **HD Schmidt**, MR Hayes, A Jastreboff and RT Malison. Effects of exenatide and cocaine on plasma levels of GLP-1, insulin, and amylin among human cocaine users. *58th Annual Meeting of the American College of Neuropsychopharmacology*. Orlando, FL (December 2019)
- S Rahematpura, A Moreno, Y Zhang and **HD Schmidt**. Cell type-specific effects of amylin in the nucleus accumbens on opioid-induced behavioral and analgesic responses. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2019)
- A Moreno, S Rahematpura, Y Zhang and **HD Schmidt**. Activation of amylin receptors in the nucleus accumbens shell reduces oxycodone-taking and -seeking behaviors in rats. *Center for Undergraduate Research and Fellowships, Annual Research Expo*. Philadelphia, PA (September 2019)
- NS Hernandez, VR Weir and **HD Schmidt**. Glucagon-like peptide-1 receptor activation in the laterodorsal tegmental nucleus regulates cocaine-mediated behaviors via a GABAergic mechanism. *Society for the Study of Ingestive Behavior, 27th Annual Meeting*. Utrecht, Netherlands (July 2019)
- RM Leon, T Borner, LM Stein, NS Hernandez, **HD Schmidt**, BC De Jonghe and MR Hayes. 5-HT_{2C} and 5-HT₃ receptors mediate the neural activation of NTS GLP-1 neurons by aversive but not rewarding stressors. *Society for the Study of Ingestive Behavior, 27th Annual Meeting*. Utrecht, Netherlands (July 2019)
- S Rahematpura, NS Hernandez and **HD Schmidt**. The role of vagal input in cocaine-mediated behaviors. *2019 Annual Meeting of the Philadelphia Chapter of the Society for Neuroscience*. Philadelphia, PA (April 2019)
- VR Weir, NS Hernandez and **HD Schmidt**. The role of hindbrain projections to the nucleus accumbens in cocaine seeking. *2019 Annual Meeting of the Philadelphia Chapter of the Society for Neuroscience*. Philadelphia, PA (April 2019)
- MW Kahng, Y Zhang and **HD Schmidt**. Amylin significantly attenuates oxycodone seeking in rats. *2019 Annual Meeting of the Philadelphia Chapter of the Society for Neuroscience*. Philadelphia, PA (April 2019)

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- NS Hernandez, VR Weir and **HD Schmidt**. Glucagon-like peptide-1 receptor activation in the lateral dorsal tegmental nucleus attenuates cocaine seeking in rats. *Society for the Study of Ingestive Behavior, 26th Annual Meeting*. Bonita Springs, FL (July 2018)
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- A Ellis, ME Wimmer, FM Vassoler, SL White, **HD Schmidt**, S Sidoli, Y Han, B Garcia and RC Pierce. Male offspring of cocaine-experienced sires have impaired cocaine-induced behavioral sensitization. *Society for Neuroscience, 47th Annual Meeting*. Washington DC (November 2017)
- NS Hernandez, VR Weir, CA Turner and **HD Schmidt**. Glucagon-like peptide-1 receptor activation in the lateral dorsal tegmental nucleus attenuates cocaine seeking in rats. *Society for Neuroscience, 47th Annual Meeting*. Washington DC (November 2017)
- Y Zhang, CA Turner and **HD Schmidt**. Activation of amylin receptors in the nucleus accumbens reduces cocaine taking and seeking in rats. *Society for Neuroscience, 47th Annual Meeting*. Washington DC (November 2017)
- CA Turner, Y Zhang, and **HD Schmidt**. Activation of amylin receptors in the ventral tegmental area reduces cocaine taking and seeking in rats. *Society for Neuroscience, 47th Annual Meeting*. Washington DC (November 2017)
- CA Turner, NS Hernandez, JJ Maurer and **HD Schmidt**. Activation of amylin receptors in the ventral tegmental area attenuates cocaine seeking in rats. *Society for Neuroscience, 46st Annual Meeting*. San Diego, CA (November 2016)
- JJ Maurer, CA Turner, DS Van Nest, JD Wolfheimer, CA Pierce, ME Wimmer and **HD Schmidt**. Paternal nicotine self-administration is associated with increased nicotine taking and anxiety-like behaviors in offspring. *Society for Neuroscience, 46st Annual Meeting*. San Diego, CA (November 2016)
- NS Hernandez, CA Turner, JD Wolfheimer and **HD Schmidt**. Activation of central glucagon-like peptide-1 (GLP-1) receptors is sufficient to reduce cocaine seeking in rats. *Society for Neuroscience, 46st Annual Meeting*. San Diego, CA (November 2016)
- LA Guercio, ME Wimmer, **HD Schmidt** and RC Pierce. The role of AKAP150 in the nucleus accumbens shell in the reinstatement of cocaine seeking. *Society for Neuroscience, 46st Annual Meeting*. San Diego, CA (November 2016)
- GC Molina-Castro, NS Hernandez and **HD Schmidt**. Systemic administration of a glucagon-like peptide-1 agonist attenuates cocaine seeking in rats. *25th Annual Puerto Rico Neuroscience Conference*. San Juan, PR (December 2016).
- CA Turner, NS Hernandez, JJ Maurer and **HD Schmidt**. Activation of amylin receptors in the ventral tegmental area attenuates cocaine seeking in rats. *Mid-Atlantic Pharmacology Society Meeting*.

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JJ Maurer, DS Van Nest and **HD Schmidt**. Trans-generational effects of paternal nicotine self-administration. *Society for Neuroscience, 45st Annual Meeting.* Chicago, IL (November 2015)

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LA Guercio, **HD Schmidt** and RC Pierce. Deep brain stimulation (DBS) of the mesocorticolimbic system attenuates the reinstatement of cocaine seeking. *Society for Neuroscience, 45st Annual Meeting.* Chicago, IL (November 2015)

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AC Arreola, BA Kimmey, DS Van Nest, JJ Mauer and **HD Schmidt**. Paternal nicotine self-administration is associated with increased acquisition and maintenance of nicotine taking in offspring. *2014 ACNP Annual Meeting.* Phoenix, AZ (December 2014)

AC Arreola, BA Kimmey and **HD Schmidt**. Paternal nicotine self-administration is associated with increased acquisition and maintenance of nicotine taking in offspring. *Society for Neuroscience, 44st Annual Meeting.* Washington, DC (November 2014)

HD Schmidt, EG Mietlicki-Baase, AC Arreola and MR Hayes. Withdrawal following nicotine self-administration produces hyperphagia and increases body weight gain in rats. *Society for Neuroscience, 44st Annual Meeting.* Washington, DC (November 2014)

EG Mietlicki-Baase, KY Ige, DR Olivos, RC Pierce, MR Hayes and **HD Schmidt**. Glucagon-like peptide-1 receptor activation in the VTA or accumbens core attenuates cocaine taking and seeking in rats. *Society for Neuroscience, 44st Annual Meeting.* Washington, DC (November 2014)

- ME Wimmer, LA Briand, CP Craige, LA Guercio, AC Arreola, **HD Schmidt** and RC Pierce. Paternal cocaine exposure elicits trans-generational learning deficits. *Society for Neuroscience, 44st Annual Meeting*. Washington, DC (November 2014)
- MN Huizenga, FM Vassoler, VL Batalha, KA Mueller, **HD Schmidt**, RC Pierce and G Sadri-Vakili. Increased phosphorylation of MECP2 as a mechanism of trans-generational inheritance of a cocaine-resistant phenotype. *Society for Neuroscience, 44st Annual Meeting*. Washington, DC (November 2014)
- LA Guercio, **HD Schmidt** and RC Pierce. The role of AKPA150 in the nucleus accumbens shell in the reinstatement of cocaine seeking. *Society for Neuroscience, 44st Annual Meeting*. Washington, DC (November 2014)
- HD Schmidt**, EG Mietlicki-Baase, K Ige, LA Guercio, ME Wimmer, RC Pierce and MR Hayes. Intra-VTA administration of the glucagon-like peptide-1 receptor agonist exendin-4 attenuates cocaine taking and seeking in rats. *Winter Conference on Brain Research*. Steamboat Springs, CO (January 2014)
- AC Arreola, BA Kimmey, LE Rupprecht, AM Lee, MR Hayes and **HD Schmidt**. Repeated administration of an acetylcholinesterase inhibitor attenuates nicotine taking in rats. *2013 ACNP Annual Meeting*. Hollywood, FL (December 2013)
- HD Schmidt**, EG Mietlicki-Baase, K Ige, LA Guercio, ME Wimmer, RC Pierce and MR Hayes. Intra-VTA administration of the glucagon-like peptide-1 receptor agonist exendin-4 attenuates cocaine taking and seeking in rats. *Society for Neuroscience, 43st Annual Meeting*. San Diego, CA (November 2013)
- PI Ortinski, LA Briand, RC Pierce and **HD Schmidt**. Distinct roles of PKC signaling at direct and indirect pathway medium spiny neurons during reinstatement of cocaine seeking. *Society for Neuroscience, 43st Annual Meeting*. San Diego, CA (November 2013)
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- LA Guercio, **HD Schmidt** and RC Pierce. AKAP signaling in the nucleus accumbens shell promotes the reinstatement of cocaine seeking. *Society for Neuroscience, 43st Annual Meeting*. San Diego, CA (November 2013)
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- G Sadri-Vakili, K Rasakham, **HD Schmidt**, MN Huizenga, N Calcagno, K Kay, RC Pierce and TL Spires-Jones. Synapse density and dendritic complexity are reduced in the medial prefrontal cortex following abstinence from chronic cocaine. *Society for Neuroscience, 43st Annual Meeting*. San Diego, CA (November 2013)

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- HD Schmidt**, LA Guercio and RC Pierce. mGluR1/5 receptor stimulation promotes cocaine seeking via PKC-induced modulation of AMPA receptor trafficking in the nucleus accumbens. *Society for Neuroscience, 42st Annual Meeting*. New Orleans, LA (October 2012)
- FM Vassoler, SL White PI Ortinski, **HD Schmidt**, G Sadri-Vakili and RC Pierce. Paternal transmission of a cocaine resistant phenotype. *Society for Neuroscience, 42st Annual Meeting*. New Orleans, LA (October 2012)
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- RC Pierce, **HD Schmidt**, G Sadri-Vakili, SL White and FM Vassoler. Increased anxiety in the male offspring of cocaine experienced sires. *Society for Neuroscience, 42st Annual Meeting*. New Orleans, LA (October 2012)
- RL Schassburger, TJ Hopkins, JA Blendy, and **HD Schmidt**. Systemic administration of an acetylcholinesterase inhibitor attenuates nicotine reinforcement and the reinstatement of nicotine-seeking behavior in rats. *Society for Neuroscience, 41st Annual Meeting*. Washington, D.C. (November 2011)
- HD Schmidt**, RL Schassburger, TJ Hopkins, and RC Pierce. mGluR1/5 and D2 dopamine receptor stimulation promotes cocaine seeking via PKC-induced modulation of AMPA receptor trafficking in the nucleus accumbens. *Society for Neuroscience, 41st Annual Meeting*. Washington, D.C. (November 2011)
- SL White, FM Vassoler, JM Concepcion, **HD Schmidt**, and RC Pierce. Reversal of CaMKII-mediated phosphorylation of GluA1 subunits in the dorsolateral striatum associated with the reinstatement of cocaine seeking. *Society for Neuroscience, 41st Annual Meeting*. Washington, D.C. (November 2011)
- HD Schmidt**, RL Schassburger, V Kumaresan, J-H Cha, RC Pierce, and G Sadri-Vakili. Examination of the epigenetic mechanisms underlying the increase in VTA BDNF transcription associated with the incubation off cocaine craving. *Society for Neuroscience, 40th Annual Meeting*. San Diego, CA (November 2010).
- R Schassburger, **HD Schmidt**, TJ Hopkins, ME McMullen, and RC Pierce. Administration of a protein kinase C inhibitor into the nucleus accumbens core or shell attenuates cocaine priming-induced reinstatement of drug seeking. *Society for Neuroscience, 40th Annual Meeting*. San Diego, CA (November 2010).
- SL White, **HD Schmidt**, and RC Pierce. Identifying the mechanisms underlying GluR1 subunit trafficking in the nucleus accumbens during cocaine reinstatement. *Society for Neuroscience, 40th Annual Meeting*. San Diego, CA (November 2010).

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- HD Schmidt**, R Terwilliger, M Banasr, and RS Duman. Peripheral BDNF administration produces antidepressant-like behavioral and cellular responses in rodents. *Society for Neuroscience, 39th Annual Meeting*. Chicago, IL (October 2009).
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- LA Briand, **HD Schmidt**, FM Vassoler, RC Pierce, and JA Blendy. Cocaine self-administration behavior in cAMP response element binding protein (CREB) mutant mice. *Society for Neuroscience, 39th Annual Meeting*. Chicago, IL (October 2009).
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- FM Vassoler, **HD Schmidt**, and RC Pierce. Examination of the behavioral effects of deep brain stimulation of limbic nuclei in cocaine reinstatement. *Society for Neuroscience, 39th Annual Meeting*. Chicago, IL (October 2009).
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- HD Schmidt** and RS Duman. Peripheral BDNF administration increases adult hippocampal neurogenesis and produces antidepressant-like behavioral responses in rodent models of anxiety and depression. *Society for Neuroscience, 38th Annual Meeting*, Washington, DC (November 2008).
- FR Maclaren, **HD Schmidt**, ME Gerard, KR Famous, DA Ciraulo, CM Knapp, C Kornetsky, and RC Pierce. Deep brain stimulation of the nucleus accumbens shell or prefrontal cortex attenuates reinstatement of cocaine seeking in rats. *Society for Neuroscience, 38th Annual Meeting*, Washington, DC (November 2008).

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- HD Schmidt** and RS Duman. Peripheral BDNF administration increases adult hippocampal neurogenesis and produces antidepressant-like effects in rodent models. *Society for Neuroscience, 37th Annual Meeting*, San Diego, CA (November 2007).
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- HD Schmidt** and RC Pierce. Cooperative activation of D1-like and D2-like dopamine receptors in the nucleus accumbens shell is required for the reinstatement of cocaine-seeking behavior. *Society for Neuroscience, 36th Annual Meeting*, Atlanta, GA (October 2006).
- G Sadri-Vakili, V Kumaresan, RP Overland, **HD Schmidt**, KR Famous, RC Pierce and J Cha. Cocaine self-administration increases brain-derived neurotrophic factor mRNA and histone acetylation in the ventral tegmental area and medial prefrontal cortex of the rat. *Society for Neuroscience, 36th Annual Meeting*, Atlanta, GA (October 2006).
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- KR Famous, V Kumaresan, G Sadri-Vakili, **HD Schmidt**, DF Mierke, J Cha and RC Pierce. Behavioral and molecular evidence that increased glutamate transmission through AMPA receptors in both the core and shell of the nucleus accumbens promotes the reinstatement of cocaine seeking. *Society for Neuroscience, 36th Annual Meeting*, Atlanta, GA (October 2006).
- HD Schmidt** and RC Pierce. A novel role for the pedunculo-pontine tegmental nucleus in cocaine priming-induced reinstatement of drug seeking. *New England Pharmacologists, 34nd Annual Meeting*, Waltham, MA (January 2006).
- SM Anderson, **HD Schmidt**, KR Famous, V Kumaresan and RC Pierce. Intra-accumbal shell administration of the D1-like dopamine receptor agonist SKF-81297 promotes cocaine seeking by activating L-type calcium channels and calcium/calmodulin-dependent protein kinase II. *Society for Neuroscience, 35th Annual Meeting*, Washington, DC (November 2005).

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- HD Schmidt** and RC Pierce. A novel role for the pedunculo-pontine tegmental nucleus in cocaine priming-induced reinstatement of drug seeking. *Society for Neuroscience, 35th Annual Meeting*, Washington, DC (November 2005).
- HD Schmidt** and RC Pierce. Administration of D1-like or D2 dopamine receptor agonists into the nucleus accumbens shell reinstates cocaine-seeking behavior. *Henry I. Russek Student Achievement Day*, Boston, MA (April 2005).
- HD Schmidt** and RC Pierce. Administration of D1-like or D2 dopamine receptor agonists into the nucleus accumbens shell reinstates cocaine-seeking behavior. *38th Annual Winter Conference on Brain Research*, Breckenridge, CO (January 2005).
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- KR Famous, **HD Schmidt** and RC Pierce. Administration of a D1-like agonist into the infralimbic region of the prefrontal cortex reinstates cocaine-seeking behavior. *Society for Neuroscience, 34th Annual Meeting*, San Diego, CA (October 2004).
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