**CURRICULUM VITAE**

Kyung-An (Kay) Han, Ph.D.

**PERSONAL DATA**

Citizenship**:** USA

Work Address: Department of Biological Sciences

 Biosciences Building, Room 3.152

 University of Texas at El Paso

 El Paso, Texas 79968

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 E-mail: khan@utep.edu

Website: <https://hanflylab.com/>

**EDUCATION**

1987-1992 Ph.D. in Molecular Biology of Cancer

Mentor: Dr. Molly Kulesz-Martin

(currently at OHSU, Professor and Director of Research, Dermatology)

 Department of Biochemistry

 Roswell Park Cancer Institute

 (formerly Roswell Park Memorial Institute/RCMI)

 State University of New York at Buffalo, Buffalo, NY

1986-1987 Predoctoral Student

 Department of Biochemistry, School of Medicine

 State University of New York at Buffalo, Buffalo, NY

1982-1986 Bachelor of Science Degree

 Department of Biochemistry

 Yonsei University, Seoul, Korea

**POSTDOCTORAL TRAINING**

1993-1996 Postdoctoral Fellow

 Mentor: Dr. Ronald Davis

 (currently at Scripps Research Institute, Florida)

 Baylor College of Medicine, Houston, TX

1992-1993 Postdoctoral Fellow

 Mentor: Dr. Ronald Davis

 Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

**ACADEMIC APPOINTMENTS**

2020-present Orville Edward Egbert, M.D. Endowed Professor in Science

 University of Texas at El Paso, TX

2018-present Professor

 Department of Biological Sciences, University of Texas at El Paso, TX

2009-2018 Associate Professor

 Department of Biological Sciences, University of Texas at El Paso, TX

2006-2009 Associate Professor

 Department of Biology, Pennsylvania State University, University Park, PA

2004-2006 Assistant Professor

 Department of Biology, Pennsylvania State University, University Park, PA

1999-2004 Assistant Professor, Department of Biobehavioral Health

 Pennsylvania State University, University Park, PA

1996-1999 Instructor and Research Assistant Professor

 Baylor College of Medicine, Houston, TX

**ACADEMIC ADMINISTRATIVE APPOINTMENTS**

2023-present Associate Dean of Faculty Success, College of Science

 University of Texas at El Paso, TX

2015-2023 Director

 Master of Arts in Teaching Science

 (Master program for high or middle school teachers)

 University of Texas at El Paso, TX

2009-2019 Director

 Neuromodulation Disorders Cluster

 (Formerly Neuroscience & Metabolic Disorders Project)

 NIH-Sponsored Border Biomedical Research Center

 University of Texas at El Paso, TX

**HONORS AND AWARDS**

2023 Nov - Women’s Advisory Council to the President

2023 May Certificate of Service Appreciation, Graduate Council, Graduate School

2022 Sept New Grant Award Recognition for Outstanding Efforts in Securing Extramural Funding on “Dissecting the role of the Scully network in ADRD”, ORSP

2022 Sept New Grant Award Recognition for Outstanding Efforts in Securing Extramural Funding on “Genetic Dissection of Dementia”, ORSP

2021 Dec College Marshal, Winter Commencement

2021 May Student Organization Advisor of the Year, The Society for Neuroscience Sun City Chapter

2020 Sept - Orville Edward Egbert, M.D. Professorship in Science, Endowed Chair

2020 Aug Mentoring Award, NIH-sponsored BUILDing SCHOLARS & College of Science

2019 May Graduate School Faculty Marshal, May Commencement

2019 May Outstanding Performance in Securing Extramural Funding, ORSP

2017 Apr Outstanding Performance in Securing Extramural Funding, ORSP

2016 Sept Outstanding Performance in Securing Extramural Funding, ORSP

2016 Apr Outstanding Performance in Securing Extramural Funding, ORSP

2014 Dec Outstanding Performance in Securing Extramural Funding, ORSP

2014 Sept Outstanding Performance in Securing Extramural Funding, ORSP

2010 Sept Distinguished Alumnus Award in Leadership, Dong Duk High School

2010 Apr Outstanding Performance Award, UTEP

**MEMBERSHIPS AND OFFICES IN PROFESSIONAL SOCIETIES**

***A. Membership***

Society of Neuroscience

Genetics Society on America (sporadic)

International Behavioral and Neural Genetics Society (IBANGS, sporadic)

***B. Leadership in Professional Societies/Communities***

2023-present Editorial Board Member, Scientific Reports (Scientific Journal)

2021-present Associate Editor, Frontier Systems Neuroscience (Scientific Journal)

2018-present Associate Editor, Genes, Brain and Behavior (Scientific Journal)

2017-present Editorial Board Member, Behavioral and Brain Functions (Scientific Journal)

2022 Chair, the NIH study section Cellular and Molecular Neuroscience ZRG1 MDCN, July 15

2022 Chair, the NIH study section Molecular, Cellular & Developmental Neurobiology (MCDN) ZRG1, March 24-25

2021 Chair, the NIH study section Molecular, Cellular & Developmental Neurobiology (MCDN) ZRG1, July 15-16

2021-2022 Grant Writing Coach, NRMN (National Research Mentoring Network) Mentoring to Diversity the Biomedical Workforce, Cohort 4

2020-2021 Grant Writing Coach, NRMN (National Research Mentoring Network) Mentoring to Diversity the Biomedical Workforce, Cohort 2

2017 Program Committee and Chair of Neurosciences and Neurological Diseases session, The Third Border Biomedical Research Center Symposium on Health Disparities: From Molecules to Disease

2017 Co-Organizer, Workshop “Biogenic Amines and Behavior”, 58th Annual *Drosophila* Research conference, San Diego, CS

2016 Chair, Learning and Memory Track, UT Texas FreshAIR Grand Challenges in Neuroscience, Austin, TX

2016 Program Committee, UT Texas FreshAIR Grand Challenges in Neuroscience

2015 Chair, Neurosciences and Neurological Diseases session, The Second Border Biomedical Research Center Symposium on Health Disparities: From Molecules to Disease,

2014 Moderator, General Session IV/closing session, NIMHD Grantee’s Conference (aka International Symposium on Minority Health & Health Disparities)

2013-2014 Chair, Abstract Committee, NIMHD Grantee’s Conference (aka International Symposium on Minority Health & Health Disparities)

2013-2014 Scientific Planning Committee, NIMHD Grantee’s Conference (aka International Symposium on Minority Health & Health Disparities)

2012-2013 President, Society for Neuroscience Rio Grande Texas Chapter

2012 Session facilitator, RTRN Café- Breakfast networking, RCMI international symposium on Health Disparities

2011-2012 Scientific Planning Committee, RCMI International Symposium on Health Disparities

2011-2012 Program Committee, IBANGS (International Behavioral and Neural Genetics Society) Annual Meeting

2009 Session Chair, “Higher brain functions” in “Neurobiology of Drosophila, CSHL meeting, Cold Spring Harbor

2008 Organizer, Workshop “Monoamines” at Annual *Drosophila* Research Conference

**SCIENTIFIC ACTIVITIES AND SERVICES**

***A. Study Sections & Review Panels***

2023 June NIH NDPR (neurodifferentiation, plasticity, regeneration, and rhythmicity) study section

2023 Mar NIH NIDA P30 and P50 Center grant study section

2022 Nov NIH NIDA ZDA1 Cutting-Edge Basic Research Awards (CEBRA) study section

2022 July NIH Cellular and Molecular Neuroscience SEP ZRG1

2011-2022 NIH Molecular, Cellular & Developmental Neurobiology (MCDN) SEP ZRG1

 (3 times a year)

2020 Nov NIH NIDA SEP ZDA IXR-Q U01 Genetic analysis of non-human animal models to understand the genomic architecture of substance use disorders and addictive behaviors

2020 July NIH Cell Biology and Bioengineering (F05U) SEP Fellowship review panel

2019 Oct NIH Cell Biology and Bioengineering (F05U) SEP Fellowship review panel

2017 NIH Neurotoxicology & Alcohol (NAL) Study Section

2016 NIH Neurobiology of Motivated Behavior (NMB) Study Section

2013, 2014 NIFA Insects and Nematodes Panel

2011 NSF Neural Systems Cluster Panel

2009 NSF Neural Systems Cluster Panel

2009 NIH Integrative Neuroscience Special Emphasis Panel

2008 NIH Neurogenesis and Cell Fate Study Section

2007 NSF Neural Systems Cluster Panel

***B. Ad Hoc Reviewer for Grants (extramural)***

2022 Wellcome Trust Grant

2019 ConTex UT System Collaborative Research Grants Competition

2011 Japan Society for the Promotion of Science Grants-in-Aid for Scientific Research

2010 University of Houston GEAR grant

2009-2010 NSF Neural Systems Cluster

2007-2008 University of Houston GEAR grant

2006-2009 NSF Neural Systems Cluster

***C. Peer Reviewer of Manuscripts***

Genetics; Journal of Neurobiology; Journal of Comparative Physiology A; Insect Biochemistry and Molecular Biology; Insect Molecular Biology; Comparative Biochemistry and Physiology; Brain, Behavior and Evolution; Genes, Brain and Behavior; Current Biology; Alcohol; Fly; PLoS ONE; Neuroscience; Developmental Neurobiology; Journal of Neurogenetics; Journal of Neuroscience; Frontier in Neuroscience; PNAS, Journal of Alzheimer’s Disease, Scientific Reports, Behavioral and Brain Functions, PLoS Genetics, Nutritional Neuroscience, Cell Reports, Biology Letters, Learning and Memory

***D. Other Professional Activities and Services***

2023-present RCMI Abstract Review Committee, member

2023 Ad hoc review, Tenure and Promotion for Hong Kong University of Science and Technology

2014 Judge, Student poster competition, NIMHD Grantee’s Conference

**ADMINISTRATIVE AND COMMITTEE SERVICES**

***A. University-level Leadership Services***

2023-present Women's Advisory Council to the President

2023-present Standing Panel for faculty disciplinary hearings, Committee Member

2021,2023 Advisory Committee for Endowed Chairs and Professors

2021-2022 Chair, Undergraduate Scholarship Committee (UGSC)

2020-2021 Executive Committee Graduate Council

2018-2019 University Honors Visioning Committee

2009-2019 Director, Neuromodulation Disorders Cluster (formerly, Neuroscience and Metabolic Disorder Project) Border Biomedical Research Center (BBRC)

2013-2018 UTEP Representative, UT System Neuroscience Council

2017 Planning Committee, Interdisciplinary Research and Education (IDRE) Symposium

2016 Organizer & Representative, Graduate School Fair, Annual Society for Neuroscience meeting

2016 UTEP Representative, miniCAST, Presentation and Workshop, El Paso

2015 Planning Committee, Graduate Expo

2010 - 2016 Advisory Committee, COURI (Campus Office of Undergraduate Research Initiatives)

2013 - 2016 Chair, Faculty Senate Academic Policy Committee

2014 - 2015 UTEP Representative, Texas Higher Education Coordinating Board, Academic Course Guide Manual (ACGM) Learning Outcomes for Biology

2012 - 2013 Chair, Faculty Search Committee, BBRC/NMD, UTEP

2011 - 2012 Chair, Faculty Search Committee, BBRC/NMD, UTEP

2009 - 2010 Chair, Faculty Search Committee, BBRC/NMD, UTEP

2001 - 2009 Executive Committee, IGDP (Intercollege Graduate Degree Program) in Genetics, PSU

***B. University-level Services***

2020-present Faculty advisor for the student organization HOSA (Health Occupations Students of America)

2019-present Faculty advisor for the student organization SfN (Society for Neuroscience) Sun City Chapter

2014-present IDR Neuroscience Community, Advocate

2023 Graduate School Dodson Research Grant Review Committee

2022 Graduate School Dodson Research Grant Review Committee

2022 Faculty Volunteer, Spring Commencement

2021-2022 Biomedical Engineering (BME) faculty search committee

2021 Orange and Blue Day, Student recruitment

2020 Ad hoc faculty committee/faculty senate for UTEP Recovery Taskforce

2019-2022 Undergraduate Scholarship Committee, UTEP

2017-2023 Graduate Council, College of Science representative

2017 Natalicio Dissertation Fellowship review

2015-2021 Dodson Research Grant proposal review (once or twice a year)

2013 Outstanding Thesis & Dissertation competition selection

2010-2013 Faculty Senate, UTEP

< 2009 Judge for the Undergraduate Exhibition, PSU

< 2009 University Marshal for Commencement, PSU

< 2009 Candidacy Exam Committee for IBIOS/Neuroscience, Cell & Developmental Biology, PSU

***C. College-level Services***

2022, 2023 Gold Nugget Review Committee

2021-2023 COS P&T committee, UTEP

2015-2023 Master of Arts in Teaching, Advisor

2021 COS NSO “Let’s Talk About Science”, Biology presentation

2012-2015 Task Force committee, MAT (Master of Arts in Teaching) Science, UTEP

< 2009 Climate Committee for Eberly Science College, PSU

***D. Department-level Services***

2022-present Biosciences Doctoral Program, Advisor

2022-present Biomedical Sciences Advisory Committee (BMSAC), member

2019-present Faculty co-mentor for Dr. Sourav Roy

2022-2023 Department Advisory Committee, member

2019-2023 Biosciences Doctoral program curriculum committee, Chair

2023 Alumni Panel at the First Symposium of Biosciences Doctoral Program, organizer

2020 Ad hoc Advisory Committee for merit evaluation

2019-2020 Faculty search committee for neuroscience faculty

2018-2019 Faculty search committee for big data/computational biologist

2017 The 50th year celebration event, co-organizer, UTEP

2015 - 2016 Biology MS program advisory committee, UTEP

2015 - 2016 Teaching evaluation committee, UTEP

2014 - 2016 Biology web Committee, UTEP

2010 - 2011 EEB faculty search committee, UTEP

2000 - 2009 Graduate Admissions Committee, IGDP in Genetics, PSU

2001 - 2004 Scholarship and Awards Committee, PSU

2000 - 2004 Graduate Admissions Committee, Biobehavioral Health, PSU

< 2009 Search Committee for new faculty hires, PSU

***E. Community Services***

2022-present Advisory Board, Parkland TSTEM (Texas Science Technology Engineering and Mathematics) Academy, Parkland High School, YISD, El Paso

2022 Guest Speaker for OLLI (Osher Lifelong Learning Institute) program Ponder the Science

2018, 2019 Host Eastwood Middle School Field Trip – BRB and lab tour, Drosophila workshop

2013 - Organizer and participant, UTEP MOVE, Neuroscience team, annual event

2012-2013 President, Society for Neuroscience Rio Grande Texas Chapter

2010 Public lecture on Alzheimer’s Disease for the El Paso community, “Journey into the Alzheimer’s Brain: Insights into Living Longer with a Healthier Brain”, featured in KINT TV news

2009 Plenary lecture, The Commonwealth Prevention Alliance Conference, “Drug addiction and learning and memory”

2008 Penn State Magazine, Featured article “Fish Hooks of Addiction” <http://www.rps.psu.edu/indepth/addiction.html>

2007 Public lecture, Frontiers in Science lecture for public sponsored by Eberly College of Science “Drug addiction – bad case of good memory”

2007 WPSU-TV, Pennsylvania Inside out, Main guest for discussion on drug addiction

**RESEARCH GOALS AND PROJECTS**

***Neuromodulatory mechanisms underlying behavior and reproduction:***

Overarching goals: the molecular, cellular and neural mechanisms by which monoamines regulate behavioral plasticity (learning, memory and addiction), motivation, attention, inhibitory control and reproduction (courtship behavior and oviposition).

a. Natural stimuli-induced learning/memory processes: aversive and appetitive olfactory conditioning (classical conditioning), aversive and appetitive visual conditioning (classical conditioning), conditioned courtship (operant conditioning)

b. Alcohol-induced behavioral adaptation: behavioral disinhibition (cognitive and motor impulsivity), behavioral sensitization, sensitivity and tolerance to the sedative effect

c. Inhibitory control (response inhibition) and impulsivity as endophenotype for substance use disorder and neurodevelopmental disorders (e.g. ADHD and autism spectrum disorder)

d. Dementia: mechanisms by which genetic and non-genetic factors cause neurodegeneration.

e. Male reproduction - courtship and copulation behaviors

f. Female reproduction - ovulation/egg laying

**GRANT SUPPORT**

***A. Pending/In progress***

NIH/NIGMS Han (PI) 9/2023 – 8/2024

Grant type: Administrative supplement on the SuRE 1 R16 GM145548

Title: Administrative Supplement on equipment purchase - **Genetic dissection of dementia**

Goal: The major goal of this Administrative Supplement is to purchase the Thunder Imager 3D Tissue, Leica Microsystem Inc. for immunohistochemical, ex vivo and in vivo analyses of the Drosophila brain for dementia mechanistic study.

Role: PI

Status: Pending

NIH IPERT

Title: Innovative approaches for graduate education and training

Goal: To enhance doctoral student education and training

Role: PI of multi-PIs (Han, K.-A., Joddar, B., Serafine, K, Singh, H. and Dura, L)

Status: in progress

***B. Ongoing Research Support: Extramural Grants***

NIH/NIMHD Kirken, Robert (PI) 6/2022 – 2/2024 (NCE to 2/2025)

Grant type: U54 BBRC GRANT13474380 Admin Supplement

Title: Dissecting the role of the Scully network in ADRD

Goal: To identify the Scully network in dementia and delineate the underlying mechanism

Role: PI of the Project

NIH/NIGMS SuRE Han (PI) 5/2022 – 4/2026

Grant type: SuRE 1 R16 GM145548- 01

Title: **Genetic dissection of dementia**

Goal: To identify the genetic loci functionally contributing to dementia and their interactions with non-genetic factors

Role: PI

NSF/IRES Joddar (PI) 3/2019 – 2/2025

Grant type: IRES 1854008

Title: US-Canada Collaborative Research on Biomedicals for stem cell culture and neural differentiation

Goal: To expose UTEP undergraduate students to international collaboration on stem cell research and applications

Role: co-PI

European Research Council Advanced Grant Ewing (PI) 2018 – 2024

Title: Nanoscale Bioimaging of Nerve Cells and Vesicles: Molecular Substructure and the Nature of Exocytosis

Role: Collaborator in the study investigating impact of distinct exocytosis mechanisms on learning and memory

***C. Completed Research Support: Extramural Grants***

*Grants as PI*

NIH/NIMH Han (PI) 8/04/2016 – 7/31/2020

Grant type: R21 5R21MH109953

Title: Social and environmental influences on response inhibition

Goal: To identify the mechanisms by which social and environmental factors modulate inhibitory control

Role: PI

Brain & Behavior Research Foundation Han (PI) 9/15/2016 – 9/14/2018

Grant type: 2016 NARSAD Independent Investigator Award

Title: The genetic basis of social-context sensitive response inhibition

Goal: To identify the molecules critical for response inhibition by genetic screen

Role: PI

NIH/NIAAA Han (PI) 8/10/2012 – 7/31/2016

Grant type & number: R15 AREA 1R15AA020996

Title: Diversity Supplement *Drosophila* model for behavioral disinhibition

Goal: To elucidate the mechanism by which the dopamine system mediates disinhibited behaviors induced by ethanol in *Drosophila*

Role: PI

NIH/NIAAA Han (PI) 8/10/2014 – 7/31/2016

Grant type & number: R15 AREA supplement 3R15AA020996-01S1

Title: *Drosophila* model for behavioral disinhibition

Goal: To support Ivan Mercado, a master student in Biological Sciences, for his thesis research on the mechanism that hyper-dopamine receptor activities modulate ethanol-induced disinhibition in *Drosophila*

Role: PI

USDA Han (PI) 6/1/2010-5/14/2015

Grant type & number: AFRI (Competitive Research Grant) 2010-65105-20625

Title: The octopamine system in *Drosophila melanogaster*

Goal: To delineate octopamine receptor functions in *Drosophila*

Role: PI

The Foundation for Alcohol Research Han (PI) 1/1/2010-12/31/2011

Grant type & number: ABMRF Grant

Title: Genetic dissection of ethanol-induced behavioral disinhibition and sensitization

Goal: To investigate ethanol-induced behavioral adaptations in *Drosophila*

Role: PI

NSF Han (PI) 9/1/2006-8/31/2010

Grant type & number: IOB-0620056

Title: Octopamine Functions and Underlying Mechanisms for Associative Learning and Memory of *Drosophila melanogaster*

Goal: To identify the roles of the octopamine receptor OAMB in learning and memory, and the underlying cellular mechanisms in *Drosophila*

Role: PI

NIH/NICHD Han (PI) 6/25/2005-5/31/2007

Grant type & number: R03, 5 R03 HD048766-02

Title: Monoamine Functions in *Drosophila* Female Reproduction

Goal: To identify the mechanism by which the octopamine receptor OAMB regulates female reproduction in *Drosophila*

Role: PI

NIH/NINDS Han (PI) 2/01/1999-1/31/2005

Grant type & number: R01, 1 R01 NS38346-06

Title: Genetic Dissection of Neuromodulatory Function

Goal: To identify the role of the dopamine receptor DAMB in associative memory and to generate the mutations in the octopamine receptor OAMB

Role: PI

*Grants as co-PI or co-I or other roles*

NIH Kirken (PI) 7/01/2014 -3/31/2019

Grant type: NCRR 2G12MD007592-21

Title: Border Biomedical Research Center

Goal: To expand and facilitate biomedical research at UTEP

Role: Director of Neuromodulation Disorders Cluster

NIH Li (PI) 9/01/2014 -8/31/2017

Grant type: SC2 GM103719-01A1

Title: Super Resolution Pump-Probe Microscopy for Biomedical Imaging

Goal: To establish a novel microscopic tool to visualize non-fluorescent molecules

Role: Mentor and collaborator

NSF Li (PI) 9/01/2014 -8/31/2019

Grant type: MRI DBI 1429708

Title: Development of a scan-less temporal focusing two-photon fluorescence microscope for high speed three-dimensional imaging

Goal: To implement a novel microscopic tool to visualize cell activity in live brains

Role: co-Investigator

NSF Misra (PI) 9/1/2015-2/28/2017

Grant type & number: MRI DMR 1530891

Title: Acquisition of an Advanced Nanoscale Deformation with Imaging System for Multiscale Study of the Mechanical Behavior of Advanced Materials

Goal: To expand research infrastructure

Role: co-Investigator

NIH/NCRR Natalicio (PI) 7/01/2009 -6/30/2014

Grant type & number: Center Grant 5G12RR008124

Title: Border Biomedical Research Center

Goal: To expand and facilitate pathobiology research at UTEP.

Role: Director of Neuroscience and Metabolic Disorders Project

NIH/NIGMS Ewing (PI) 8/1/2006-7/31/2010

Grant type & number: R01 GM078385

Title: Microanalytical Methods for *Drosophila* Neurochemistry

Goal: To develop small-scale analytical methods of monoamines present in the *Drosophila* brain and to apply them to the analysis of monoamines associated with chronic tolerance to alcohol.

Role: co-PI

***D. Completed Research Support: Intramural Grants***

UTEP Han (PI) 9/01/2018 -8/31/2019

On-Campus Student Employment Fund

Title: Brain health & health disparity researcher

Goal: Scholarship to support two undergraduate students participating in Han lab research on dementia

Role: PI

NIH/NIMHD Han (PI) 4//1/2016 – 3/31/2017

Grant type: BBRC pilot grant

Title: Novel targets to control mosquito-borne diseases

Goal: To elucidate the role and mechanism that the octopamine system regulates mosquito female reproduction

Role: PI

UTEP/ORSP Han (PI) 1/1/2010-12/31/2010

Grant type: University Research Initiative Grant

Title: Neurobiological mechanisms of genetic and social interactions influencing impulsivity

Goal: To map the brain structure crucial for loss of impulse control

Role: PI

UTEP/CoS Narayan (PI) 2/01/2014-8/31/2014

Grant type: Multidisciplinary Research Pilot Program

Title: Prophylactic drug development against nitrosative-stress linked Parkinson’s disease

Goal: To develop an assay to monitor nitrosative-stress *in vivo*

Role: co-I

NIH/NCRR Llano (PI) 10/1/2010-6/30/2011

Grant type: BBRC Pilot Grant

Title: A *Drosophila* model for Infectious disease mechanism

Goal: To establish a *Drosophila* model for HIV infection and pathogenesis

Role: co-I

**PATENTS**

2019 Patent No 10306887, Compositions and Methods for Modulation of the Octopamine Receptor and Its Homologs, Issued on 06/04/2019, Inventor

2015 Patent Cooperation Treaty (PCT) patent application, Compositions and Methods for Modulation of the Octopamine Receptor and Its Homologs, Application # PCT/US2015/043536, Inventor

2014 Provisional Patent application, Compositions and Methods for Modulation of the Octopamine Receptor and Its Homologs, Application # 62033628, Inventor

2003 Provisional Patent application, OAMB octopamine receptor mutants and their utility for agricultural and pharmaceutical applications, Inventor

1999 Patent application: Invertebrate Octopamine receptor, PCT application No. PCT/US93/22808, Co-inventor: Dr. Ron Davis, Baylor College of Medicine, TX

**PUBLICATIONS**

(only in peer-reviewed journals/papers: \*, graduate student; \*\*, undergraduate student)

***A. Manuscripts in preparation***

Mercado, I.\*, Saldes, E.B.\*, Sabandal, P.R., and Han, K.-A. Dopamine D5 receptor DAMB suppresses ethanol-induced disinhibition.

***B. Manuscripts currently in progress***

Saldes, E.B.\*, Sabandal, P.R. and Han, K.-A. Caffeine causes loss of inhibitory control via D1 receptor signaling in *Drosophila*, to be submitted to Psychopharmacology

Saldes, E.B.\*, Sabandal, P.R. and Han, K.-A. Shaker potassium channel in the mushroom body neurons modulates action restraints in *Drosophila*. to be submitted to Journal of Neuroscience

Saldes, E.B.\*, Hernandez, B.A.\*\*, Sabandal, P.R., Clague, M.\*\*, and Han, K.-A., The Cell Adhesion Molecule Kekkon5 interacts with dopamine signaling for Inhibitory Control.

Sabandal, P.R., Solis, M\*\*, Chepkosgei, C.\* and Han, K.-A. Diminished *Scully* function causes progressive loss of memory and inhibitory control in *Drosophila*.

Martinez, G.\*\*#, Sabandal, P.R.#, Berumen, S.\*\*, Bernal, R. and Han, K.-A., CMT2F-linked HSP27 mutations cause motor neuropathy and compromised fertility in Drosophila melanogaster

***C. Manuscripts under revision or review***

Sabandal, P.R.\*, Kim, Y.-C., Sabandal, J.M. \*\*. Saldes, E.B.\* and Han, K.-A. Social Context Impacts Impulsivity, under revision for Science Advances

Murillo Gonzalez, D.\*\*, Hernandez Granados, B.\*\*, Sabandal, P.R., and Han, K.-A. Social setting interacts with hyper dopamine to boost the stimulant effect of ethanol, under review, Addition Biology

***D. Publications***

2022 Sabandal, P.R. #, Saldes, E.B.\* and Han, K.-A. # Acetylcholine deficit causes dysfunctional inhibitory control in an aging-dependent manner. # Sci Rep, 2022 Dec 3;12(1):20903. doi: 10.1038/s41598-022-25402-z. ( #, co-corresponding author)

2020 Delgado, N.M.\*\*, Sierra, C.M. \*\*, Arzola, A. \*\*, Saldes, E.B. \*\*, Han, K.-A. # and Sabandal, P.R. # Flypub to study ethanol induced behavioral disinhibition and sensitization, *J. Vis Exp*, 2020 May 18;(159). doi: 10.3791/61123. ( #, co-corresponding author)

2020 Sabandal, J.M.\*\*, Kim, Y.C., Sabandal, P.R. and Han, K.-A. Concerted Actions of Octopamine and Dopamine Receptors Drive Olfactory Learning, *J. Neurosci*, 2020 40(21); 4240-4250. doi: 10.1523/JNEUROSCI.1756-19.2020

2018 Lim, J., Fernandez, A.I\*, Hinojos, S.J.\*\*, Aranda, G.P.\*, James, J.\*\*, Seong, C.S. and Han, K.-A. The Mushroom Body D1 Dopamine Receptor Controls Innate Courtship Drive, *Genes, Brain and Behavior*, 2018 17(2); 158-167

2017 Aranda, G.P.\*, Hinojos, S.J.\*\*, Sabandal, P.R.\*, Evans, P.D. and Han, K.-A. Behavioral Sensitization to the Disinhibition Effect of Ethanol Requires the Dopamine/Ecdysone Receptor in *Drosophila*, *Frontier Systems Neuroscience*, 2017. 11:56, doi: 10.3389/fnsys.2017.00056

2017 Plaçais, P.Y., de Tredern, É., Scheunemann, L., Trannoy, S., Goguel, V., Han, K.-A., Isabel, G. and Preat, T. Upregulated Energy Metabolism in the *Drosophila* Mushroom Body is the Trigger for Long-Term Memory, *Nature Communication*, 8:15510

2015 Cassar, M., Issa A.R., Riemensperger, T., Petitgas, D., Rival, T., Coulom, H., Iché-Torres, M., Han, K.-A. and Birman, S. A Dopamine Receptor Contribute to Paraquat-Induced Neurotoxicity in *Drosophila*, *Human Molecular Genetics,* 24 (1): 197-212

2014 Lim, J., Sabandal, P.\* (co-first author), Fernandez, A.\*\*, Sabandal, J.M.\*\*, Lee, H.G.\*, Evans, P. and Han, K.-A., The Octopamine Receptor Octβ2R Regulates Ovulation in *Drosophila melanogaster*, *PLoS ONE,* Aug 6;9(8):e104441. doi: 10.1371/journal.pone.0104441. eCollection

2013 Kim, Y.-C., Lee, H.-G.\*, Lim, J. and Han, K.-A. Appetitive Learning Requires the Alpha1-Like Octopamine Receptor OAMB in the *Drosophila* Mushroom Body Neurons, *J. Neuroscience*., 33: 1672-1677

2012 Zhou, C., Huang, H., Kim, S., Lin, H, Meng, X, Han, K-A, Chiang, A-S, Wang, JW, Jiao, R, and Rao, Y. Molecular Genetic Analysis of Sexual Rejection: Roles of Octopamine and Its Receptor OAMB in *Drosophila* Courtship Conditioning, *J Neuroscience*, 32 (41): 14281-7

2010 Han, K.-A. and Kim, Y.-C. Courtship Behavior: The Right Touch Stimulates the Proper Song, *Current Biology*, 20 (1), R25-R28, 2010

2010 Makos, M.A.\*, Han, K.-A., Heien,M.L. and Ewing, A.G., Using in Vivo Electrochemistry to Study the Physiological Effects of Cocaine and Other Stimulants on the *Drosophila melanogaster* Dopamine Transporter, *ACS Chemical Neuroscience*, 1, 74-83

2009 Makos, M.A.\*, Kim, Y.-C.\*, Han, K.-A., HeienM.L. and Ewing, A.G., *In Vivo* Electrochemical Measurements in *Drosophila melanogaster*, *Analytical Chemistry*, 81 (5), 1848-1854

2009 Lebestky, T.J., Chang, J.-S., Dankert H., Zelnik, L., Kim, Y.-C.\*, Han, K.-A., Wolf FW, Perona, P. and Anderson, D.J. Two Different Forms of Arousal in *Drosophila* are Oppositely Regulated by the Dopamine D1 Receptor Ortholog DopR via Distinct Neural Circuits, *Neuron*, 64 (4), 522-36

2009 Selcho, M., Pauls, D., Han, K.-A., Stocker, R.F. and Thum, A.S. The Role of Dopamine in *Drosophila* Larval Classical Olfactory Conditioning, *PLoS ONE*, 4 (6), e5897

2009 Lee, H.-G.\*, Rohila, S. and Han, K.-A. The Octopamine Receptor OAMB Regulates Ovulation via Ca2+/Calmodulin-Dependent Protein Kinase II in the *Drosophila* Oviduct Epithelium, *PLoS ONE*, 4 (3): e4716

2009 Liu, X., Buchanan, M., Han, K.-A. and Davis, R.L. The GABA Receptor RDL Suppresses the Conditioned Stimulus Pathway for Olfactory Learning, *J Neuroscience*, 29 (5): 1573-9

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**PROFESSIONAL PRESENTATIONS**

***A. Extramural invited presentations (seminars & lectures)***

2020 AKN (Association of Korean Neuroscientists) eTalk Series “*Flies R US:* *a tale of a tiny but sophisticated brain”*

2018 University of Gothenburg, Department of Chemistry and Molecular Biology, Sweden

2018 University of Tennessee Health Sciences Center, Memphis, TN

2018 New Mexico State University, Department of Biology, Las Crucis, NM

2017 University of Texas Health Sciences Center San Antonio, Department of Cellular and Integrative Physiology, TX

2016 KIOM (Korea Institute of Oriental Medicine), Daegu, Korea

2016 IBANGS (International Behavioral and Neural Genetics Society), Featured talk, Bar Harbor

2016 Center for Cognition and Sociality, IBS, Daejeon, Korea

2016 Scripps Florida, Department of Neuroscience

2015 Chung Song Conference, Seoul, Korea

2014 Texas A&M, Department of Entomology

2014 Virginia Tech, Department of Entomology

2014 Pennsylvania State University, Department of Biology

2014 NIMHHD Grantees’ Conference, General session IV

2011 Kyung Hee University, Department of Biochemistry, Seoul, Korea

2011 Seoul National University, School of Dentistry, Cell & Developmental Biology

2010 IBANGS, Symposium on Genetics of Behavioral Plasticity, invited speaker

2010 Korea Research Institute of Chemical Technology (KRICT), Daejeon, Korea

2010 Korea Institute of Technology and Science (KIST), Seoul, Korea

2010 Oregon Health & Science University (OHSU), Portland

2009 University of Texas at Austin, Neuroscience program

2009 Chung Nam University Medical College

2009 Korea Advanced Institute of Science and Technology (KAIST)

2009 Gwangju Institute of Science and Technology (GIST)

2009 Janelia Farm Conference on Insect Neuromodulators and Neuropeptides,

2009 The Commonwealth Prevention Alliance Conference, Plenary lecture

2008 Kyung Hee University, Medical School, Seoul, Korea

2008 Korea University, School of Life Sciences and Biotechnology, Seoul, Korea

2008 University of Gothenburg, Göteborg, Sweden

2008 Stockholm University, Stockholm, Sweden

2008 Janelia Farm Conference on Learning and Memory: A synthesis of flies and honeybees

2008 Seoul National University Medical College

2007 Gordon Conference, Catecholamines

2006 Penn State University, Hershey Medical Center, Pharmacology

2005 The Babraham Institute, Cambridge, UK

2005 IUBS/TAIB Symposium on "Reproductive and Social Behaviors, from fly to man, an integrative biological approach", Saint-Remy les Chevreuses, France

2005 Neurogenetics group, NIH, Bethesda

2004 *Drosophila* GPCR workshop, Washington DC

2004 Neuropharmacology group, NIDNS, NIH

2004 Behavioral Neurogenetics Summer School, Memphis, TN

2004 Lehrstuhl fuer Genetik und Neurobiologie, University of Wuerzburg, Germany

2002 Penn State University, Hershey medical center, Neuroscience Seminar

2001 Cephalon, Inc., West Chester, PA; seminar and consultation

***B. Intramural invited presentations*** (***seminars & lectures)***

2023 International Students Association Workshop, International Students Association.

2023 Neuro Day, Interdisciplinary Research collaboration between UTEP and TTHSCEP Neuroscience groups

2022 Neuro Day, Interdisciplinary Research collaboration between UTEP and TTHSCEP Neuroscience groups

2021 Brain Awareness Week, SfN Sun City Chapter

2015 Health Exchange Lecture, UTEP

2011 Bioinformatics, UTEP

2010 REU Summer Research Program, UTEP

2001-2004 Slice of Science, Summer Research Program, Penn State University

2003 Penn State University, University Park, Psychology Seminar

2000 Penn State University, Biochemistry and Molecular Biology Seminar

***C. Oral & poster presentations*** ***at scientific conferences***

(\*= graduate student; \*\*=undergraduate student; \*\*\*=high school student)

*a. Poster & oral presentations on research*

**2023**

Chepkosgei, C.\*, Han, K.-A., Society for Neuroscience annual meeting, Functional contribution of Scully and its interacting molecules to dementia, Society for Neuroscience, Washington, D.C. (November 2023).

Sabandal, P. R. B., Han, K.-A., Society for Neuroscience annual meeting, Kekkon5 interacts with dopamine for inhibitory control, SfN, Washington, D.C. (November 2023).

Sabandal, P. R. B., Solis, M., Chepkosgei, C., Han, K.-A., Society for Neuroscience annual meeting, Scully interacts with ecdysone in inhibitory control deficit, Society for Neuroscience, Washington, D.C. (November 2023).

Solis, M.\*, Han, K.-A., Society for Neuroscience annual meeting, The dementia gene Scully and its role in the mitochondria, Society for Neuroscience, Washington, D.C. (November 2023).

Martinez, G.\*, Han, K.-A., Society for Neuroscience annual meeting, The impact of mutated HSP27 in motor neuropathy, Society for Neuroscience, Washington D.C. (November 2023).

Pizana, A.\*, Han, K.-A., Society for Neuroscience annual meeting, The role of Frequenin 1/Neuronal calcium sensor 1 in inhibitory control, Society for Neuroscience, Washington, D.C. (November 2023).

Ballesteros Sanchez, A.\*, Han, K.-A., Society for Neuroscience annual meeting, The role of integrin in aging-related loss of inhibitory control, Society for Neuroscience, Washington, D.C. (November 2023).

Omer, I., Han, K.-A., COURI Summer Symposium, "Cell adhesion molecule Kekkon5 interacts with dopamine for impulsivity in Drosophila," COURI. (August 2023).

Sabandal, P.R., Solis, M.\*\*, Chepkosgei, C.\* and Han, K.-A. The role of Scully in aging-related deficits in inhibitory control and memory. 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL

Chepkosgei, C.\*, Solis, M.\*\*, Sabandal, P.R. and Han, K.-A. Functional contribution of Scully and its interacting molecules to dementia. 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL

Murillo, D.\*\*, Sabandal, P.R. and Han, K.-A. The role of integrin in dementia. 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL – also at spring COURI symposium and the SfN Sun City Chapter B.R.A.I.N. Symposium.

Solis, M.\*\*, Chepkosgei, C.\*, Sabandal, P.R. and Han K.-A. The role of the mitochondrial enzyme Scully in dementia. 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL– also at spring COURI symposium and the SfN Sun City Chapter B.R.A.I.N. Symposium

Hernandez, B.\*\*, Saldes, E.B.\*, Clague, M.\*\*, Sabandal, P.R. and Han, K.-A. Kekkon5’s interaction with dopaminergic signaling on inhibitory control. 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL – also at spring COURI symposium and the SfN Sun City Chapter B.R.A.I.N. Symposium (Bryan Hernandez won the first place in the Poster presentation)

Martinez, G.\*\*, Berumen, S.\*\*, Sabandal, P.R., and Han, K.-A. The effect of mutated HSP27 in motor neuropathy 64th Annual Drosophila Research Conference, March 1 – 5, 2023. Chicago, IL – also at spring COURI symposium and the SfN Sun City Chapter B.R.A.I.N. Symposium (Shakti Martinez won the second place in the Poster presentation and the first place in Imaging contest)

**2022**

Murillo, D\*\*, Alvarado J. \*\*, Hernandez B. \*\*, Sabandal P., HanK.-A. Synergistic effect of social environment and dopamine-signaling on alcohol-induced locomotor behavior, Society for Neuroscience meeting, San Diego, CA, Nov 2022

Solis, M\*\*, Sabandal P., Han K.-A. Mitochondria anomaly in the Scully mutant, Society for Neuroscience meeting, San Diego, CA, Nov 2022

Sabandal, P, Saldes, E\*, Han K.-A., Aging-related changes in cholinergic neurons of the olfactory pathway, Society for Neuroscience meeting, San Diego, CA, Nov 2022

Solis, M.\*\*, Sabandal, P.R. and Han, K.-A., Mitochondria anomaly in the dementia mutant Scully, COURI, UTEP (August 2022) (Maya Solis won Honorable Mention Award in Life and Biomedical Sciences)

Clague, M. (SMART-MIND participant, sophomore at Columbia University)\*\*, Saldes, E.B. \*, Hernandez, B.A.\*\*, Sabandal, P.R. and Han, K.-A., The Role of the Cell Adhesion Molecule Kekkon5 in Inhibitory Control. COURI, UTEP (August 2022)

Murillo Gonzalez, D.\*\*, Sabandal, P.R. and Han, K.-A., The Role of Integrin in Dementia. COURI, UTEP (August 2022)

Loo Kung, V.\*\*\* (NIH-funded Project ACE participant, senior at Del Valle High School), Benavidez, R. (Del Valle High School teacher), Saldes, E.B.\*, Murillo Gonzalez, D.\*\*, Sabandal, P. R. B., Han, K.-A., Does acute sleep deprivation impact alcohol responses? COURI, UTEP (August 2022)

Murillo Gonzalez, D.\*\*, Hernandez, B\*\*, Alvarado, J\*\*, Sabandal, P. R. B., Han, K.-A., Annual American Society for Biochemistry and Molecular Biology (ASBMB) Symposium, "Impact of Social Environment on alcohol-induced behavior," ASBMB, Philadelphia. (April 2022). (won Honorable Mention Award in Life and Biomedical Sciences)

Murillo Gonzalez, D.\*\*, Sabandal, P. R. B., Han, K.-A., COURI Spring Symposium, "The Neurobiological Mechanism Underlying Dementia," UTEP (April 2022).

Galindo, V\*\*, Pizana, A\*, Holguin, B. \*, Bernal, R., Sabandal, P.R.B, Sabandal, P.R.B, Han, K.-A., COURI Spring Symposium, "Effects of CMT2F-linked HSP27 mutations on neuropathy in Drosophila melanogaster," COURI, UTEP (April 2022)

**2021**

Murillo Gonzalez, D.\*\*, Sabandal, P. R. B., Han, K.-A., ASBMB Regional Symposium, "Social environment and dopamine interaction for alcohol-induced behavior," ASBMB, NMSU. (September 2021). (won First Place Award)

Esparza, D. S. (SMART-MIND participant, Transmountain Early College High School) and Han, K.-A., COURI Summer Symposium, "Effects of sleep deprivation on alcohol responses in Drosophila melanogaster," COURI, UTEP. (August 2021).

Murillo Gonzalez, D.\*\*, Sabandal, P. R. B., Han, K.-A., COURI Summer Symposium, "Social environment and dopamine interaction for alcohol-induced behavior," COURI, UTEP. (August 2021).

Sosa Ontiveros, A.\*\*, Sabandal, P. R. B., Han, K.-A., COURI Summer Symposium, "The role of Scully in aging-related synaptic plasticity," COURI, UTEP. (August 2021).

Murillo Gonzalez, D.\*\*, Sabandal, P. R. B., Han, K.-A., COURI Spring Symposium, "Social environment and dopamine impact alcohol-induced euphoria," COURI, virtual. (April 2021).

Alvarado, J.\*\*, Sabandal, P. R. B., Han, K.-A., COURI Spring Symposium, "The role of D1 family receptors in the locomotor-stimulating of alcohol," COURI, virtual. (April 2021).

Han, K.-A., Brain Awareness Week Talk, "Flies R US: a tale of a tiny but sophisticated brain," SfN Sun City Chapter, virtual (zoom and YouTube). (March 22, 2021).

**2020**

2020 Sosa Ontiveros, A.\*\*, Sabandal, PR and Han, K-A.  Impacts of *scully* mutations on *Drosophila melanogaster* lifespan, ABRCMS 2020: The Virtual Experience, November 9-13 (won Poster Presentation Award, Neuroscience category)

2020 Boisselier, G.\*\*, Sabandal, PR and Han, K-A.  Dopamine D2 receptor in ethanol-induced behavioral disinhibition and sensitization*.* COURI Summer symposium, UTEP, July 27-31, TX

2020 Romero, A.\*\*, Sabandal, PR and Han, K-A.  The role of dopamine in alcohol-associated behaviors, UTEP, COURI Summer symposium, UTEP, July 27-31, TX (only abstract, no presentation)

2020 Abugalyon, Y.\*\*, Sabandal, PR and Han, K-A.  Neural mechanism underlying alcohol-induced disinhibition and sensitization*.* COURI Summer symposium, UTEP, July 27-31, TX (only abstract, no presentation)

2020 Valles, V.\*\*, Sabandal, PR and Han, K-A.  The cholinergic system in aging-sensitive memory loss*.* COURI spring symposium, UTEP, Apr 27-30, TX

2020 Abugalyon, Y.\*\*, Sabandal, PR and Han, K-A.  Identification of Synaptic Anomaly in Dementia*.* COURI spring symposium, UTEP, Apr 27-30, TX

2020 Medina, G.\*, Sabandal, PR and Han, K-A. Novel genetic factors for Drosophila female fecundity*.* The annual GSA/TAGC (The Allied Genetics Conference), Apr 22-26, Washington DC (Grecia Medina won the Travel Award but the conference was cancelled due to COVID-19)

**2019**

2019 Garcia-Trevizo, P\*\*, Sabandal, PR and Han, K-A. Chronic Ethanol Exposure has Long-lasting Effects on Food Consumption in *Drosophila melanogaster.* COURI spring symposium, UTEP, Apr 13, TX

2019 Garcia-Trevizo, P\*\*, Sabandal, PR and Han, K-A. Chronic Ethanol Exposure and Social Environment Affect Innate Behaviors in *Drosophila melanogaster.* Texas Undergraduate Research Day at the capitol, April 1, Austin, TX

2019 Zheng, J\*\*, Han, K.-A., COURI Summer Symposium, "The role of acetylcholine in aging-associated loss of memory," COURI, UTEP. (August 2019).

2019 Lopez, R\*\*, Han, K.-A., COURI Summer Symposium, "The roles of ether-a-go-go and highwire in addiction," COURI, UTEP. (August 2019).

2019 Miller, M\*\* (won the 3rd place; the 1st among BRIDGES scholars), Han, K.-A., LSAMP Summer Symposium, "Neurobiological mechanism for alcohol preference," LSAMP, UTEP. (August 2019).

2019 Nghiem, J\*\*, Han, K.-A., LSAMP Summer Symposium, "Novel Genetic Factors in Dementia," LSAMP, UTEP. (August 2019).

2019 Aguirre, M. (high school teacher), Han, K.-A., COURI Summer Symposium, "The effect of social environments on alcohol-induced euphoria," COURI, UTEP. (August 2019).

2019 Arzola, A\*\*, Han, K.-A., Society for Neuroscience Annual Meeting, "Scully in sleep regulation and dementia," Society for Neuroscience, Chicago, IL. (October 2019).

2019 Delgodo, N\*\*, Han, K.-A., Society for Neuroscience Annual Meeting, "Dopamine D2 receptor in ethanol induced behavioral sensitization," Society for Neuroscience, Chicago, IL. (October 2019).

2019 Saldes, E\*, Han, K.-A., Society for Neuroscience Annual Meeting, "Genetic and non-genetic factors for sleep and inhibitory control," Society for Neuroscience, Chicago, IL. (October 2019).

2019 Sabandal, P. R., Han, K.-A., Society for Neuroscience Annual Meeting, "Scully in aging-associated loss of memory and inhibitory control," Society for Neuroscience, Chicago, IL. (October 2019).

2019 Sierra, C. M\*\*, Han, K.-A., Society for Neuroscience Annual Meeting, "Social environments alters alcohol responses," Society for Neuroscience, Chicago, IL. (October 2019).

2019 Miller, M. E\*\*, Sabandal, P. R., Han, K.-A., Annual Biomedical Research Conference for Minority Students (ABRCMS), "Dopamine in Alcohol Preference," Anaheim CA. (November 15, 2019).

**2018**

2018 Garcia-Trevizo, P\*\*, Fernandez, AI\*, Sabandal, PR and Han, K-A. Chronic ethanol exposure enhances male courtship in *Drosophila melanogaster*. Spring COURI Symposium, UTEP; El Paso

2018 Quintana, I\*\* (SMART-MIND participant, U. South Florida)\*\*, Sabandal, PR and Han, K-A. Scully in impulsivity and reward-seeking. Summer COURI Symposium, UTEP; El Paso

2018 Arevado, S (SMART-MIND Teacher Program participant, Socorro ISD El Dorado High School teacher), Delgado, N\*\*, Valles, V\*\*, Sabandal, PR and Han, K-A. Alzheimer’s-associated gene, Scully, in ethanol-induced sensitization. Summer COURI Symposium, UTEP; El Paso

2018 Xu, L\*\* (SURME Program participant, Beijing Normal University, China), Sierra, CM\*\*, Valles, V\*\*, Sabandal, PR and Han, K-A. Role of APH-1 in alcohol-induced disinhibition. Summer COURI Symposium, UTEP; El Paso

2018 Liu, Z\*\* (SURME Program participant, Beijing Normal University, China), Caballero, K. \*\* (UT Austin, summer research volunteer), Ceballos, A\*\*, Sabandal, PR and Han, K-A. Role of aph-1 in olfaction and reward-seeking. Summer COURI Symposium, UTEP; El Paso

2018 Hernandez, S\*\* (BRIDGES Program participant, EPCC), Arzola, A.\*\*, Saldes, E\*, Sabandal, PR and Han, K-A. The Effect of Sleep on Ethanol Response in *Drosophila melanogaster*. Summer COURI Symposium, UTEP; El Paso

2018 Delgado, N\*\* (SURPASS Program participant; won Honorable Mention Award, Poster Presentation), Sabandal, PR and Han, K-A. Dopamine D2 receptor in ethanol-induced behaviors. Summer COURI Symposium, UTEP; El Paso

2018 Garcia-Trevizo, P\*\* (SURPASS Program participant), Castillo, P\*\*, Sabandal, PR and Han, K-A. Chronic ethanol exposure affects pleasure-seeking behaviors in *Drosophila melanogaster*. Summer COURI Symposium, UTEP; El Paso

2018 Sierra, CM\*\* (RISE Program participant), Xu, L\*\*, Sabandal, PR and Han, K-A. Social factors impact alcohol responses in *Drosophila*. Summer COURI Symposium, UTEP; El Paso

2018 Arzola, A\*\*, Saldes, E\*, Sabandal, PR and Han, K-A. Genetic factors affecting age-related sleep alterations. Summer COURI Symposium, UTEP; El Paso

2018 Sierra, CM\*\*, Sabandal, PR and Han, K-A. Effects of social environment on alcohol responses. Annual Society for Neuroscience meeting, San Diego; CA

2018 Delgado, N\*\*, Ceballos, A.\*\*, Sabandal, PR and Han, K-A. D2 dopamine receptor in ethanol-induced behaviors. Summer COURI Symposium, UTEP; El Paso. Annual Society for Neuroscience meeting, San Diego; CA

2018 Hinojos, S\*, Umarova, R\*, Sabandal, PR and Han, K-A. Genetic factors for inhibitory control and impulsivity. Annual Society for Neuroscience meeting, San Diego; CA

2018 Mercado, I\* and Han, K-A. The D5 dopamine receptor DAMB in ethanol-induced behavioral disinhibition. Annual Society for Neuroscience meeting, San Diego; CA

2018 Saldes, E\*, Arzola, A\*\*, Sabandal, PR and Han, K-A. Aberrant sleep affects inhibitory control. Annual Society for Neuroscience meeting, San Diego; CA

**2017**

2017 Medina, GD\*, Crew, C, Watts, D, and Han, K-A. Role of Ecdysone in female reproduction*,* Third BBRC Symposium, El Paso

2017 Sabandal, PR, Sabandal, JM\*\*, and Han, K-A. Cellular and molecular correlates of impulsivity in *Drosophila,* Third BBRC Symposium, El Paso (oral presentation)

2017 Saldes, E\*, Sabandal, PR, and Han, K-A. Do sleep and alcohol affect inhibitory control? Third BBRC Symposium, El Paso

2017 Fernandez, AI\*, Lim, J, James, J\*\* and Han, K-A. Octopamine in Sexual Behavior. Third BBRC Symposium, El Paso

2017 Diaz Erives, J\*\*, Sabandal, PR and Han, K-A, Genetic factors influencing inhibitory control in Drosophila. COURI Symposium, UTEP; Third BBRC Symposium, El Paso

2017 Delgado, N\*\*, Sabandal, JM\*\*, Sabandal, PR, Park M\*\*\*, Park, G\*\*\* and Han, K-A. Neural mechanism underlying ethanol sensitivity and tolerance. COURI Symposium, UTEP; Third BBRC Symposium, El Paso

2017 Hinojos, S\*\*, Sabandal, PR and Han, K-A. The role of serotonin in movement inhibition. COURI Symposium, UTEP; Third BBRC Symposium, El Paso

2017 Li, L\*\*, Sabandal, PR and Han, K-A. Environmental factors affecting fly inhibitory control. COURI Symposium, UTEP

2017 Liu, Y\*\*, Sabandal, PR and Han, K-A. Octopamine regulates movement suppression in flies. COURI Symposium, UTEP

2017 Villanueva, E, Sabandal, PR, Saldes, E\*, Sabandal, JM and Han, K-A. Does sleep disruption affect ethanol-induced locomotor activity in Drosophila? COURI Symposium, UTEP

2017 Sabandal, JM\*\*, Sabandal, PR\*, and Han, K-A. The role of beta-like octopamine receptor in olfactory learning, Texas Academy of Sciences Meeting, won Best Neuroscience oral presentation and 1st overall in all categories

2017 Sabandal, JM\*\*, Kim, YC, Sabandal, PR\*, Burciaga, J\*\* and Han, KA. Social context and dopamine interact in behavioral control, Janelia Farm Conference on Structure and Function of the Insect Mushroom Body

**2016**

2016 Olivas, I\*\* and Han, K-A, Transgenerational Effects of chronic alcohol exposure, COURI symposium

2016 Saldes, E\*, Sabandal, PR\*, Kim, YC, Burciaga, J\*\*, Sabandal, JM\*\* and Han, K-A. Mechanism underlying inhibitory control. The Allied Genetic Conference Annual *Drosophila* Research Conference, Orlando, Fl

2016 Sabandal, JM\*\*, Kim, YC, Clark, A\*\*, Sabandal, PR\*, and Han, K-A. The role of octopamine beta-like adrenergic receptor Octβ1R in olfactory learning and memory. The Allied Genetics Conference Annual *Drosophila* Research Conference, Orlando, Fl

2016 Amezcua, L\*\* and Han, K-A. Dopamine mediates ethanol-induced hyperkinetic locomotor activity, COURI symposium

2016 Sabandal, JM\*\* and Han, K-A. The role of octopamine beta-like adrenergic receptor Octβ1R in olfactory learning and memory. COURI symposium

2016 Sun, S\*\* and Han, K-A. The role of octopamine in alcohol abuse and addiction. COURI symposium

2016 Ye, J\*\* and Han, K-A. The role of the adrenergic receptor Octβ2R in alcohol drinking-associated behavioral disinhibition and tolerance. COURI symposium

2016 Hinojos, S\*\* and Han, K-A. Neural mechanism of ethanol-associated behavioral disinhibition. COURI symposium

2016 Park, E\*\* and Han, K-A. The interaction of chronic alcohol intake and genetic factors in Parkinson’s Disease. COURI symposium, won the Honorable Mention Award

2016 Sabandal, PR\*, Kim, YC, Sabandal, JM\*\*, Burciaga, J\*\* and Han, KA. Genetic and social factors critical for inhibitory control. NIDA Genetics Consortium Meeting, Rockville, MD

**2015**

2015 Sabandal, JM\*\* and Han, KA. The role of beta adrenergic-like octopamine receptor Octβ1R in learning and memory. COURI Symposium

2015 2 presentations: Olivas, I\*\*, Aranda, G\* and Han KA. The role of dopamine in alcohol tolerance. COURI Symposium, Spring 2015 (won Non-Expert Team Completion Award) and ABRCMS meeting (won Travel Award). Seattle, Washington

2015 Mercado, I\*, Sabandal, PR\*, Aranda, G\*, and Han, KA. Ethanol-induced behavioral disinhibition and sensitization involve all dopamine receptors. Research Society on Alcoholism Annual Meeting, San Antonio

2015 Wang, R\*\*(SURME program participant; Beijing Normal University), Aranda, G\*, Olivas, I\*\* and Han, K-A. The Neuropathological Process Underlying Chronic-ethanol Intake. COURI Symposium

2015 2 presentations: Benavides, R. (SMART-MIND high school teacher), Meraz-Torres, S\*\*\* (high school student), and Han, K-A. Alcohol Abuse as a Risk Factor for Alzheimer’s Disease. COURI symposium (Aug 2015) and BBRC symposium

2015 2 presentations: Clark, A\*\*, Lim, J., Sabandal, JM\*\*, and Han, K-A. The octopamine Octβ1R receptor’s effect on aversive olfactory learning and memory. COURI symposium (Aug 2015) and BBRC symposium (September 2015)

2015 Barragan, JA\*\*, Mercado, I\* and Han, K-A. Dopamine receptors in ethanol sensitivity and tolerance. 2nd Border Biomedical Research Center Symposium, El Paso, TX

2015 Aranda, G\*, Olivas, I. \*\*, Sabandal, PR\*, Evans, PD, and Han, K-A \*.*The mechanism underlying ethanol-induced behavioral disinhibition.* 2nd Border Biomedical Research Center Symposium, El Paso, TX, Oral presentation

2015 Fernandez, A\*, James, J\*\*., Lim, J., Evans, PD, and Han, K-A. Octopamine in Sexual Behavior. 2nd Border Biomedical Research Center Symposium, El Paso, TX

2015 Mercado, I\*, Lim, J. and Han, K-A. Ethanol-induced behavioral disinhibition. 2nd Border Biomedical Research Center Symposium, El Paso, TX

2015 Saldes, E\*, Burciaga, J\*\* and Han, K-A, Gene and Environmental Interactions for Parkinson's Disease, 2nd Border Biomedical Research Center Symposium, El Paso, TX

2015 Lim, J., James, J\*\*., Johnson, J\* and Han, K-A. The Roles of Dopamine in Sexual Behavior. 2nd Border Biomedical Research Center Symposium, El Paso, TX

2015 Aranda, G\*, Evans, P., and Han, KA. The neuromodulatory mechanism underlying ethanol-induced behavioral disinhibition. Society for Neuroscience Annual meeting, Chicago

2015 Fernandez, A\*, Lim, J. James, J\*\* and Han KA. Octopamine in Sexual Behavior, Society for Neuroscience Annual meeting, Chicago

2015 Lim, J., James, J\*\*, Johnson, J\* and Han, KA. The Roles of Dopamine in Sexual Behavior. Society for Neuroscience Annual meeting, Chicago

2015 Mercado, I\*, Sabandal, PR\*, Burciaga, J\*\* and Han, KA. Ethanol-induced behavioral disinhibition. Society for Neuroscience Annual meeting, Chicago

2015 Sabandal, JM\*\* and Han, KA. The role of beta adrenergic-like octopamine receptor Octβ1R in learning and memory. Society for Neuroscience Annual meeting, Chicago

2015 Aranda, G\*, Olivas, I\*\*, Sabandal, PR\*, Evans PD, and Han, K-A. Neuromodulatory mechanism underlying ethanol-induced behavioral disinhibition. Graduate Student Research Expo, Selected Talk

2015 Fernandez, A\*, Lim, J, James, J\*\*, Evans, P and Han, K-A. Octopamine in Sexual Behavior. Graduate Student Research Expo, Selected Talk

2015 Mercado, I\*, Han, K-A. Ethanol-induced behavioral disinhibition. Graduate Student Research Expo, Selected Talk

2015 Saldes, E\*, Burciaga, J\*\* and Han, K-A, Gene and Environmental Interactions for Parkinson's Disease. Graduate Student Research Expo

**2014**

2014 Mercado, I\*, Sabandal, PR\* and Han, K-A. Dopamine D2 receptor plays a key role in sleep and circadian activity. COURI symposium

2014 Ford, RA\*\*, Guerra, C\*, Leung, M-Y and Han, K-A, Computational approaches to identify DNA motifs for genes expressed in the mushroom body brain structure of *Drosophila melanogaster*. The 27th annual international symposium at Hunter College, Bioinformatics: Medical Applications. Hunter College, NY. (won the best presentation award)

2014 Sabandal, PR\*, Burciaga, J\*\*, Mercado, I\*, Sabandal, JM\*\*, and Han, K-A., D2 Dopamine Receptor in Brain Development and Behavioral Plasticity. International Behavioural and Neural Genetics Society, Chicago, Oral presentation

2014 James, J\*\*, Fernandez, A\*, Lim, J, and Han, KA. Behavioral and physiological mechanisms that the neuromodulator octopamine regulates courtship and copulation. COURI Symposium

2014 Forster, K\*\*, Sabandal, PR\*, Mercado, I\*\*, and Han, KA. Role of D2 dopamine receptors in ethanol induced behavioral disinhibition. COURI Symposium

2014 Ford, R\*\*, Guerra, C\*, Leung, MY, and Han, KA. A bioinformatics approach to identify potential enhancer elements for genes expressed in the mushroom body neurons in Drosophila. COURI Symposium

2014 Garcia, R\*\*, Aguirre, D\*\*, Han, KA, and Fuentes, O. Computer vision to automate the analysis of courtship behavior in Drosophila. COURI Symposium

2014 Guerra, C\*, Ford, RA\*\*, Leung MY, and Han, KA. A Bioinformatics Approach to Identify Potential Enhancer Elements for Genes Expressed in the Mushroom Body Neurons in Drosophila. SACNAS meeting

2014 Burciaga, J\*\*, Sabandal, PR\* and Han, KA. The Role of Octopamine in Ethanol-induced Behavioral Plasticity ABRCMS meeting

2014 Fernandez A\*, Lim, J., James, J\*\*, Evans, PD and Han, K-A. Octopamine’s role in sexual behavior, Society for Neuroscience Annual meeting, Washington DC

2014 Sabandal, PR\*, Kim, YC, Lim, J, Sabandal, JM\*\* and Han, KA. Dopamine modulates high-order motor control. Society for Neuroscience Annual meeting, Washington DC

2014 Aranda, G\*, Sabandal, PR\*, Evans, PD, and Han, KA. The role of the dopamine/ ecdysteroid receptor DopEcR in behavioral disinhibition. Society for Neuroscience Annual meeting, Washington DC

2014 Mercado, I\*, Sabandal, PR\*, and Han, KA. Dopamine d2 receptor plays a key role in sleep and circadian activity. Society for Neuroscience Annual meeting, Washington DC

2014 Saldes, E\* and Han, KA. Ellagic Acid And Sodium Butyrate Relieve Motor Deficits In *Drosophila* *melanogaster* Parkinson’s Model. Dynamica Expo. El Paso Convention Center

2014 Forster, KM\*\*, Sabandal, PR\*, and Han, KA. Multifaceted genetic approaches to understand the mechanism underlying ethanol-induced behavioral disinhibition. 2014 NIMHHD Grantees’ Conference, Washington DC (oral and poster presentations, won the 2nd award on Student Presentation Competition)

**2013**

2013 Nava, A\*\*, Lim, J. and Han, K.-A., International Behavioural and Neural Genetics Society Annual meeting, "Dopamine in Sexual Behavior," International Behavioural and Neural Genetics Society, Leuven, Belgium, *Oral presentation*

2013 Youngblood, M\*\*, Sabandal, PR\*, Burciaga, J\*\* and Han, K.-A., COURI symposium, "The role of dopamine D2 receptor in brain development and ethanol-induced behavioral disinhibition," COURI, UTEP

2013 Barragan, J\*\*, Sabandal, PR\* and Han, K.-A., ABRCMS (Annual Biomedical Research Conference for Minority Students), "Dopamine in Alcohol Tolerance," ASM, Nashville

2013 Muniz, JO\*\*, Sabandal, PR\* and Han, K.-A., ABRCMS (Annual Biomedical Research Conference for Minority Students), "The Role of Octopamine in Alcohol Tolerance," ASM, Nashville

2013 Aranda, G\*, Sabandal, PR\*, Evans, P. and Han, K.-A., Society for Neuroscience Annual Meeting, "The dopamine and ecdysteroid receptor DopEcR in ethanol-induced behavioral plasticity," Society for Neuroscience, San Diego, CA

2013 Lim, J., Seong, C.-S. and Han, K.-A., Society for Neuroscience Annual Meeting, "The Role of Dopamine in Sexual Motivation, Disinhibition, and Plasticity," Society for Neuroscience, San Diego, CA

2013 Sabandal, P\*, Gutierrez, J\*, Burciaga, J\*\*, Mercado, I\*, Sabandal, JM\*\* and Han, K-A, Society for Neuroscience Annual Meeting, "The Roles of Dopamine D2 Receptor in Brain Development and Behavioral Plasticity," Society for Neuroscience, San Diego, CA

2013 Aranda, G\* and Han, K.-A., 3rd Annual Graduate Research Expo, "The dopamine and ecdysteroid receptor DopEcR in ethanol-induced behavioral plasticity," Graduate School, UTEP

2013 Sabandal, PR\* and Han, K.-A., 3rd Annual Graduate Research Expo, "The Roles of Dopamine D2 Receptor in Brain Development and Behavioral Plasticity," Graduate School, UTEP

**2012**

2012 Han, K.-A., 13th RCMI International Symposium on Health Disparities, "Impulsivity as an addiction endophenotype," RCMI, San Juan, Puerto Rico, Selected Talk

2012 Sabandal, PR\* and Han, K.-A., 2012 Graduate Expo, "Locomotor impulsivity in drosophila," PUENTES Program, UTEP, Selected Talk, won Honorable Mention Award

2012 Smith, A\*\* and Han, K.-A., Annual Biomedical Research Conference for Minority Students (ABRCMS), "Dopamine is critical for courtship behavior in *Drosophila* *melanogaster*," San Jose, CA

2012 Moreno, M\*\* and Han, K.-A., Annual Biomedical Research Conference for Minority Students (ABRCMS), "Octopamine’s role in ethanol-induced behavioral disinhibition," San Jose, CA

2012 Han, K.-A., NIFA-AFRI Awardee meeting, "The octopamine system in *Drosophila* *melanogaster*," USDA, Knoxville TN

2012 Sabandal, PR\*, Lim, J. and Han, K.-A., Society for Neuroscience Annual Meeting, "*Drosophila* Model for Locomotor Impulse Inhibition," SfN, New Orleans, LA

2012 Padilla, E\*\* and Han, K.-A., Biological Sciences REU, "Chronic ethanol exposure causes disinhibited behavior in Drosophila," COURI, UTEP

2012 Smith, A\*\* and Han, K.-A., COURI summer symposium, "Increased levels of dopamine depress courtship behavior in *Drosophila melanogaster*," Bridges to the Baccalaureate, UTEP

2012 Melchor, R\*\* and Han, K.-A., SMART-MIND REU, "Aversive Visual Conditioning in *Drosophila melanogaster*," COURI, UTEP

2012 Han, K.-A. and Villarreal, P\*\*, 14th Annual Meeting of the International Behavioural and Neural Genetics Society, "Ethanol-induced courtship disinhibition," Boulder, CO, Selected Talk

2012 Moya, I\*\* and Han, K.-A., COURI Symposium Spring, "Visual Ethanol Reward Conditioning of *Drosophila*," COURI, UTEP

**2011**

2011 Barron, C\*\*, Kim, YC and Han, K.-A. Dopamine in aversive visual learning. Society for Neuroscience Annual Meeting. Washington DC

2011 Han, K.-A. and Kim, YC. DOPAMINE IN ETHANOL-ASSOCIATED BEHAVIORAL DISINHIBITION. Research Society for Alcoholism. Atlanta, GA

2011 Han, K.-A. and Kim, YC. Impulsivity as an endophenotype for neurodevelopmental disorders. Genes, Brain & Behavior 13th Annual Meeting. Oral presentation. IBANGS (International Behavioral and Neural Genetics Society). Rome, Italy

2011 Lim, J., Johnson, J\*. and Han, K.-A. The role of dopamine in operant learning and memory. Society for Neuroscience Annual Meeting. Washington DC

2011 Monserrat, C\*\* and Han, K.-A. Octopamine’s role in ovulation of *Drosophila* *melanogaster*. Bridges program summer conference. UTEP

2011 Sabandal, PR\*, Kim, YC and Han, K.-A. Dopamine’s role in impulsivity. Society for Neuroscience Annual Meeting. Washington DC

2011 Sabandal, PR\*\* and Han, K.-A. Role of Dopamine in Impulse Control. COURI summer symposium. UTEP

2011 Saldes, E\*\* and Han, K.-A. Dopamine’s Role in Ethanol-Induced Behavioral Disinhibition. COURI and REU summer research conference (won Honorable Mention Award). UTEP

2011 Trejo, M\*\* and Han, K.-A. Elucidating the Role of Dopamine in *Drosophila* Appetitive Visual Conditioning as a Model for the Alcohol Dependence. REU summer research conference, UTEP

2011 Villarreal, P\*\* and Han, K.-A. Effects of Ethanol on Learning and Memory in. Bridges program summer conference. UTEP

**2010**

2010 Sabandal, PR\*\*, Kim, Y.C., Han, K-A. Translational research in addiction, "The role of dopamine in impulse control," Behavior, biology and chemistry (BBC), San Antonio

2010 Johnson, J\* (Presenter; won the best poster award), Han, K-A, LIm, J. Translational research in addiction, "The Role of Dopamine in Operant Conditioning," Behavior, biology and chemistry (BBC), San Antonio

2010 Kim, Y-C, Sabandal, PR\*\*, Lim, J, Johnson, J\*, Han, K-A. Towards defining the pathophysiology of autistic behavior, "Impulsivity as an endophenotype of neurodevelopmental disorders, "Keystone symposium, Snowbird, Utah

2010 Han, K-A, Dopamine in behavioral disinhibition, Invited talk in Symposium on Genetics of behavioral plasticity at Annual IBANGS meeting, IBANGS (International Behavioral and Neural Genetics Society), Halifax, Nova Scotia, Canada

2010 Johnson, J\*, Lim, J, Han, K-A. Annual meeting of Society of Neuroscience, "The role of dopamine in operant conditioning," Society of Neuroscience, San Diego

2010 Kim, YC, Sabandal, PR\*\*, Han, K-A. Annual meeting of Society of Neuroscience, "The role of dopamine in impulse control," Society of Neuroscience, San Diego

2010 Han, K-A, Kim, YC, Sabandal, PR\*\*, Lim, J, RCMI 2010 symposium, "Dopamine in Alcohol-associated impulsivity," RCMI, Nashville, TN

2010 Hemandez, K\*, Kim, YC., Han, K-A. RCMI 2010 symposium, "Dopamine in learning and memory," RCMI, Nashville, TN

2010 Han, K-A. NIFA awardee workshop, "Octopamine in female reproduction," USDA, San Diego

**2009 and earlier**

2009 Kim, Y-C., Moore, D\*, and Han, K-A. Dopamine in impulse control. Annual meeting of Society for Neuroscience

2009 Kim, Y-C., Moore, D\*, and Han, K-A. Critical roles of dopamine in behavioral disinhibition. Neurobiology of *Drosophila* Conference, Cold Spring Harbor Lab, Oral presentation

2009 Kim, Y-C., Moore, D\*, Pezhouh, MK\* and Han, K.-A. Dopamine in Impulse Control, JFRC " Insect Neuromodulators and Neuropeptides" Conference, Oral presentation

2008 Moore, D\*, Kim, Y.-C., Min, JH\*\*, and Han, K.-A. Fly Tracker as a novel system for analyzing movement behaviors in *Drosophila melanogaster*. Annual *Drosophila* Research Conference

2008 Kim, Y.-C., and Han, K.-A. Fly Tracker for analyzing monoamine functions: a comprehensive analysis of the dopamine transporter mutant *fumin*, Monoamines workshop, Annual *Drosophila* Research Conference, Oral presentation

2008 Lee, H.-G\*, Han, K.-A. The octopamine receptor OAMB regulates ovulation through Ca2+/Calmodulin-dependent protein kinase II. Annual *Drosophila* Research Conference

2008 Lee, H.-G\*, Kim, Y.-C., Moore, D\*, Pezhouh, M.K. and Han, K.-A. Ethanol-induced behavioral disinhibition and sensitization in *Drosophila*, Annual meeting of Society for Neuroscience, Oral presentation

2008 Kim, Y.-C, Lee, H.-G\*, Moore, D\*, Pezhouh, M.K\* and Han, K.-A. Pleiotropic roles of dopamine in ethanol-induced behaviors. International Neurofly *Drosophila* Conference, Oral presentation

2008 Kim, Y-C., Lee, H-G\*, Moore, D\*, Lee, Z\*\* and Han, K-A. Neuromodulatory mechanisms underlying olfactory conditioning in *Drosophila*. JFRC "Learning and Memory" Conference, Oral presentation

2007 Lee, H.-G\*, Kim, Y.-C\*, Dunning, J.S\*\*, McInnis, I\*\*, and Han, K.-A. Alcohol-induced disinhibited courtship and behavioral sensitization. Keystone symposium

2007 Lee, H.-G\*, Kim, Y.-C\*, Dunning, J.S\*\*, Austin, M\*\*, McInnis, I\*\*, Stover, E\*\*, and Han, K.-A. Behavioral disinhibition induced by ethanol requires dopamine in *Drosophila*, Gordon Conference, Catecholamines, Oral presentation

2006 Han, K.-A. Kim, Y.-C\*, and Lee, H.-G.\* Classical Reward Conditioning in *Drosophila melanogaster*, Annual *Drosophila* Conference, Learning and Memory workshop, Oral presentation

2006 Lee, H.-G\*, Kim, Y.-C., Dunning, J.S\*\*, White, J.R\*\*, and Han, K.-A. Chronic alcohol-induced disinhibited courtship and behavioral sensitization, International Neurofly *Drosophila* Conference

2005 Kim, Y.-C\*, Lee, H.-G., Chae, S\*\* and Han, K.-A. Dopamine and octopamine receptors play distinctive roles in olfactory learning of *D. melanogaster.* Neurobiology of *Drosophila* meeting at Cold Spring Harbor Laboratory, Oral presentation

2005 Lee, H.-G\* and Han, K.-A. Mutations in the octopamine receptor OAMB affect short-term memory of conditioned courtship in *D. melanogaster.* Neurobiology of *Drosophila* meeting at Cold Spring Harbor Laboratory

2005 Kim, Y.-C\*, Lee, H.-G\*, and Han, K.-A. The Selective Roles of D1 Dopamine and Octopamine Receptors in Associative Learning and Memory of the *Drosophila* *melanogaster.* Annual meeting of Society for Neuroscience

2004 Han, K.-A. and Lee, H.-G.\* The role of the octopamine receptor OAMB in ovulation of *Drosophila*, Annual *Drosophila* Conference, GPCR workshop, Oral presentation

2004 Kim, Y.-C., Lee, H.-G\*, Soska, K\*\*\* and Han, K.-A. Associative learning and memory mediated by dopamine and octopamine receptors that are highly enriched in the mushroom body neuropil of the *Drosophila* Brain. International Neurofly *Drosophila* conference

2004 Kim, Y.-C\*, Lee, H.-G\*, Min, J\*\* and Han, K.-A. Crucial roles of dopamine in basal and alcohol-induced locomotor activities of *Drosophila melanogaster.* Annual meeting of Society for Neuroscience

2003 Lee, H.-G\*, Seung, C.-S., and Han, K.-A., OAMB, an octopamine receptor preferentially expressed in the mushroom bodies of *Drosophila melanogaster* brain, is crucial for ovulation in *Drosophila* females, Genetics Symposium, Penn State Hershey Medical Center

2003 Seung, C.-S. and Han, K.-A. A potential role of D5 dopamine receptor DAMB in courtship behavior of *Drosophila melanogaster*, Genetics Symposium, Penn State Hershey Medical Center

2003 Kim Y.-C\*, Taghert, P. and Han, K.-A. Expression of D1 Dopamine receptor dDA1 is regulated by Apterous, a LIM homeodomain transcription factor in *Drosophila*, Penn State Graduate Exhibition, won the 3rd prize

2003 Seung, C.-S. and Han, K.-A. Altered courtship preference of male *Drosophila melanogaster* associated with the DAMB locus. Neurobiology of *Drosophila* meeting at Cold Spring Harbor Laboratory

2003 Kim Y.-C\*, Taghert, P. and Han, K.-A. Expression of D1 dopamine receptor dDA1 is regulated by Apterous, a LIM homeodomain transcription factor in *Drosophila*, Neurobiology of *Drosophila* meeting at Cold Spring Harbor Laboratory

2002 Han, K.-A. Lee, H.-G\*, and Mancino, L\*\*. The role of the octopamine receptor OAMB in *Drosophila melanogaster,* Neurofly (aka International Neurobiology of Drosophila Conference), Dijon, France, Oral presentation

2001 Han, K.-A., Whembolua, L\*, and Liu, S\*\*., DAMB, the D1 dopamine receptor in *Drosophila* *melanogaster* in drug addiction. Neurobiology of *Drosophila* meeting at Cold Spring Harbor Laboratory

2001 Han, K.-A., Mahmoud, T., Liu, S\*\*, and Whembolua, L\*. The role of The D1 dopamine receptor DAMB in cocaine and alcohol induced behaviors of *Drosophila melanogaster*. Annual meeting of Society for Neuroscience, San Diego

2001 Liu, S\*\* and Han, K.-A. The Role Of The dopamine receptor DAMB in cocaine induced behaviors of *Drosophila melanogaster*, National Conference on Undergraduate Research, Lexington

2001 Ream, P.J\*, Suljak, S.W\*, Han, K.-A., & Ewing, A.G. MEKC Analysis of *Drosophila melanogaster* with electrochemical detection. CEC annual meeting, Las Vegas

1999 Han, K.-A. and Davis, R. L. DAMB, A Dopamine Receptor Highly Enriched in the Mushroom Bodies, in Olfactory Learning of *Drosophila melanogaster*: Neurobiology of *Drosophila* at Cold Spring Harbor Laboratory

1999 Han, K.-A. and Davis, R. L. DAMB, A Dopamine Receptor Highly Enriched in the Mushroom Bodies, in Olfactory Learning of *Drosophila melanogaster*: Annual *Drosophila* Conference

1997 Han, K.-A., Millar, N., and Davis, R. L. Novel Biogenic Amine Receptors Preferentially Expressed In Mushroom Bodies of *Drosophila melanogaster*. Neurobiology of *Drosophila* at Cold Spring Harbor

1997 Han, K.-A., Millar, N., and Davis, R. L. Novel Biogenic Amine Receptors Preferentially Expressed In Mushroom Bodies of *Drosophila melanogaster*. 27th Annual meeting of Society for Neuroscience

1996 Han, K.-A., Millar, N., and Davis, R. L. Cloning And Characterization Of A Novel Dopamine Receptor of *Drosophila* melanogaster Annual *Drosophila* Conference

1995 Han, K.-A. and Davis, R. L., Cloning and Characterization of Biogenic Amine Receptors of *Drosophila* melanogaster, Neurobiology of *Drosophila* at Cold Spring Harbor

1995 Han, K.-A. and Davis, R. L. Cloning and Characterization of Biogenic Amine Receptors of *Drosophila* melanogaster, Annual *Drosophila* Conference

1991 Han, K.-A and Kulesz-Martin, M. Expression of Retrovirus-Like Sequence (VL30) in Normal Murine Epidermis and Carcinomas, Proc. AACR, Vol 32: 288

1991 Han, K.-A. and Kulesz-Martin, M. Altered Expression of Putative Tumor Suppressor Gene p53 Associated with Malignant Conversion in A Murine Multistep Cell Transformation Model, Keystone Symposium on Molecular and Cellular Biology: Genomic Instability and Cancer, J. Cell. Biochem. Suppl. 15D: 125

1990 Lisafeld, B., Han, K. -A. and Kulesz-Martin, M. Keratin Expression in Murine Epidermal Tumor cells with Different Degrees of Histopathologic Differentiation, Proc. AACR, 31: 535

1989 Han, K.-A., Rothberg, P. and Kulesz-Martin, M. Overexpression of p53 and VL30 in Mouse Epidermal Carcinoma Cells, UCLA Symposium on Molecular and Cellular Biology: Mechanisms in Carcinogenesis and Tumor Progression, J. Cell. Biochem. Suppl. 13B: 30

***D. Professional development*** ***activities***

2016 “From Pediatric Encephalopathy to Alzheimer’s: Linking Mitochondria to Neurological Diseases” workshop, sponsored by Society for Neuroscience

2010 NIDA Mini Convention: Frontiers in Addiction Research, sponsored by National Institute of Health/ National Institute of Drug Addiction

**MENTORING ACTIVITIES**

*A. Direct Mentoring Postdoctoral Fellow*

2017-2022 Paul R. Sabandal, Ph.D., The neural and genetic mechanism underlying inhibitory control. (Excellence in Research and Mentoring, Honors Convocation 2020)

2008-2013 Young-Cho Kim, Ph.D., The role of dopamine and octopamine in behavioral plasticity. Currently at University of Iowa Medical School, Assistant Professor

2010-2011 Cheon Ho, Park, Ph.D., The role of dopamine and octopamine in behavioral plasticity. Currently at Chemical Institute in Korea

2007-2009 Suman Rohila, Ph.D., Postdoctoral Associate, the mechanism underlying female reproduction. Currently at USDA

2001-2003 Chang-Soo Seong, Ph.D., Postdoctoral Associate, the role of D5 dopamine receptor DAMB in sexual behavior of *Drosophila* melanogaster. Currently at Emory University School of Medicine, Research Associate.

*B. Direct Mentoring Ph.D. Students*

2023-present Kryssia Villarreal Rodriguez, PhD Program in Biosciences, The neurobiological mechanisms underlying neurodegeneration in dementia with focus on Kek5 and wds (G-RISE scholar)

2023-present Carolyne Chepkosgei, PhD Program in Biosciences, The role of the Scully-network in dementia.

2021-present Aldo Pizana, PhD Program in Biosciences; The neurobiological mechanisms underlying neurodegeneration in dementia with focus on frequinin (G-RISE scholar)

2015-2023 Erick Saldes, PhD Program in Biosciences; The neuromodulatory mechanisms underlying inhibitory control. (Keelung Hong Fellowship, June 2019 - May 2021; Dodson Research Grant, May 2019-20; 3MT Finalist March 2019, March 2020; Excellence in Research and Mentoring, Honors Convocation, May 2020; NSF-funded ASPIRE Fellowship, 2021) – won Academic & Research Excellence Award-Graduate CoS

2019-2022 Patricia Ablanedo Morales, PhD Program in Bioengineering, NIH-funded BUILDing Scholar; The neuromodulatory mechanisms underlying neural and behavioral plasticity.(Dodson Research Grant Award, May 2020-21), co-Mentor with Dr. Boland in Biomedical Engineering

2013-2017 Jose L. Guitierrez, Graduate Program in Biological Sciences; The neural basis of behavioral plasticity.

2011- 2017 Paul R. Sabandal, Ph.D. PhD Program in Pathobiology; The neural mechanism underlying behavioral disinhibition, Academic & Research Excellence Award on his dissertation, Biological Sciences Department.

2008 - 2009 Devashree Vakil. IGDP (intercollege graduate degree program) in Genetics, Roles of dopamine and octopamine in reproductive behavior and physiology, completed Ph.D. with another faculty mentor in 2012

2007 - 2009 David Moore. Neuroscience graduate program, Potential roles and underlying mechanisms of dopamine receptors in *Drosophila* associative learning and memory, completed Ph.D. with another faculty mentor in 2014

2003 - 2008 Hyun-Gwan Lee, Ph.D., IGDP (intercollege graduate degree program) in Genetics, Potential roles and underlying mechanisms of an octopamine receptor OAMB in *Drosophila* reproduction, and associative learning and memory. Currently at GIST in Korea

2002 - 2007 Young-Cho Kim, Ph.D., Neuroscience, The Huck Institute of Life Sciences, D1 dopamine receptor dDA1 functions for development and behavioral plasticity of *Drosophila melanogaster*. Currently at University of Iowa Medical School, Research Assistant Professor

Galindo Carbajal, Valeria

*C. Direct Mentoring Master Students*

2023 – Maya Solis, Master Program in Biological Sciences, The neuromodulatory mechanisms underlying dementia with focus on Scully.

2021 – Jose Alvarado, Master Program in Biological Sciences, The neuromodulatory mechanisms underlying behavioral plasticity.

2022 –2023 Carolyne Chepkosgei, Master Program in BioMedical Engineering, The role of the Scully-network in dementia.

2018 – 2021 Abraham Ceballos, Master Program in Biological Sciences, Neural and cellular mechanisms underlying learning and memory (taken leave of absence)

2019 – 2021 Nathaniel A Andersen, Graduate Certificate in Biological Sciences, The neuromodulatory mechanisms underlying neural and behavioral plasticity.

2016 - 2020 Grecia Medina, MS, Master Program in Biological Sciences, Neural and cellular mechanisms underlying sexual behavior. (3M Finalist, March 2019; GSA Travel Award for the annual TAGC conference, Apr 2020)

2017-2018 Samantha Hinojos, Graduate Certificate in Biological Sciences, The neurobiological basis of inhibitory control.

2015 - 2017 Ana Fernandez, MS, Master Program in Biological Sciences, Neural and cellular mechanisms underlying sexual behavior.

2014 - 2017 Ivan Mercado, MS, Master Program in Biological Sciences, Roles of dopamine receptors in behavioral disinhibition and sleep.

2013 - 2016 Gissel P. Aranda, MS, Master Program in Biological Sciences, The role of the dopamine/ecdysone receptor DopEcR in ethanol-associated behavioral disinhibition.

2010 - 2011 Keziah Hernandez, Graduate Program in Biological Sciences, The roles of dopamine in classical learning and memory.

2009 - 2011 Jennifer Johnson, MS, Master Program in Biological Sciences, The roles of dopamine in operant learning and memory.

2007 - 2009 Maryam Kherad Pezhouh, MS, Biology graduate program, The cellular basis of ethanol-induced behavioral disinhibition and sensitization. Currently practicing medicine

Academic and Research Excellence – Undergraduate Student – Neurosciences: Maya Solis, College of Science

*D. Direct Mentoring Undergraduate Students (total, >200 students; listed a subset)*

i). RISE Scholars

2022 – Georgina (Shakti) Martinez (Second place, 2023 B.R.A.I.N Symposium; Fist place in the Imaging contest)

2022-2023 Maya Solis (Honorable Mention, 2022 COURI Symposium; Academic and Research Excellence – Undergraduate – Neuroscience, CoS May 2023

2021-2023 Bryan Hernandez (First place, 2023 B.R.A.I.N Symposium); currently at Vanderbilt University, Postbac program for MD/PhD

2020 – 2021 Jose Alvarado

2018 – 2020 Nataly Delgado (Honorable Mention, 2018 COURI Symposium)

2018 – 2020 Carmen Mariana Sierra

2017- 2017 Julieta Diaz Erives

2017 - 2017 Ivan Herrejon

2016 - 2017 Samantha Hinojos

2014 - 2016 Jacqueline A. James

2013 - 2015 Ana Fernandez

2013 - 2014 Ivan Mercado

2012 - 2013 Jesus Jurado

2011 - 2011 Cesar Barron

ii). MARC Scholars (discontinued as of 2021)

2018 –2020 Abraham Arzola (2019 summer internship at NIH)

2015 - 2017 J. Martin Sabandal

University Banner Bearer; Academic & Research Excellence Award, COS; Best Neuroscience oral presentation and 1st overall in all categories, Texas Academy of Sciences Meeting 2017; the Neuroscience Ph.D. program, Scripps Florida, 2017 Sept -2022 May

2014 - 2015 Jessica Burciaga

iii). Bridges to the Baccalaureate program (El Paso Community College student research internship program) Scholars: Summer or Yearlong

2021 Valeria Galindo

2019 Mary Miller (summer and yearlong; won the 3rd place at the LSAMP conference 2019, which is the 1st place among BRIGES scholars)

2018 Samantha (Reney) Hernandez (summer)

2017 Nataly Delgado (summer and yearlong)

2016 - 2017 Kevin Amezcua (yearlong)

2016 Luis Amezcua (summer)

2014 Jacqueline James (summer and yearlong)

2013 Perla Gonzalez

2012 - 2012 Arlene Smith

2011 Carlos Monserrat

2010 - 2011 Paula Villarreal (summer and yearlong)

iv). SMART-MIND (Neuroscience REU) Participants: Summer

2022 Maria Clague (Columbia Univ)

2019 Ronaldo Lopez (UTEP)

2018 Ignacio Quintana (University of South Florida)

2016 Samantha Hinojos (UTEP) - starting the Ph.D. program in Fall 2017 at UTEP

2016 Emily Park (Wellesley Univ) - Honorable Mention Award in COURI symposium, currently at the MD/PhD program, Baylor College of Medicine, TX

2015 Aaron Clark (UTEP)

2014 Kaitlyn Forster (Virginia Tech Univ)

2013 Mason Younghood (Univ. South Carolina)

2012 Raudel Melchor (UTEP)

v). SMART-MIND (Neuroscience REU) High School Teacher/Student Participants: Summer

2021 David Esparza – Transmountain Early College High School

2019 Mario Aguirre – Socorro High School teacher

2018 Sheri Arevalo – El Dorado High School teacher

2017 Ernesto Villanueva – Canutillo High School teacher

2015 Ramon Benavides – Del Valle High School teacher

2015 Samantha Meraz-Torrez- Del Valle High School student

vi). SURME REU Participants: Summer (discontinued due to Covid-19 in 2020)

2019 Jinghui (Joan) Zheng (Beijing Normal Univ., China)

2018 Lixin (Lily) Xu (Beijing Normal Univ., China)

2018 Zhuoran (Sally) Liu (Beijing Normal Univ., China)

2017 Linlin Li (Beijing Normal Univ., China)

2017 Yan (Sylvia) Liu (Shantou Univ., China)

2016 Jun (Sissi) Ye (Shantou Univ., China)

2016 Simin Sun (Beijing Normal Univ. China)

2015 Runze Wang (Beijing Normal Univ. China)

vii). COURI, BUILD, ACSScellence, SURPASS and MERITUS programs

2020-2023 Dilean Murillo Gonzalez (MERITUS, SURPASS, MERITUS; Bristol/Mayberry Endowed Award, 2021; First Place Award at the regional (held at NMSU) ASBMB meeting, 2021; Honorable Mention Award at the national (held at Philadelphia) ASBMB meeting, 2022; Academic and Research Excellence – Undergraduate – Cell and Molecular Biochemistry, CoS, May 2023; Currently at Baylor College of Science Neuroscience PhD program

2020 Alheli Romero (BUILD);

2020 Gabriela Boisselier (SURPASS)

2019-2020 Vanessa Valles (MERITUS; Bristol/Mayberry Endowed Award, 2019; Excellence in Research and Academic Performance, Honors Convocation 2020; Academic and Research Excellence Award, Cellular and Molecular Biochemistry, COS pre-commencement, 2020 Spring); currently at UTEP Pharmacy School

2019-2020 Yasmeen Abugalyon (BUILD)

2018-2019 Prescilla Garcia-Trevizo (SURPASS and ACSScellence; Ph.D. program at Penn State Univ, BBH department; The Bunton Waller Award and University Fellowship)

2016 Jennifer Martinez (EPCC, BUILD, summer)

viii). UT System Louis Stokes Alliance for Minority Participation (LSAMP) Scholars: Summer

2019 Jeannie Nghiem (Tyler Junior College)

2017 Julieta Diaz Erives

2015 Jong Saunders

ix). Bioinformatics UPBiT Scholars (discontinued)

2015 - 2016 Jose Barragan

2014 - 2015 Beatriz Madrigal

2013 - 2015 Raymond Ford (currently working as Data Scientist at Stealth Startup)

2011 - 2011 Andres Oriz

2011 - 2011 Hiva Javaher

x). SMARTS Scholars (discontinued)

2014 - 2016 Gissel Aranda (completed MS, 2016, teaching at EPCC)

2014 - 2016 Idaly Olivas (preparing to pursue a medical school)

xi). BURS Scholars (discontinued)

2018 –2019 Gabrielle S. Ahumada

2014 - 2015 Beatriz Madrigal - Top Ten Seniors honor (completed the Registered Nursing Program at UTHSC San Antonio and work at the UTHSC-SA)

2012 - 2012 Erick Saldes (currently in the UTEP Ph.D. program)

2010 - 2011 Paul Sabandal (obtained Ph.D. at UTEP in May 2017)

xii). Biology REU Participants: Summer (discontinued)

2012 Estrella Padilla (NMSU)

2011 Michael Trejo (Rice Univ)

2011 Erick Saldes (UTEP)

xiii). El Paso Community College RISE Interns

2020 - Adrian Sosa Ontiveros

2015 - 2015 Milo Barrera

2014 - 2015 Omar Muniz

2014 - 2014 Oscar Estrada

2013 - 2014 Jose Barragan

2012 - 2013 Manuel Moreno

xiv). High/Middle School Student Participants

2018 fall – Adrian Sosa Ontiveros (El Dorado High School, currently at EPCC)

2018 fall – Natalia Diaz (8th grade)

2017 summer - Grace Park (currently at USC)

2017 summer - Michelle Park (currently at USC)

2012 - 2012 Keun-Woo Lee (admitted to UT-Austin)

2012 - 2012 Joshua Garza (admitted to Johns Hopkins Univ.)

*xv). Honors Thesis for Undergraduate Students*

2006 - 2009 Sandeep Sandirasegarane, Schreyer’s Honors College. Effects of developmental ethanol exposure on behavioral plasticity in the adult. (admitted to Temple Univ. Medical School)

2006 - 2008 Derek Pae, Schreyer’s Honors College. Effects of developmental ethanol exposure on behavioral plasticity in the adult.

2004 - 2005 Krystal Ozanik, Schreyer’s Honors College B.S. Thesis, The role of octopamine receptor OAMB in alcohol-induced behavior of *Drosophila melanogaster*. (admitted to Univ. Pittsburg Medical School)

2000 - 2002 Steven Liu, Schreyer’s Honors College B.S. Thesis, The role of dopamine receptor DAMB in cocaine-induced behavior of *Drosophila* melanogaster. (admitted to Univ. Penn Medical School)

2001 - 2002 Benjamin Ali Vaghari, Schreyer’s Honors College B.S. Thesis, The sedative effects of ethanol intoxication in *Drosophila* *damb* mutants: Behavioral changes in resistance and tolerance. (admitted to Temple Univ. Medical School)

xvi). Research volunteers or students taking research credits (5-10 students per semester)

*E. Dissertation & Thesis Committee*

2023-present Dissertation committee, Jesus Lopez (Biology)

2022-2023 Dissertation committee, Briana Pinales (Biology)

2020-2022 Dissertation committee, Alejandro Rodriguez (Chemistry)

2020-2022 Dissertation committee, Bianka Holguin (Chemistry)

2019-present Dissertation committee, Ana Vargas (Bioengineering)

2019-2023 Dissertation committee, Nayeli Reyes (Biology/Biosciences)

2017-2023 Dissertation committee, Maribel Baeza (Biology/EEB)

2016-present Dissertation committee, Michael Furth (Bioengineering)

2014 - 2017 Dissertation committee, Paloma Valenzuela (Biology)

2013 - 2017 Dissertation committee, Anais Martinez (Biology)

2021 - 2022 Thesis committee, Denise Avalos (Biology)

2017 - 2019 Thesis committee, Alexa Montoya (Biology)

2016 - 2017 Thesis committee, Janelly Villalobos (Chemistry)

2015 - 2016 Thesis committee, Francisco Alvarado (Bioengineering)

2013 - 2014 Thesis committee, Jose Varela (Biology), not completed the degree

2013 - 2014 Thesis committee, Sarah Vacio (Biology), not completed the degree

2013 - 2014 Thesis committee, Yassel Acosta (Physics)

2013 - 2014 Thesis committee, Mahmoud F. Helal (Chemistry)

2012 - 2013 Thesis committee, Judith N. Rivera (Physics)

2010 - 2009 Ph.D. Dissertation Committee at PSU

Ian Brooks, Biology

Paula Ream, Chemistry

Tracy Paxon, Chemistry

Jizhong Zou, Biochemistry & Molecular Biology

Woong Kim, Biochemistry & Molecular Biology

Janice Williams, Biochemistry & Molecular Biology

Beiyan Zou, Genetics Intercollege Graduate Program

Beth Luellen, Neuroscience, IBIOS Neuroscience

Marc Maxson, Neuroscience, IBIOS Neuroscience

Kiranmai Kocherlakota, IBIOS Cell & Developmental Biology

Whenhua Yu, IGDP in Genetics

Monique Makos, Chemistry

Nick Kuklinski, Chemistry

Amanda Bressler, Chemistry

Shaona Acharjee, IBIOS Genetics

Anamika Missra - Biochemistry & Molecular Biology

Lina Yin - IBIOS Neuroscience

Stefanie Altieri - IBIOS Neuroscience

Ju-Chieh Wung - Biochemistry & Molecular Biology

2010 - 2009 MS Thesis Committee at PSU

Janice Williams, Biochemistry & Molecular Biology

Shengai Li, Genetics

Gregory Mitchell, Biology

Lindsay Dutko, Cell and Developmental Biology

**TEACHING ACTIVITIES**

*At UTEP:*

Undergraduate courses:

BIOL 4395, Topics in Biology: CNS disorders and disease (3 credits), fall semester 2023

BIOL 2311, Human Physiology and Anatomy I (3 credits; a large class), spring semester 2010 – 2019 and 2019 summer

BIOL 2340, Introductory Neuroscience (3 credits; 60%), team-taught with Drs. Cushing (20%) and Khan (20%), spring semester, 2017 - 2020

CBCH 4320, Team taught course, Advanced Topics in Molecular Biochemistry (3 credits; one week), spring semester, 2017-present

Graduate courses:

BIOL 6131/5131, Ethical, Social and Political Dimensions (Bioethics; 1 credit), spring semester and sometimes fall semester as well, 2009 - present

BIOL 6130/5130, Biological Sciences Seminar (1 credit) fall semester, 2022-

BIOL 6311 & BIOL 5311, Neurobiology of Brain Diseases (3 credits), fall semester, (first as BIOL5301), 2010 - present

BIOL 6321/5301, Selective Advanced Topics; Scientific Communications (3 credits), spring semester 2021 - present

BIOL 6308 & BIOL 5308, Team-taught course, Research Funding & Professional Development (3 credits), fall semester 2012 – 2017

BIOL 5301, Selective Advanced Topics; Development of Neuroscience Curriculum for K12 Education (3 credits), summer, 2012 and 2015

*At PSU:*

Undergraduate courses:

BIOL/BBH 470, Functional & Integrative Neuroscience (3 credits)

BIOL/BBH 470H (honors section), Functional & Integrative Neuroscience Honors class (3 credits)

PSU 016, Science First Year Seminar (1 credit)

BIOL 497, Molecular Basis of Neurological Diseases (3 credits)

Graduate courses:

BBH 501, Biobehavioral Systems in Health & Development: cellular & molecular module (3 credit)

IBIOS 598, Seminars in Neuroscience (1 credit)

IBIOS 592, Seminars in Cell and Developmental Biology (1 credit)

**CURRICULUM DEVELOPMENT**

***A. BIOL 6131/5131 Ethical, Social & Political Dimensions (Bioethics)***

The course addresses ethical, social, and political issues in biomedical research. The course focuses on several topics including responsible conduct of research (e.g. research misconduct definition and reported cases, mentorship, authorship and peer review) and gray areas entailed by advanced genetic information (e.g. legal and social issues arising from genetic information related to diseases and personal traits; eugenics), stem cell research (e.g. types, sources and application of stem cells; therapeutic vs. reproductive cloning; public perception and significance of education), research involving animals or human subjects (e.g. institutional, national, international regulations and policies such as Belmont Report and Declaration of Helsinki; research on vulnerable individuals), and performance enhancing drugs (e.g. Ritalin and steroids). For individual topics, students learn about background information and are guided for open discussions on pros and cons using case reports and studies. The course uses the education materials provided by the NIH/Office of Research Integrity and articles published in Nature, Science or other journals. Students are expected not only to learn the basics and issues of each topic but also to develop logical, analytical and critical thinking and to broaden their viewpoints.

The course is offered every spring semesters and is required for all Ph.D. students and elective for Masters students in the Biological Sciences or other graduate programs.

***B. BIOL 5301 & BIOL 6311/5311 Neurobiology of Brain Diseases***

The course is designed to enhance fundamental concepts of the nervous system functions and provide contemporary knowledge and insights into the genetic, molecular, cellular and neural basis of brain diseases as well as their therapeutic approaches. The course focuses on neurodegenerative and cognitive disorders prevalent in our society that include Alzheimer’s disease, Parkinson’s disease, Huntington’s disease, prion disease/CJD, autism, depression, ADHD, mental retardation and PTSD. The course uses the review articles and research papers. Students are expected to develop analytical, logical and innovative thinking through critical reading, essay assignment, presentation and discussions of research papers.

This course has been taught as BIOL 5301 (Selected Advanced Topics in Biological Sciences) five times since 2010 and offered as a formal course (course numbers BIOL 5311/6311) since Fall 2016 and every fall semester thereafter. This three-hour/week class is an elective for all students in the Pathobiology, Ecology and Evolutionary Biology, MATS and other graduate programs.

***C. BIOL 5301 Selected Advanced Topics Biological Sciences: Neuroscience Curriculum for K12 Education***

The course is designed to update and upgrade the fundamental knowledge in neuroscience for graduate students in the Master of Arts in Teaching Science (MATS) program and to facilitate them develop neuroscience curriculum for K-12 or high school students. The course is also designed to promote knowledge, awareness, preventive measures and interventions by implementing lesson plans covering the disorders most prevalent to adolescents. The course also facilitates to use of animations and movie clips. The course is offered in Summer 2012 and 2015.

***D. BIOL 2311 Human Anatomy & Physiology I***

The course is the first part of a two-course sequence and covers the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous, and endocrine systems. Emphasis is on interrelationship between systems and regulation of physiological systems involved in maintaining homeostasis. The course uses the text book Elaine N. Marieb and Katja Hoehn, *Human Anatomy & Physiology*, 8th or 9th or 10th Ed., Pearson Benjamin Cummings, 2010/2012/2015 as well as new research findings whenever appropriate.

The course is offered every spring semester for undergraduate students in the Departments of Kinesiology, Social Work, Pre-nursing, Pre-pharmacy, Pre-medicine and Biological Sciences in the Colleges of Health Science and Science.

***E. BIOL 5308/6308 Research Funding & Professional Development (team-taught)***

This course is developed to provide instruction and guidance in the construction and submission of competitive grant proposals and fellowship applications, as well as the development of other professional tools needed by graduate students in the Biological Sciences. The team of faculty including Drs. Renato Aguilera, Igor C. Almeida, Marc B. Cox, Bruce Cushing, Siddhartha Das, Eli Greenbaum, Kyung-An Han, Charles Spencer, JJ Sun and Craig E. Tweedie (coordinator). The course covers i) the responsibilities, obligations and rights of graduate students and the expectations of a thesis/dissertation advisor and graduate program; ii) funding opportunities – discuss and learn types of fellowship and grant funding opportunities from a range of agencies and foundations; iii) grant writing – discuss strategies and review criteria specific to funding agencies, and grantsmanship; iv) authorship and peer review – discuss the factors and processes involved in authorship and the peer review process; v) Scientific and professional integrity – discuss scientific and professional ethics in conducting, reporting, and reviewing research, managing a lab, and interacting with an academic or professional community; v) preparing CV– discuss how to present oneself in a competitive job market; vi) career opportunities in academia, governmental agencies, biotech or pharmaceutical companies and discuss how to balance career development and personal life; vii) skills and strategies involved in transition from a graduate student to a postdoctoral trainee and from a postdoctoral trainee to a professional in academia, governmental agencies, biotech or pharmaceutical companies, and etc.

Students are expected to develop a mock proposal that includes problem statement and goal, specific aims, research background, design and approaches, timeline and budget, and to present it to the class. The proposal is evaluated by peers (classmates) and the instructors. The course is offered every fall semester.

***F. BIOL 6321/5301 Selected Advanced Topics Biological Sciences: Scientific Communications***

Reading, writing and presentation of scientific papers and research are essential for graduate students and professionals. As there are many scientific papers published, it is also critical to develop effective approaches and skills to select right articles for reading, understanding and citation. This course covers four key components of scientific communications: selection, reading, writing and presentation of scientific literature and research.