**Kristen Ann Keefe**

|  |  |
| --- | --- |
| **Address**  Dept. Pharmacology & Toxicology University of Utah 30 South 2000 East Salt Lake City, UT 84112 (801) 585-7989 (phone) (801) 585-5111 (fax) k.keefe@utah.edu**Citizenship** U.S.A. | **Home** 1354 E. Old Maple Ct.**Address** Salt Lake City, Utah 84117 (801) 755-3219 |

**Education**

* Ph.D., M.S. Behavioral Neuroscience, University of Pittsburgh, Pittsburgh, Pennsylvania, 1987-1992
* M.A. Speech-Language Pathology, University of Pittsburgh, Pittsburgh, Pennsylvania, 1984-1986
* B.A. Communication Sciences and Psychology, *summa cum laude*, Case Western Reserve University, Cleveland, Ohio, 1982-1984
* Undergraduate, Communication Disorders, University of Vermont, Burlington, Vermont, 1980–1982

**Additional Professional Development**

* Fundamentals of Professional Coaching U-Can Workshop, University of Utah, November 1 & 8, 2022.
* Facilitating Entering Mentoring, Facilitator Training for CIMER “Entering Mentoring” Curriculum, University of Wisconsin, WI, July 21-22, 2022.
* Health Sciences Senior Leadership Seminar, University of Utah, February 5-6, 2015.
* Health Sciences Leadership Seminar I "Leadership in Action", University of Utah, March 31-April 2, 2014.
* HERS (Higher Education Resource Services) Leadership Institute, Denver, Colorado 2013.
* Cold Spring Harbor Course, "Molecular and Cellular Biology of Addiction"; 2001.

**Roles**

* Assitant Vice President for Faculty, Office for Faculty UofU Health, July 2023-present
* Associate Dean for Faculty, College of Pharmacy, University of Utah, July 2019-present
* Interim Dean, College of Pharmacy, University of Utah, July 2014-Dec. 2016
* Professor (2008-present); Associate Professor (2002-2008), Assistant Professor (1995-2002); Department of Pharmacology and Toxicology, College of Pharmacy and Interdepartmental Graduate Program in Neuroscience, University of Utah
* Director, Interdepartmental Graduate Program in Neuroscience, University of Utah, 2011-2014.
* Intramural Postdoctoral Training Award Postdoctoral Fellow, Laboratory of Neurophysiology, NIMH, Section of Neuroanatomy; Chief, Dr. Charles R. Gerfen, 1992-1995
* NIMH Individual NRSA Predoctoral Fellow, University of Pittsburgh, Dept. of Behavioral Neuroscience, laboratories of Drs. Michael J. Zigmond and Elizabeth D. Abercrombie, 1990 - 1992
* NIMH Institutional Training Grant Fellow, Center for Neuroscience, University of Pittsburgh, 1988 - 1990
* Research Speech Pathologist, Dept. of Neurology, University of Pittsburgh, 1986 - 1987
* Research Consultant, Child Development Unit, Children's Hospital of Pittsburgh, 1985 - 1987
* Andrew Mellon Predoctoral Fellow, Dept. of Communication Disorders, University of Pittsburgh, 1984-1986

**Awards**

* Nominated, P3 Teacher of the Year Award, College of Pharmacy, University of Utah, 2018, 2022
* Nominated, P2 Teacher of the Year Award, College of Pharmacy, University of Utah, 2009, 2012, 2013, 2014, 2015, 2018, 2022, 2023
* Nominated, The Linda K. Amos Award for Distinguished Service to Women, University of Utah, 2019.
* The Lawrence C. and Delores M Weaver College of Pharmacy Recognition Award, 2017
* Distinguished Teaching Award, University of Utah, 2017.
* Elected Fellow, Academy of Health Science Educators, University of Utah, 2014
* Graduate Student and Postdoctoral Scholar Distinguished Mentor Award, University of Utah, 2012.
* Nominated, Teacher of the Year Award, College of Pharmacy, University of Utah, 2007.
* Intramural Postdoctoral Training Award Postdoctoral Fellow, Laboratory of Neurophysiology, NIMH, Section of Neuroanatomy; Chief, Dr. Charles R. Gerfen, 1992-1995
* NIMH NRSA Predoctoral Fellowship, University of Pittsburgh, Dept. of Behavioral Neuroscience, laboratories of Drs. Michael J. Zigmond and Elizabeth D. Abercrombie, 1990 - 1992
* Recipient, Chiodo Award for Excellence in Behavioral Neuroscience, Dept. of Behavioral Neuroscience, University of Pittsburgh, 1992
* NIMH training grant awardee, Center for Neuroscience, University of Pittsburgh, 1988 - 1990
* Lisa Levey Award for Outstanding Graduate Student, Dept. of Communication Disorders, University of Pittsburgh, 1986.
* Andrew Mellon Predoctoral Fellowship, Dept. of Communication Disorders, University of Pittsburgh, 1984-1986
* Graduated *Summa Cum Laude* with Honors in Communication Sciences, Case Western Reserve University, 1984.
* American Speech-Language and Hearing Association Honor Student Award, Dept. of Communication Sciences, Case Western Reserve University, 1984.

**Professional Societies**

 American Association of Colleges of Pharmacy

 American Society for Pharmacology and Experimental Therapeutics

 International Basal Ganglia Society

 Society for Neuroscience

**Teaching**

Professional Skills Development (PHTX 7690), Pre and postdoctoral trainees on training grants and in biomedical science labs.

 Coursemaster and lecturer, 2020-present

Principles of Project Development (PHARM 7352), PharmD Professional Curriculum, College of Pharmacy, University of Utah

 Coursemaster and Lecturer, 2017-2022

 Co-coursemaster and lecturer, 2023

Integrated Pharmacotherapeutics II (PHARM 6253), PharmD Professional Curriculum, College of Pharmacy, University of Utah

 Lecturer, Central Nervous System Pharmacology, 2016-present

Integrated Pharmacotherapeutics I (PHARM 6252), PharmD Professional Curriculum, College of Pharmacy, University of Utah

 Co-Coursemaster, 2023-

 Module Leader, "Autonomic Nervous System" 2016-present

 Lecturer, Autonomic Nervous System Pharmacology 2016-present

Recitation (PHARM 6251), PharmD Professional Curriculum, College of Pharmacy, University of Utah

 Small Group Facilitator, 2016-2018

P2 Recitation (PHARM 6250), PharmD Professional Curriculum, College of Pharmacy, University of Utah

 Coursemaster, 2016-2018

Pharmacology I (PHTX 5211), Pharm.D. Professional Curriculum, College of Pharmacy, University of Utah

 Co-Coursemaster, 2009-2014

 Lecturer, 1995-2015

 Introduction to the Autonomic Nervous System (2 hr)'

 Sympathomimetics and Catecholamines (2 hr)

 Anti-adrenergic agents (2 hr)

 Pharmacotherapy of Parkinson’s Disease (1 hr)

 Skeletal Muscle Relaxants" (1 hr)

 Headache Medications (2 hr; no longer as of 2007).

Biological Basis of Disease (PHTX 5121), Professional Curriculum, College of Pharmacy, University of Utah

 Lecturer, 2004-2016

 Organization of the Autonomic Nervous System (2 hr)

Neurotransmission (2 hr, 2015)

Movement Disorders (3 hr, 2015)

Psychiatric Disorders (2 hr, 2015)

Pharmacologic Basis of Therapeutics II (1995-2009) / Brain and Behavior (2010-present) (PHTX 6030), M.D. Professional Curriculum, School of Medicine, University of Utah

 Lecturer, 1995-2014

 Introduction to the Autonomic Nervous System (2 hr)

 Sympathomimetics and Catecholamines (2 hr)

 Anti-adrenergic agents (1 hr)

 Physiology of the Basal Ganglia (1 hr; 2007-2008)

 Pharmacotherapy of Parkinson’s Disease (1 hr)

 Skeletal Muscle Relaxants (1 hr/directed study)

 Headache Medications (1 hr; no longer as of 2006)

 Multiple medication counseling small groups recitations (facilitator)

 Medication Counseling exam grading sessions.

Fundamentals of Pharmaceutical Sciences (PHARM 7113), College of Pharmacy Graduate Programs Curriculum, College of Pharmacy, Univ. of Utah

 Lecturer, 2004-2011

 Receptor Theory / Receptors (2 hr)

 Receptor Regulation (1 hr)

Pharmacology Essentials (PHTX 7113), Dept. of Pharmacology and Toxicology, College of Pharmacy, Univ. of Utah

 Lecturer, 2012-2014

 Receptor Theory / Receptors (2 hr)

 Receptor Regulation (2 hr)

Cellular and Molecular Neuroscience (NEUSC 6040), Interdepartmental Neuroscience Program Curriculum, University of Utah

 Couresmaster, 2002-2004

 Lecturer, 2005-2013

 Neurotransmitter Synthesis and Metabolism (3 hr)

 Introduction to Receptors (1.5 hr; through 2007)

 Ionotropic glutamate receptors (1.5 hr; through 2007)

Systems Neuroscience: Functioning of the Nervous System (NEUSC 6050), Interdepartmental Neuroscience Program Curriculum, University of Utah

 Lecturer, 1997-2011

 Basal Ganglia (2 hr).

Biochemical Basis of Neuropharmacology (PHTX 7270), Dept. of Pharmacology and Toxicology and other Graduate Programs, College of Pharmacy, University of Utah

 Coursemaster (1999-2011)

 Lecturer (1997-2011)

 Functional Neuroanatomy (2 hr)

 Excitatory Amino Acids (2 hr)

 Inhibitory Amino Acids (2 hr)

 Serotonin, Histamine, Melatonin (2 hr)

 Catecholamines (2 hr)

 Acetylcholine (2 hr)

 Non-traditional Neurotransmitters (2 hr)

 Neuropharmacology of Movement Disorders (2 hr)

 Neuropharmacology of Drug Addiction (2 hr)

 Neuropharmacology of Schizophrenia/psychosis (2 hr)

 Neuropharmacology of Affective Disorders (2 hr)

Professional Skills Development (PHTX 7690), Dept. of Pharmacology and Toxicology and other Graduate Programs, College of Pharmacy, University of Utah

 Coursemaster, 2006-2013

 Lecturer 1998-2015

 Your Role as a Graduate Student / Career Planning (2 hr)

 Technical writing (3 hr)

 Oral presentations (1 hr)

 Job-Seeking Skills (1 hr)

 Small group facilitation of grant reviews

Methods in Pharmacology (PHTX 6600), Dept. of Pharmacology and Toxicology Graduate Program, College of Pharmacy, University of Utah

 Lecturer, 1997-2011

 *In situ* Hybridization Histochemistry and Immunohistochemistry (3 hr).

Developments in Neuropharmacology (PHTX 6720) Journal Club, Dept. of Pharmacology and Toxicology Graduate Program, College of Pharmacy, University of Utah

 Couresemaster, 1998-1999.

Principles of Pharmacology and Toxicology (PHTX 6610), Dept. of Pharmacology and Toxicology Graduate Program, College of Pharmacy, University of Utah

 Lecturer, 1998-2004

 Pharmacodynamics (2 hr)

 Antagonism (1 hr)

 Spare Receptors (1 hr)

Advances in Neuropharmacology (PHTX 7280), Dept. of Pharmacology and Toxicology Graduate Program, College of Pharmacy, University of Utah

 Lecturer, 1996

 Molecular Biology of NMDA receptors (3 hr)

 Dopamine Receptors and Psychiatric Disorders (3 hr).

Drugs and Behavior, University of Pittsburgh, Teaching Assistant, 1990

Experimental Methods in Psychology, University of Pittsburgh, Teaching Assistant,1987 - 1988.

**Professional Service**

***Department***

* Graduate Training Committee, Dept. of Pharmacology and Toxicology, College of Pharmacy, Univ. of Utah. Member, 1996-2011; 2018-present; Chair 2002-2011
* Faculty Search Committee Chair, 2017-2018; 2022-2023
* Teaching and Curriculum Committee, Dept. of Pharmacology and Toxicology, College of Pharmacy, Univ. of Utah. Member, 1996-2000; Chair, 1998-2000.

***College***

* Executive Committee, 2019-present
* Associate Dean for Faculty, 2019-present
* Member, PharmD Project Committee, 2017-present
* Dept. of Pharmaceutics and Pharmaceutical Chemistry Faculty Search Committee, 2020-2021
* PhD Curriculum Task Force member, 2020
* Accreditation Self-Study Committee member; Head, Standard 19, College of Pharmacy 2021 accreditation process 2020-2021.
* Stimson Endowed Chair Selection Committee, Chair, 2019
* Utah Poison Control Center Executive Director Search, Chair, 2018-2019
* Member, Assessment Committee, 2018-2019.
* Interim Dean, College of Pharmacy, University of Utah, July 2014-December 2016
* Head, PharmD Curricular Revision Task Force, 2012-2013.
* Member, Task Force for Curriculum Revision for Professional PharmD program, 2010-2011.
* Strategic planning committee for College of Pharmacy 2007 accreditation process, Curriculum Task Force member, 2006-2007
* Curriculum Committee, College of Pharmacy, Univ. of Utah, Member, 2005-2012.
* Learning and Teaching Committee, College of Pharmacy, Univ. of Utah. Member, 1997-2005.
* Women’s Focus Group, College of Pharmacy, Univ. of Utah. Member, 1997-1998.
* Recruitment and Affirmative Action Committee, College of Pharmacy, Univ. of Utah. Member, 1995-1997.

***University***

* Ad Hoc Committee on Career-Line Faculty Matters, 2023-
* Institutional Policy Committee, 2023-
* University Promotion and Tenure Advisory Committee (UPTAC), Co-Chair, 2023-
* Co-Chair, Research Training and Career Development Committee (RTRAC) 2020-present
* Mentoring Committee, Academy of Health Sciences Educators, 2014-present.
* Faculty Data Steering Committee, 2020-present
* Neuro-Immunology Training Grant steering committee, 2020-present
* Executive Planning Committee, Masters of Education in Health Sciences, 2018-2021.
* Internal Graduate Program Review Committee, Master of Science in Clinical Investigation, 2020, Graduate Council Review.
* Planning Committee, *2020 Addictions Update: Science, Policy & Treatment*, Dept. of Psychiatry, Univ. of Utah
* Planning Committee, *2019 Addictions Update: Science, Policy & Treatment*, Dept. of Psychiatry, Univ. of Utah
* Steering Committee, Biological Chemistry Program, 2018-2020.
* Health Sciences Library Task Force, 2017
* Search Committee for VP for Research, University of Utah, 2015-2016
* Executive Board, Neuroscience Initiative, University of Utah, 2014-2016
* Board of Directors, Center on Aging, University of Utah, 2014-2016
* Advisory Board, Utah Poison Control Center, 2014-2016
* Internal Advisory Board, Diabetes and Metabolism Initiative, University of Utah, 2015-2016
* Vice President’s Clinical and Translational (VPCAT) Research Scholars Program, 2015-2019.
* Internal Graduate Program Review Committee, Department of Neurobiology and Anatomy, 2013, Graduate Council Review.
* Director, Interdepartmental Program in Neuroscience, 2011-2014; Directorate, member, 2006-2011.
* Local Organizing Committee, The Brain Institute 2nd Annual Spring Symposium Series, *Drug Discovery for Mental Illness*, March 18, 2011.
* University Promotion and Tenure Advisory Committee (UPTAC), Univ. of Utah, 2003-2006.
* Scientific Advisory Group, Genetics of Addiction Project, Genetic Science Learning Center, Univ. of Utah, 2001-2004.
* Admissions Committee, Interdepartmental Neuroscience Program, Univ. of Utah. Member, 1995-2006.
* Library Policy Advisory Committee, Univ. of Utah. Member, 2001-2004.
* Academic Senate, Univ. of Utah. Member, 1999-2002.
* Personnel and Elections Committee, Univ. of Utah. Member, 1999-2002.
* Institutional Animal Care and Use Committee, Univ. of Utah. Member, 1996-1999.
* Women in Medicine Planning Committee, Health Sciences Center, Univ. of Utah. Member, 1996.

***National / International***

* Chair, ZRG1 F02A-A 20 (Fellowships: Behavioral Neuroscience), Center for Scientific Review, NIH, 2021-2023
* External Advisory Committee, University of Alabama at Birmingham Training Program in Neurodegeneration (T32NS095775), 2021-present.
* External Advisory Committee, University of South Dakota’s Center for Brain and Behavior Research, 2020-present
* Manuscript reviewer for numerous journals including: *Addiction Biology, Brain Research, European Journal of Neuroscience, Journal of Neuroscience, Journal of Neuroscience Research, Journal of Pharmacology and Experimental Therapeutics, Neuropsychopharmacology, Neuroscience, Neuroscience Letters, Neurotoxicity Research, Psychopharmacology, The International Journal of Neuropsychopharmacology.*
* Editorial Board, *Neurotoxicity Research*, 1998-present.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, ZRG1 F02A-A 20 (Fellowships: Behavioral Neuroscience),

2012-2022; 2-3 panels/year.

 Co-chair: 2020-2021

* *Ad hoc* grant reviewer, Center for Scientific Review, NIH 2022/01 ZDA1 SKM-D (01) S (NIDA AND NIAAA Institutional Research Training Grant (T32) Review Panel), November 10-12, 2021.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, 2021/01 ZDA1 IXR-Q (06)S (Special Emphasis Panel for Exploiting Genome or Epigenome Editing to Functionally Validate Genes or Variants Involved in Substance Use Disorders (R21/R33 Clinical Trial Not Allowed)*)*.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH 2020/05 ZRG1 IFCN-C (02) M (Special Emphasis Panel: Motivated Behavior, Alcohol and Heavy Metals).
* Planning Committee, “Engaging the Next-Gen Research Workforce: 2019 Research Symposium,” AACP INvolve 2019 meeting
* Officer, Board of Trustees, The Skaggs Institute for Research, 2014-2016
* Invited Member, Society for Neuroscience Online Member Programs Steering Committee, 2015, declined due to Interim Dean responsibilities.
* *Ad Hoc* grant reviewer, Special Emphasis Panel/Scientific Review Group NRSA Institutional Research Training Program (T32) Programs, 2016
* *Ad Hoc* grant reviewer, Special Emphasis Panel/Scientific Review Group 2016/10 BRLE, 2016
* External Advisory Committee, PhD Training Program in Neuroscience, Michigan State University, 2014-2016.
* *Ad Hoc* grant reviewer, CSR IAM meeting 2012/01 ZRG1 IFCN-H (02) M and NIDA CEBRA Review, 2011-2016.
* Member, Society for Neuroscience Committee on Neuroscience Departments and Programs (CNDP), 2011-2014.
* Regular member, Neurobiology of Motivated Behavior Study Section (NMB), Center for Scientific Review, NIH, 2007-2011.
* Local Organizing Committee, 10th Triennial Meeting of the International Basal Ganglia Society, June 20-24, 2010.
* Local Organizing Committee, National Meeting of Directors of Graduate Training in Pharmacology, Salt Lake City, UT, July 25-28, 2007.
* Facilities Chair, Winter Conference on Brain Research, 2006-2008.
* Executive Committee, Winter Conference on Brain Research, 2006-2008.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, Neurobiology of Motivated Behavior (NMB), 2006.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, ZRG1 IFCN-A(02) (Member Conflict: Psychopharmacology), 2006.
* *Ad Hoc* grant reviewer, CSR/NIH, ZRG1 MDCN-K (90) Special Emphasis Panel, (Neurogenetics and Neurogenomics), 2006.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, ZRG1 F02A-A 20 (Fellowships: Behavioral Neuroscience), 2006.
* *Ad Hoc* grant reviewer, CSR/NIH, ZRG1 MDCN-K (90) Special Emphasis Panel, (Neurogenetics and Neurogenomics), 2005.
* *Ad Hoc* grant reviewer, NSF, RIG-CAA (Research Initiation Grants /Career Advancement Awards), 2005.
* Facilities Chair-Elect, Winter Conference on Brain Research, 2004-2005
* *Ad hoc* grant reviewer, CSR/NINDS, ZNS1 SRB-M(10) Udall Centers of Excellence in Parkinson’s Disease grant reviews, 2004
* *Ad hoc* grant reviewer, CSR, NIH, ZRG1 FO2A(20) IFCN Fellowship Review Panel, 2003-2006.
* *Ad hoc* grant reviewer, NINDS Special Emphasis Panel ZNS1 SRB-H, 2002.
* Program Committee, Winter Conference on Brain Research, 2001-2004.
* *Ad hoc* grant reviewer, Center for Scientific Review, NIH, IFCN-1, 2000-2001.
* Society for Neuroscience, Social Issues Committee, 2000-2002.
* Organizer, Town Meeting on the Neurobiology of Learning Disabilities, sponsored by the Winter Conference on Brain Research, Breckenridge, CO, January, 2000.
* *Ad hoc* grant reviewer, NIMH Special Emphasis Panel ZMH1-S(01), 1999.
* Member, Board of Directors, Winter Conference on Brain Research, 1999-2002.
* Organizer, Town Meeting on the Neurobiology of Mental Illness, sponsored by the Winter Conference on Brain Research, Aspen, CO, January, 1999.
* Organizer, Town Meeting on Drug Abuse, sponsored by the Winter Conference on Brain Research, Salt Lake City, UT, January, 1998.
* *Ad hoc* grant reviewer, Dept. of Defense (Army) Neurotoxin Exposure Treatment Research Program, 1997, 2002, 2004.
* *Ad hoc* grant reviewer, Veterans’ Affairs Medical Service, 1996

***Community Service***

* Board of Directors, The Gifted Music School, Salt Lake City, UT 2016-2019
* Judge, Utah Brain Bee, various years
* Volunteer for school science outreach and other Brain Awareness Week and Red Ribbon Week activities at Salt Lake City area schools, the Salt Lake Public Library, and The Leonardo, various years.
* Interfaith Hospitality Network / Family Promise volunteer helping to house and provide for homeless families in area churches in Salt Lake City. Provide food and serve as overnight and breakfast host for families.

**Student Committees**

***Postdoctoral advisor:***

Dr. Shashank Tandon, 2014-2021; Medical Writer 2 at MediTech Media (part of Nucleus Global).

Dr. Teri Furlong, 2014-2016, Lecturer, University of New South Wales, Australia.

Dr. Ashley Fricks-Gleason, 2010-2013, Associate Professor (Tenured), Dept. of Psychology and Neuroscience, Director of Undergraduate Research, Regis University, Denver CO

Dr. Jong-Hyun Son, 2009-2013, Assistant Professor (Tenure line), Dept. of Biology, University of Scranton, Scranton PA.

Dr. Ping Chen, 2008-2009, Attorney, Ping Chen Professional Corporation, Ottowa, Ontario, CAN

Dr. Roy Smeal, 2003-2007, Research Scientist, Sustainability Analyst, Climate Change Analyst, Energy Analyst.

Dr. K. Ashley Horner, 2002-2006, Professor (Tenured), Vice-Chair, Dept. of Biomedical Sciences, Mercer University School of Medicine, Columbus, GA.

***Doctoral Dissertation Advisor:***

Kaliana Veros (co-mentor), 2020-present, Program in Neuroscience, Univ. of Utah.

Danielle Giangrasso, 2015-2021, Program in Neuroscience, Univ. of Utah. Behavioral Research Scientist, APOPO, Morogoro, Tanzania.

Anne Gibson, 2015-2021, Program in Neuroscience, Univ. of Utah. Assistant Professor of Neuroscience, Westminster College, Salt Lake City, UT.

Elissa Pastuzyn, 2009-8/2013, Program in Neuroscience, Univ. of Utah. Director of Biology, Recursion Pharmaceuticals, Salt Lake City, UT.

Danielle Friend, 2009-5/2013, Director, Regulatory Policy and Intelligence at The Janssen Pharmaceutical Companies of Johnson & Johnson.

Melissa Barker, 2009-3/2013, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Research Associate Professor, Dept. of Pharmacy, University of Washington

Matt Riedy, 2004-2009, Program in Neuroscience, Univ. of Utah.

Principal Investigator at U.S. Space and Naval Warfare (SPAWAR) Systems Center Atlantic, Charleston, SC.

Renee (Gaspar) Gentzel, 2004-2006, Program in Neuroscience, Univ. of Utah.

Graduated with MPhil in 2006. Histology Lead at Spark Therapeutics, Inc.

David Daberkow, 2001-2006, Program in Neuroscience, Univ. of Utah.

Associate Professor (Tenured), Dept. of Biology, Eastern Washington University.

David E. Chapman, 1998-2003, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Field Medical Director, Pfizer.

David H. Adams, 1998-2002, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Senior Director, Product Development Immunology at Eli Lilly and Company

Amy C. Adams, 1996-2000, Program in Neuroscience, Univ. of Utah. Education Coordinator Social Justice Committee, St. Mark's United Methodist Church, Carmel, IN

Anindita Ganguly, 1995-2000, Dept. of Pharmacology and Toxicology, Univ. of Utah. Associate Director, Global Medical Communications, Neuroscience, Takeda

***Postdoctoral Mentoring Committees***

Iris Titos, 2022-present, Molecular Medicine Program

Michael Conoscenti, 2021-present, Dept. of Neurobiology

***Qualifying Examination / Doctoral Dissertation Committees***

Pearl Cummins, 2023-present, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah

Donzelle Taylor, 2022-present, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah

Jordan Grammer, 2021-present, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Daniel Hansen, 2020-present, qualifying exam and dissertation committee member, Dept. of Medicinal Chemistry, Univ. of Utah.

Rachel Gatlin, 2020-present, qualifying exam committee member and dissertation committee member, NRSA Co-Sponsor, Program in Neuroscience, Univ. of Utah.

Charlotte Magee, 2016-2021, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Nancy Williams, 2015-2020, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Heidi Febinger, 2015-2019, qualifying exam committee member and dissertation committee co-mentor, MPhil, Program in Neuroscience, Univ. of Utah.

Shasha Luks-Morgan, 2015-2020, qualifying exam committee member and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Joshua Barrios, 2015-2016, qualifying exam committee member, Program in Neuroscience, Univ. of Utah.

Anindita Roy, 2015-2020, qualifying exam and dissertation committee member, Dept. of Medicinal Chemistry, Univ. of Utah.

Tiffanie Dahl, 2013-2015, qualifying exam committee member, Program in Neuroscience, Univ. of Utah.

Daniel Epstein, 2013-2016, qualifying exam committee member and co-mentor, Program in Neuroscience, Univ. of Utah.

Erica Larsen, 2014, qualifying exam committee member, Higher Education Teaching Specialist Certification Program Mentor, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Chandni Sheth, 2011-2016, qualifying exam committee member and co-mentor, Program in Neuroscience, Univ. of Utah.

Trevor P.L. Fidler, 2011-2016, qualifying exam and dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Krystal Minear, 2011-2012, qualifying exam committee member, Dept. of Biology, Univ. of Utah.

Andrew Kraft Haack, 2011-2015, qualifying exam and co-mentor, Program in Neuroscience, Univ. of Utah.

Lingyan Xing, 2010-2015, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Andrea Leigh Schwager, 2010-2013, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Christopher Howard, 2009-2013, qualifying exam and dissertation committee member, Dept. of Biological Sciences, *Illinois State University*.

Patrick Gordon, 2009-2010, qualifying exam committee member, Program in Neuroscience, Univ. of Utah.

Adam McPherson, 2009-2010, qualifying exam committee member, Program in Neuroscience, Univ. of Utah.

Christina Rossi, 2009-2014, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Matthew Hearing, 2008-2010, Dissertation committee member, Dept. of Neurosciences, *Medical University of South Carolina*

Vernon Twede, 2008-2013, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Sean Patrick Flynn, 2008-2012, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Andrea Brushfield Morris, 2008-2011, qualifying exam and dissertation committee member, Dept. of Psychology, Univ. of Utah.

John Arik Hone, 2007-2012, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Karla Mark, 2007, Dept. of Pharmacology, *Boston University School of Medicine*, External examiner on PhD dissertation defense, February 16, 2007.

Katherine Zukor, 2006-2010, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Purba Marik, 2004, thesis committee, Dept. of Pharmacology and Toxicology, Univ. of Utah.

David Vago, 2003-2005, qualifying exam and dissertation committee member, Dept. of Psychology, Univ. of Utah.

Jason Rogers, 2003-2005, qualifying exam and dissertation committee member, Dept. of Psychology, Univ. of Utah.

Jim Otto, 2002-2006, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Heidi Bartholomeusz, 2001, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Mary Logan, 2000-2005, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Peter West, 2000-2004, qualifying exam / dissertation committee member, Program in Neuroscience, Univ. of Utah.

Inah Lee, 2000-2002, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Bryan Klein, 1999-2002, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Matt Barton, 1999-2002, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Tim Simeone, 1999-2002, dissertation committee member, Program in Neuroscience, Univ. of Utah.

Paul Gilbert, 1999-2002, dissertation committee member, Dept. of Psychology, Univ. of Utah.

Joseph Yeh, 1997-2002, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Wayne Pratt, 1997-2002, qualifying exam / dissertation committee member, Dept. of Psychology, Univ. of Utah.

Deanna Hubbard, 1997-2001, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Stefan Leutgeb, 1997-2000, qualifying exam and dissertation committee member, Program in Neuroscience, Univ. of Utah.

Ryan Metzger, 1997-2000, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Heather Haughey, 1997-2000, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Jeff Brown, 1997-1998, laboratory rotation mentor. 1999-present, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Scot C. Westwood, 1997-1999, laboratory rotation mentor. 1999-2001, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Jennifer Kulak, 1996-2000, qualifying exam and dissertation committee member, Dept. of Biology, Univ. of Utah.

Shana Skradski, 1996-2000, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Gricelly Vargas, 1996-1999, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Jerry Kokoshka, 1996-1998, dissertation committee member, Dept. of Pharmacology and Toxicology, Univ. of Utah.

***Research Rotation Mentor***

Alina Guo, 2020, Biological Chemistry Program, Univ. of Utah

Rachel Gatlin, 2020, Program in Neuroscience, Univ. of Utah

Jessica Szczesny Grey, 2016, MD/PhD student, School of Medicine, Univ. of Utah

Kevin Lawrence, 2016, PSURF student, College of Pharmacy, Univ. of Utah

Jennifer Cheng, 2016, Program in Neuroscience, Univ. of Utah

Erica Vander Mause, 2015, Biological Chemistry Program, Univ. of Utah

Maria Mercedes Disotuar, 2014, Biological Chemistry Program, Univ. of Utah

Anne Gibson, 2014, Program in Neuroscience, Univ. of Utah

Danielle Giangrasso, 2014, Program in Neuroscience, Univ. of Utah

Jaycie Loewen, 2012, Program in Neuroscience, University of Utah

Sarah Redmon, 2012, Program in Neuroscience, University of Utah

Chandni Sheth, 2011, Dept. of Pharmacology and Pharmacology, University of Utah

Elissa Pastuzyn, 2008, Program in Neuroscience, Univ. of Utah

Danielle Friend, 2008, Program in Neuroscience, Univ. of Utah

Melissa Barker, 2008, Dept. of Pharmacology and Toxicology, Univ. of Utah

Killian Zimmerman, 2008, Dept. of Pharmacology and Toxicology, Univ. of Utah

Jonathan Constance, 2007, Dept. of Pharmacology and Toxicology, Univ. of Utah

Eli Iacob, 2007, Program in Neuroscience, Univ. of Utah

Andrea Schwager, 2007, Program in Neuroscience, Univ. of Utah

Michael Rog, 2007, Dept. of Pharmacology and Toxicology, Univ. of Utah

Sean Flynn, 2007, Program in Neuroscience, Univ. of Utah

Gretchen Carr, 2006, Program in Neuroscience, Univ. of Utah

Andrew Zayachkivsky, 2006, Program in Neuroscience, Univ. of Utah

Cameron Metcalf, 2005, Dept. of Pharmacology and Toxicology, Univ. of Utah

Matthew Reidy, 2003, Program in Neuroscience, Univ. of Utah

Kathleen Davis, 2003, Program in Neuroscience, Univ. of Utah

Renee Esser, 2003, Program in Neuroscience, Univ. of Utah

Ashwini Sabnis, 2003, Dept. of Pharmacology and Toxicology, Univ. of Utah

Prachee Avasthi, 2001, Program in Neuroscience, Univ. of Utah.

David Daberkow, 2001, Program in Neuroscience, Univ. of Utah.

Kamisha Johnson-Davis, 2001-2002, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Jannine Truong, 2000-2001, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Aaron Rowland, 1999-2000, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Jeff Brown, 1997-1998, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Scot Westwood, 1997-1999, Dept. of Pharmacology and Toxicology, Univ. of Utah.

Peter West, 1997, Program in Neuroscience, Univ. of Utah .

Michael Brekke, 1996, Program in Neuroscience, Univ. of Utah.

Robert Renden, 1996, Program in Neuroscience, Univ. of Utah.

***Visiting Scholars***

Benjamin Przybylo, Visiting Pharmacy Student, Philipps-Universität Marburg, Germany, GPEN Program, April-September, 2015.

Katharina Oldenburger, Visiting Pharmacy Student/Master's Thesis candidate, Philipps-Universität Marburg, Germany, GPEN Program, May-November, 2011.

Morten Thomsen, 2008, Department of Pharmacology and Neuroscience, University of Copenhagen, Denmark (visiting student)

***Clinical Fellow Committees***

Michelle Schober, M.D., Dept. of Pediatrics (Children’s Health Research Center Fellow) Member, Scholarly Oversight Committee, 2004-2010.

***PharmD Students***

Benjamin Elggren, University of Utah College of Pharmacy, PSURF and PharmD Capstone Project Mentor, 2021-present

Jacob Earl, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2021-2023

Zachary Merrill, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2020-2022, Pharmacist, Lehi UT

Kuang-Yie Vo, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2018-2020, Pharmacist, Omnicare (A CVS Health Company)

McKenna Oney, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2018-2020

Colton Rice, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2018-2020, Staff Pharmacist, Associated Food Stores.

Gregory Haws, University of Utah College of Pharmacy, PharmD Capstone Project Mentor, 2018-2020, Pharmacist, St. Luke's Health System, Twin Falls, ID.

Kaitlyn Brown, PharmD (Wlkes University School of Pharmacy), ASPET Summer Undergraduate Research Fellow, 2013. Currently, Clinical Managing Director, American Association of Poison Control Centers (AAPCC).

***Undergraduate Students***

Caroline Maude Durham (Columbia/Juilliard), summer research, 2021

Joshua Wooley (Emory University), summer research project, 2021. Research Analyst, Anticonvulsant Drug Development Program, University of Utah.

Benjamin Ciener (Oberlin College), summer research project, 2020-2021. Technician B, New York Brain Bank, Columbia University Irving Medical Center

Monica Murray (Regis University), ASPET Summer Undergraduate Research Fellow, 2015. Currently, Regulatory Affairs Coordinator, University of Colorado Anschutz Medical Campus

Megan Schnedar (University of Utah), ACCESS Program Fellow, 2014-2015. BS in Physics, Univ. of Utah 2018. Software Engineer, Bolt.

Karlee Stokes (University of Utah), ASPET Summer Undergraduate Research Fellow, 2014. BS in Chemistry, University of Utah 2018. Graduate student, International Security, University of Bristol.

Kamela Ganesh (University of Virginia), Summer Undergraduate Research Fellow, BA in Biology from UVA in 2015; MS in Social Work University of Utah, 2020. Staff Clinical Social Worker, University of Utah Counseling Center.

Ashtyn Smith (Westminster College), Senior Honors Thesis, 2014-2015.Currently, doctoral student in Neuroscience, University of Virginia.

Brandon Grant (Texas A&M University), NIDA Summer Undergraduate Fellow, 2013. Assistant Community Director, Silver Tree Residential LLC.

Xue Lei (Peking University), Bioscience Summer Undergraduate Fellow, 2013. Doctoral Student, Industrial and Organizational Behavior, George Mason University.

Lee Leavitt (University of Utah), Dept of Biology, Neuroscience Undergraduate Research Program Fellow, 2012-2013. Software Engineer II, Myriad Genetics

Aaron Carver (University of Utah), Dept. of Biology, 2012. VP of Operations, Lightstream - Cloud & Technology Solutions, Clearfield, UT

Crystal Chau (University of Utah), ACCESS Program Fellow, Summer, 2012. Medical Laboratory Scientist, ARUP Laboratories, Salt Lake City, UT

James Kuhn (Westminster College), ASPET Summer Undergraduate Research Fellow, 2011.

Christine Garcia (Westminster College), ASPET Summer Undergraduate Research Fellow, 2009. Advisor for senior honors thesis, 2009-2010; Was Study Director, Nelson Laboratories. Currently, home raising tomorrow’s scientists!

Ariel Burns (Kansas State University), ASPET Summer Undergraduate Research Fellow, 2008. Ph D Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center (2015), Associate Lab Director, The Great Plains Laboratory, KS

Mikaela Martineau (Larson) (Smith College), ASPET Summer Undergraduate Research Fellow, Summer, 2006; Univ. of Utah Undergraduate Research Opportunity Program (UROP) Fellow, Fall, 2006; Associate Director of Research, Huntsman Cancer Institute, University of Utah.

John Ryan Rigby (Westminster College), ASPET Summer Undergraduate Research Fellow, 2005; Currently, Electronics Engineer, Hill Air Force Base.

Trever Rushton (Univ. of Utah) ASPET Summer Undergraduate Research Fellow, 2005; Sales, Industrial Supply Company, Salt Lake City, UT

Jonathan Newman (Westminster College), Research Internship and ASPET Summer Undergraduate Research Fellow, 2003; PharmD, University of Montana, 2007. Supervisor, Specialty Pharmacy, Phoenix Children’s Hospital, AZ.

Nathan Poulsen (Westminster College), Research Internship and ASPET Summer Undergraduate Research Fellow, 2002; MA in Pharmacology Columbia University 2005; MBA Cornell University School of Management, 2006; JD Fordham University School of Law, 2011; Chief Legal Officer (Interim) COMPASS Pathways, New York

Kelly Reihl (Univ. of Utah), ASPET Summer Undergraduate Research Fellow, 2001. Senior Research Associate, Recursion, UT.

***High School Students***

Tynli Moore, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2020. Student, Utah State University

Jasmine Aguilar Lopez, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2020. Honors Student, UofU

Elainna Ng, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2016. Graduate, UC-Berkeley 2022. Full-time Research Associate, CA.

Patrick Dowd, The Waterford School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2015. United States Naval Academy graduate (2020). Lieutenant (junior Grade), US Navy.

Olivia (Cella) Edwards, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2012. Embedded software engineer, SmartRent, CO

Crystal Chau, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2011. BS, Medical Laboratory Science, University of Utah (2016). Medical Laboratory Scientist, ARUP Laboratories, Salt Lake City, UT

Spencer Durfey, Juan Diego Catholic High School Summer Science Internship in College of Pharmacy, Univ. of Utah, 2009.

**Research Support**

***Active***

07/15/20-07/14/25 T32 NS115723 (Keefe, KA, PI) “Training in the Development of Novel Interventions for the Treatment of Neurological and Neurobehavioral Disorders,” NINDS/NIH, $1,044,304 total direct costs.

***Pending***

R01 DA056587 (Barrios, Keefe, Dudley MPI) “Illudalic acid analogs as chemical probes for PTPRD activity in substance use disorders” NIDA/NIH, 1,999,354.00 total direct costs. 07/01/22-06/30/26. Scored 35th percentile. To be resubmitted.

***Previous***

04/15/20-03/31/22 R21 DA049530 (Bortolato/Peterson MPI; Keefe KA Collaborator) “Exploring steroid-based therapies to reduce opioid abuse,” NIDA/NIH, $275,000 total direct costs.

02/01/19-01/31/22 R21 DA046600 (Keefe, KA & Wilcox, KS, MPI) “Astrocyte-mediated glutamate transport in dorsal striatum associated with habitual cocaine seeking,” NIDA/NIH $377,438.

10/01/2018-09/30/2019 HHSN271201600048C (Wilcox, KW, PI: Keefe, KA, Co-I) “Screening of Investigational Compounds to Treat, Modify or Prevent Epilepsy for the NINDS Epilepsy Therapy Screening Program (ETSP): Addendum (Track three): Evaluating investigational compounds as non-addictive analgesics. NIH/NINDS $77,129 (Keefe, KA Project direct costs).

04/01/2015 - 03/31/2018 R21DA037736 (Keefe, K.A. PI) "Exploring nucleocytoplasmic IEG mRNA export in striatal neuron subpopulations," NIDA/NIH $372,500.

03/01/2014 - 02/28/2018 R01MH094870 (Keefe, K.A., PI) "Opioid modulation of neural encoding of motivation and reward," NIMH/NIH $1,117,500.

2013, Univ. of Utah Research Instrumentation Fund Grant (Keefe, K.A., PI) "HPLC System with Electrochemical Detector for Analysis of Central Neurotransmitters," $38,000.

2012-2015 R21DA031408 (Kesner, RP & Keefe, KA, MPI) "Hippocampus and relapse associated with drug addiction," NIDA/NIH $410,670.

07/01/12-06/30/2016 T32NS076067 (Keefe, K.A. PI) "Predoctoral Interdepartmental Training Program in Neuroscience" NINDS/NIH $859,204.

2011-2014, F32DA032502 (Pastuzyn, PI; Keefe, Sponsor) "Arc, Phasic Dopamine, and Methamphetamine-Induced Striatal Learning Deficits" pre-doctoral NRSA Training Fellowship, NIDA/NIH, $70,359.

2011-2013 F32DA031523 (Fricks-Gleason, PI; Keefe, KA Sponsor) "nNOS-containing striatal interneurons and methamphetamine-induced neurotoxicity"post-doctoral NRSA Training Fellowship, NIDA/NIH $117,161.

2008-2014 R01DA024036 (Keefe, K.A. PI) "Long-term consequences of methamphetamine toxicity," NIDA/NIH $1,657,282.

2007-2010 R21DA022447 (Keefe, K.A., PI) “Neural Substrates of Stimulus-Induced Drug Seeking”, NIDA/NIH $408,613.

2002-2007 R01NS041673 (Keefe, K.A., PI) “Regulation of striatal neurons by NMDA receptor subtypes”, NINDS/NIH $1,406,428.

2001-2012 PO1DA13367 (Keefe, K.A., PI, Project 3). “Differential Effects of Methamphetamine and Cocaine”; NIDA/NIH, $1,654,599.

2004-2005 (Keefe, K.A., PI) “Cued Drug-seeking Behavior and Synaptic Plasticity in Striatal Efferent Neurons”, Univ. of Utah Research Foundation. $29,000.

2000-2003 R01DA09407 (Keefe, K.A., PI) “Role of Neurotensin in Methamphetamine Effects”, NIH/NIDA, $633,117.

1999-2000 (Wilcox, K.S., PI; Keefe, K.A., Co-I) “Functional differences in NMDA receptors of spiny efferent neurons in the medial vs. lateral striatum”, Univ. of Utah, College of Pharmacy, $3,950.

1998-2000 R43NS37995 (Layer, R.T., PI; Keefe, K.A. Co-I) Conantokins for the Treatment of Parkinson’s Disease $99,700.

1998-1999, “Anti-Parkinsonian potential of NPS compounds”, $3,402.

1997-1998, “Anti-Parkinsonian potential of conantokins”, Cognetix, Inc., $11,021.

1996-2002 R29NS35579 (Keefe, K.A., PI) “Regulation of striatal neurons by NMDA receptor subtypes”, NIH/NINDS, $518,486.

1996-1997, “Effects of dopamine-depleting brain lesions on NMDA receptor subunit expression”, Univ. of Utah College of Pharmacy Research Support Grant, $4,750.

1996-1997, “Effects of NMDA receptor antagonists on the function of striatal efferent neurons”, Univ. of Utah Research Grant, $5,800.

**Invited Presentations**

1. Scranton Brain and Behavior Conference, Invited Keynote Speaker, “"Consequences of methamphetamine-induced neurotoxicity on basal ganglia-mediated learning and memory processes, Scranton, PA March 5, 2022.”
2. 2019 Addictions Update: Science, Policy & Treatment, Invited speaker, “’Choosing’ To Use: Insights Into The Neurobiology Of Behavioral Choice,” Salt Lake City, UT June 13-14, 2019.
3. International Behavioral Neuroscience Society meeting, Invited speaker in symposium, "Basic and Translational Aspects of Drug Addiction," British Columbia, Canada, June, 2015.
4. Dept. of Biology, Eastern Washington University, "Consequences of methamphetamine-induced neurotoxicity on molecular and behavioral functions of the basal ganglia," January 16, 2015.
5. American Association of Colleges of Pharmacy, participant in session entitled, "Succession Planning in Academic Pharmacy," AACP Annual Meeting, July 29, 2014.
6. Dept. of Molecular Pharmacology, Rosalind Franklin University of Medicine and Science. Invited seminar speaker, "What a METH:  Long-term consequences of METH-induced partial DA loss on phasic DA neurotransmission and basal ganglia-mediated learning and memory processes", Sept. 27, 2012.
7. Dept. of Neurosciences, College of Medicine, The University of Toledo. Invited seminar speaker, "What a METH:  Long-term consequences of METH-induced partial DA loss on phasic DA neurotransmission and basal ganglia-mediated learning and memory processes", August 15, 2012.
8. Dept. of Physiology and Developmental Biology, Brigham Young University. Invited seminar speaker, "Consequences of Methamphetamine-Induced Neurotoxicity on Molecular and Behavioral Functions of the Basal Ganglia". Sept. 15, 2011.
9. 2011 Gordon Research Conference on Catecholamines, Invited speaker in session on Catecholamines in Neuropsychiatric/Neurological Disorders. August 7-12, 2011.
10. 44th Winter Conference on Brain Research, invited presenter in session entitled "Becoming addicted: The transition to dorsal striatum mediated drug-seeking behavior ", Keystone, CO, January 22-27, 2011.
11. Translational Research in Methamphetamine Addiction meeting. Session Chair (Pharmacology and Toxicology of Methamphetamine) and invited presentation entitled "Methamphetamine and basal ganglia dysregulation". July 19-21, 2010, Chico Hot Springs and Day Spa, Pray, Montana.
12. Dept. of Pharmacology and Toxicology Seminar Series, University of Utah, "Long-term consequences of methamphetamine-induced neurotoxicity on cellular, systems, and behavioral function of the basal ganglia", March 15, 2010.
13. 2010 Society of Toxicology Meeting, "How to Identify your skills and passions". Invited presentation in panel entitled "Where do I go now? Rational career development planning for early-career scientists". March 9, Salt Lake City, UT.
14. 2009 National Meeting of Directors of Graduate Study in Pharmacology, “Selecting for Success in Graduate School and Beyond”, April 22-24, New Orleans, LA.
15. 42nd Winter Conference on Brain Research. Organizer and presenter in workshop entitled "One Model Doesn’t Fit All—Partial DA Loss and Striatal Function", Copper Mtn, CO, January 24-30, 2009.
16. Neurology Residents Lecture Series, University of Utah, “Introduction to the Autonomic Nervous System I and II”, December 11 and 18, 2008.
17. 2008 Bioscience Symposium, University of Utah, “Long-term consequences of methamphetamine-induced neurotoxicity on cellular, systems, and behavioral function of the dorsal striatum", September 23, 2008.
18. Dept. of Neuroscience, Medical University of South Carolina, “Long-term consequences of methamphetamine-induced neurotoxicity on cellular, systems, and behavioral function of the dorsal striatum", May 1, 2008.
19. 23rd Annual Spring Meeting, Center for Neurobiology of Learning and Memory, University of California, Irvine. "Long-term consequences of methamphetamine-induced neurotoxicity on cellular, systems, and behavioral function of the dorsal striatum", April 17-18, 2008
20. 41st Winter Conference on Brain Research, invited presenter in scientific panel entitled "Learning and Plasticity: What’s Arc Got To Do with It?", Snowbird, UT, January 26-February 1, 2008.
21. 40th Winter Conference on Brain Research, invited presenter in scientific panel entitled “Skating on Thin “Ice”: Neurobiological and Behavioral Consequences of High Dose Methamphetamine.” Snowmass, CO, January, 2007.
22. 40th Winter Conference on Brain Research, organizer and presenter in scientific panel entitled “The glass ski boot: Fitting thalamic afferents into striatal anatomy and function.” Snowmass, CO, January, 2007.
23. Dept. of Molecular Pharmacology, Finch College of Health Sciences, The Chicago Medical School, “Long-term consequences of methamphetamine toxicity on basal ganglia function”, April, 2004.
24. US-Spain Binational Workshop on Drug Abuse and Addiction, National Institute on Drug Abuse (USA) and National Institute of Drug Research and Training (Spain). “Psychostimulant effects on basal ganglia function”. October 22-24, 2003, Washington, D.C..
25. Program in Neuroscience, University of Utah, “NMDA receptor diversity in the striatum: Subtypes and interactions”. October 7, 2003.
26. Dept. of Psychology, University of Utah, NMDA receptor diversity in the striatum: Subtypes and interactions. April 4, 2003.
27. 36th Winter Conference on Brain Research, Organizer and presenter in workshop entitled “Just because you believe it, doesn’t make it so: Indices of neuronal function”. Snowbird, UT January, 2003.
28. Professional Skills Workshop, Society for Neuroscience Annual Meeting. "Getting Into Graduate School", San Diego, CA, Nov. 9, 2001; Orlando Florida, 2002.
29. College on Problems of Drug Dependence, Neuropeptidergic responses to psychostimulant drugs of abuse: Strategies for drug development: Neuropeptide mRNA Responses to Psychostimulants, Quebec City, Canada, June, 2002.
30. 35th Winter Conference on Brain Research, Organizer and presenter on panel entitled "2002 Census Report on NMDA Receptor Subtypes in Striatum: More Than One", Snowmass, CO Jan 26-Feb. 2, 2002.
31. 9th International Conference on *In Vivo* Methods: Monitoring Molecules in Neuroscience. Invited speaker: "The theology of amino acid microdialysis: The mystery of origin and meaning", Dublin, Ireland, June 16-19, 2001.
32. Professional Skills Workshop, Society for Neuroscience Annual Meeting. Invited presenter and ethics discussant, New Orleans, LA, November 4, 2000.
33. University of Pittsburgh Survival Skills and Ethics Program course on Teaching Survival Skills and Ethics to Emerging Researchers. Invited ethics discussant and focus group leader, Vail, CO., June 10-14, 2000.
34. Motivational Neuronal Network Meeting; 'The Role of the Ventral Striatum in Plasticity and Learning', Gene Expression Focus Group invited participant, Seabrook Island Resort, April 15-17, 2000.
35. 8th International Conference on *In Vivo* Methods: Monitoring Molecules in Neuroscience, “Analyzing dopamine regulation of basal ganglia circuitry with in vivo microdialysis", Stony Brook, NY, June 19-23, 1999.
36. Endocrine Society Meeting Career Development Workshop, “Moving On...” (keynote address), San Diego, CA, June 11, 1999.
37. Dept. of Psychology, Univ. of Utah, Cognitive Neuroscience Symposium Series, “Conditional dependence of dopamine-mediated effects in striatal neurons on NMDA receptor activation”, Salt Lake City, UT, Nov. 20, 1998.
38. NPS Pharmaceuticals, Inc., “Conditional Dependence of Dopamine-Mediated Effects in Striatal Neurons on NMDA Receptor Activation”, Salt Lake City, UT, Sept. 27, 1998
39. Intermountain Chapter of the Society for Neuroscience, “Dopamine-Glutamate Interactions in the Regulation of Striatal Efferent Neurons”, Salt Lake City, UT, Oct. 20, 1997.
40. University of Pittsburgh Survival Skills and Ethics Program course on Teaching Survival Skills and Ethics to Emerging Researchers. “Helping Trainees Make the Transition”, Charleston, W.Va., June 7-11, 1997.
41. American Thoracic Society / American Lung Association 1997 International Conference, Post-graduate Course in Basic Science Techniques and Methods in Neurobiology. “Analysis of Neurotransmitters (HPLC, RIA, Radioenzymatic Assays)”, San Francisco, CA, May 17, 1997.
42. Dept. of Neuroscience, University of Pittsburgh, “Regulation of Striatal Neuron Function by Excitatory Afferents”, June 1, 1996.

**PUBLICATIONS (#=undergraduate; \*=graduate student; @=postdoctoral fellow)**

**Book Chapters**

1. Gibson, A.\* and **Keefe, K.A.** Consequences of Neurotoxin-induced Dopamine Loss on Striatal Synaptic Plasticity. In Handbook of Neurotoxicity (R. Kostrzewa, Ed.), Springer, 2021
2. **Keefe, K.A.** and Gibson, A.\* Models of Methamphetamine-induced Neurotoxicity. In Handbook of Neurotoxicity (R. Kostrzewa, Ed.), Springer, 2021
3. **Keefe, K.A.** and Horner, K.A.@ Neurotransmitter Regulation of Striatal Gene Expression (Chapter 30). In Handbook of Basal Ganglia Structure and Function 2e (H. Steiner and K.Y. Tseng, Eds.), Elsevier, Inc., 2017.
4. Garris, P.A. and **Keefe, K.A.** Voltammetric Analysis of Loss and Gain of Dopamine Function (Chapter 13). In Compendium of In Vivo Monitoring in Real-Time Molecular Neuroscience Volume 1: Fundamentals and Applications (G.S. Wilson and A.C. Michael, Eds.), World Scientific Publishing Co., 2015.
5. **Keefe, K.A.** and Horner, K.A.**@** Neurotransmitter Regulation of Basal Ganglia Gene Expression (Chapter 27). In Handbook of Basal Ganglia Structure and Function, a Decade of Progress (H. Steiner and K.Y. Tseng, Eds.), Elsevier, Inc., 2010.
6. **Keefe, K.A.** Sympathomimetic drugs (Chapter 70). In: Remington: The Science and Practice of Pharmacy (A.R. Gennaro, et al., Eds.), Mack Publishing Co., 2000/2003.
7. Zigmond, M.J. and **Keefe, K.A.** 6-Hydroxydopamine as a tool for studying catecholamines in adult animals: Lessons from the neostriatum. In: Highly Selective Neurotoxins: Basic and Clinical Applications (R. Kostrzewa, Ed.), Humana Press, 1997, pp. 75-107.
8. Gerfen, C.R., **Keefe, K.A.**, and Steiner H. D1 and D2 dopamine receptor-mediated gene regulation in the striatum. In: Pharmacological Regulation of Gene Expression in the CNS (K. Merchant, Ed.), CRC Press, Boca Rotan, FL, pp. 3-24, 1996.

**Reviews**

1. Friend, D.M.**\***, Fricks-Gleason, A.N.**@**, and **Keefe, K.A.** Is There A Role for Nitric Oxide in Methamphetamine-Induced Dopamine Terminal Degeneration? Neurotoxicity Research, 25(2):153-156, 2014.

**Research Articles**

1. Giangrasso DM\*+, Veros, K\*+, West PJ, Wilcox KS, **Keefe, KA**. Glutamate dynamics in the dorsolateral striatum of rats with goal-directed and habitual cocaine-seeking behavior. Front. Mol. Neurosci., 11 May 2023 Sec. Neuroplasticity and Development Volume 16 - 2023 | <https://doi.org/10.3389/fnmol.2023.1160157> +Authors contributed equally to this paper.
2. Gibson AS\*, West PJ, **Keefe KA**. Effects of methamphetamine-induced neurotoxicity on striatal long-term potentiation. Psychopharmacology (Berl). 2022 Jan;239(1):93-104. doi: 10.1007/s00213-021-06055-8. Epub 2022 Jan 5. PMID: 34985532; PMCID: PMC8728478.
3. Bosse, GD, Cadeddu, R, Floris, G, Farero, RD, Vigato, E, Lee, SJ, Zhang, T, Gaikwad, NW, **Keefe, KA**, Philips, PEM, Bortolato, M, Peterson, RT. The 5α-reductase inhibitor finasteride reduces opioid self-administration in animal models of opioid use disorder. Journal of Clinical Investigation 2021 May 17;131(10):e143990. doi: 10.1172/JCI143990 PMCID: PMC8121512
4. Gibson, AS\*, **Keefe, KA,** Furlong, TM@ Accelerated habitual learning resulting from L-dopa exposure in rats is prevented by N-acetylcysteine, Pharmacology, Biochemistry, and Behavior 2020 Nov;198:173033. doi: 10.1016/j.pbb.2020.173033.Epub 2020 Sep 2. PMID: 32888972
5. Henchey, C, **Keefe, KA**, Munger, MA, Witt, DM Fostering PharmD Student Research and Quality Improvement with Mentored Projects. American Journal of Pharmaceutical Education, Apr 2020, ajpe7940; DOI: 10.5688/ajpe7940
6. Giangrasso, DM\*, Furlong, TM@, **Keefe, KA** Characterization of striatum-mediated behavior and neurochemistry in the DJ-1 knock-out rat model of Parkinson’s disease. Neurobiology of Disease, 2020, Feb; 134: 104673. PMID: 31734455 DOI:[10.1016/j.nbd.2019.104673](https://doi.org/10.1016/j.nbd.2019.104673)
7. Tandon S**@**, **Keefe KA**, Taha SA. Mu opioid receptor signaling in the nucleus accumbens shell increases responsiveness of satiety-modulated lateral hypothalamus neurons. European Journal of Neuroscience, 2017, Apr 10. doi: 10.1111/ejn.13579. [Epub ahead of print]
8. Sheth, C**\***, Furlong, TM**@**, **Keefe, KA**, Taha, SA. The lateral hypothalamus to lateral habenual projection, but not the ventral pallidum to lateral habenula projection, regulates voluntary ethanol consumption. Behavioral Brain Research, 2017, Apr 18. pii: S0166-4328(16)31308-0. doi: 10.1016/j.bbr.2017.04.029. [Epub ahead of print]
9. Tandon S**@**, **Keefe KA**, Taha SA Excitation of lateral habenula neurons as a neural mechanism underlying ethanol-induced conditioned taste aversion. Journal of Physiology, J Physiol. 2017 Feb 15;595(4):1393-1412. doi: 10.1113/JP272994.
10. Sheth, C**\***, Furlong, TM**@**, **Keefe, KA**, Taha, SA Lesions of the rostromedial tegmental nucleus increase voluntary ethanol consumption and accelerate extinction of ethanol-induced conditioned-taste aversion. Psychopharmacology (Berl), 233(21-22):3737-3749, 2016
11. Kesner, RP, Kirk, RA**#**, Clark, JK, **Keefe, K** Naloxone injections into CA3 disrupt pattern completion associated with relapse from cocaine seeking. Hippocampus, 26(7), 892-898, 2016.
12. Furlong, TM**@**, Leavitt, LS**#**, **Keefe, KA**, Son, J-H**@** Methamphetamine-, d-amphetamine-, and p-chloroamphetamine-induced neurotoxicity differentially effect impulsive responding on the stop-signal task in rats. Neurotoxicity Research, 29(4): 569-582, 2016.
13. Fricks-Gleason, AN**@**, German, CL, Hoonakker, AJ, Friend, DM**\***, Ganesh, KK#, Carver, AS**#**, Hanson, GR, Fleckenstein, AE, **Keefe, KA** An acute, epitope-specific modification in the dopamine transporter associated with methamphetamine-induced neurotoxicity. Synapse, 70(4), 139-146, 2016. *\*Cover Article\**
14. Robinson JD**\***, Howard CD**\***, Pastuzyn ED**\***, Byers DL, **Keefe KA**, Garris PA Methamphetamine-induced neurotoxicity disrupts pharmacologically evoked dopamine transients in the dorsomedial and dorsolateral striatum. Neurotoxicity Research, 26(2):152-167, 2014.
15. Pastuzyn ED**\*** and **Keefe, KA** Changes in neural circuitry regulating response-reversal learning and Arc-mediated consolidation of learning in rats with methamphetamine-induced partial monoamine loss. Neuropsychopharmacology, 39(4):963-972, 2014.
16. Friend, DM**\*** and **Keefe, KA** A role for D1 DA receptors in striatal methamphetamine-induced neurotoxicity. Neuroscience Letters, 555:243-247, 2013.
17. Riedy MD**\*** and **Keefe KA** Lack of increased immediate early gene expression in rats reinstating cocaine-seeking behavior to discrete sensory cues. PLoS One, Sep 17;8(9):e72883, 2013.
18. Fricks-Gleason, AN**@**, **Keefe, KA** Evaluating the role of neuronal nitric oxide synthase-containing striatal interneurons in methamphetamine-induced dopamine neurotoxicity. Neurotoxicity Research, 24(2):288-297, 2013.
19. Howard, CD**\***, **Keefe, KA**, Daberkow, DP, Ramsson, E, Garris, PA Methamphetamine-induced neurotoxicity disrupts naturally occurring phasic dopamine signaling. European Journal of Neuroscience, 38(1):2078-2088, 2013.
20. Howard, CD**\***, Pastuzyn, EP**\***, Barker-Haliski, ML**\***, Garris, PA, **Keefe, KA** Phasic-like stimulation of the medial forebrain bundle augments striatal gene expression despite methamphetamine-induced partial dopamine denervation. The Journal of Neurochemistry, 125(4):555-565, 2013.
21. Friend, DM**\*** and **Keefe, KA** Glial reactivity in resistance to methamphetamine-induced neurotoxicity. The Journal of Neurochemistry, 125(4):566-574, 2013.
22. Friend, DM**\***, Son, JH**@**, **Keefe, KA**, Fricks-Gleason, AN**@** Expression and activity of nitric oxide synthase isoforms in methamphetamine-induced striatal dopamine toxicity. The Journal of Pharmacology and Experimental Therapeutics. 344(2):511-521, 2013.
23. Son, J-H**@**, Kuhn, J**#**, and **Keefe, KA** Perseverative behavior in rats with methamphetamine-induced neurotoxicity. Neuropharmacology, 67:95-103, 2013.
24. Barker-Haliski, ML**\***, Oldenberger, K**#**, **Keefe, KA** Impaired Arc/Arg 3.1 mRNA expression in striatal efferent neurons following partial monoamine loss induced by methamphetamine. The Journal of Neurochemistry, 123(5):845-855, 2012.
25. Barker-Haliski, ML**\***, Pastuzyn, ED**\***, **Keefe, KA** Expression of the core exon-junction complex factor eIF4A3 is increased during behavioral activation and striatally mediated learning. Neuroscience, 226:51-61, 2012.
26. Pastuzyn, ED**\*** and **Keefe, KA**, Altered Arc-regulated striatal learning in rats pretreated with a neurotoxic regimen of methamphetamine. Neuropsychopharmacology, 37(4): 885-895, 2012.
27. Son, J-H**@**, Latimer, C**#**, and **Keefe, KA** Impaired formation of stimulus-response, but not action-outcome, associations in rats with methamphetamine-induced neurotoxicity. Neuropsychopharmacology, Nov;36(12):2441-2451, 2011.
28. Howard, CD**\***, **Keefe, KA**, Garris, PA, and Daberkow, DP Methamphetamine-induced neurotoxicity decreases phasic, but not tonic, dopaminergic signaling in the rat striatum. The Journal of Neurochemistry, Aug;118(4):668-676, 2011.
29. Riedy, MD**\***, Kesner, RP, Hanson, GR, and **Keefe KA** Discriminative stimulus- vs. conditioned reinforcer-induced reinstatement of drug-seeking behavior and arc mRNA expression in dorsolateral striatum. The Basal Ganglia IX: Advances in Behavioral Biology. H. J. Groenewegen. New York, Springer. 58: 269-284, 2009.
30. Hanson, JE, Birdsall, E, Seferian, KS, Crosby, MA, **Keefe, KA**, Gibb, JW, Hanson, GR, and Fleckenstein, AE Methamphetamine-induced dopaminergic deficits and refractoriness to subsequent treatment. European Journal of Pharmacology, 607(1-3); 68-73, 2009.
31. Smeal, RM**@**, **Keefe, KA**, and Wilcox, KS Differences in excitatory transmission between thalamic and cortical afferent pathways to single spiny efferent neurons of dorsal striatum. European Journal of Neuroscience, 28(10): 2041-2052, 2008.
32. Daberkow, DP**\***, Riedy, MD**\***, Kesner, RP, and **Keefe, KA** Effect of methamphetamine neurotoxicity on learning-induced arc mRNA expression in identified striatal efferent neurons. Neurotoxicity Research, 14(4): 307-315, 2008.
33. Daberkow, DP**\***, Riedy, MD**\***, Kesner, RP, and **Keefe, KA** Arc mRNA induction in striatal efferent neurons associated with response learning. European Journal of Neuroscience, 26, 228-241, 2007.
34. Crowley, WR, Ramoz, G, Torto, R, **Keefe, KA**, Wang, JJ, Kalra, SP Neuroendocrine actions and regulation of hypothalamic neuropeptide Y during lactation. Peptides, 28, 447-452, 2007.
35. Smeal, RM**@**, Gaspar, RC**\***, **Keefe, KA**, Wilcox, KS A rat brain slice preparation for characterizing both thalamostriatal and corticostriatal afferents. Journal of Neuroscience Methods, 159, 224-235, 2007.
36. Horner, KA**@**, Westwood, SC**\***, Hanson, GR, and **Keefe, KA** Multiple, high doses of methamphetamine increase the number of preproneuropeptide Y mRNA-expressing neurons in the striatum of rat via a dopamine D1 receptor-dependent mechanism. Journal of Pharmacology and Experimental Therapeutics, 319: 414-421, 2006.
37. Horner, KA**@** and **Keefe, KA** Regulation of psychostimulant-induced preprodynorphin, c-fos, and zif/268 messenger RNA expression in the rat dorsal striatum by mu opioid receptor blockade. European Journal of Pharmacology, 532, 61-73, 2006.
38. Frankel, PS, Hoonakker, AJ, Hanson, GR, Bush, L, **Keefe, KA**, and Alburges, M Differential neurotensin responses to low and high doses of methamphetamine in the terminal regions of striatal efferents. European Journal of Pharmacology, 522, 47-54, 2005.
39. Daberkow, DP**\***, Kesner, RP, and **Keefe, KA** Relation of methamphetamine-induced monoamine loss to basal ganglia-dependent learning. Pharmacology, Biochemistry, and Behavior, 81. 198—204, 2005.
40. Crowley, WR, Ramoz, G, **Keefe, KA**, Torto, R, Kalra, SP and Hanson, GR Differential effects of methamphetamine on expression of neuropeptide Y mRNA in hypothalamus and on serum leptin and ghrelin concentrations in ad libitum fed and scheduled fed rats. Neuroscience, 132, 167-173, 2005.
41. Horner, KA**@**, Adams, DH**\***, Hanson, GR, and **Keefe, KA** Blockade of stimulant-induced preprodynorphin messenger RNA expression in the striatal matrix by serotonin depletion. Neuroscience, 131, 67-77, 2005.
42. Adams, DH**\***, Hanson, GR, and **Keefe, KA** 3,4-Methylenedioxymethamphetamine increases neuropeptide messenger RNA expression in rat striatum. Molecular Brain Research, 133, 131-142, 2005.
43. Johnson-Davis, KL**\***, Hanson, GR, and **Keefe, KA** Lack of effect of k-opioid receptor agonism on long-term methamphetamine-induced neurotoxicity in rats. Neurotoxicity Research, 5, 273-282, 2003.
44. Adams, DH**\***, Hanson, GR, and **Keefe, KA** Distinct effects of methamphetamine and cocaine on preprodynorphin messenger RNA in rat striatal patch and matrix. The Journal of Neurochemistry, 84, 87-93, 2003.
45. Chapman, DE**\***, **Keefe, KA**, and Wilcox, KS Evidence for functionally distinct synaptic NMDA receptors in ventromedial versus dorsolateral striatum. Journal of Neurophysiology, 89, 69-80, 2003.
46. Johnson-Davis, KL**\***, Hanson, GR, and **Keefe, KA** Long-term post-synaptic consequences of methamphetamine on preprotachykinin mRNA expression. The Journal of Neurochemistry, 82, 1472-1479, 2002.
47. Hanson, GR, Bush, L, **Keefe, KA**, and Alburges, ME Distinct responses of basal ganglia substance P systems to low and high doses of methamphetamine. The Journal of Neurochemistry, 82, 1171-1178, 2002.
48. Alburges, ME, **Keefe, KA**, and Hanson, GR Unique responses of limbic met-enkephalin systems to low and high doses of methamphetamine. Brain Research, 905,120-1266, 2001.
49. Adams, AC**\*** and **Keefe, KA** Examination of the involvement of protein kinase A in D2 dopamine receptor antagonist-induced immediate early gene expression. The Journal of Neurochemistry, 77, 326-335, 2001.
50. Ganguly, A**\*** and **Keefe, KA** Unilateral dopamine depletion increases expression of the NR2A subunit of the NMDA receptor in enkephalin-positive and enkephalin-negative striatal neurons. Neuroscience, 103, 405-412, 2001.
51. Alburges, ME, **Keefe, KA**, and Hanson, GR Contrasting responses by extrapyramidal met-enkephalin systems to low and high doses of methamphetamine. The Journal of Neurochemistry, 76, 721-729, 2001.
52. Chapman, DE**\***, Hanson, GR, Kesner, RP, and **Keefe, KA** Long-term changes in basal ganglia function after a neurotoxic regimen of methamphetamine. The Journal of Pharmacology and Experimental Therapeutics, 296, 520-527, 2001.
53. Adams, DH**\***, Hanson, GR, and **Keefe, KA** Differential effects of cocaine and methamphetamine on neurotensin/neuromedin N and preprotachykinin mRNA expression in unique regions of the striatum. Neuroscience, 102, 843-851, 2001.
54. Adams, AC**\*** and **Keefe, KA** Degree of immediate early gene induction in striatum by eticlopride determines sensitivity to N-methyl-D-aspartate receptor blockade. Brain Research, 885, 201-207, 2000.
55. Adams, AC**\*** and **Keefe, KA** Effects of conantokins on L-dopa-induced behavioral and striatal immediate early gene expression. European Journal of Pharmacology, 404, 303-313, 2000.
56. Adams, DH**\***, Hanson, GR, and **Keefe, KA** Cocaine and methamphetamine differentially affect opioid peptide mRNA expression in the striatum. The Journal of Neurochemistry, 75, 2061-2070, 2000.
57. Ganguly, A**\*** and **Keefe, KA** Effects of MK-801 on D1 dopamine receptor-mediated immediate early gene expression in the dopamine-depleted striatum. Brain Research, 871,156-159, 2000.
58. Adams, AC**\*** and **Keefe, KA** Buprenorphine potentiates L-Dopa-induced contralateral rotation in 6-hydroxydopamine-treated rats. Neuroscience Letters, 274, 25-28, 1999.
59. Hanson, GR and **Keefe, KA** Dopamine D-1 regulation of caudate neurotensin mRNA in the presence or absence of the nigrostriatal dopamine pathway. Molecular Brain Research, 66, 111-121, 1999.
60. **Keefe, KA** and Gerfen, CR Local infusion of the (+/-)-alpha-amino-3-hydroxy-5-methylisoxazole-4-propionate/kainate receptor antagonist 6-cyano-7-nitroquinoxaline-2,3-dione does not block D1 dopamine receptor-mediated increases in immediate early gene expression in the dopamine-depleted striatum. Neuroscience, 89, 491-504, 1999.
61. **Keefe, KA** and Adams, AC**\*** Differential effects of NMDA receptor blockade on eticlopride-induced immediate early gene expression in the medial and lateral striatum. The Journal of Pharmacology and Experimental Therapeutics, 287, 1076-1083, 1998.
62. **Keefe, KA** and Ganguly, A**\*** Effects of NMDA receptor antagonists on D1 dopamine receptor-mediated changes in striatal immediate early gene expression: Evidence for involvement of pharmacologically distinct NMDA receptors? Developmental Neuroscience, 20, 216-228, 1998.
63. Gerfen, CR, **Keefe, KA**, and Steiner, H Dopamine mediated gene regulation in the striatum. Proceedings of the Eighth International Catecholamine Symposium, Pacific Grove, CA, October 13-18, 1996, Advances in Pharmacology, “Catecholamines: Bridging Basic Science with Clinical Medicine”, 1998, 670-673.
64. Zigmond, MJ, Castro, SL, **Keefe, KA**, Abercrombie, ED, and Sved, AF Role of excitatory amino acids in the regulation of dopamine synthesis and release in the neostriatum. Amino Acids, 14, 57-62, 1998.
65. **Keefe, KA** and Gerfen, CR D1 dopamine receptor-mediated induction of *zif268* and c-*fos* in the dopamine-depleted striatum: Differential regulation and independence from NMDA receptors. The Journal of Comparative Neurology, 367, 165-176, 1996.
66. **Keefe, KA** Applying basic neuroscience to aphasia therapy: What the animals are telling us. Clinical Aphasiology Conference Proceedings, American Journal of Speech-Language Pathology, 4(4), 88-93, 1995.
67. Gerfen, CR, **Keefe, KA**, and Gauda, EB D1 and D2 dopamine receptor function in the striatum: Co-stimulation of D1- and D2-dopamine receptors on separate populations of neurons results in potentiated immediate early gene response in D1-containing neurons. The Journal of Neuroscience, 15, 8167-8176, 1995
68. **Keefe, KA** and Gerfen, CR D1-D2 dopamine receptor synergy in striatum: Effects of intrastriatal infusions of dopamine agonists and antagonists on immediate early gene expression. Neuroscience, 66, 903-913, 1995.
69. Gerfen, CR and **Keefe, KA** Neostriatal dopamine receptors (letter). Trends in Neurosciences, 17, 2-3, 1994.
70. **Keefe, KA**, Zigmond, MJ, and Abercrombie, ED In vivo regulation of extracellular dopamine in the neostriatum: Influence of impulse activity and local excitatory amino acids. Journal of Neural Transmission [Gen Sect], 91, 223-240, 1993.
71. **Keefe, KA**, Sved, AF, Zigmond, MJ, and Abercrombie, ED Stress-induced dopamine release in the neostriatum: Evaluation of the role of action potentials in nigrostriatal dopamine neurons or local initiation by endogenous excitatory amino acids. Journal of Neurochemistry, 61, 1943-1952, 1993.
72. **Keefe, KA**, Zigmond, MJ, and Abercrombie, ED Extracellular dopamine in striatum: Influence of nerve impulse activity in medial forebrain bundle and local glutamatergic control. Neuroscience, 47, 325-332, 1992.
73. **Keefe, KA**, Stricker,EM, Zigmond, MJ, and Abercrombie, ED Environmental stress increases extracellular dopamine in striatum of 6-hydroxydopamine-treated rats: In vivo microdialysis studies. Brain Research, 527, 350-353, 1990.
74. **Keefe, KA**, Salamone, JD, Zigmond, MJ, and Stricker, EM Paradoxical kinesia in Parkinsonism is not mediated by dopamine: Studies in an animal model. Archives of Neurology, 46, 1070-1075, 1989.
75. Abercrombie, ED, **Keefe, KA**, DiFrischia, DS, and Zigmond, MJ Differential effects of stress on in vivo dopamine release in striatum, nucleus accumbens, and medial frontal cortex. The Journal of Neurochemistry, 52, 1655-1658, 1989.
76. **Keefe, KA**, Feldman, H, and Holland, AH Lexical learning and language abilities in preschoolers with perinatal brain damage. Journal of Speech and Hearing Disorders, 54, 395-402, 1989.
77. Feldman, H, Holland, AH, and **Keefe, KA** Language abilities after left hemisphere brain injury: A case study of twins. Topics in Early Childhood Special Education, 9, 32-47, 1989.
78. **Keefe, KA** Motor and cognitive interference effects on unimanual tapping rates. Brain and Cognition, 4,165-170, 1985.

**Abstracts and Presentations**

Veros, KM\*, West, P, Wilcox, K, and **Keefe** Glutamate dynamics of the tripartite synapse in the dorsolateral striatum of cocaine-seeking rats. Program No. PSTR167.12. 2023 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2023. Online.

Earl, J\*, Gibson, AS\*, and **Keefe, KA** The effects of bupropion on Arc mRNA expression in mice with methamphetamine-induced neurotoxicity. Program No. PSTR430.04. 2023 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2023. Online.

Veros, KM\*, Giangrasso, D\*, West, PJ, Wilcox, KS, and **Keefe, KA** Extended cocaine self-administration may be associated with slower glutamate synaptic transporter currents in astrocytes in the dorsolateral striatum, Neurobiology of Drug Addiction Gordon Research Conference, Aug. 14-19, 2022, Newry, ME.

Gibson, AS\*, West, PJ, **Keefe, KA** Impaired striatal LTP and restoration by bupropion in rats with methamphetamine-induced neurotoxicity, Neurobiology of Drug Addiction Gordon Research Conference, Aug. 14-19, 2022, Newry, ME.

Veros, KM\*, Giangrasso, D\*, West, PJ, Wilcox, KS, and **Keefe, KA** Extended cocaine self-administration may be associated with slower glutamate synaptic transporter currents in astrocytes of the dorsolateral striatum, Basal Ganglia Gordon Research Conference, March 20-25, 2022, Ventura, CA.

Gibson, AS\*, West, PJ, **Keefe, KA** Impaired striatal LTP and restoration by bupropion in rats with methamphetamine-induced neurotoxicity, Basal Ganglia Gordon Research Conference, March 20-25, 2022, Ventura, CA.

Giangrasso, D\*, Wagner, JN, Timm, MM, Wilcox, KS, and **Keefe, KA** Functional Remodeling of the Triparite Synapse in Cocaine Abuse and Addiction (P081.08), SfN Global Connectome: A Virtual Event, January 11-13, 2021.

Gibson, AS\*, West PJ, and **Keefe, KA.** Effects of methamphetamine-induced dopamine toxicity on striatal plasticity (P286.06)**,** SfN Global Connectome: A Virtual Event, January 11-13, 2021.

Giangrasso, D\*, Wilcox, KS, and **Keefe, KA** Functional Remodeling of the Triparite Synapse in Cocaine Abuse and Addiction, GLIA - CSHL Virtual Meeting 2020, July 15-19, 2020.

Gibson, AS\*, West PJ, and **Keefe, KA.** Effects of methamphetamine-induced dopamine toxicity on striatal plasticity**,** IBNS 2020 Online Poster Session, August 3-7 2020.

Gibson, AS\* and **Keefe, KA.** Effects of methamphetamine-induced dopamine toxicity on striatal plasticity. Program No. 236.06. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online.

Giangrasso D\*, Furlong T@, **Keefe, KA.** Striatally-mediated motor and cognitive function in the DJ-1 KO rat model of Parkinson's disease. Program No. 050.02. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online.

Giangrasso, D\*, Furlong, T@, **Keefe, KA.** Characterization of striatally-mediated motor and cognitive function in the DJ-1 KO rat model of Parkinson’s disease. 12th Triennial International Basal Ganglia Society Meeting, Merida Mexico, March 26-30, 2017

Gibson, AS\* and **Keefe, KA**. L-DOPA treatment for methamphetamine-induced basal ganglia dysfunction. 12th Triennial International Basal Ganglia Society Meeting, Merida Mexico, March 26-30, 2017

Giangrasso, D\*, Furlong, T@, **Keefe, KA.** Characterization of striatally-mediated motor and cognitive function in the DJ-1 KO rat model of Parkinson’s disease (Tu-47C). Dopamine 2016, Vienna, Austria, September 5-8, 2016

Gibson, AS\* and **Keefe, KA**. L-DOPA treatment for methamphetamine-induced basal ganglia dysfunction (We-61C). Dopamine 2016, Vienna, Austria, September 5-8, 2016

Tandon, S@, Sheth, C\*, Furlong, TM@, **Keefe, KA**, and Taha, S. Lateral habenula-rostromedial tegmental nucleus-ventral tegmental area circuit regulates voluntary ethanol consumption by aversion mediated learning. Dopamine 2016, Vienna, Austria, September 5-8, 2016

Furlong, T.M. @, & **Keefe, K.A.** Accelerated habitual behavior resulting from L-dopa exposure is rescued by N-acetylcysteine exposure. Postdoc Appreciation Day Poster Competition, runner-up. The University of Utah, USA. 2015.

Furlong, T.M. @, Gibson, A.M.\*, **Keefe, K.A.** Past exposure to L-Dopa accelerates habitual responding in rats. Program No. 180.15. 2015 Neuroscience Meeting Planner, Chicago, IL: Society for Neuroscience, 2015.

Tandon, S. @, **Keefe, K.A.**, Taha, S. Excitatory activity in lateral habenula neurons during expression of ethanol-induced conditioned taste aversion. Program No. 140.03 2015 Neuroscience Meeting Planner, Chicago, IL: Society for Neuroscience, 2015.

Sheth, C.\*, Furlong, T.M. @, **Keefe, K.A.**, Taha, S.A. Role of afferents and efferents of the lateral habenula in ethanol-directed behaviors. Program No. 140.02. 2015 Neuroscience Meeting Planner, Chicago, IL: Society for Neuroscience, 2015.

Pastuzyn, E.D.\*, Howard, C.D., Garris, P.A., **Keefe, K.A.** Methamphetamine-induced impairment in phasic dopamine signaling, *Arc*, and basal ganglia-mediated learning and memory functions. Program No. 157.17. 2013 Neuroscience Meeting Planner, San Diego, CA: Society for Neuroscience, 2013.

Howard, C.D., Daberkow, D.P., Pastuzyn, E.D.\*, **Keefe, K.A.**, Garris, P.A. Acute methamphetamine administration activates phasic dopamine signaling disrupted by methamphetamine-induced neurotoxicity. Program No. 157.14. 2013 Neuroscience Meeting Planner, San Diego, CA: Society for Neuroscience, 2013.

Friend, D.M.\*, Chau, C.C.#, Strathmann, F.G., **Keefe, K.A.** Striatal glial proliferation following methamphetamine-induced neurotoxicity. Program No. 157.07. 2013 Neuroscience Meeting Planner, San Diego, CA: Society for Neuroscience, 2013.

Leavitt, L.#, Son, J-H@, **Keefe, K.A.** Impairment of Withholding a “Pre-Potent” Response In Rats With METH-induced Neurotoxicity*.* National Conference on Undergraduate Research, April 11-13, La Crosse, WI, 2013.

Howard, C.D., **Keefe, K.A.,** Daberkow, D.P., Ramsson, E., Garris, P.A. Methamphetamine-induced neurotoxicity diminishes phasic dopamine activity in the striatum of freely moving rats. Program No. 360.03. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

**Keefe, K.A.**, Pastuzyn, E.D.\*, Oldenburger, K.#, Pelton, B., Barker-Haliski, M.L.\* L-DOPA treatment restores impaired basal ganglia gene expression in rats with methamphetamine-induced neurotoxicity. Program No. 360.04. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Pastuzyn, E.D.\*, **Keefe, K.A.** Partial methamphetamine-induced striatal dopamine loss results in a change in circuitry mediating Arc-regulated response reversal learning. Program No. 360.05. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Barker-Haliski, M.L.\*, **Keefe, K.A.** Partial monoamine loss induced by methamphetamine impairs Arc/Arg 3.1 and zif268/egr1 mRNA expression and subcellular localization in striatal efferent neurons. Program No. 360.02. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Son., J-H. @, **Leavitt, L.#**, Keefe, K.A. Impairment of withholding a “pre-potent” response in rats with METH-induced neurotoxicity. Program No. 360.01. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Friend, D.M.\*, **Keefe, K.A.** Glial reactivity in repeated methamphetamine exposure. Program No. 360.07. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Fricks-Gleason, A.N. @, **Keefe, K.A.**, Evaluating the role of neuronal nitric oxide synthase-containing striatal interneurons in methamphetamine-induced dopamine neurotoxicity. Program No. 360.06. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012.

Fleckenstein, A.E., **Keefe, K.A.**, German, C.L., Friend, D.M.\*, Hanson, G.R., Fricks-Gleason, A.N. Identification of a novel change in the dopamine transporter induced by a repeated, high-dose methamphetamine neurotoxic regimen of methamphetamine. Program No. 42.08. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012. Online.

Son, J.-H. @, Kuhn, J.#, **Keefe, K.A.** Sterotypic perseverative instrumental behavior associated with methamphetamineinduced neurotoxicity in rats. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

Pastuzyn, E.D.\*, **Keefe, K.A.** Partial methamphetamine-induced striatal dopamine loss causes a change in circuitry mediating Arc-regulated response reversal learning. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

Friend, D.M.\*, Fricks-Gleason, A.N. @, **Keefe, K.A.** Nitric oxide synthase isoform expression and activity in methamphetamine-induced striatal toxicity. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

Barker-Haliski, M.L.\* and **Keefe, K.A.** Partial monoamine loss induced by methamphetamine impairs Arc/Arg 3.1 mRNA expression in striatal efferent neurons. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

**Keefe, K.A.**, Oldenberger, K.#, Pastuzyn, E.D.\*, Barker-Haliski, M.L.\* Chronic L-DOPA treatment restores impaired basal ganglia gene expression in rats with methamphetamine-induced neurotoxicity. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

Fricks-Gleason, A.N. @, Friend, D.M.\*, **Keefe, K.A.** The role of neuronal nitric oxide synthase-containing striatal interneurons in methamphetamine-induced dopamine neurotoxicity. 45th Annual Winter Conference on Brain Research, Snowbird, UT January 21-26, 2012.

Son, J.-H. @, Kuhn, J.#, and **Keefe, K.A.** Perseverative instrumental behavior in rats with methamphetamine-induced neurotoxicity. Gordon Research Conference on Catecholamines, Bates College, August 7-12, 2011.

Pastuzyn E.D.\*, Howard, C.D., Garris, P.A., and **Keefe, K.A.** Partial dopamine loss induced by methamphetamine alters Arc regulated striatal learning. Gordon Research Conference on Catecholamines, Bates College, August 7-12, 2011.

Barker-Haliski, M.L.\* and **Keefe, K.A.** Arc/Arg3.1 regulation in striatal efferent neurons under normal conditions and in the presence of partial dopamine loss induced by methamphetamine. Gordon Research Conference on Catecholamines, Bates College, August 7-12, 2011.

Fricks-Gleason, A.N. @, Friend, D.M.\*, and **Keefe, K.A.** The role of neuronal nitric oxide synthase-containing interneurons in methamphetamine-induced dopamine neurotoxicity. Gordon Research Conference on Catecholamines, Bates College, August 7-12, 2011.

Friend, D.M.\*, Fricks-Gleason, A.N. @, and **Keefe, K.A.** NOS isoform expression and activity in methamphetamine-induced striatal dopamine toxicity. Gordon Research Conference on Catecholamines, Bates College, August 7-12, 2011.

Fricks-Gleason, A.N. @, Friend, D.M.\*, and **Keefe, K.A.** The role of neuronal nitric oxide synthase-containing interneurons in methamphetamine-induced dopamine neurotoxicity. Soc. Neurosci. Abstr. 577.18, 2010.

Friend, D.M.\*, and **Keefe, K.A.** Expression of NOS isoforms in methamphetamine-induced striatal dopamine toxicity. Soc. Neurosci. Abstr. 577.17, 2010

Pastuzyn E.D.\* and **Keefe, K.A.** Impact of partial dopamine loss induced by methampheramine on Arc-mediated, striatally based learning. Soc. Neurosci. Abstr. 577.16, 2010.

Barker, M.L.\* and **Keefe, K.A.** *Arc/Arg3.1* regulation in striatal efferent neurons under normal conditions and in the presence of partial dopamine loss induced by methamphetamine. Soc. Neurosci. Abstr. 577.15, 2010.

Son, J.-H. @, Garcia, C.#, and **Keefe, K.A.** Impaired formation of stimulus-response, but not action-outcome associations in rats with partial dopamine loss induced by methamphetamine neurotoxicity. Soc. Neurosci. Abstr. 577.14, 2010.

Frye, A.M., Riedy, M.D.\*, Son, J.H. @, and **Keefe, K.A.** The formation of stimulus-response and action-outcome associations during cocaine self administration in response to discriminative stimuli or conditioned reinforcers. Soc. Neurosci. Abstr. 575.18, 2010.

Son, J.-H. @, Garcia, C.#, and **Keefe, K.A.** Effects of methamphetamine neurotoxicity on striatal-dependent stimulus-response learning. Translational Research in Methamphetamine Addiction, Pray, MT, July 19-21, 2010.

Friend, D.M.\*, Fricks-Gleason, A.N. @, Chen. P. @, Hanson, G.R., and **Keefe, K.A.** Expression of NOS isoforms in methamphetamine-induced striatal dopamine toxicity. Translational Research in Methamphetamine Addiction, Pray, MT, July 19-21, 2010.

Barker, M.L.\* and **Keefe, K.A.** *Arc/Arg3.1* regulation in striatal efferent neurons under normal conditions and in the presence of partial dopamine loss induced by methamphetamine. Translational Research in Methamphetamine Addiction, Pray, MT, July 19-21, 2010.

Pastuzyn E.D.\* and **Keefe, K.A.** Impact of partial dopamine loss induced by methampheramine on Arc-mediated, striatally based learning. Translational Research in Methamphetamine Addiction, Pray, MT, July 19-21, 2010.

Son, J.-H. @, Garcia, C.#, and **Keefe, K.A.** Effects of methamphetamine neurotoxicity on striatal-dependent stimulus-response learning. Tenth Triennial Meeting of the International Basal Ganglia Society, Long Branch, NJ, June 20-24, 2010.

Friend, D.M.\*, Fricks-Gleason, A.N. @, Chen. P. @, Hanson, G.R., and **Keefe, K.A.** Expression of NOS isoforms in methamphetamine-induced striatal dopamine toxicity. Tenth Triennial Meeting of the International Basal Ganglia Society, Long Branch, NJ, June 20-24, 2010.

Pastuzyn, E.D.\* and **Keefe, K.A.** Impact of partial dopamine loss induced by methampheramine on Arc-mediated, striatally based learning. Tenth Triennial Meeting of the International Basal Ganglia Society, Long Branch, NJ, June 20-24, 2010.

Barker, M.L.\* and **Keefe, K.A.** *Arc/Arg3.1* regulation in striatal efferent neurons under normal conditions and in the presence of partial dopamine loss induced by methamphetamine. Tenth Triennial Meeting of the International Basal Ganglia Society, Long Branch, NJ, June 20-24, 2010.

**Keefe, K.A.**, Kesner, R.P., Hanson, G.R., and Riedy, M.D.\* Stimulus-response associations formed during cocaine self-administration in response to discrete discriminative stimuli. Soc. Neurosci. Abstr. 553.9, 2009.

Chen, P. @ and **Keefe, K.A.** Neuroprotection of methamphetamine through glia activation. Soc. Neurosci. Abstr. 67.5, 2009.

Friend, D.M.\*, **Keefe, K.A.**, and Chen, P@. nNOS and iNOS expression in resistance to methamphetamine neurotoxicity. Soc. Neurosci. Abstr. 67.4, 2009.

Pastuzyn, E.\* and **Keefe, K.A.** Effect of methamphetamine neurotoxicity on a striatally-mediated reversal learning task. Soc. Neurosci. Abstr. 67.3, 2009.

Son, J-H@ and **Keefe, K.A.** Effect of methamphetamine neurotoxicity on striatal-dependent learning and memory function. Soc. Neurosci. Abstr. 67.2, 2009.

Howard, C.D., **Keefe, K.A.**, Garris, P.A., and Daberkow, D.P. Effects of methamphetamine neurotoxicity on dopamine signaling measured by voltammetry in the anesthetized rat striatum. Soc. Neurosci. Abstr. 67.1, 2009.

Riedy, M.D.\*, Kesner, R.P., Hanson, G.R., and **Keefe, K.A.** Cellular compartment analysis of temporal activity by fluorescent *in situ* hybridization (catFISH) for *arc* mRNA expression and cue-induced reinstatement of cocaine-seeking behavior. Soc. Neurosci. Abstr., 2008.

Fleckenstein, A.E., Hanson, J.E., Birdsall, E., Seferian, K.S., Crosby, M.A., **Keefe, K.A.**, Gibb, J.W., and Hanson, G.R. Methamphetamine-induced dopaminergic deficits and refractoriness to subsequent treatment. Soc. Neurosci. Abstr., 2008.

Riedy, M.D.\*, Kesner, R.P., Hanson, G.R., and **Keefe, K.A.** Cue-Induced *arc* mRNA expression in efferent neurons of the dorsal striatum and cue-induced reinstatement of cocaine-seeking behavior. Soc. Neurosci. Abstr., 2007.

**Keefe, K.A.**, Riedy, M.D.\*, Kesner, R.P., and Daberkow, D.P.\* Impact of methamphetamine-induced partial dopamine depletion on learning-induced arc mRNA expression in striatal efferent neurons**.** Soc. Neurosci. Abstr., 2007.

Riedy, M.D.\*, Kesner, R.P., Hanson, G.R., and **Keefe, K.A.** Cue-induced *arc* mRNA expression in efferent neurons of the dorsal striatum and cue-induced reinstatement of cocaine-seeking behavior. 9th Triennial Meeting of the International Basal Ganglia Society, Egmond aan Zee, The Netherlands, Sept. 2-6, 2007.

Daberkow, D.P.\*, Riedy, M.D.\*, Kesner, R.P., and **Keefe, K.A.** Impact of methamphetamine-induced partial dopamine depletion on learning-induced arc mRNA expression in striatal efferent neurons. 9th Triennial Meeting of the International Basal Ganglia Society, Egmond aan Zee, The Netherlands, Sept. 2-6, 2007.

Smeal, R.M. @, Wilcox, K.S., and **Keefe, K.A.** Pharmacological and electrophysiological properties of NMDA receptors mediating corticostriatal vs. thalamostriatal afferents to spiny efferent neurons of the dorsal striatum. 9th Triennial Meeting of the International Basal Ganglia Society, Egmond aan Zee, The Netherlands, Sept. 2-6, 2007.

Schober, M.E., McKnight, R.A., Ke, X., Yu, X., Callaway, C.W., **Keefe, K.A.** and Lane, R.A. IUGR affects postnatal synaptic NMDAR subunit composition. Pediatric Academic Society Meeting, 2007.

Smeal, R.M. @, **Keefe, K.A.,** and Wilcox, K.S.Direct comparison of excitatory transmission and short-term plasticity in cortical and thalamic afferents to the striatum. Soc. Neurosci. Abstr., 2006.

Riedy, M.D.\*, Kesner, R.P., Hanson, G.R., Daberkow, D.P.\* and **Keefe, K.A.** Novelty-induced *arc* mRNA expression in striatopallidal and striatonigral efferent neurons. Soc. Neurosci. Abstr., 2006.

Bamber, K.M.D.\* and **Keefe, K.A.** Corticostriatal afferents induce c-*fos* expression in the dorsolateral striatum via NR2B-containing NMDA receptors. Soc. Neurosci. Abstr., 2006.

Daberkow, D.P.\*, Kesner, R.P., and **Keefe, K.A.** Arc mRNA induction in striatonigral and striatopallidal neurons by reversal learning on a T-maze. Soc. Neurosci. Abstr., 2006.

Daberkow, D.P.\*, Kesner, R.P., Rodesch, C., Gentry, D., and **Keefe, K.A.** Effect of methamphetamine neurotoxicity on motor-response learning in the T-maze and catFISH labeling of arc mRNA in the dorsal striatum. Soc. Neurosci. Abstr., 2005.

Riedy, M.D.\*, Kesner, R.P., Hanson. G.R., Daberkow, D.P.\*, and **Keefe, K.A.** Predicitive cue-induced reinstatement of drug-seeking behavior and arc mRNA expression. Soc. Neurosci. Abstr., 2005.

Gaspar, R.C.\* and **Keefe, K.A.** Induction of Fos protein in striatum by disinhibition of the parafascicular nucleus. Soc. Neurosci. Abstr., 2005.

Smeal, R. M. @, Wilcox, K.S., and **Keefe, K.A.** Excitatory Synaptic Transmission in a Striatal Slice Preparation Preserving Thalamic and Cortical Inputs. Soc. Neurosci. Abstr., 2005.

Frankel, P.S., Hoonakker, A.J., Danaceau, J., **Keefe, K.A**., and Hanson, G.R. Mechanism of an exaggerated response to a low dose of methamphetamine 3.5h after a high dose methamphetamine pretreatment. Soc. Neurosci. Abstr., 2005.

Horner, K.A. @ and **Keefe, K.A**. Mu Opioid Receptor Blockade Attenuates Psychostimulant-Induced *zif/268*, but not *c-fos* mRNA Expression in the Striatum. Soc. Neurosci. Abstr., 2005.

Daberkow, D.P.\*, Kesner, R.P., Rodesch, C., Gentry, D., and **Keefe, K.A.** Efffect of methamphetamine neurotoxicity on motor-response learning in the T-maze and catFISH labeling of *arc* mRNA in the dorsal striatum. 9th‑ International Symposium on Parkinson Research, Washington DC, November 9-11, 2005.

Smeal, R.M. @, Wilcox, K.S., and **Keefe, K.A.** Excitatory Synaptic Transmission in a Striatal Slice Preparation Preserving Thalamic and Cortical Inputs. 9th‑ International Symposium on Parkinson Research, Washington DC, November 9-11, 2005.

Horner, K.A. @, Gaspar, R.C.\*, and **Keefe, K.A.** Mu opioid receptor blockade attenuates cocaine-induced preprodynorphin expression in the rostral striatum. Soc. Neurosci. Abstr., 2004.

Daberkow, D.P.\*, Kesner, R.P., Hanson, G.R., and **Keefe, K.A.**, Long-term consequences of methamphetamine-induced monoamine loss on basal ganglia function, Eighth Triennial Meeting International Basal Ganglia Society, Crieff, Scotland, September 5-9, 2004.

Smeal, R.M. @, Wilcox, K.S., and **Keefe, K.A.**  Excitatory Synaptic Transmission in a Striatal Slice Preparation Preserving Thalamic Inputs. Eighth Triennial Meeting International Basal Ganglia Society, Crieff, Scotland, September 5-9, 2004.

Ramoz, G., **Keefe, K.A.**, Hanson, G.R., and Crowley, W.R. Differential effects of methamphetamine on hypothalamic NPY mRNA expression: Interactions with leptin and ghrelin. Soc. Neurosci. Abstr., 2003.

Chapman, D.E.\*, **Keefe, K.A.**, and Wilcox, K.S.Methamphetamine neurotoxicity causes persistent changes in spiny efferent neuron function. Soc. Neurosci. Abstr., 2003.

Daberkow, D.P.\*, Kesner, R.P., Hanson, G.R., and **Keefe, K.A.** The effects of methamphetamine-induced monoamine depletions on basal ganglia-dependent learning. Soc. Neurosci. Abstr., 2003.

Horner, K.A. @ and **Keefe, K.A.** Mu opioid receptor blockade attenuates methamphetamine-induced preprodynorphin expression in the striatum. Soc. Neurosci. Abstr., 2003.

Adams, D.H.\*, Hanson, G.R., and **Keefe, K.A.** Neuropeptide mRNA responses to psychostimulants. Problems of Drug Dependence 2002: Proceedings of the 64th Annual Scientific Meeting, NIDA Research Monographs, 183, 121-124, 2003.

Alburges, M.E., Bush, L.G., Hanson, G.R. and **Keefe, K.A.** Alterations of D1 dopamine receptor distribution in striatal neurons after methamphetamine treatment. Soc. Neurosci. Abstr., 2002.

**Keefe, K.A.**, Xochime, C., Hanson, G.R., and Adams, D.H.\* Cocaine-induced preprodynorphin mRNA expression in the striatal matrix is dependent on serotonin.Soc. Neurosci. Abstr., 2002.

Daberkow, D. P.\*, Kesner, R.P., **Keefe, K.A.** Procedural learning deficits following exposure to a neurotoxic regimen of methamphetamine. Soc. Neurosci. Abstr., 2002.

Chapman, D.E.\*, **Keefe, K.A.**, and Wilcox, K.S. Developmental profile of NMDARs in dorsolateral versus ventromedial striatum: Importance of the NR2A subunit. Soc. Neurosci. Abstr., 2002.

Bush, L.G., Alburges, M.E., **Keefe, K.A.**, and Hanson, G.R. Differential effects of low and high doses of methamphetamine on extracellular substance P, neurotensin, and dynorphin A in the substantia nigra. Soc. Neurosci. Abstr, 2002.

Daberkow, D. P.\*, **Keefe, K.A.**, and Wallenstein, G.V. Contextural learning and hippocampal plasticity *in vitro*, Soc. Neurosci. Abstr., 27, Program No. 852.23, 2001.

Chapman, D.E.\*, **Keefe, K.A.**, and Wilcox, K.S. Glycine differentially regulates NMDA receptor-mediated EPSCs of spiny efferent neurons in medial versus lateral striatum. Soc. Neurosci. Abstr., 27, Program No. 67.11, 2001.

Davis, K.L.\*, Hanson, G.R., and **Keefe, K.A.** Lack of protective effect of k-agonists against methamphetamine-induced neurotoxicity in rats., Soc. Neurosci. Abstr., 27, Program No. 445.3, 2001.

Adams, D.H.\*, Hanson, G.R., and **Keefe, K.A.** Psychostimulants activate P42/44 MAPK in dorsal and ventral striatum. Soc. Neurosci. Abstr.,27, Program No. 445.2, 2001.

Alburges, M.E., Bush, L.G., **Keefe, K.A.**, and Hanson, G.R. Distinct responses of basal ganglia substance P systems to low and high doses of methamphetamine. Soc. Neurosci. Abstr., 27, Program No. 445.1, 2001.

**Keefe, K.A.** and Rowland, A.M.\* Amino acid microdialysis: The mystery of origin and meaning. In *Monitoring Molecules in Neuroscience: Proceedings of the 9th International Conference on In Vivo Methods*, (W.T. O'Connor, J.P. Lowry, J.J. O'Connor, and R.D. O'Neill, Eds).Univ. College Dublin, Dublin, Ireland, pp. 103-104.

Davis, K.L.\*, Hanson, G.R., and **Keefe, K.A.** Long-term effects of methamphetamine on basal ganglia function. Soc. Neurosci. Abstr, 26, 524, 2000.

Adams, D.H.\*, Hanson, G.R., and **Keefe, K.A.** Low doses of psychostimulants decrease neuropeptide mRNAs in striatum. Soc. Neurosci. Abstr, 26, 524, 2000.

Westwood, S.C.\*, Hanson, G.R., and **Keefe, K.A.** The effect of high doses of methamphetamine on neuropeptide Y in striatum. Soc. Neurosci. Abstr, 26, 524, 2000.

Chapman, D.E.\*, **Keefe, K.A.**, and Wilcox, K.S. Different electrophysiological properties of NMDA receptors of medium-sized spiny neurons in medial versus lateral striatum. Soc. Neurosci. Abstr, 26, 1983, 2000.

Rowland, A.M.\* and **Keefe, K.A.** TTX-insensitive release of GABA in the basal ganglia is not due to reversal of the GAT-1 neuronal transporter. Soc. Neurosci. Abstr., 26, 1149, 2000.

Adams, A.C.\* and **Keefe, K.A.** PKA activation is not necessary for eticlopride-induced immediate early gene expression in striatum. Soc. Neurosci. Abstr., 26, 1488, 2000.

Hanson, G.R., Fleckenstein, A.E., and **Keefe, K.A.** Methamphetamine-induced persistent deficits in monoamine systems and their consequences. American Chemical Society Meeting, San Francisco, CA, March 26-27, 1999.

Westwood, S.W.\*, **Keefe, K.A.**, and Hanson, G.R.. Effects of quinpirole on neuropeptide mRNA levels in the striatum. Soc. Neurosci. Abstr., 25, 38, 1999.

Chapman, D.E.\*, Hanson, G.R., and **Keefe, K.A.** Methamphetamine produces long-lasting changes in striatonigral neuron function. Soc. Neurosci. Abstr., 25, 38, 1999.

Adams, D.H.\*, **Keefe, K.A.**, and Hanson, G.R. Differential effects of psychostimulants on preprodynorphin and preprotachykinin mRNA in subregions of striatum. Soc. Neurosci. Abstr., 25, 38, 1999.

Adams, A.C.\* and **Keefe, K.A.** *Zif268* expression induced by a low dose of eticlopride is dependent on NMDA receptors. Soc. Neurosci. Abstr., 25, 1653, 1999.

 **Keefe, K.A.**, Layer, R.T., McCabe, R.T., and Adams, A.C.\* Differential regulation of L-dopa-induced striatal immediate early gene expression by NMDA receptor antagonists, Soc. Neurosci. Abstr., 25, 1653, 1999.

Ganguly, A.\* and **Keefe, K.A.** Expression of NMDA receptor subunits in identified striatal efferent neurons after unilateral dopamine depletion. Soc. Neurosci. Abstr., 25, 1653, 1999

**Keefe, K.A.**, Organizer of and presenter in workshop entitled “A Little Daba GABA: Can we measure GABA with *in vivo* microdialysis”. Winter Conference on Brain Research, Snowmass, CO, January 24-February 30, 1999.

Brown, J.M.\*, White, H.S., Donevan, S.D. and **Keefe, K.A.** Kindling-induced changes in kainate receptor subunit expression. Soc. Neurosci. Abstr., 24, 2138, 1998.

Ganguly, A.\* and **Keefe, K.A.** Effects of MK-801 on D1 dopamine receptor-mediated immediate early gene expression in intact and dopamine-depleted striatum. Soc. Neurosci. Abstr., 24, 1648, 1998.

Adams, A.C.\*, Layer, R.T., Nielsen, J.S., Zhou, L.M., McCabe, R.T. and **Keefe, K.A.** Anti-Parkinsonian potential of conantokins. Soc. Neurosci. Abstr.,24, 1466, 1998.

Hanson, G.R., Renden, R.B.\*, and **Keefe, K.A.** Differential regional effects of psychostimulants on neurotensin / neuromedin N mRNA in striatum. Soc. Neurosci. Abstr., 24, 412, 1998.

**Keefe, K.A.**, Adams, A.C.\*, Wagstaff, J.D., Gerfen, C.R., Layer, R.T., McCabe, R.T. Anti-Parkinsonian potential of conantokin-G. ACNP Abstr, 36th Annual ACNP Meeting, Dec. 8-12, 161, 1997.

Ganguly, A.\*, Gauda, E.B., and **Keefe, K.A.** Expression of NMDA receptor subunits in striatal efferent neurons after unilateral dopamine depletion. Soc. Neurosci. Abstr., 23, 186, 1997.

**Keefe, K.A.** and Carroll, S. MK-801 blocks the increase in extracellular GABA in the substantia nigra induced by SKF 82958. Soc. Neurosci. Abstr., 23, 187, 1997.

Hanson, G.R. and **Keefe, K.A.** 6-Hydroxydopamine-induced dopamine depletion increases neurotensin / neuromedin N mRNA in striatum. Soc. Neurosci. Abstr., 23, 745, 1997.

**Keefe, K.A.**, Organizer and presenter in Interactive Panel on “NMDA Receptors in the Striatum: Pharmacology and Function”. Winter Conference on Brain Research, Breckenridge, CO, January 25-February 1, 1997.

**Keefe, K.A.** and Ganguly, A.\* Effects of different classes of NMDA receptor antagonists on D1 dopamine receptor-mediated changes in striatal neuron function. Soc. Neurosci. Abstr., 22, 410, 1996.

**Keefe, K.A.** and Gerfen, C. R. D1 Dopamine receptor-induced immediate early gene expression in the dopamine-depleted striatum is largely independent of excitatory afferent input. Proceedings of the Eighth International Catecholamine Symposium, Pacific Grove, CA, October 13-18, 1996, Experimental Neurology [Supplement], 145 (2), S69-S70, 1997.

**Keefe, K.A.** and Gerfen, C. R. D1 Dopamine receptor-induced immediate early gene expression in the dopamine-depleted striatum is largely independent of excitatory afferent input and action potentials. Soc. Neurosci. Abstr., 21, 1904,1995.

Abercrombie, E.D. and **Keefe, K.A.** Co-organizer and presenter in workshop on "*In vivo* Diversity of Dopamine Actions in Basal Ganglia". Winter Conference on Brain Research, Steamboat Springs, Colorado, January 21-28, 1995.

**Keefe, K.A.** and Gerfen, C.R. Differential involvement of NMDA receptors in striatum in D1-dopamine receptor-mediated behavior and immediate early gene expression. Soc. Neurosci. Abstr., 20, 992, 1994.

Gerfen, C.R. and **Keefe, K.A.** Identification of striatal neurons showing potentiated *zif268* expression to combined D1-D2 dopamine receptor stimulation. Soc. Neurosci. Abstr., 20, 992, 1994.

Abercrombie, E.D., Heeringa, M.J., DeBoer, P., **Keefe, K.A.**, and Zigmond, M.J. Coupling between neurotransmitter release and electrophysiological activity. In Monitoring Molecules in Neuroscience, Proceedings of the 6th International Conference on *in vivo* Methods. A. Louilot, T. Durkin, U. Spampinato, and M. Cador, Eds., 1994.

**Keefe, K.A.** and Gerfen, C.R. Synergistic effects of SKF 38393 and quinpirole on c*-fos* and *zif268* gene expression in 6-hydroxydopamine-treated rats. Soc. Neurosci. Abstr., 19, 133, 1993.

**Keefe, K.A.** and Gerfen, C.R. Dopamine receptor synergy and immediate early gene expression in the striatum. The Gordon Research Conference on Catecholamines, New Hampshire, July 25-30, 1993.

**Keefe, K.A.** Zigmond, M.J., and Abercrombie, E.D. Presentation in workshop on "Cortical Influences on Subcortical Dopamine: Basic Science and Clinical Implications". Winter Conference on Brain Research, Whistler, British Columbia, January 23-30, 1993.

Castro, S.L., **Keefe, K.A.**, Sved, A.F., Abercrombie, E.D., and Zigmond, M.J. Stress increases dopamine synthesis in striatum as measured by in vivo microdialysis. Soc. Neurosci. Abstr., 18, 95, 1992.

**Keefe, K.A.**, Sved, A.F., Zigmond, M.J., and Abercrombie, E.D. Stress-induced dopamine release in striatum: Excitatory amino acid stimulated or action potential dependent? Soc. Neurosci. Abstr., 18, 95, 1992.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. Impulse activity versus local glutamatergic input in determining basal and stress-induced levels of extracellular dopamine in striatum. 7th International Catecholamine Symposium, Amsterdam, The Netherlands, June 22-26, 1992.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. Role of impulse activity and excitatory amino acids in determining resting levels of extracellular dopamine in striatum. Third IBRO World Congress of Neuroscience, Montreal, Canada, August 4-9, 1991.

Zigmond, M.J., **Keefe, K.A.**, Snyder, G.L., Stricker, E.M., and Abercrombie, E.D. The impact of stress and injury on central dopaminergic activity. 17th Congress of Collegium Internationale Neuropsychopharmacologicum, Kyoto, Japan, September 10-14, 1990, New York: Raven Press, Clin. Neuropharmacol., Vol. 13 (suppl. 2), 382-383, 1990.

Zigmond, M.J., **Keefe, K.A.**, Stricker, E.M., and Abercrombie, E.D. Compensations in an animal model of parkinsonism: Implications for behavior under basal conditions and in response to stress. XIth International Congress of Pharmacology, Amsterdam, The Netherlands, July 1-6, 1990.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. In vivo evidence that basal dopamine efflux in striatum is not regulated by endogenous excitatory amino acids. Soc. Neurosci. Abstr., 16, 522, 1990.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. In vivo microdialysis examination of interactions between excitatory amino acids and dopamine in rat striatum. The Gordon Research Conference on Catecholamines, New Hampshire, July 30-August 3, 1990.

Oleyar, K.S., Doyle, P.J., **Keefe, K.A.**, and Goldstein, H. The effects of a time delay procedure on comprehension of verb-noun commands in severe aphasia. Clinical Aphasiology Conference Proceedings, T.E. Prescott (Ed.), Boston: Little, Brown, and Co., 1990.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. Excitatory amino acid receptor involvement in the regulation of striatal extracellular dopamine. Annals of the New York Academy of Sciences, 604, 614-616, 1990.

**Keefe, K.A.**, Zigmond, M.J., and Abercrombie, E.D. NMDA receptor involvement in the regulation of striatal extracellular dopamine. Neurobiology of the NMDA Receptor: From Chemistry to Clinic, Pittsburgh, PA, October 27-28, 1989.

**Keefe, K.A.**, Stricker, E.M., Zigmond, M.J., and Abercrombie, E.D. Compensation of nigrostriatal dopamine neurons after partial injury and stress. The Gordon Research Conference on Neural Plasticity, New Hampshire, July 17-21, 1989.

Zigmond, M.J., Abercrombie, E.D., Snyder, G.L., **Keefe, K.A.**, and Stricker, E.M. Response of nigrostriatal bundle neurons to injury and stress: Basic and clinical implications. Third triennial meeting of the International Basal Ganglia Society, Cagliari, Italy, June 10-13, 1989.

**Keefe, K.A.**, Stricker, E.M., Zigmond, M.J., and Abercrombie, E.D. Stress-induced dopamine release and motor impairments in 6-hydroxydopamine-treated rats. Soc. Neurosci. Abstr., 15, 558, 1989.

Abercrombie, E.D., **Keefe, K.A.**, and Zigmond, M.J. Adaptation of catecholaminergic systems to partial injury. 4th Meeting on Electrochemical Detection, HPLC, and In Vivo Monitoring in the Biosciences, Nottingham, UK, September 19-21. J. Neurosci. Meth., 29, 277, 1989.

Abercrombie, E.D., **Keefe, K.A.**, and Zigmond, M.J. Evidence that nerve terminal density is an important contributor to apparent differences in the activation of central dopamine systems. International Workshop on the Mesolimbic Dopamine System: From Motivation to Behavior, Malta, September 25-29. Behavioral Pharmacology, 1(suppl. 1), 26, 1989.

**Keefe, K.A.**, Salamone, J.D., Zigmond, M.J., and Stricker, E.M. Paradoxical kinesia in rats with dopamine (DA)-depleting brain lesions is not mediated by dopamine. Soc. Neurosci. Abstr., 14, 967, 1988.

**Keefe, K.A.**, Feldman, H., and Holland, A.H. Lexical learning abilities of children with perinatal brain damage. The Annual Meeting of the American Speech-Language-and-Hearing Association, New Orleans, LA, 1987.

**Keefe, K.A.**, Feldman, H., and Holland, A.H. Early developmental consequences of unilateral left cerebral brain damage. The Annual Meeting of the American Speech-Language-and-Hearing Association, Detroit, MI, 1986.

**Keefe, K.A.** Motor and cognitive interference effects on unimanual tapping rates. The Annual Meeting of the American Speech-Language-and-Hearing Association, Cincinnati, OH, 1983.

**References:**

Dr. Randall Peterson

L. S. Skaggs Presidential Endowed Professor

Dean, College of Pharmacy

University of Utah

randall.peterson@pharm.utah.edu

801-587-3064

Dr. Karen S. Wilcox

Richard L. Stimson Presidential Professor and Chair

Department of Pharmacology and Toxicology

University of Utah

karen.wilcox@hsc.utah.edu

801-581-6287

Dr. John W. Mauger

Associate Vice President for Health Sciences Special Projects

Dean Emeritus, College of Pharmacy

John.mauger@hsc.utah.edu

801-581-3944

Dr. Karen Paisley

Assistant VP for Academic Affairs

Sr. Associate Dean for Undergraduate Studies

University of Utah

karen.paisley@utah.edu

801-581-3412