

ARSHAD M. KHAN, PH.D.



Professor and Principal Investigator, UTEP Systems Neuroscience Lab, Dept. of Biological Sciences & Border Biomedical Research Center, The University of Texas at El Paso, 500 W. University Ave., Biosciences 2.171, El Paso, TX 79968, USA.
Voice: (915) 747-8436 | E-mail: amkhan2 [at] utep.edu

Science Networks > ORCID: 0000-0003-0254-3546 | ResearcherID: L-1705-2013 | Scopus Author ID: 56018648700
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RESEARCH & CAREER INTERESTS

I study the structure and function of neural systems that regulate energy balance, neuroendocrine function and behavioral state in the mammalian brain. My focus is on how neural circuits in these systems are organized, how they help control motivated behaviors and autonomic function, and how they respond to changes in nutrient status. A major goal of my laboratory is to map these circuits using atlas-based approaches and to functionally interrogate them using chemical and gene-based targeting.

I collaborate on neuroinformatics and computer science projects related to the modeling, management, and migration of neuroscientific data. I maintain active research interests in the history of neuroscience, in comparative neurobiology, and transcriptomics. Finally, as part of my strong commitment to classroom and laboratory instruction in the life sciences (biology, biochemistry, neuroscience) at the university level, I also collaborate on science education studies and training initiatives to improve undergraduate and graduate student learning outcomes and to instill equity in our educational practices, especially for STEM students within underrepresented minorities.

EDUCATION

Ph.D., Neuroscience 2002
University of California at Riverside
Riverside, California

Dissertation: Lateral hypothalamic NMDA receptor subunits, tyrosine kinases, and tyrosine phosphorylation in the central stimulation of eating.

M.S., Biochemistry 1996
University of California at Riverside
Riverside, California

- Nitric oxide and feeding control
- Blood-brain barrier and brain metabolism

B.S., Biological Sciences 1994
University of California at Riverside
Riverside, California

- Dual majors: Biology, Biochemistry
- Dual minors: English Literature, Religious Studies

RESEARCH APPOINTMENTS & ACTIVITIES

Professor, Tenured Oct 2023–
Associate Professor, Tenured Oct 2017–Sep 2023
Assistant Professor, Tenure-Track 2011–Sep 2017
The University of Texas at El Paso (UTEP)

- Mapping brain circuits controlling motivated behaviors
- Identifying the effects of hypoglycemia on autonomic circuits

Adjunct Assistant Professor 2011–2014
University of Southern California (USC)

Assistant Professor (Research) Jun 2007–Dec 2010
University of Southern California (USC)

- Identified glucoregulatory circuits in the brain
- Conducted historical research on neuroenergetics

Postdoctoral Research Associate Oct 2001–Mar 2004
Postdoctoral Fellow Mar 2004–Jun 2007
Laboratory of Alan G. Watts
Dept. of Biological Sciences, USC

- Developed a brain slice assay for neuroendocrine neurons
- Collaborated to create a neuroinformatics data platform
- Characterized cellular effects of hypoglycemia in the brain

Graduate Research Associate Sep 1994–Mar 2002
Laboratory of B. Glenn Stanley
Dept. of Cell Biology & Neuroscience
University of California at Riverside (UCR)

Master's, Doctoral work: See 'Education' section for details

Graduate Rotation/Collaboration May 1996–May 2000
Laboratory of Margarita Currás-Collazo
Dept. of Cell Biology & Neuroscience, UCR

- Biochemistry of hypothalamic glutamate receptor subunits

Graduate Rotation Sep 1996–Jun 1997
Laboratory of Glenn I. Hatton
Dept. of Cell Biology & Neuroscience

- Localization of hypothalamic Ca^{2+} -binding proteins

Undergraduate Research Asst. Sep 1996–Jun 1997
Laboratory of B. Glenn Stanley
Dept. of Cell Biology & Neuroscience, UCR

- Glutamate receptor antagonists in feeding control

Undergraduate Research Asst. Summers: 1991, 1993
Laboratory of P. Kirk Visscher Sep 1993–Sep 1994
Dept. of Entomology, UCR

- Pheromone control of honey bee swarms: field/lab studies

PROFESSIONAL MEMBERSHIPS

- Society for Neuroscience
- American Association for the Advancement of Science
- Cajal Club
- Royal Microscopical Society

AWARDS & HONORS

UTEP Service Award 2022
Recognition of ten years of service to UTEP

SfN Award for Education in Neuroscience 2021
"Recognizes individuals who have made outstanding contributions to neuroscience education and training, typically at the undergraduate/graduate level. "
(Society for Neuroscience)

Outstanding Performance Award 2021, 2024
(from Office of Research and Sponsored Projects, '19, '18, UTEP) *"For outstanding performance in securing extramural funding"* '15, '14

Faculty Research Mentoring Award 2020
"For mentoring the graduate student receiving the Best Thesis Award in the college"
[M.S. thesis by Vanessa I. Navarro]
(Graduate School, UTEP)
Cash award of \$500

Marshal of Faculty – College of Science 2019
(UTEP College of Science, for Fall Commencement)

Marshal of Students – College of Science 2018
(UTEP College of Science, for Fall Commencement)

UTEP Nominee, Piper Professor Award 2018
(Minnie Stevens Piper Foundation, San Antonio, TX)

Students' Choice Award for Outstanding Teaching 2017
(Department of Biological Sciences, UTEP)

Faculty Research Mentoring Award 2016
"For mentoring the graduate student receiving the Best Thesis Award in the college"
[M.S. thesis by Berenise De Haro]
(Graduate School, UTEP)
Cash award of \$500

Nomination 2016
UT Regents Outstanding Teaching Award
(College of Science, UTEP)

AWARDS & HONORS (CONT.)

Faculty Research Mentoring Award 2015
(College of Science, UTEP) *"For mentoring the graduate student receiving the Best Thesis Award in the college."*

Informal Personal Commendation 2014
(from Dr. Diana Natalicio, President of UTEP)
For my invited presentation to the UT System Regents' Board Meeting, May 15, 2014; Austin, TX

Nomination 2013
UT Regents Outstanding Teaching Award

Recipient, Travel Fellowship 2009
2010 Winter Conference on Brain Research

Recipient, NIH Mentored Research Scientist Development Award (K01) 2008
PI: Arshad M. Khan. Funding period: 2008–2012

Co-recipient, eSciences Funding Award from Microsoft Research. 2004
Title: *Sangam: A System for Integrating Data to Solve Stress-Circuitry-Gene Coupling; 1 of 5 applications awarded from a pool of nearly 400 proposals*

Recipient, NIH Postdoctoral Fellowship (F32) 2004
(Ruth L. Kirschstein National Research Service Award)
Title: *Signal Transduction Mechanisms in Neuroendocrine Neurons*. 4.3% rank.

Dean's Dissertation Research Grant 2000
(Graduate Division, UC Riverside)

Outstanding Teaching Assistant of the Year 1998
(Dept. of Cell Biol. & Neuroscience, UC Riverside)

Frances Marlatt Baugh Award for Outstanding Graduate Research 1998
(Division of Biomedical Sciences, UC Riverside)

Graduate Student Research Award 1997
(Division of Biomedical Sciences, UC Riverside)

Outstanding Teaching Assistant of the Year 1997
(Division of Biomedical Sciences, UC Riverside)

James & Margaret Lesley Prize for Completed Original Research 1995
(Division of Biomedical Sciences, UC Riverside)

Election to Sigma Xi (Scientific Honor Society) 1995

Lions Club Scholarship 1987

Carlsbad Optimist Club Scholarship 1985

RESEARCH GRANTS

CURRENT SUPPORT

- **National Institute of General Medical Sciences, NIH.** (SC1GM127251). [Interrogating brain circuits that control feeding caused by fasting or by craving](#). (PI: Khan). \$1,391,680. Period: 2018–2024.
- **National Institute on Drug Abuse, NIH.** (R01DA059359). [Sex differences and the influence of ovarian hormones on the mechanisms that promote nicotine withdrawal](#). (PI: L. E. O'Dell, UTEP; Co-Is: Mendez, Khan, Carcoba UTEP). \$2,553,514. Period: 2023–2028.
- **National Institute of Mental Health, NIH.** (R01MH114961). [Development and sex differentiation of context fear neural circuits](#). (PI: A. M. Poulos, Univ at Albany, SUNY; Co-I: Khan, UTEP). \$1,892,334; UTEP: \$654,996. Period: 2019–2024.
- **Office of the Director, NIH.** (1C06OD032074). [Build-out of an imaging and behavioral neuroscience facility for Hispanic health disparities at UTEP](#). (PI: M. J. Kenney, Co-Is: Cushing, O'Dell, Khan, Parker). \$5,077,480, NIH; \$1,500,000, UTEP commitment. Period: 2021–2024.
- **Grand Challenges Grant, Office of Research and Sponsored Projects, UTEP.** *High throughput 3D-visualization of the mammalian central and peripheral nervous systems* (PI: Khan). \$20,000. Period: 2014–2016.
- **University Research Institute (URI).** UTEP Faculty Senate. *The arcuate hypothalamus: Functional activation and mapping of a key feeding control region of the brain*. (PI: Khan). \$5,000. Period: Jan–Aug 2014.
- **National Institute of Diabetes and Digestive and Kidney Disorders, NIH.** (K01DK081937). [From glucosensing neurons to CRH neuroendocrine neurons: circuits and signals](#). (PI: Khan). Direct costs: \$457,000. Period: 2008–2013.
- **National Institute on Minority Health and Health Disparities, NIH.** BBRC Pilot Grant (8G12 MD007592). *Optogenetic study of neurons in glucosensing and hypoglycemia unawareness*. (PI: Khan, Co-PI: Llano). Direct costs: \$25,000. Period: 2012–2013.

COMPLETED SUPPORT

- **UTEP Office of Research & Sponsored Projects. Interdisciplinary Research Building Grant, Internal Competition.** IGNITE: *Interdisciplinary Group for Neuroscience Investigation, Training & Education*. (PI: L. E. O'Dell; Co-PIs: Khan, Mendez, Cushing, Iñiguez). \$170,000 in small equipment. Period: 2020–2023.
- **National Institute of Allergy and Infectious Diseases, NIH.** (R01MH114961). *Unraveling *Cryptococcus neoformans* mechanisms of brain invasion and colonization*. (PI: L. Martinez; Co-Is: Almeida, Khan; UTEP). Direct costs: \$1,978,826; Khan: \$62,035. Period: 2019–2024. [Award transferred to U Fla, Gainesville].
- **Howard Hughes Medical Institute. Education Grant.** UTEP PERSIST: *Program to Retain and Educate Students in STEM Tracks*. (Co-PI: Khan). \$2,400,000. Period: 2014–2019; was on a no-cost extension until Aug 2021.
- **National Institute of General Medical Sciences, NIH.** (SC3GM109817). [Identifying and mapping functional connections of feeding control neurons in the hypothalamus](#). (PI: Khan). Direct costs: \$300,000. Period: 2014–2018.
- **UT BRAIN Award, UT System.** *Bacteria-induced neural inflammation*. (PI: Spencer; Co-PI: Cardona; Co-PI: Khan). \$100,000. Period: 2015–2017.
- **National Institute on Minority Health and Health Disparities, NIH.** BBRC Pilot Grant (2G12MD007592-21). *Role of the truncated hemoglobin trHbN for persistence of *Mycobacterium tuberculosis**. (PI: Ouellet; Supporting: Khan, Spencer, Villagrán). \$25,000. Period: Oct 2014–Mar 2015.
- **Microsoft eSciences Funding Award** (Co-recipient: Khan). [Sangam: A system for integrating data to solve stress-circuitry-gene coupling](#). \$4,000.
- **Undergraduate Research Associates Program (URAP).** University of Southern California. (Two awards) [Research for undergraduates]. (PI: Khan). \$8,000. Period: 2010–2011. \$9,000. Period: 2009–2010.
- **Rose Hills Summer Undergraduate Science and Engineering Fellowships.** University of Southern California. [Support for undergraduates]. (Faculty PI: Khan). Research stipends: \$15,000; Additional research funds: \$6,000. Funding period: 2009–2011.
- **UCR Dean's Dissertation Research Grant.** \$800. Funding Period: 2000.
- **Sigma Xi Grants-in-Aid of Research** [Support for my undergraduate research]:
 - > Winter, 1996. *Hemoglobin, NO, Feeding*. \$500
 - > Summer, 1995. *NO, Feeding, LHA*: \$500
 - > Summer, 1994. *8-br-cAMP and feeding*: \$400
- **UCR Student Minigrants** [Support for my undergraduate research]:
 - > Winter, 1994: *Glutamate-Rs and feeding*: \$200
 - > Winter, 1993: *8-br-cAMP, PFH, feeding*: \$250

TEACHING EXPERIENCE

THE UNIVERSITY OF TEXAS AT EL PASO

I. INSTRUCTOR OF RECORD

Undergraduate Teaching Labs (BIOL 1107/1108)

Brain Mapping & Connectomics I/II F2014–19, 2021–23
S2015–20, 2022–24
Behavioral Control Systems I / II F2017–19, 2021; S2018

- Direct graduate TAs to run two labs/week
- Conduct special lectures and tutorials (2–3×/semester)

Undergraduate Cellular Neuroscience (ZOOL 4384)

Fall 2022–24

- Two lectures/week

Undergraduate Systems Neuroscience (BIOL 4395)

Fall, 2011–21
Summer, 2014; (co-inst Summer, 2021)
Spring 2023, 2024

- Two lectures/week, review sessions, short papers

Graduate Systems Neuroscience (BIOL 5301)

Fall: 2011–16, 2018
Spring, 2024

- One lecture/week, one discussion/week, research readings, student presentations and student research papers

Animal Behavior (BIOL 4324)

Spring: 2012–13, 2016–17, 2020–22
Fall: 2014
Summer: 2014, 2018, 2021(co-taught), 2022

- Two lectures/week, research paper, review sessions

II. PARTICIPATING INSTRUCTOR

Research Techniques Summer, 2023

(PHAR 6211 - School of Pharmacy course for PharmD students)
• Lecture: *Neuroanatomical methods for drug discovery*

Frontiers in Biomedical Research Spring, 2022

(BIOL 5301; Graduate course)
• Lecture: *Brain mechanisms of hypoglycemia sensing*

Senior Seminar Spring, 2011–2015

(BIOL 3192/4192)
Fall, 2019, 2020, 2022
• Lecture: *Intro to scientific research; Neuroscience opportunities*

Introduction to Neuroscience Fall, 2017

(BIOL 2340)
Spring: 2019–20
• Lectures (3 in 2017; 6 each in 2019 and 2020)

Introduction to Computational Thinking with Applications in Brain Mapping Fall, 2018

(CS 1310)
• Co-instructor with Dr. Olac Fuentes

Graduate - RISE program course on research Fall, 2016

- Lecture: *Introduction to neurobiology research*

Advanced Molecular Techniques Fall, 2013–2017

(CBCH 4310)
• Lecture: *Introduction to immunocytochemical techniques*

Biochemistry of Macromolecules Spring, 2012

- Lecture: *Structure and Function of Glutamate Receptors in the CNS*

Cellular Biochemistry Spring, 2012

(CBCH 3414)
• Lecture: *Introduction to Systems Neuroscience Research*

Advanced Topics in Molecular Biochem Spring, 2012

(CBCH 4320)
• Lecture: *Establishing functional linkages in brain signaling pathways*

TEACHING EXPERIENCE (CONT.)

UNIVERSITY OF SOUTHERN CALIFORNIA

I. INSTRUCTOR OF RECORD

Neurobiology Fall, 2008

(team-taught by Dr. Emily Liman, Dr. Sarah Bottjer and myself)

- My topics: gross neuroanatomy, motor cortex, basal ganglia, cerebellum, eye movements, visceral motor systems, photoreception, early visual pathway, higher visual cortical processing, auditory system, experience-dependent plasticity

II. PARTICIPATING INSTRUCTOR

Advanced General Biology: Spring, 2003–2010 Cell Biology & Physiology

(taught by Dr. Alan G. Watts or Dr. Michel Baudry)

(18 invited lectures)

- Topics: glycolysis, cellular respiration, photosynthesis, membranes, mitosis, nervous systems, metabolism, meiosis and sexual life cycles, Mendelian genetics, resting membrane potential and action potentials, synapse structure and function, cell communication, animal reproduction, human fertilization, reproduction, parturition; cells & organelles

Diabetes, Obesity and the Brain Fall, 2009

Neurobiology Fall, 2003

(taught by Dr. Michael Quick) (2 invited lectures)

- Topics: synaptic release, B. Katz's calcium work

UNIVERSITY OF CALIFORNIA AT RIVERSIDE

Teaching Assistant Winter, 1999

Cellular Neurophysiology (taught by Dr. Scott N. Currie)

- Weekly discussions, review sessions

Teaching Assistant Spring, 1997–2001

Functional Neuroanatomy (taught by Dr. Glenn I. Hatton)

- Weekly discussions, in-class demonstrations, review sessions

Teaching Assistant Winter, 1997 & 1998

Introductory Neuroscience Lab

(taught by Dr. Michael E. Adams and Dr. B. Glenn Stanley)

- Weekly discussions, teaching laboratory, review sessions
- Electrophysiology, surgical techniques, behavior

Teaching Assistant Fall, 1997 & 1998

Introductory Neuroscience (taught by Dr. B. Glenn Stanley)

Weekly discussions, anatomy practicum, review sessions

Invited Lecturer Spring, 1996

Neurochemistry (taught by Dr. Michael E. Adams)

MENTORING & TRAINING EXPERIENCE

* co-authored a paper/(+)preprint with me ^ co-authored an abstract with me (n) = number of papers (*) / abstracts (^)

THE UNIVERSITY OF TEXAS AT EL PASO

1. Mentoring duties within scientific societies

- Mentor, Nov 2023–Jan 2024, Dec 2024–
SfN/Tianqiao & Chrissy Chen Institute
Science Writers Fellowship

Appointed by the Society for Neuroscience. *Duties: to help develop writing and professional development skills for two Chen Fellows/year*

2023: [1] [Anna Hayes, Ph.D., USC](#); [2] [Mark Gergues, Ph.D. student, UCSF](#); 2024: [1] Rose Hulsey-Vincent, Ph.D. student, Univ Oregon; [2] Cameron Choo, Ph.D. Student, Nanyang Technological University

- RTRN Obesity & Metabolic Syndrome Cluster 2013–2015

Appointed by the RCMI/RTRN Program

Duties: pairing mentors and mentees across the RTRN network of RCMI centers; conducted monthly and bimonthly teleconference calls with cluster members seeking mentees or mentors (U Hawaii, UTEP, Xavier Univ., Charles Drew Univ)

2. Mentoring of junior faculty colleagues

- Brandon L. Roberts, Ph.D. 2024–
Assistant Professor
University of Wyoming [COBRE External Mentoring]
- Nicole Dominguez Davis, PharmD, BCPS, BCOP ⁽¹⁾^⁽¹⁾ 2024–
Clinical Instructor
School of Pharmacy, UTEP
- Sivasai Balivada, Ph.D. ^{*(2+3)}^⁽²⁶⁾ 2021– present
Research Assistant Professor
Dept. of Biological Sciences, UTEP
- Mohammad Iqbal H. Bhuiyan, Ph.D. 2024
Assistant Professor
School of Pharmacy, UTEP
- Md. Nurunnabi, Ph.D. 2020–2022
Assistant Professor of Pharmaceutical Sciences
School of Pharmacy, UTEP
- Alexander Friedman, Ph.D. 2020–2021, 2024–
Assistant Professor
Dept. of Biological Sciences, UTEP
- Christina E. D'Arcy, Ph.D. ^{*(2+1)}^⁽⁷⁾ 2019–2021
Research Assistant Professor
Dept. of Biological Sciences, UTEP
- Katherine Serafine, Ph.D., 2019
Associate Professor
Dept. of Psychology, UTEP

3. Training of visiting scientists and students

- Laboratory of Dr. Andrew Poulos (U Albany)
Anthony Santarelli ^{*(1)}^⁽⁴⁾ (Ph.D. student) 21–24 Jun 2016
Lorianna Colon (Ph.D. student) [^]⁽¹⁾ 23–30 Jun 2019
Natalie Odynocki (Ph.D. student) 23–30 Jun 2019
Zerah Isaacs (undergraduate) 23–30 Jun 2019

Amanda Goedel (undergraduate) 23–30 Jun 2019

- Laboratory of Dr. Melissa Chee (Carleton University)
Bianca Bono (undergraduate) [^]⁽²⁾ 23–30 Jun 2019
Duncan Spencer (undergraduate) [^]⁽²⁾ 23–30 Jun 2019
- Laboratory of Dr. Kent Berridge (U Michigan)
Ileana Morales (Ph.D. student) 3–6 Sep 2019
- Dr. Kimberly Kaminski 19–23 Feb 2024

4. Current research faculty in my laboratory

- Sivasai Balivada, Ph.D. ^{*(2+3)}^⁽²⁶⁾

5. Current medical students in my laboratory

- Anais Martinez, Ph.D. ^{*(4)}^⁽¹⁹⁾ [Texas Tech Univ. Hlth Sci Ctr]

6. Current graduate student trainees in my laboratory

- Ivan Acedo Aguilar [prospective M.S. student, 2025]
[Co-chaired with primary advisor Dr. Salamah Salamah]
- Vanessa I. Navarro, M.S. (Ph.D. student) ^{*(1+3)}^⁽³⁴⁾
– Recipient, Doctoral Excellence Fellowship (2020–2022)
– Recipient, RISE Graduate Fellowship (2022–2023)
- Geronimo P. Tapia (Ph.D. candidate) ^{*(1+3)}^⁽¹⁹⁾
– Recipient, NSF Aspire Fellowship (2022)
– Recipient, Dodson Research Grant (2023)
– Scholar, Scientist Mentoring & Diversity Program for Biotechnology (2024)
– Recipient, UTEP InSPIRE Teaching, Innovation, Leadership & Excellence Award (2024)
- Liliana Maynez-Anchondo, M.D. (Ph.D. student, Psych) ⁽²⁾
[Co-chaired with primary advisor Dr. Ian Mendez]

7. Former research faculty in my laboratory

- Christina E. D'Arcy, Ph.D. ^{*(2+1)}^⁽⁷⁾

8. M.S. and Ph.D. graduates from my laboratory

- Jessica V. Salcido Padilla (M.S., Biology, May 2024) ^{*(1+1)}^⁽⁶⁾
Thesis: [Atlas-based analysis of the neural projections from the lateral hypothalamic area to the lower brainstem in the adult male rat](#)
– Recipient, NSF Aspire Fellowship (2022)
- Kenichiro Negishi (Ph.D., Bioscience, May 2023) ^{*(3+5)}^⁽⁵⁴⁾
Dissertation: [Connectional analysis of brain regions associated with feeding](#)
– Recipient, Carl Storm Fellowship (2022)
– Recipient, Eloise E. and Patrick Wieland Fellowship (2020)
- Alexandro Arnal (Ph.D., Computational Sci., Dec 2022) ^{*(+1)}^⁽⁹⁾
Dissertation: [Region detection & segmentation of Nissl-stained rat brain tissue images](#)
– Recipient, College of Science Travel Grant (2021)

MENTORING & TRAINING EXPERIENCE (CONTINUED)

* co-authored a paper with me ^ co-authored an abstract with me (n) indicates number of papers (*) / abstracts (^)

THE UNIVERSITY OF TEXAS AT EL PASO (CONTINUED)

[Co-chaired with primary advisor Dr. Olac Fuentes]

- **Eduardo Peru** (Ph.D., Bioscience, Aug 2020)^{*(+1)^(12)}

Dissertation: [*Distribution of axons immunoreactive for alpha-melanocyte stimulating hormone and neurons immunoreactive for neuronal nitric oxide synthase in the hypothalamus of the adult male rat: An analysis of interactions and their representation in an atlas reference space*](#)

8. M.S. and Ph.D. graduates from my laboratory (cont.)

- **Vanessa I. Navarro** (M.S., Biology, Aug 2020)^{*(1+3)^(34)}

Thesis: [*An analysis and representation in an atlas reference space of putative appositions from neurons expressing alpha-melanocyte-stimulating hormone with neurons expressing hypocretin/orexin or melanin-concentrating hormone*](#)

– Awarded Best Thesis of the College of Science in 2020

- **Alexandro Arnal** (M.S., Computational Sci., May 2020)^{*(+1)^(9)}

Thesis: [*Toward automated region detection & parcellation of rat brain tissue images*](#)

– Recipient, Doctoral Excellence Fellowship (2018)
– Recipient, Dodson Research Grant (2019)
– Recipient, UTEP Graduate School Travel Grant (2019)

[Co-chaired with primary advisor Dr. Olac Fuentes]

- **Daniel F. Hughes** (Ph.D., Ecol./Evol. Biol., May 2018)^{*(2)^(8)}

Dissertation: [*Comparative phylogeography, taxonomy, and neuroanatomy of montane chameleons in the Albertine Rift, central Africa*](#)

– Recipient, Frank B. Cotton Estate Scholarship (2015)
– Recipient, George Krutilek Fellowship (2015)
– Recipient, Outstanding Doctoral Student Award (2016)
– Recipient, Student Travel Grants (2014–2016)
– Recipient, Dodson Research Grants (4 total; 2014–2017)
– Recipient, Dr. Keelung Hong Fellowship (2015–2017)

[Co-chaired with primary advisor Dr. Eli Greenbaum]

- **Claire E. Wells** (Ph.D., Pathobiology, Dec 2017)^{*(1)^(14)}

Dissertation: [*Method & madness: Advanced techniques for characterizing rat hypothalamic chemoarchitecture and for modernizing legacy data*](#)

– Recipient, S-STEM-SMARTS Fellowship

- **Anais Martinez** (Ph.D., Pathobiology, Dec 2017)^{*(4)^(19)}

Dissertation: [*The metabolically sentient arcuate nucleus: A functional, chemoarchitectural and connectional study in the adult male rat*](#)

– Recipient, Graduate School Travel Award (2012)
– Recipient, S-STEM-SMARTS Fellowship (2012–2013)
– Recipient, Thelma E. Morris Scholarship (2012–2013)
– Recipient, Frank B. Cotton Trust Scholarship (2013–2014)
– Recipient, Graduate Scholarship, Pathobiol. (2013–2014)

– Recipient, NSF GK–12 Fellowship (2014–2015)

- **Ellen M. Walker** (Ph.D., Pathobiology, Aug 2017)^{*(4)^(15)}

Dissertation: [*Neuroanatomical studies of hypothalamic connections involving the midbrain and hindbrain*](#)

– Recipient, Dr. Keelung Hong Fellowship (2013–2015)
– Recipient, VIDA Graduate Research Fellowship (2015)

- **Kenichiro Negishi** (M.S., Biology, Dec 2016)^{*(3+5)^(54)}

Thesis: [*Macro- and mesoscale analysis of connections between the cingulate region and the lateral hypothalamic area: Tracer co-injection and chemoarchitectural studies in the adult male rat*](#)

- **Berenise De Haro** (M.S., Biology, Aug 2015)^{^(9)}

Thesis: [*Structural organization of the connections between neurons of the paraventricular and lateral hypothalamic regions in the adult male rat*](#)

– Recipient, Summer Provost Fellowship (2014)
– Awarded Best Thesis of the College of Science in 2015

9. Other graduate trainees that worked in my lab

- Alice H. Grant (transferred to Kirken lab, Spring 2017)^{*(1)^(2)}
- Jameel Hamdan (lab rotation, Spring 2015)^{^(1)}
- Jose Perez (Ph.D. co-trainee w/Dr. Olac Fuentes)^{*(1)^(6)}
- Briana E. Pinales (transferred to Quintana lab, Summer 2021)^{*(1)^(20)}
- Sarah D. Chenausky (M.S. student)^{*(1+1)^(9)}
- Marina Peveto (transferred to Moschak lab, Summer 2022)^{^(2)}
- Laura P. Montes (transferred to Miranda lab, Fall 2022)^{^(5)}

10. Post-baccalaureate Trainees/Resident Scholars

- Lidice Soto Arzate [P^{19/20}]^{*(+1)^(5)} (UTEP Terry Scholar 2019; University Honors Program, 2022; PRELS Fellow 2023)
- Madison L. Quintana [P^{19/20}]^{^(7)} (PRELS Fellow 2023)
- Adrienne Ramirez^{^(1)} [Artist-in-Residence 2024]

11. Undergraduate Trainees

The abbreviations below indicate students joining my laboratory through specific institutional undergraduate research funding programs I am a faculty participant in:

- [A] = ACSScellence program [NSF DUE-1565063]
- [B1] = BUILDing SCHOLARS program (NIH)
[RL5GM118969, TL4GM118971, UL1GM118970]
- [B2] = Bridges to Baccalaureate Program (NIH) [5T34GM137855]
- [C] = CDB-REU program (NSF) [DBI-1950810]
- [L] = LSAMP program (NSF) [HRD-1202008, HRD-1826745]
- [M] = COURI MERITUS Program
- [P^{x/y}] = PERSIST program (HHMI/Biology) (years in superscripts)
- [R1] = U-RISE program (NIH) [R25GM069621]
- [R2] = Rise to the Challenge Bridge Program [T34GM151403]
- [S1] = SMART-MIND program (NIH) [R25DA033613]
- [S2] = SMARTS program (NSF) [DUE-1153832]
- [S3] = SURPASS program (COURI/Office of Provost)

MENTORING & TRAINING EXPERIENCE (CONTINUED)

* co-authored a paper with me ^ co-authored an abstract with me (n) indicates number of papers (*) / abstracts (^)

THE UNIVERSITY OF TEXAS AT EL PASO (CONTINUED)

11a. Current undergraduate student trainees (14 total)

- Ivanna Delgado^{^(5)} [M]
- Leo Lucero^{^(5)}
- Austin M. Blake^{^(7)}
- Ann T. Johnny^{^(1)} [P^{22/23}]
- Asher Min^{^(5)}
- Olivia C. E. Kelly^{^(2)} [R2]
- Allison Skinner [P^{22/23}]
- Juan D. Rodriguez^{^(1)}
- Donovan J. Rodriguez
- Maria Guillén^{^(1)} [L]
- Ana R. Arvizu Morales^{^(2)} [S1/M]
- Jeremy A. Alvarez [B2]
- Maria De Lourdes Sifuentes [R1]
- Frida J. Valenzuela

11b. Former Undergraduate Trainees (with major research projects; from UTEP unless indicated otherwise; 61 total)

Alison Gross, Briana E. Pinales^{*(1)^^(19)}, Sarah D. Chenausky^{^(9)} [S1], Teresia A. Carreon^{^(1)} [R], Joshua Ortiz-Guzman^{^(2)}, Nicole Dominguez^{*(1)^^(1)} (*graduated summa cum laude in 2013*), Paola Rojas^{^(1)}, Berenise De Haro^{^(1)}, Nicolas Silva^{^(1)}, Miguel Betancourt^{^(1)}, Kristen Pennington^{^(2)}, Eszter Kish [S1]^{^(1)} (UT Austin), Laura Flores [S1]^{^(1)} (NMSU), Brianna Antuna [C]^{^(1)} (ASU), Jordan Schueler [S1]^{^(1)} (USF), Teresa Tran [L]^{^(1)} (UT Arlington), Evangelina Espinoza [P^{15/15}]^{^(1)}, Ethan A. Thonn [S1] (Luther College), Molly Nellen (Ripon College) [C], Savanna Gonzales^{^(1)}, Olivia Kolenc^{^(1)}, Rebeca P. Cordero [P^{16/16}]^{^(1)}, Alexa C. Escapita [S2/S3]^{^(1)}, Sarah N. Rodarte [B1]^{^(1)}, Jazmine Arnal^{^(1)}, Anila Chintagunta^{^(1)}, Jose Perez^{*(1)^^(6)} (*graduated cum laude in 2018*), Michele Esposito (NMSU) [S1], Aaron N. Clark^{^(1)}, Luisa Barraza Escudero [P^{17/18}]^{^(1)}, David Molina^{^(1)}, Azul Silveyra^{^(1)}, Andrea Enriquez [P^{17/17}]^{^(3)} (*graduated magna cum laude in 2019*), Elizabeth Mejia [P^{17/17/A}]^{^(4)} (*graduated magna cum laude in 2019*), Kenia Arias [P^{18/19}]^{^(1)}, Hailey G. Vizcarra [P^{18/19}]^{^(1)}, Cindy Oliveros^{^(1)}, Julien Esquivel [P]^{^(1)}, Rosanna Luna Guzmán^{^(1)}, Megan Ortega^{^(3)}, Karen T. Lorenzana [P^{17/18/R1/A}]^{^(4)}, Kiana A. S. Burnett [P^{17/18/B1}]^{^(4)} (*graduated magna cum laude with high honors in 2020*), Priscilla A. Parada [P^{17/18/B1}]^{^(2)} (*graduated magna cum laude with high honors in 2020*), Jessica Salcido-Padilla^{*(1+1)^^(6)}, Andrea Pineda Sanchez [P^{17/18/R1}]^{^(3)} (*graduated summa cum laude in 2020; now a PhD candidate at UT Southwestern Grad School in Biomedical Sciences*), Diana Sotelo [P^{18/19/R1}]^{^(3)} (*graduated summa cum laude in 2021; postbaccalaureate NIH IRTA research fellow; now at Paul Foster School of Medicine, Texas Tech El Paso*), Monica S. Ponce Ruiz [P^{17/18}]^{^(5)}, Eric J. Perez [P^{17/18/R1}]^{^(4)}, Yana C. Wells [P^{19/20}]^{^(2)}, Andrea Guevara^{^(2)} [P^{19/20}], Jessica Barnes [P^{17/18}]^{^(2)}, Mariana Garcia^{^(1)}, Karla Galvan [P^{17/18/R1}]^{^(4)}, Alejandro Toccoli [P^{18/19/R1}]^{^(4)}, Emely L. Muñoz [P^{20/21}]^{^(1)}, Sarah H. Salado [P^{19/20}], Lidice Soto Arzate [P^{19/20}]^{*(+1)^^(5)} (*2019 Terry Scholar; University Honors Program, 2022; graduated summa cum laude in 2022*), Madison L. Quintana [P^{19/20}]^{^(7)}, Josedell M. Guerra Ruiz^{^(4)} [P^{19/20}]

(Recipient – 2023 Academic Research and Excellence Award in Biomedical Sciences; graduated summa cum laude in 2023); Vanessa A. Ramos^{^(2)}; Alyssa D. Terrazas [P^{22/23}]^{^(2)}

11c. Other Former Undergraduate Trainees (32)

(Research course work or short stints in lab)

Alex Armendariz, Guiomar Uribe, Cassandra Barrera, Narges Kalantarian, Amaris Castañón, Maria E. Salas, Manuel Alonzo, Ruben Montañez, Erick Saldes, Gabriel Scott, Danielle Daw, Arin Salvador-Duchene, Gabriel Pardo, Maddie Goldfarb, Ozman Ochoa, Jonathan Aldrete, Diego Soltero, Crystal Bradford, Adam Vanhoutan, Diego Fierro [P^{19/20}], Velia Valenzuela, Brian Flores, Diego Medina, Ramon Parada, Alexa Tellez, Keara Coulehan, Yvonne Lopez, Kaitlyn Campbell [P^{21/22/R22}], Alexis S. Santos-Hernandez, Fernando Guerra, Andrew A. Sanchez, Janine Hagar-Montoya [P^{21/22}] (*University Honors Program, 2024*).

MENTORING & TRAINING EXPERIENCE (CONTINUED)

* co-authored a paper with me ^ co-authored an abstract with me (n) indicates number of papers (*) / abstracts (^)

UNIVERSITY OF SOUTHERN CALIFORNIA

Former Undergraduate Trainees (9 total)

- Jordan Michaels^{^(1)} (Graduated USC in Spring, 2011 – B.S. Neuroscience & Biological Sciences; entrepreneur; was Senior Vice President of Operations & Strategy at GoodRx)
 - Recipient, Rose Hills Found. Summer Fellowship (2009)
 - Member, Phi Beta Kappa
- Michael Zobel^{^(1)} (Graduated USC in Spring, 2011 – B.A. Business Administration & B.S. in Biological Sciences; now a pediatric surgery fellow at Children's Hospital Los Angeles)
 - Recipient, URAP Fellowship (2009)
 - Recipient, Rose Hills Found. Summer Fellowship (2009)
 - Recipient, Rose Hills Found. Summer Fellowship (2010)
- Lindsay J. Agostinelli^{*(1+1)^(6)} (Joined Spring, 2009; Graduated USC (2010), Carver College of Medicine (2021); now an M.D./Ph.D. neurology resident at U Penn)
 - Recipient, URAP Fellowship (2009)
- Ashwath Rajan (Graduated in Spring, 2012 – B.S. Biomedical Engineering; M.S. at Columbia University) – joined Aug 2009 until Mar 2010.
- Chenura Jayewickreme^{^(1)} (Graduated in Spring, 2012 – B.S. in Biology and Neuroscience; now an associate at McKinsey & Co.)
 - Recipient, Rose Hills Found. Summer Fellowship (2010)
- Amy Alagh (formerly: Amy Ramchandani)^{*(1+1)^(1)} (joined Spring, 2010; Graduated in Spring, 2012 – B.A. Neuroscience and B.A. Psychology; now an M.D. Ob/Gyn resident at UCSF)
 - Recipient, Rose Hills Found. Summer Fellowship (2011)
 - Recipient, URAP Fellowship (2012)
- Gabriel Si^{*(1+1)^(1)} (joined Spring, 2009; Graduated Spring, 2011 – B.S. Neuroscience & Biological Sciences; now an M.D. anesthesiology resident at Northwestern Univ.)
- Jennifer Yee (joined in August, 2010 for one semester)
- Jeannie Y. Zhang^{^(1)} (Graduated in Fall, 2011 – B.S. in Neuroscience; now a spinal cord injury M.D. physician at the U.S. Dept. of Veterans Affairs)
 - Recipient, SURF Fellowship (2010)
 - Recipient, Rose Hills Found. Summer Fellowship (2011)
 - Recipient, Brian Phillip Rakusin Nrsch. Scholarship (2011)

Former Graduate Trainees

- Tiffanie Nham^{^(1)} (Graduated Spring, 2010 – M.S., Global Medicine, USC)
 - Recipient, Rose Hills Found. Summer Fellowship (2009)
- Graduate students I helped train (thesis chair: Alan G. Watts):
 - MaryAnn Bohland^{*(1)}
 - Anne Jokiah (member of her qualifying committee)
 - Anna Kamitakahara (supervised her rotation)

UNIVERSITY OF SOUTHERN CALIFORNIA (CONTINUED)

Christina Neuner^{*(1)}

Robert Puryear

Kimberly Kaminski^{^(1) *(1)}

Medical Students (summer research assistants)

- Danielle Goodrich (Univ Maryland - joined Summer, 2010; now an Emergency Medicine physician in Hollywood, California)

Other Graduate Student Training & Supervision

- Maggie Chou (slice biochemistry)^{^(1)}
- Aaron Clausen (histology; microscopy)
- Yu-Tien Hsu (slice biochemistry)
- Ka Hung Lee (immunocytochemistry)
- Karla Robleto (immunocytochemistry)
- Chien-Hua Wang (immunocytochemistry)

UNIVERSITY OF CALIFORNIA AT RIVERSIDE

Former Undergraduate Trainees (trained for at least 1 yr)

- Jenel C. Lim (formerly: Jenel C. Bosze)^{^(1)} (Human Services Analyst, County of San Mateo Human Services Agency, Center on Homelessness)
- Rishi K. Goel^{^(1) *(1)} (Neurosurgeon, Canton, Ohio)
- Omid Hamzeinejad (Principal Sales Rep, Medtronic, Inc., Riverside County, California)
- Faizi A. Jamal^{^(1) *(1)} (Associate Clinical Professor and Chief, Division of Cardiology, City of Hope, Duarte, California)
 - Regents Scholar (1999)
- Ahsan M. Khan (Ophthalmologist, Kaiser Permanente, Orange County, California)
- Andrew Nguyen
- John K. Nikpur^{^(1)} (now at Lilly Biotechnology Center, San Diego, California)
 - Recipient, Austin & Helen Riesen Psychobiol. Award (1997)
- Jennifer Ayonon (formerly: Jennifer A. Palarca)^{^(1) *(1)} (now a Pharm.D/Clinical Pharmacist at Emanate Health)
 - Recipient, UCR Student Minigrant (Fall, 2000)
- Pervez P. Pir^{^(1)} (President of Retail, Vintners Distributors, Silicon Valley, California)
- Amar Pawar (now a DDS and President, Pawar Dental Corporation, Folsom, California)
- Chau Susan Ton^{^(1)}
 - Recipient, Austin & Helen Riesen Psychobiol. Award (1996)
- Chuck A. Turkowski^{*(1)} (Chiropractor, Colorado Springs, Colorado)
- Derek S. Welsbie^{^(1) *(1)} (Assoc. Prof. of Ophthalmology, Shiley Eye Institute, UCSD)

INVITED RESEARCH LECTURES

University of Wyoming	Sep 2024	University, Rabat, Morocco
Mapping forebrain circuits controlling motivated behaviors (Sep 5)		Lecture 1: Trans-synaptic (Viral) & Genetic Tracing Techniques. (Sep 15)
Univ of Washington Diabetes Center SLU	Oct 2022	Lecture 2: Multi-label Immunohistochemistry: Methods & Applications. (Sep 15)
Mapping brain cells and circuits controlling feeding behaviors to improve preclinical models of disease. (Oct 12)		Lecture 3: Atlas-Mapping Techniques. (Sep 15)
The University of Texas at El Paso	Sep 2022	Lecture 4: Functional Tracing Using Opto- & Chemogenetic Approaches. (Sep 17)
<i>Dept. of Biological Sciences Seminar.</i> Discovering the undiscovered country: Mapping brain cells and circuits controlling motivated behaviors for gene-directed targeting. (Sep 23)		Univ of Washington/Seattle V.A. Puget Sound Jun 2017
		Brain circuits regulating energy balance: Trailblazing through an undiscovered country. (Jun 2)
Gordon Research Conference	Jul 2022	Univ. at Albany, SUNY, Dept. of Psychology Mar 2017
Invited oral presentation: Next-generation atlas mapping of hypothalamic cell types and chemoarchitecture for gene-directed targeting. Held July 24–29, Ventura Beach, California.		Brain circuits regulating energy balance: Trailblazing through an undiscovered country. (Neuroscience Forum Series, Mar 31)
The University of Texas at El Paso	Jan 2022	Janelia Farm Research Campus (HHMI) Oct 2015
<i>Stern Foundation Lecture Series. Neuroscience Minisymposium.</i> Invited Lecture: Mapping neural systems controlling feeding. (Jan 17)		Data Blitz Presentation: Next generation interaction maps of hypothalamic circuits controlling survival behaviors. (Oct 27)
6th IBRO-UM5 Africa Advanced Neuroscience School: Neurophysiology of Biological Rhythms		The University of Texas at El Paso Apr 2015
(Four invited lectures)	Oct 2018	Invited Lecture: My Journey to the Center of the Brain... Without a Map. Keynote lecture, COURI Spring Research Symposium. (Apr 18)
Held at the Faculté des Sciences, Mohammad V University, Rabat, Morocco		The University of Texas at El Paso Mar 2015
<u>Lecture 1:</u> Hypothalamus: structure & function. (Oct 14)		Invited Lecture: Deciphering the brain mapping enigma: Do we need a new Bletchley Park? Department of Computer Science. (Mar 20)
<u>Lecture 2:</u> Brain mapping studies of the rodent circadian system. (Oct 14)		Univ of Washington/Seattle V.A. Puget Sound Mar 2014
<u>Lecture 3:</u> Integrating transcriptomic and proteomic datasets with circuit maps of the circadian system. (Oct 15)		Invited Lecture: Hindbrain-forebrain interactions during glycemic challenge: Cells, circuits and maps. (Mar 18)
<u>Lecture 4:</u> Hypothalamic Neuroendocrine Function: Hindbrain Control and Time of Day Differences During Glycemic Challenges. (Oct 15)		New Mexico State University, Biology Dept. Feb 2014
IBRO-Kemali Mediterranean School on Brain Connectivity and Connectomics		Invited Lecture: Finding brain circuits controlling complex behavior: Gaps, maps and traps. (Feb 20)
(Four Invited Lectures)	Sep 2017	Oklahoma State University Ctr for Health Sci Sep 2013
Held at the Faculté des Sciences, Mohammad V		Invited Lecture: What's so spatial about behavioral control circuits in the mammalian brain? (Sep 6)

INVITED RESEARCH LECTURES (CONTINUED)

Sixth Annual Health Disparities Conference	Mar 2013	University of Southern California	Feb 2007
Symposium Lecture: Mapping brain circuits controlling eating behavior. New Orleans, Louisiana.		Seminar Series Speaker; Neurosci. Research Institute	
13th RCMI Meeting on Health Disparities	Dec 2012	University of California at Riverside	Mar 2006
Symposium Lecture: Can mapping brain circuits controlling eating behavior lead to treatments for obesity and diabetes? San Juan, Puerto Rico, Dec 10–13.		Seminar Series Speaker; Department of Cell Biology & Neuroscience and Graduate Students' Association	
FASEB Science Research Conference	Aug 2012	University of Southern California	Oct 2003
Invited Lecture: Hypothalamic responses to metabolic challenge: genes and monoamines. "From Causes to Consequences to Treatment: Obesity in Perspective" August 5–10, 2012; Snowmass Village, Colorado.		Molecular/Cell Biology Symposium	
University of Minnesota at Duluth	May 2010	Harvard University School of Medicine	Apr 2001
Invited Lecture: CNS responses to metabolic challenge: Pharmacological studies <i>in vivo</i> and <i>ex vivo</i> . Department of Pharmacy Practice and Pharmaceutical Sciences.		Lateral Hypothalamic Controls of Feeding	
The University of Texas at El Paso	Apr 2010	SERVICE	
Invited Lecture: Blood sugar, sense, magic? CNS responses to hyper- and hypoglycemia. Department of Biological Sciences.			
USC Keck School of Medicine	Mar 2010	PROFESSIONAL SERVICE	
Grand Rounds Invited Talk: When the Sweet Chariot Swings Low: Tracking Neuroendocrine Responses to Hypoglycemia. (Mar 2).			
43rd Winter Conference on Brain Research	Jan 2010	1. Society Service	
Symposium lecture: MAP kinase coordinates HPA stress responses. Breckenridge, Colorado (Jan 20–29).		Member	2024–
Stanford University School of Medicine	Jan 2010	International Travel Awards Selection Committee	
Invited talk: Noradrenergic control of HPA responses		Society for Neuroscience	
Int'l Soc. for the History of the Neurosciences	Jun 2009	Member	2023–
14th ISHN Meeting Lecture: A.V. Hill, war and British biophysics: Glimpses into the interrelated contributions of a scientist and a statesman. (Session I: Scientists and Methodology; 17 Jun 2009; Charleston, South Carolina)		Trainee Professional Development Awards Selection Committee	
[History of Neuroscience]		Society for Neuroscience	
American Neuroendocrine Society	Jun 2008	Member	2021–
Symposium Lecture: Afferent signal transduction in CRH neuroendocrine neurons. San Rafael, California.		RCMI-CC Steering Committee	
		RCMI Coordinating Center, NIMHD/NIH	
		Co-Leader	2014–2015
		Brain Mapping & Molecular Imaging Working Group	
		University of Texas Neuroscience Council	
		Co-Leader	2013–2015
		Research Cluster on Obesity & Metabolic Disorders	
		RCMI Translational Research Network	
		Member	2010–2014
		Membership Committee	
		American Society for Neurochemistry	
		2. Editorial Service	2013–present
		• Guest Associate Editor	2013–2017
		<i>Frontiers in Systems Neuroscience</i> [IF 3.1]	
		Special Issue on Hypothalamic Structure & Function	

PROFESSIONAL SERVICE (CONT.)

2. Editorial Service (continued)

- **Member, Editorial Board** 2024–
Brain Mechanisms [IF 2.8]
[Elsevier, forthcoming in 2025]

3. Grant Review Service

Standing Membership – Grant Reviews Jul 2024–
Oct 2020 – Jun 2023

- **NIH DDK-B** (Diabetes, Endocrinology and Metabolic Diseases B Subcommittee) (Oct 2020; Mar, Jun, Oct 2021; Mar, Oct 2022; Mar, Jun 2023; Oct 2024)

Ad hoc Grant Reviewer 2013–

NIH Study Sections and Special Emphasis Panels

- **NIH NINDS ZNS1 SRB D(14)** (Neuroscience Development for Advancing the Careers of a Diverse Research Workforce) review panel. (Apr 2021)
- **NIH 2021/05 ZAT1 JM (12) R** (Functional Neural Circuits of Interoception) Special Emphasis Panel (Mar 2021)
- **NIH BRLE** (Biobehavioral Regulation, Learning and Ethology) Study Section (Feb 2019, Oct 2019, Feb 2020)
- **NIH ZRG1 BBBP-Y (02)** (Biobehavioral Applications on Substance Abuse and Decision-Making) Special Emphasis Panel (2018–2019)
- **NIH DDK-B** (Diabetes, Endocrinology and Metabolic Diseases B Subcommittee) (2015–2017, 2019)

Other Grant Review Assignments

- Nevada-INBRE (AIBS) Grant Reviewer (2020)
- UTEP NIH/SCORE Reviewer (2019)
- UTEP Dodson Graduate Fellowship Program (2018)
- NIH BUILDing SCHOLARS Pilot Grant Program (2018)
- UT Houston Health Sci - Brain Initiative (2015)
- OTKA: Hungarian Scientific Research Fund (2013)
- Michigan Diabetes Research Center (2013)
- UTEP-Victoria Univ Int'l Collaborative Grant (2013)
- RCMI Translational Research Network (RTRN) Small Grants Program (three cycles: 2013–2015)

4. Reviews of Manuscripts

1997–present

Publons profile: <https://publons.com/researcher/1732492/arshad-khan/>

- *Acta Physiologica*
- *Anesthesiology*
- *Appetite*
- *Basic & Clinical Pharmacology and Toxicology*
- *BMC Genomics*
- *Brain Research*
- *Brain Structure and Function*
- *Canadian Journal of Physiology and Pharmacology*
- *Diabetes*
- *Endocrinology*
- *Experimental Neurology*
- *Frontiers in Behavioral Neuroscience*
- *Frontiers in Endocrinology*
- *Frontiers in Neuroanatomy*
- *Frontiers in Neural Circuits*
- *Frontiers in Pharmacology*
- *Frontiers in Systems Neuroscience*
- *Genes, Brain & Behavior*
- *International Journal of Developmental Neuroscience*
- *Journal of Basic and Clinical Physiology & Pharmacology*
- *Journal of Visualized Experiments (JOVE)*
- *Journal of Neuroendocrinology*
- *Journal of Veterinary Medical Science*
- *Nature*
- *Neuroscience*
- *Obesity*
- *Open Biology*
- *Peptides*
- *Pharmacology, Biochemistry, and Behavior*
- *Physiology & Behavior*
- *PLoS One*
- *Psychoneuroendocrinology*
- *The Journal of Comparative Neurology*
- *The Journal of Neuroscience*

5. Reviews of Books and Book Proposals

- 2014. Textbook review: Freeman S, Quillin K, Allison L, Black M, Podgorski G, Taylor E, Carmichael J. 2017. *Biological Science, 6th edition* (Pearson). [Chapter 44, 'Animal Nervous Systems']
- 2018. Book proposal review: Paxinos G, Kassem M, Kirkcaldie M, Carrive P. 2021. *Chemoarchitectonic Atlas of the Rat Brain, 3rd edition* (Elsevier).
- 2021. Textbook review: Rubenstein D. 2022. *Animal Behavior, 12th edition* (Oxford) [Chapter 2, 'The Integrative Study of Behavior']

SERVICE (CONTINUED)

ACADEMIC SERVICE

THE UNIVERSITY OF TEXAS AT EL PASO

1. University-level Service

Member	2021–present
<u>C06 IDRb Core Facility Planning Group</u>	
> Presentations to UTEP VP for Research	8 Jul; 18, 24 Oct 2024
> Presentation to UTEP Budget Committee & UTEP President	25 Oct 2024
Co-Director	2019–present
Neuroscience B.S. Degree Program	
Member	May 2024
Working Group, Texas Neuroscience Funding Bill	
Member	2015–2023
Internal Advisory Committee UTEP BUILDing SCHOLARS Program	
Coordinator	2014–
IBM SmartCloud / I ³ Move / Expertise Connector UTEP Neuroscience Community of Practice	
Special Institutional Assignment	Aug 2015–Mar 2016
National Academy Member recruitment to UTEP based on Governor's University Research Initiative	
Member, UT Neuroscience Council	2014–
Invited Panelist, UT Neuroscience Council	23 Jun 14
Presentation on 'UTEP Contributions to Future UT Neuroscience Working Groups'	
Invited Panelist	15 May 14
UT Regents' Board Meeting; Presentation on 'Ways and Means to Advance Neuroscience in Texas'	

2. College-level Service

Host, 2024 Fessinger-Springer Lecturer	2024
Invited/hosted Dr. Suzana Herculano-Houzel (March)	
Grant writer – BBRC U54	2023–2024
Wrote Investigator Development Core section	
Grant writer – NIH FIRST Award	2020
Co-wrote Investigator Development Core section	
Grant writer – BBRC U54 (funded)	2018
Co-wrote Investigator Development Core section	
Member	2013–2015
Faculty Senator: UTEP Faculty Senate	

Member	2012–2015
Faculty Senate - Graduate Scholarship Committee	

3. Department-level Service

Affiliated Faculty Member of PhD Programs

• Ecology & Evolutionary Biology	2011–
• Data Science	2019–

Committee Service: Biological Sciences

• Advisory (T&P) Committee - Professor	2023–
• Doctoral Proposal Committee	2022
• Library Liaison	2017–
• Graduate Admissions Committee	2015–
• Advisory (T&P) Committee - Assoc Prof	2018–2022
• Faculty Workload Policy Committee	2017–2018
• Teaching Evaluation Committee	2015–2016
• Awards Committee	2012–2015

Faculty/Admin Search Committees

Member of search committee to hire at UTEP: 2024

- Associate Vice President for Research in Computing and Artificial Intelligence

Chair of search committee to hire, in Biological Sciences:

• Neuroscience Faculty	2018–2019
• Computational Neuroscientist	2019–2020

Member of search committee to hire:

• Wildlife Biologist, Biol. Sciences	2024–
• Behavioral Ecologist, Biol. Sciences	2021–2022
• Dept. Chair, Biological Sciences	2013–2014
• Neuroscience Faculty, BBRC	2012–2013
• Neuroscience Faculty, BBRC	2011–2012

Outside member of search committee to hire:

• Clinical Exercise Faculty, Kinesiology	2018–2019
• Neuroscience Faculty, Psychology	2014–2015

Thesis Committees (outside of my lab students) 2011–

co-author on a: # published paper or ^ published abstract

Christina E. D'Arcy (Ph.D.)* ⁽²⁾ ^(7)	Dissertation	2011–2015
Yenni A. Garcia (Ph.D.)	Dissertation	2011–2016
Naihsuan Guy (Ph.D.)	Dissertation	2012–2016
Jorge Sierra-Fonseca (Ph.D.)* ⁽¹⁾	Dissertation	2012–2014
Azar Kordbache (Ph.D.)	Dissertation	2013–2018
Alice E. Hernandez (M.S.)* ⁽¹⁾ ^(2)	Thesis	2013–2015
Paul R. B. Sabandal (Ph.D.)	Dissertation	2013–2017
Joseph Pipkin (Ph.D.)	Dissertation	2015–2017
Sebastian Pace (M.S.)	Thesis	2015–2017
Elizabeth Preza (M.S.)	Thesis	2015–2017
Jose Cano (Ph.D.)	Dissertation	2015–2019
Jameel Hamdan (Ph.D.)	Dissertation	2015–2020
Mireya G. Ramos-Muñiz (Ph.D.)	Dissertation	2015–2023
Erick B. Saldes (Ph.D.)	Dissertation	2017–2023

SERVICE (CONTINUED)

ACADEMIC SERVICE (CONTINUED)

Thesis Committees (cont.)

2011–

co-author on a: # published paper or ^ published abstract

Mark S. Teshera (Ph.D.)	Dissertation	2018–2021
Valeria Garcia (M.A.) ^{*(1+1)} (Ph.D.)	Thesis	2019–2021
Michelle Martinez (M.S.) ^{*(1+1)}	Thesis	2020–2021
Md. Nurul Huda (Ph.D.)	Dissertation	2020–2021
Samuel Castillo (Ph.D.)		2020–
Veronika Espinoza (M.A.) ^{*(2)^(1)} (Ph.D.)	Thesis	2021–2022
L. Miles Horne (Ph.D.)		2022–
Nicholas A. Enriquez ^{^(1)} (M.S., Ecol Evol Biol)		2023–

Outside Thesis Committee Member

2015–2019

Anthony Santarelli (Ph.D.)^{*(1)^(4)}
(University at Albany, State University of New York)

UNIVERSITY OF SOUTHERN CALIFORNIA

Member

2009–2010

Merit Evaluation Committee - Non-Tenure Track Faculty
Dept. of Biological Sciences, Neurobiology Section

Principal Faculty Judge, Life Sciences

Apr 2010

12th Annual Undergraduate Symposium for Scholarly
and Creative Work; University of Southern California

Panelist, Phi Sigma Society Career Meeting

Mar 2010

Invited Speaker

Sep 2009

9th Annual Psych. Dept. Conference, UC Riverside

Invited Panelist

Apr 2008

Graduate student meeting on postdoctoral careers

Interviewer

Feb 2007

Prospective students, Neuroscience Graduate Program

Invited Speaker and Panelist

Mar 2006

Symposium: "Academic Grant Writing for the Life
Sciences"; USC Neuroscience Graduate Forum

Meeting Co-organizer

Jan–May 2003

USC Spring Workshop on the Behaving Brain, held
weekly with 17 speakers from UCI, UCLA, UCR, USC and
Caltech.

COMMUNITY SERVICE & OUTREACH

Keynote speaker, symposium

May 2024

I was invited to keynote a day-long conference of
scientists and speak about research fundamentals
in relation to Quranic textual interpretation. Virtual
lecture, Ahmadiyya Scientists' Association, Frankfurt,
Germany.

Invited speaker, annual convention

Dec 2023

I was invited to offer my views about cosmology
and evolution to a convention in Chino, California,
sponsored by the Ahmadiyya Muslim Community.

Invited guest, local radio program

Nov 2020

I was invited to offer my views about science and
discovery to a local radio show in Redlands, California.

Invited keynote, NSLS Induction Ceremony

Nov 2020

I was invited as the keynote speaker for the UTEP
chapter of the National Society of Leadership and
Sucess to speak about leadership skills to a group of
student inductees of the society and their parents.

Invited panelist, Virtual Education Forum

Oct 2020

I was invited to discuss my journey in becoming an
academic scientist to about ~300 high school and early-
college students and their parents for an online forum
sponsored by the Ahmadiyya Muslim Community.

Career Fair at Mesita Elementary School

Nov 2019

Spent one-half of a school day showcasing hands-
on activities for ~500 2nd–5th graders related to
neuroscience, including anatomy demonstrations
and microscopy stations. I was assisted by two UTEP
doctoral students, Ms. Briana Pinales and Mr. Richard
Ortiz.

Capitol Hill Showcase of UT Research

Dec 2015

My doctoral student, Ms. Anais Martinez, showcased
our research at the Rayburn Building of the US House
of Representatives on 3 Dec 2015, in Washington, DC.

Open House Presentations to Sixth Graders

Feb 2014

Gave five half-hour presentations to sixth grade
elementary school students from various schools about
neuroscience

Roundtable Workshop Co-Organizer

Oct 2013

Co-organized and co-led discussion with about 30
attendees on issues related to diabetes and obesity

Public Lecture

Jul 2012

Spoke at a public gathering of ~3,500 on the topic of
faith and reason from the perspective of a scientist.

Hands-On Open House for Visiting Students

Jun 2012

Created interactive neuroanatomy demonstrations for
~100 2nd–4th graders from Mesita Elementary School.

Public Lecture

Apr 2012

Invited to speak about evolution, science, faith and reason for a largely student/community audience of about 80 at the University of Arkansas, in Fayetteville.

Hands-On Open House for Visiting Students Mar 2012

Created an interactive neuroanatomy demonstration in my laboratory for ~250 2nd grade students from Mesita Elementary School.

TECHNICAL TRAINING

in vivo and ex vivo techniques

- aseptic rodent surgery (jugular catheterization, stereotaxic surgery)
- intracranial microinjections
- blood withdrawal/collection
- transcardial perfusion
- intravenous delivery of fluorescent tracers
- tract-tracing methods
- acute hypothalamic slice preparations

Neuroanatomical techniques

- brain dissection for histological / biochemical analyses
- histological techniques (microtome and cryostat sectioning; histochemical staining)
- *in situ* hybridization
- single- and multiple-label immunoperoxidase and immunofluorescence histochemistry
- bright-field, dark-field and fluorescence microscopy
- light sheet microscopy and analysis
- confocal imaging and analysis
- plane-of-section analysis
- camera lucida analysis
- atlas-based mapping

Biochemical methods

- immunoblotting
- radioimmunoassay
- protein determination

PROFESSIONAL DEVELOPMENT

- **Completed Training.** Review Integrity. Offered by the NIH CSR. Online training module. 30 min. 17 Oct 24.
- **Completed Training.** Mitigating Bias in Peer Review. Offered by the NIH CSR. Online training module. 30 min. 17 Oct 24.
- **Participant, 2024 RCMI Health Disparities Conference.** Bethesda, MD. 29 Apr – 2 May, 2024.
- **Invited Participant, UTEP Workshop:** *How to Pursue Research Funding from Private Foundations*, 29 Nov 23. Held in person at The University of Texas at El Paso. Sponsored by UTEP Office of Research and Sponsored Projects and the University Development Office.
- **Invited Participant, UTEP Workshop:** *Development and Submission of Successful Proposals for Multidisciplinary Large Team Grants*, 26 Oct 23. Held in person at The University of Texas at El Paso. Sponsored by UTEP Office of Research and Sponsored Projects.

PROFESSIONAL DEVELOPMENT (CONTINUED)

- **UTEP Webinar,** *Effective graphics for grant proposals*. 26 Sep 23. Online. Sponsored by UTEP Office of Research and Sponsored Projects.
- **Registrant, 2023 RCMI-CC Course: R for Reproducible Scientific Analysis Workshop Series.** Weekly, Feb. 13–April 24, 2023. Online.
- **Registrant, 2019 Society for Neuroscience Short Course II.** *Quantifying Behavior as a Lens into the Brain* (October 18, 2019; Chicago, IL)
- **Tutorial, Arranged Visit:** Allen Institute for Brain Science (June 1, 2017; Seattle, WA).
- **Registrant, 2016 Society for Neuroscience Short Course I.** *Using Single-Cell Genomics to Analyze Neurons, Glia, and Circuits* (Nov 11, 2016; San Diego, CA).
- **Invited Participant, NIGMS SCORE Grant PI Workshop** Dec 1–3, 2015; NIH Campus, Bethesda, Maryland.
- **Registrant, 2014 Society for Neuroscience Short Course II.** *Advances in Brain-Scale, Automated Anatomical Techniques: Neuronal Reconstruction, Tract Tracing, and Atlasing* (Nov 14, 2014; Washington, DC).
- **Invited Course Attendee,** Stanford CLARITY Workshop; hosted by the Karl Deisseroth Laboratory. Jan 13–15, 2014; Stanford University, Palo Alto, California.
- **Registrant,** 7th Brain Research Conference: Optogenetics and Pharmacogenetics in Neuronal Function and Dysfunction. Oct 11–12, 2012; New Orleans, Louisiana.
- **Invited Participant, NIDDK New Investigator's Workshop** April 20–21, 2009; NIH Campus, Bethesda, Maryland.
- **Registrant, 2006 Society for Neuroscience Short Course II.** *Visualizing Large-Scale Patterns of Activity in the Brain: Optical & Electrical Signals* (Atlanta, Georgia)
- **Registrant, 2005 Society for Neuroscience Short Course I.** *Vectors and RNA Interference for Neuroscience Applications*
- **Registrant, 2004 Society for Neuroscience Workshop.** *Writing, Editing, and Publishing in Science*
- **Registrant, SfN Satellite Course.** Training Course in Confocal Microscopy & Stereology

ARCHIVES RESEARCH - HISTORY OF NEUROSCIENCE

- Arranged Visit** Jun 2006
Otto Meyerhof Papers
Univ. of Pennsylvania Archives
Philadelphia, Pennsylvania
(ref: Nancy R. Miller, archivist)
- Arranged Visit** Aug 2007
A. V. Hill Papers
Archives Centre, Churchill College
Cambridge, United Kingdom
(ref: Sandra Marsh, archivist)

EDITED COLLECTION

1. **Khan AM**, Canteras NS, De Lecea L, Dong HW, Tasker JG (editors) (2018) A Systems Approach to Understanding Recent Advances in Hypothalamic Structure and Function. Edited collection, *Frontiers in Systems Neuroscience*. Frontiers Media, Inc.; Lausanne, Switzerland. Published as an interactive magazine; online link [here](#). [As of 9 Dec 24: >200K views; >38K downloads; ranked among the top 20 most viewed special issues for this journal].

PAPERS

1. Edwards MM, Nguyen HK, Dodson AD, Herbertson AJ, Honeycutt MK, Slattery JD, Rambousek JR, Tsui E, Wolden-Hanson T, Wietecha T, Graham JL, Tapia GP#, Sikkema C, O'Brien KD, Mundinger TO, Peskind ER, Ryu V, Havel PJ, **Khan AM**, Taborsky GJ Jr., Blevins JE. (2024) Sympathetic innervation of interscapular brown adipose tissue is not a predominant mediator of OT-elicited reductions of body weight gain and adiposity in male diet-induced obese rats. *Frontiers in Drug Delivery*, 4, 1497746. <https://doi.org/10.3389/fddev.2024.1497746>
2. Martínez M, Espinoza VE, Garcia V#, Uribe KP, Negishi K#, Estevao IL, Carcoba LM, O'Dell LE, **Khan AM**, Mendez IA. (2023) Withdrawal from repeated nicotine vapor exposure increases somatic signs of physical dependence, anxiety-like behavior, and brain reward thresholds in adult male rats. *Neuropharmacology*, 240, 109681. doi: <https://doi.org/10.1016/j.neuropharm.2023.109681>. For preprint, see *bioRxiv* 475467, <https://doi.org/10.1101/2022.01.08.475467>.
3. Tapia GP#, Agostinelli LJ^*, Chenausky SD#, Salcido Padilla JV#, Navarro VI#, Alagh A^, Si G^, Thompson RH, Balivada S, **Khan AM**. (2023) Glycemic challenge is associated with the rapid cellular activation of the locus ceruleus and nucleus of solitary tract: Circumscribed spatial analysis of phosphorylated MAP kinase immunoreactivity. *Journal of Clinical Medicine*, 12, 2483. *Altmetrics score: 76*. <https://doi.org/10.3390/jcm12072483>. *co-first authors.
4. **Khan AM**, D'Arcy CE, Olimpo JT. (2021) A historical perspective on training students to create standardized maps of novel brain structure: Newly-uncovered resonances between past and present research-based neuroanatomy curricula. Invited review, *Neuroscience Letters*, 759:136052. Available online 14 Jun 2021.

<https://doi.org/10.1016/j.neulet.2021.136052>. [Science education]

5. Matos-Ocasio F*, Espinoza VE*, Correa-Alfonzo P, **Khan AM**, O'Dell LE. (2021) Female rats display greater nicotine withdrawal-induced cellular activation of a central portion of the interpeduncular nucleus versus males: A study of Fos immunoreactivity within provisionally assigned interpeduncular subnuclei. *Drug and Alcohol Dependence*, 221:108640. <https://doi.org/10.1016/j.drugalcdep.2021.108640>. *co-first authors
6. Negishi K#, Payant MA, Schumacker KS, Wittmann G, Butler RM, Lechan RM, Steinbusch HWM, **Khan AM***, Chee MJ*. (2020) Distributions of hypothalamic neuron populations co-expressing tyrosine hydroxylase and the vesicular GABA transporter in the mouse. *The Journal of Comparative Neurology*, 528(11):1833–1855. Issue of 15 Jul 20. Published online 16 Jan 2020. <https://doi.org/10.1002/cne.24857>. *co-senior authors. [cover article]
7. Uribe K, Correa V, Pinales BE#, Flores R, Cruz B, Shan Z, Bruijnzeel A, **Khan AM**, O'Dell LE. (2020) Overexpression of corticotropin-releasing factor in the nucleus accumbens enhances the reinforcing effects of nicotine in female versus male rats. *Neuropsychopharmacology*, 45(2):394–403. Published online 15 Oct 2019. <https://doi.org/10.1038/s41386-019-0543-0>.
8. D'Arcy CE, Martinez A#, **Khan AM***, Olimpo JT*. (2019) Cognitive and non-cognitive outcomes associated with student engagement in a novel brain mapping and connectomics course-based undergraduate research experience. *Journal of Undergraduate Neuroscience Education*, 18(1):A15–A43. <https://www.funjournal.org/wp-content/uploads/2020/01/june-18-15.pdf?x89760>. *co-senior authors [Science education]
9. **Khan AM**, Grant AH#, Martinez A#, Burns GAPC, Thatcher BS, Anekonda VT, Thompson BW, Roberts ZS, Moralejo DH, Blevins JE. (2018) Mapping molecular datasets back to the brain regions they are extracted from: Remembering the native countries of hypothalamic expatriates and refugees. *Advances in Neurobiology*, 21:101–193. https://doi.org/10.1007/978-3-319-94593-4_6.
10. Santarelli AJ, **Khan AM***, Poulos AM*. (2018) Contextual fear retrieval-induced Fos expression across early

- development in the rat: An analysis using established nervous system nomenclature ontology. *Neurobiology of Learning and Memory*, 155:42–49. *co-senior authors; <https://doi.org/10.1016/j.nlm.2018.05.015>.
11. Khan AM, Perez JA, Wells CE, Fuentes O. (2018) Computer vision evidence supporting craniometric alignment of rat brain atlases to streamline expert-guided, first-order migration of hypothalamic spatial datasets related to behavioral control. *Frontiers in Systems Neuroscience*, 12 (Article 7):1–29. <https://doi.org/10.3389/fnsys.2018.00007>. [Computer vision and neuroscience]
12. Hughes DF, Tolley KA, Behangana M, Lukwago W, Menegon M, Dehling JM, Stipala J, Tilbury CR, Khan AM, Kusamba C, Greenbaum E (2018) Cryptic diversity in *Rhampholeon boulengeri* (Sauria: Chamaeleonidae), a pygmy chameleon from the Albertine Rift biodiversity hotspot. *Molecular Phylogenetics & Evolution*, 122:125–141. <https://doi.org/10.1016/j.ympev.2017.11.015>. [Comparative biology]
13. Balivada S, Ganta CK, Zhang Y, Pawar HN, Ortiz RJ, Becker KG, Khan AM, Kenney MJ (2017) Microarray analysis of aging-associated immune system alterations in the rostral ventrolateral medulla of F344 rats. *Physiological Genomics*, 49(8):400–415. <https://doi.org/10.1152/physiolgenomics.00131.2016>.
14. Khan AM, Walker EM, Watts AG (2017) Tracking the coupling of external signals to intracellular programs controlling peptide synthesis and release in hypothalamic neuroendocrine neurons, In: *Stress: Neuroendocrinology and Neurobiology (Handbook of Stress, Vol. 2)*, G. Fink, ed., Amsterdam: Elsevier, pp. 67–81. <https://doi.org/10.1016/B978-0-12-802175-0.00007-3>.
15. Hughes DF, Walker EM, Gignac PM, Martinez A, Negishi K, Lieb CS, Greenbaum E, Khan AM. (2016) Rescuing perishable neuroanatomical information from a threatened biodiversity hotspot: Remote field methods for brain tissue preservation validated by cytoarchitectonic analysis, immunohistochemistry, and X-Ray microcomputed tomography. *PLoS One*, 11(5) p. e0155824. <https://doi.org/10.1371/journal.pone.0155824>. [Comparative neuroanatomy]
16. Zséli G, Vida B, Martinez A, Lechan RM, Khan AM*, Fekete C*. (2016) Elucidation of the anatomy of a satiety network: Focus on connectivity of the parabrachial nucleus in the adult rat. *The Journal of Comparative Neurology*, 524(14):2803–2827. *co-senior authors. <https://doi.org/10.1002/cne.23992>.
17. Sierra-Fonseca JA, Najera O, Martinez-Jurado J, Walker EM, Varela-Ramirez A, Khan AM, Miranda M, Lamango NS, Roychowdhury S. (2014) Nerve growth factor induces neurite outgrowth of PC12 cells by promoting Gβγ-microtubule interaction. *BMC Neuroscience*, 15:3798. <https://doi.org/10.1186/s12868-014-0132-4>.
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23. Khan AM. (2009) Nerve, muscle, blood, toil, tears and sweat: England's pioneering biophysicist, soldier and statesman. [Article about Archibald Vivian Hill, F.R.S.]. *The Journal of the History of the Neurosciences*, 18(1):80–81; 98–105. Part 1: <https://doi.org/10.1080/09647040802105854> | Part 2: <https://doi.org/10.1080/09647040802349817> [History of Neuroscience]
24. Gorton LM, Khan AM, Bohland MA, Sanchez-Watts G, Donovan CM, Watts AG. (2007) A major role for the forebrain in mediating time-of-day differences in glucocorticoid counterregulatory responses to

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27. Watts AG, Khan AM, Sanchez-Watts G, Salter D, Neuner CM. (2006) Activation in neural networks controlling ingestive behaviors: What does it mean and how do we map and measure it? *Physiology and Behavior*, 89(4):501–510. <https://doi.org/10.1016/j.physbeh.2006.05.025>
28. Saxena M, Kim S-a, Burns GAPC, Khan AM, Su J, Hamadi Y, Ghandeharizadeh S. (2005) [An overview of Sangam: A system for integrating data to investigate stress-circuitry-gene coupling](#). *Proceedings: 1st Int'l Conference of Innovative Views of .NET Technologies (IVNET '05)*; Jun 21–22, 2005, Porto, Portugal, pp. 95–106. [Neuroinformatics]
29. Khan AM, Cheung HH, Gillard ER, Palarca JA^, Welsbie DS^, Gurd JW, Stanley BG. (2004) Lateral hypothalamic signaling mechanisms underlying feeding stimulation: Differential contributions of Src family tyrosine kinases to feeding triggered either by NMDA injection or by food deprivation. *The Journal of Neuroscience*, 24:10603–10615. <https://doi.org/10.1523/JNEUROSCI.3390-04.2004>
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33. Khan AM, Currás MC, Jamal FA^, Turkowski CA^, Goel RK^, Dao J, Gillard ER, Wolfsohn SD, Stanley BG. (1999) Lateral hypothalamic NMDA receptor subunits NR2A and/or NR2B mediate eating: Immunohistochemical/behavioral evidence. *American Journal of Physiology*, 276:R880–R891. <https://doi.org/10.1152/ajpregu.1999.276.3.R880>
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39. Visscher PK, Khan AM. (1995) A trap for bees remaining after swarm and colony removal. *American Bee Journal*, 135:567–572. [Comparative biology]
40. Visscher PK, Vetter RS, Khan AM. (1995) The use of insecticidal soap in abatement of honey bee swarms. *Bee Science*, 3:179–184. [Comparative biology]

1. [Preprint] Navarro VI#, Arnal A#, Peru E#, Balivada S, Toccoli AR[^], Sotelo D[^], Fuentes O, **Khan AM**. (2024) Chemoarchitectural studies of the rat hypothalamus and zona incerta. *Chemopleth 1.0*, a downloadable interactive *Brain Maps* spatial database of five co-visualizable neurochemical systems, with novel-feature- and grid-based mapping tools. *bioRxiv* 2024. Posted 3 Oct 24. <https://doi.org/10.1101/2024.10.02.616213>
2. [Preprint] Negishi K#, Montes LP#, Navarro VI#, Soto Arzate L[^], Oliveros C[^], **Khan AM**. (2024) Topographic organization of bidirectional connections between the cingulate region (infralimbic area and anterior cingulate area, dorsal part) and the interbrain (diencephalon) of the adult male rat. *bioRxiv* 2024. Posted 1 Oct 24. <https://doi.org/10.1101/2024.09.29.615708>
3. [Preprint] Edwards MM, Nguyen HK, Dodson AD, Herbertson AJ, Honeycutt MK, Slattery JD, Rambousek JR, Tsui E, Wolden-Hanson T, Wietecha T, Graham JL, Tapia GP#, Sikkema C, O'Brien KD, Mundinger TO, Peskind ER, Ryu V, Havel PJ, **Khan AM**, Taborsky, G. J., Jr., and Blevins, J. E. (2024) Sympathetic innervation of interscapular brown adipose tissue is not a predominant mediator of OT-elicited reductions of body weight gain and adiposity in male diet-induced obese rats. *bioRxiv* 2024. Posted 13 Sep 24. <https://doi.org/10.1101/2024.09.12.612710>. PMC11430106
4. [Preprint] Bono BS⁺, Negishi K⁺, Dumiaty Y⁺, Ponce MS[^], Akinbode T, Baker KS, Spencer CDP, Mejia E[^], Guirguis M, Hebert AJ, **Khan AM***, Chee MJ*. (2024) Brain-wide projections of mouse dopaminergic zona incerta neurons. *bioRxiv* 2024. Posted 11 Sep 24. <https://doi.org/10.1101/2024.09.06.611701>. ⁺co-first authors; ***co-senior authors**
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7. [Preprint] Martínez M, Uribe K, Garcia V#, Lira O, Matos-Ocasio F, Negishi K#, **Khan AM**, O'Dell LE, Mendez IA. (2022) Withdrawal from repeated nicotine vapor exposure increases somatic signs of physical dependence, anxiety-like behavior, and brain reward thresholds in adult male rats. *bioRxiv* 475467, <https://doi.org/10.1101/2022.01.08.475467>
8. [Preprint] D'Arcy CE, Martinez A#, **Khan AM***, Olimpo JT*. (2019) Cognitive and non-cognitive outcomes associated with student engagement in a novel brain mapping and connectomics course-based undergraduate research experience. *bioRxiv* 768465; <https://doi.org/10.1101/768465>. ***co-senior authors**
9. [Preprint] Negishi K#, Payant MA, Schumacker KS, Wittman G, Butler RM, Lechan RM, Steinbusch HWM, **Khan AM***, Chee MJ*. (2019) Distributions of hypothalamic neuron populations co-expressing tyrosine hydroxylase and the vesicular GABA transporter in the mouse. *bioRxiv* 762328; doi: <https://doi.org/10.1101/762328>. ***co-senior authors**
10. [Preprint] **Khan AM**, Grant AH#, Martinez A#, Burns GAPC, Thatcher BS, Anekonda VT, Thompson BW, Roberts ZS, Moralejo DH, Blevins JE. (2018) Mapping molecular datasets back to the brain regions they are extracted from: Remembering the native countries of hypothalamic expatriates and refugees. *bioRxiv* 307652; doi: <https://doi.org/10.1101/307652>
11. [Preprint] Hughes DF#, Walker EM#, Gignac PM, Martinez A#, Negishi K#, Lieb CS, Greenbaum E, **Khan AM**. (2016) Rescuing perishable neuroanatomical information from a threatened biodiversity hotspot: Remote field methods for brain tissue preservation validated by cytoarchitectonic analysis, immunohistochemistry, and X-Ray microcomputed tomography. *bioRxiv* 052415; doi: <https://doi.org/10.1101/052415>
12. [Letter] **Khan AM**, Rapp KL, Ponzio TA, Sanchez-Watts G, Watts AG. (2009) Deletion of catecholaminergic neurons by anti-DBH-saporin disrupts hypothalamic MAP kinase and CREB activation. Targeting Trends [Technical letter published by Advanced Targeting Systems, Inc.].
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17. [Report] Visscher PK, **Khan AM**. (1994) Management of bees remaining after swarm removal. (Report of research sponsored by the California Mosquito and Vector Control Association).

^ indicates a UTEP/USC/UCR undergraduate student co-author,
^^ indicates a UTEP post-baccalaureate student co-author, and
indicates a UTEP/USC graduate student co-author

1. Gillard ER, **Khan AM**, Ul-Haq A, Grewal RS, Stanley BG. (1994). Stimulation of feeding behavior in the rat by intrahypothalamic injection of 8-br-cAMP. *Society for Neuroscience Abstracts*, 20:1680.
2. **Khan AM**, Welsbie DS[^], Khan AM[^], Ton CS[^], Nikpur J[^], Gillard ER, Pir PP[^], Stanley BG. (1996). Feeding elicited by *N*-methyl-D-aspartate (NMDA) in the lateral hypothalamus (LH) is suppressed by a tyrosine kinase inhibitor. *Society for Neuroscience Abstracts*, 22 (Part 2):1409; abstract #555.12.
3. Gillard ER, Mouradi B, Grewal RS, **Khan AM**, Yau T, Stanley BG. (1996). Stimulation of feeding by agents that increase endogenous cyclic AMP in the perifornical hypothalamus (PFH) of the rat. *Society for Neuroscience Abstracts*, 22 (Part 3):1685; abstract #663.11.
4. Stanley BG, **Khan AM**, Gillard ER. (1997) Fos-like immunoreactivity (FLI) induced by lateral hypothalamic (LH) injection of *N*-methyl-D-aspartate (NMDA). *Society for Neuroscience Abstracts*, 23 (Part 1), 252; abstract #102.13.
5. **Khan AM**, Stanley BG, Jamal FA[^], Goel RK[^], Dao J, Gillard ER, Currás MC. (1997). 2B or not 2B: Behavioral, biochemical and immunocytochemical evidence for the involvement of the NR2B NMDA receptor subunit in lateral hypothalamic (LH) feeding. *Society for Neuroscience Abstracts*, 23 (Part 1), 576; abstract #231.10.
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7. **Khan AM**, Bozzetti L, Currás MC, Stanley BG. (1998). Immunohistochemical localization of the NR2B NMDA receptor subunit in rat diencephalon. *Society for Neuroscience Abstracts*, 24 (Part 1), 91; abstract #41.4.
8. **Khan AM**, Duva MA, Kaplan R, Sukhaseum A, Walker MO, Stanley BG. (1999). Patterns of Fos-like immunoreactivity (FLI) associated with eating elicited by NMDA reverse dialyzed into the lateral hypothalamus (LH). *Society for Neuroscience Abstracts*, 25 (Part 2), 1883; abstract #749.8.
9. **Khan AM**, Palarca JA[^], Bosze JC[^], Stanley BG. (2000). PP1, a selective inhibitor of the Src tyrosine kinase family, suppresses eating elicited by lateral

^ indicates a UTEP/USC/UCR undergraduate student co-author,

^^ indicates a UTEP post-baccalaureate student co-author, and # indicates a UTEP/USC graduate student co-author

hypothalamic injection of *N*-methyl-D-aspartate (NMDA). *Society for Neuroscience Abstracts*, 26.

10. **Khan AM**, Cheung HH, Gurd JW, Stanley BG. (2001). Evidence for Src protein tyrosine kinase in lateral hypothalamic cells and its decreased tyrosine phosphorylation during food deprivation. *Society for Neuroscience Abstracts*, [program #946.1].
11. **Khan AM**, Watts AG. (2002). Metabolic stress increases levels of the phosphorylated forms of p44/42 MAP kinase (ERK 1/2) and its downstream effectors in rat hypothalamic paraventricular neurons. *Society for Neuroscience Abstracts*, [program #865.1].
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182. Muñoz E[^], Peveto MA[#], **Khan AM.** (2022). Using high-spatial resolution atlas-based mapping to examine the organization of dopamine β -hydroxylase- and phenylethanolamine *N*-methyltransferase-immunoreactive fibers in the rat paraventricular thalamic nucleus. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.13; Nov 16].
 183. Navarro VI[#], **Khan AM.** (2022). Standardized mapping of chemical neuroanatomy in the rat: Structural organization of five immunoreactive neuronal populations and their axonal fiber system within the hypothalamus and/or zona incerta. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.16; Nov 16].
 184. Negishi K[#], Navarro VI[#], Guerra-Ruiz J[^], Sotelo D[^], Toccoli A[^], **Khan AM.** (2022). A topographically-defined cortico-striato-pallidal module with convergent projections to the lateral hypothalamic area. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.11; Nov 16].
 185. Peveto MA[#], **Khan AM.** (2022). Using high-spatial resolution atlas-based mapping to examine the distributions of neuropeptide Y-immunoreactive fibers in relation to calretinin-immunoreactive perikarya in the rat paraventricular thalamic nucleus. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.14; Nov 16].
 186. Salcido Padilla JV[#], Navarro VI[#], Negishi K[#], Dabbiru S[^], **Khan AM.** (2022). Atlas-based analysis of the neural projections from the lateral hypothalamic area middle group lateral tier dorsal region (LHAd) to the lower brainstem in the adult male rat. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.10; Nov 16].
 187. Tapia G[#], Chenausky SD[#], Arnal A[#], Negishi K[#], Navarro VI[#], Balivada S, **Khan AM.** (2022). Hindbrain catecholaminergic and non-catecholaminergic neuronal populations rapidly recruited during glycemic challenge: A fluorescent cell-detecting deep learning model for high-throughput tabulation and atlas-based mapping. *Presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 12–16.* [Program No. 727.12; Nov 16]. [\[Computer vision and neuroscience\]](#)
 188. Soto Arzate L[^], Navarro VI[#], Peru E[#], Arnal A[#], Negishi K[#], Balivada S, Fuentes O, **Khan AM.** (2023). Structural organization of alpha-melanocyte-stimulating hormone, melanin-concentrating hormone, and copeptin within the hypothalamus and/or zona incerta. *COURI Spring 2023 Symposium Abstracts, The University of Texas at El Paso, El Paso, Texas, USA, 22 April 2023.*
 189. Balivada S, **Khan AM.** (2023). Three-dimensional architecture of the putative adrenergic system in the rat medulla oblongata: A light sheet microscopic study of phenylethanolamine-*N*-methyltransferase immunofluorescence. *Presented at the Abdus Salam Medical and Scientific Poster Session, held on Jul 2 in Orlando, FL.*
 190. Soto Arzate L^{^^}, Navarro VI[#], Peru E[#], Arnal A[#], Negishi K[#], Balivada S, Fuentes O, **Khan AM.** (2023). Structural organization of alpha-melanocyte-stimulating hormone, melanin-concentrating hormone, and copeptin within the hypothalamus and/or zona incerta. *UT System Louis Stokes Alliance for Minority Participation (LSAMP) Student Research Conference held Aug 1–2 at UTEP.* Presented on Aug 1.
 191. Quintana M^{^^}, Navarro VI[#], Arnal A[#], Balivada S, Negishi K[#], Fuentes O, **Khan AM.** (2023). Distribution of hypocretin/orexin and neuronal nitric oxide synthase in the hypothalamus and zona incerta of the adult male rat brain. *UT System Louis Stokes Alliance for Minority Participation (LSAMP) Student Research Conference held Aug 1–2 at UTEP.* Presented on Aug 1.
 192. Navarro VI[#], Toccoli AR[^], Sotelo D[^], Negishi K[#], **Khan AM.** (2023). Standardized mapping and a high-spatial resolution comparison of the inputs and outputs of the anterior and dorsal regions of the lateral hypothalamic area in the adult male rat. *First Annual Symposium of the Biosciences Doctoral Program at UTEP, Presentation #12, held on 25 Aug 23 at UTEP, El Paso, TX.*
 193. Tapia GP[#], Lucero L[^], Blake AM[^], **Khan AM.** (2023). Histological optimization strategies towards atlas-based spatial analysis of the feeding-associated neuropeptides within the rat parabrachial nucleus. *First Annual Symposium of the Biosciences Doctoral Program at UTEP, Presentation #40, held on 25 Aug 23 at UTEP, El Paso, TX.*
 194. Garcia V[#], Sweeney AM, Negishi K[#], O'Dell LE, **Khan AM,** Mendez IA. (2023). Cessation from chronic nicotine vapor exposure increases intracranial self-stimulation of brain reward thresholds in adult male and female rats. *Presented at the National Hispanic*

Science Network 23rd International Conference held Sep 21–23 in Washington, DC.

195. Salcido Padilla JV#, Tapia GP#, **Khan AM.** (2023). Standardized mapping of glucagon-like peptide 1 (GLP-1) immunoreactive neuronal populations in the hindbrain: immunohistochemical studies in the adult male rat. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR287.18, 13 Nov.
196. Tapia GP#, Lucero L^, Blake A^, Balivada S, **Khan AM.** (2023). Atlas-based spatial analysis of the distribution of feeding-associated neuropeptide immunoreactivities within the rat parabrachial nucleus. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR287.20, 13 Nov.
197. Balivada S*, Tapia GP#, Salcido Padilla JV#, Kenney MJ, **Khan AM***. (2023). High-spatial resolution mapping and three-dimensional architecture of the C1, C2, and C3 putative adrenergic neuronal groups and their neurites in the medulla of the rat brainstem: A light sheet microscopic study of PNMT-immunoreactive structures. *Program No. PSTR287.22. 2023 Neuroscience Meeting Planner.* Washington, D.C.: Society for Neuroscience, 2023. Online. ***co-senior authors**
198. Negishi K#, Navarro VI#, Soto Arzate L^, Guerra Ruiz JM^, Sotelo D^, Toccoli A^, **Khan AM.** (2023). A topographically-defined hypothalamic-thalamic-striatopallidal connectional motif that supports hedonic processes. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR287.21, 13 Nov.
199. Maynez-Anchondo L#, Urbina MA, Rohrer O, Giner P, Garcia V#, **Khan AM,** Mendez IA. (2023). Effects of adolescent nicotine vapor exposure on behavioral and cellular measures of nicotine withdrawal in adulthood. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR562.21, 15 Nov.
200. Soto Arzate L^^, Quintana M^^, Navarro VI#, Negishi K#, **Khan AM.** (2023). Comparisons of the inputs and outputs of the anterior subdivisions of the lateral hypothalamic area in the adult male rat using an open-access atlas framework. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR287.17, 13 Nov.
201. Navarro VI#, Negishi K#, Delgado I^, **Khan AM.** (2023). High-spatial resolution mapping of bidirectional connections between the lateral septal nucleus and the lateral hypothalamic anterior and dorsal regions in the adult male rat. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR287.19, 13 Nov.
202. Garcia V#, Sweeney AM, Maynez-Anchondo L#, Negishi K#, O'Dell LE, **Khan AM,** Mendez IA. (2023). Nicotine vapor withdrawal increases intracranial self-stimulation of brain reward thresholds in adult male and female rats. *Presented at the Annual Meeting of the Society for Neuroscience held Nov 11–15 in Washington, DC.* PSTR562.20, 15 Nov.
203. Garcia V#, Espinoza V#, Gonzalez T, **Khan AM,** O'Dell LE, Mendez IA. (2023). Effects of repeated nicotine vapor exposure and cessation on intracranial self-stimulation brain reward thresholds in adult male and female rats. *62nd Annual Meeting of the American College of Neuropsychopharmacology held Dec 3–6 in Tampa, Florida, USA.*
204. Enriquez N#, **Khan AM,** Balivada S, Lavretsky P. (2024). Domestication results in physiologically different birds: Quantifying muscle fiber-types of wild, game-farm, and hybrid mallards. *9th North American Duck Symposium held Feb 5–9 at the Sentinel Hotel, Portland, Oregon, USA.* [\[Comparative anatomy\]](#)
205. Blake A^, Min A^, Terrazas A^, Ramos V^, Tapia GP#, Balivada S, **Khan AM.** (2024). Revealing a substructure: Atlas-based neuroanatomical mapping of the calcitonin gene-related peptide (CGRP)-immunoreactive neurons within the rat parabrachial nucleus. *COURI Spring 2024 Symposium Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [April 27, 2024].
206. Quintana M^^, Balivada S, Navarro VI#, **Khan AM.** (2024). Using immunofluorescence to reveal fiducial markers in 3-D visualizations of the hypothalamus. *COURI Spring 2024 Symposium Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [April 27, 2024].
207. Lucero L^, Blake A^, Min A^, Tapia GP#, Balivada S, **Khan AM.** (2024). Atlas-based spatial analysis of the oxytocin-immunoreactive nerve fiber distribution within the rat parabrachial nucleus. *COURI Spring 2024 Symposium Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [April 27, 2024].
208. Ramos V^, Terrazas A^, Min A^, Tapia GP#, Balivada S, **Khan AM.** (2024). Combining 2-D neuroanatomical mapping methods with 3-D light sheet microscopy: Atlas-based maps of the choline acetyltransferase (ChAT)-immunoreactive neurons within the rat parabrachial nucleus. *COURI Spring 2024 Symposium*

- Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [April 27, 2024].
209. Johny AT[^], Rodriguez JD[^], Quintana ML^{^^}, Tapia GP#, **Khan AM**, Balivada S. (2024). 3-D architecture of the superficial arteries and medial parenchymal vessels in the lower brainstem of Sprague-Dawley rats: An autofluorescence study using light sheet microscopy and volume visualization techniques. *COURI Spring 2024 Symposium Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [April 27, 2024].
 210. Navarro VI#, Arnal A#, Peru E#, Balivada S, Toccoli AR[^], Sotelo D[^], Fuentes O, **Khan AM**. (2024). A resource to aid in viral-based targeting and interrogation of hypothalamic circuits in the rat: An interactive spatial database of five neurochemical systems in stereotaxic space. *2024 Gordon Research Conference: Hypothalamus – Cells, Signals, Circuits and Systems*, Lewiston, Maine (Jul 28 – Aug 2). [[Computational neuroscience](#)]
 211. Guillen MD[^], Navarro VI#, **Khan AM**. (2024). Navigating lateral hypothalamic networks: Mapping inputs and outputs of the ventral lateral and ventral medial subdivisions in the adult male rat. *UT System LSAMP (Louis Stokes Alliance for Minority Participation) Conference 2024, held in El Paso, TX, Aug 2–9*.
 212. Arvizu AR[^], Tapia GP#, Blake AM[^], Balivada S, **Khan AM**. (2024). Histological optimization strategies towards standardized neuroanatomical mapping of glucagon-like peptide 1 (GLP-1) immunoreactivity in the lower brainstem of adult male rats. *COURI Summer 2024 Symposium Abstracts*, The University of Texas at El Paso, El Paso, Texas, USA, [Poster 40B, August 3, 2024].
 213. Tapia GP#, Lucero L[^], Blake AM[^], Min AA[^], Balivada S, **Khan AM**. (2024). Atlas-based mapping and spatial density analysis of neuropeptide distribution within the rat parabrachial nucleus. Presented at the *Second Annual Symposium of the Biosciences Doctoral Program at UTEP*, to be held on 23 Aug 24 at UTEP, El Paso, Texas, USA.
 214. Navarro VI#, Delgado I[^] Toccoli AR[^], Sotelo D[^], Negishi K#, **Khan AM**. (2023). High-spatial resolution mapping of bidirectional connections between the lateral septal nucleus and the lateral hypothalamic anterior and dorsal regions in the adult male rat. Presented at the *Second Annual Symposium of the Biosciences Doctoral Program at UTEP*, to be held on 23 Aug 24 at UTEP, El Paso, Texas, USA.
 215. Navarro VI#, Delgado I[^], Guillén M[^], **Khan AM**. (2024). Navigating lateral hypothalamic networks: Mapping inputs and outputs of the ventral lateral and ventral medial subdivisions in the adult male rat. Program No. PSTR179.01. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online.
 216. Ramirez A, **Khan AM**. (2024). Embedding traditional printmaking methods as an instructional module within Brain Mapping & Connectomics, a course-based undergraduate research experience for freshmen-level neuroanatomy. Program No. TJP05.11SU. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online. [[Science education / SciArt](#)]
 217. Quintana ML^{^^}, Balivada S, Navarro VI#, **Khan AM**. (2024). Evaluating suitable proxies for Nissl staining to identify rat hypothalamic cytoarchitecture in light sheet fluorescent microscopy: the region-defining ability of Neuronal Nuclei (NeuN) in 3-D. Program No. PSTR179.06. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online
 218. Balivada S, Tapia GP#, Salcido Padilla JV#, Quintana ML^{^^}, Kenney MJ, **Khan AM**. (2024). Architecture of the putative adrenergic system in the medulla oblongata: Mesoscale comparison of the phenylethanolamine N-methyltransferase-immunoreactive morphological features between 2-D high-resolution transverse maps and 3-D volume visualizations. Program No. PSTR179.04. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online.
 219. Delgado I[^], Kelly O[^], Navarro VI#, **Khan AM**. (2024). Neural cartography of feeding control: Fine-scale spatial distributions of AgRP and alpha-MSH in the adult male rat brain. Program No. PSTR179.02. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online.
 220. Tapia GP#, Lucero L[^], Blake AM[^], Min AA[^], Ramos VA[^], Terrazas AD[^], Balivada S, **Khan AM**. (2024). Identification of neuropeptide distributions in the parabrachial nucleus of the adult male rat: atlas-based chemoarchitectural analysis in 2-D and 3-D. Program No. PSTR179.05. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online.
 221. Tapia GP#, Arvizu AR[^], Salcido Padilla JV#, Balivada S, **Khan AM**. (2024). Further elaboration and kernel density estimation of glucagon-like peptide 1 (GLP-1)-immunoreactive neuronal populations in the caudal brainstem of the adult male rat. Program No. PSTR179.03. *2024 Neuroscience Meeting Planner*. Chicago, IL. : Society for Neuroscience, 2024. Online.
 222. Balivada S, **Khan AM**. (2024). Close Encounters of the Third Kind: Incorporating tissue clearing, light sheet microscopy, and 3-D volume rendering as an

instructional module to augment the 2-D-centered curriculum taught within a freshman-level neuroanatomy lab course. Program No. TJP05.22SU. *2024 Neuroscience Meeting Planner*. Chicago, IL.: Society for Neuroscience, 2024. Online. [\[Science education\]](#)

223. Kelly O[^], Delgado I[^], Navarro VI[#], **Khan AM**. (2024). Neural cartography of feeding control: Fine-scale spatial distributions of AgRP and alpha-MSH in the adult male rat brain. *Accepted for presentation at ABRCMS 2024 [Annual Biomedical Research Conference for Minoritized Students] to be held Nov 13–16, 2025, in Pittsburgh, Pennsylvania.*
224. Espinoza VE[#], Gonzalez T, Munoz N, Mendez IA, **Khan AM**, O'Dell LE. [in process for 2025]. Withdrawal from nicotine vapor elicits age and sex differences in brain activation patterns in rats. *Submitted for presentation at the annual meeting of the Society for Research on Nicotine and Tobacco to be held Mar 12–15, 2025, in New Orleans, Louisiana.*
225. Balivada S, Tapia GP[#], Salcido Padilla JV[#], Quintana M^{^^}, Kenney M, **Khan AM**. [in process for 2025]. High-spatial resolution mapping and three-dimensional architecture of the C1, C2, and C3 presumptive adrenergic neuronal groups in the medulla oblongata. *Submitted for presentation at the American Physiological Summit to be held Apr 24–27, 2025, in Baltimore, Maryland.*

UTEP COVERAGE

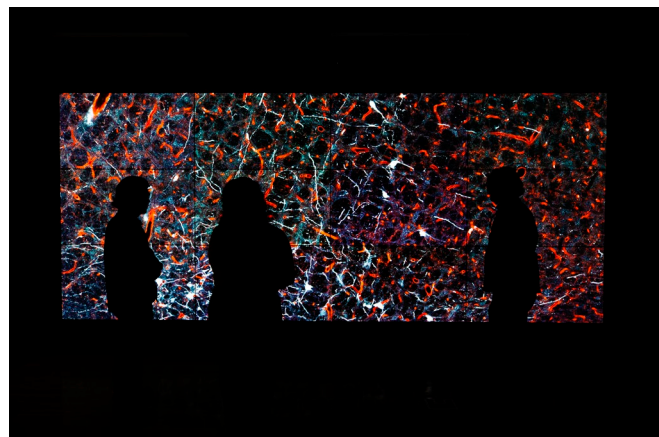
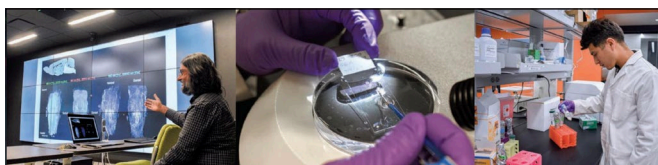
- **Fall, 2024.** "UTEP bolsters future in artificial intelligence with new bachelor's degree". Photo and article by Kristian Jaime, *El Paso Times*, 10 Dec 2024.
- **Spring, 2023.** UTEP Newsfeed: "Researchers Map the Brain During Blood Sugar Changes"



[Our work on brain mapping was showcased, as one of three student presentations, at the UTEP press event announcing the creation of a new undergraduate major in artificial intelligence. The presentation was delivered by Mr. Ivan Acedo Aguilar (seen in the photo above), a senior in my laboratory who is entering the MS program in Computer Science in 2025]. Link: <https://www.elpasotimes.com/story/news/utep/2024/12/10/new-degree-in-ai-bolsters-future-jobs-for-utep-graduates/76891459007/>

Also featured at: *KFOX TV*, *El Paso Inc.*, *KTSM TV*

- **Summer, 2024.** "UTEP awarded \$2.5 M NIH grant to study nicotine dependence in women" by UTEP News Staff. [News of a grant awarded to the O'Dell lab which we are collaborators on]. <https://www.utep.edu/newsfeed/2024/august/utep-awarded-2.5-m-nih-grant-to-study-nicotine-dependence-in-women.html>
- **Spring, 2024.** "The Science of Baby Steps" by Yoali Rodriguez. *The City El Paso Magazine*, May 2024, pp. 56–57. Feature about our glucosensing circuit work.



Link: <https://www.utep.edu/newsfeed/2023/researchers-map-the-brain-during-blood-sugar-changes.html>. 24 May 23. Online article about our study in *The Journal of Clinical Medicine* on brain activation maps during glycemic challenge. (Photo: Luis Miranda, UTEP Marketing & Communications).

Also posted at *ScienceDaily* and *EurekAlert!*:

[University of Texas at El Paso. (2023, May 24). "Researchers map the brain during blood sugar changes: Brain regions mapped to aid future diabetes therapies and studies"]. *ScienceDaily*. Retrieved June 5, 2023 from www.sciencedaily.com/releases/2023/05/230524182029.htm.

EurekAlert! <https://www.eurekalert.org/news-releases/990378>. (Photo by Luis Miranda, UTEP Marketing & Communications).



Also reported in *News Medical*, *Technology Networks*, *Neuroscience News*, *Medical Xpress*, *ReachMD*, and *Mirage News*. Featured in *UTEP Magazine*, Summer 2023, p. 15.

SELECTED MEDIA INTEREST (CONT.)

UTEP COVERAGE (CONTINUED)

Spring, 2022. UTEP Newsfeed: "UTEP Receives \$5M NIH Grant to Build Imaging and Behavioral Neuroscience Facility"



Link: <https://www.utep.edu/newsfeed/2022/utep-receives-5m-nih-grant-to-build-imaging-and-behavioral-neuroscience-facility.html>. 29 Apr 22. Press event held on 28 Apr 2022 in the first-floor planned core space of the IDR building at UTEP. (Photo by J. R. Hernandez). Featured 28 Apr 22 on KFOX14 TV website, and covered by reporter Tawny Davis of KTSM Channel 9 on television (link <https://www.ktsm.com/local/utep-receives-5m-grant-for-imaging-and-behavioral-neuroscience-facility/>). Also featured here: bioengineer.org, EurekAlert!.

- **Fall, 2021.** Society for Neuroscience. Award Announcement Video/Press Release: "Science Education and Outreach Awards"



Online video posted 2 Nov 21 announcing 2021 awards from the society including the Award for Education in Neuroscience. <https://www.youtube.com/watch?v=v75TdzuDy0k>. Press release on 3 Nov 21: [https://www.sfn.org/publications/latest-news/2021/11/03/society-for-neuroscience-science-](https://www.sfn.org/publications/latest-news/2021/11/03/society-for-neuroscience-science-education-and-outreach-awards)

[education-and-outreach-awards](#).

UTEP News press release: <https://www.utep.edu/newsfeed/campus/neuroscience-society-honors-utep-professor-with-education-award.html>. (Photo by J. R. Hernandez)

Also featured on p. 19 of the UTEP Magazine, Summer 2022 issue: "Neuroscience society honors UTEP professor with education award" (by Pablo Villa; Print + digital).

- **Summer, 2020.** Faculty of Science News. Carleton University. Online article about our interdisciplinary collaboration with Dr. Melissa Chee. <https://science.carleton.ca/2020/chee-lab-brain-zone-of-uncertainty/>.
- **Summer, 2020.** UTEP Communications.



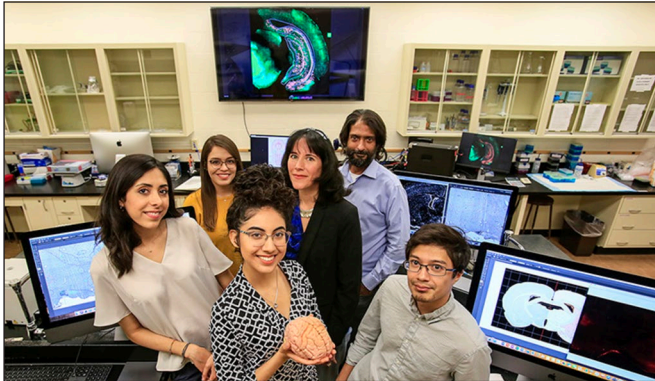
Online article about our interdisciplinary collaborations with Dr. Jeffrey Olimpo at UTEP and Dr. Melissa Chee at Carleton University, Ottawa, Canada. "UTEP Interdisciplinary Collaborations Lead to Major Publications and Advances in Neuroscience Research and Education," by Christina Rodriguez. (Photo by Ivan Pierre Aguirre). <https://www.utep.edu/newsfeed/campus/utep-interdisciplinary-collaboration-leads-to-publication-advances-in-neuroscience-education.html>. 10 Jun 20. Also featured in the *El Paso Herald-Post* on 15 June 20.

- **Spring, 2019.** Newswire, UTEP News.

Online article regarding our collaborative NIH R01 grant award with the laboratory of Dr. Andrew Poulos: "UTEP Research to Map Conditioned Fear Responses in Brain Circuits," by University Communications Staff. 11 Jun 19; <https://www.utep.edu/newsfeed/campus/UTEP-Research-to-Map-Conditioned-Fear-Responses-in-Brain-Circuits.html>. Featured in the *El Paso Herald-Post* on 13 June 19.

Also posted on under the title "UTEP Partners with University
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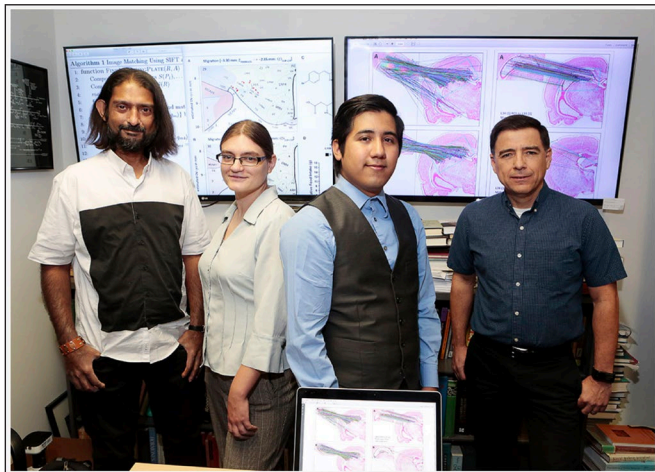
UTEP COVERAGE (CONTINUED)



at Albany to Map Developing Brain Circuits Underlying Conditioned Fear Responses," by Pablo Villa. (Photo by J.R. Hernandez). <https://www.utep.edu/newsfeed/campus/UTEP-Partnership-with-University-at-Albany-Underscores-Importance-of-Undergraduate-Research-Experiences.html>. 1 Jul 19.

Link on EurekAlert!: https://www.eurekalert.org/pub_releases/2019-06/uota-upw061119.php.

- **Spring, 2019.** NewsCenter, University at Albany SUNY. Online article regarding our collaborative grant award with the laboratory of Dr. Andrew Poulos: "Avenues of Fear." <https://www.albany.edu/news/91427.php>. 30 May 19.
- **Spring, 2018.** UTEP Communications.



Online article regarding our interdisciplinary research with computer science: "UTEP Professors, Students Introduce Method to Migrate Brain Mapping Data Across Different Atlases," by Pablo Villa (Photo by J.R. Hernandez). <https://www.utep.edu/newsfeed/campus/UTEP-Professors-Students-Introduce-Method-to-Migrate-Brain-Mapping-Data-Across-Different-Atlases.html>. 23 May 18. This also appeared in the *El Paso Herald-Post* on 23 May 18.

- **Summer, 2016.** UTEP News.



"UTEP researchers innovate brain preservation technique," by Lisa Y. Garibay (Photo by J.R. Hernandez). This was a news story about our research published in *PLoS One*. <http://news.utep.edu/utep-team-innovates-brain-preservation-technique/>. Issued 18 Aug 16. This story had also been featured by *EurekAlert!*, *Science Codex*, *Medical Xpress*, *ScienceMag*, *Lab Manager*, and *Science Newsline*.

- **Summer, 2016.** UT System News. News link to the Channel 9 piece on our research. Posted online on 13 Jun 16.
- **Summer, 2016.** KTSN News Channel 9 [Local TV News Station]. Television clip about our interdisciplinary work published in *PLoS One* on chameleon brain preservation in the Congo. Aired 11 Jun 16.
- **Spring, 2016.** FYRIS Program at UTEP. YouTube video. Video highlighting our *Brain Mapping & Connectomics* freshman laboratory course. Running time: 00:02:44. https://www.youtube.com/watch?v=Xx4MJso_jG4.
- **Fall, 2015.** UTEP Communications. Online article regarding our research and the new interdisciplinary building: "UTEP moves forward with proposed research building," by Daniel Perez. <http://news.utep.edu/utep-moves-forward-with-proposed-research-building/>. 25 Sep 15.
- **Summer, 2015.** UTEP COURI Symposium Video. Online video featuring an interview excerpt of myself in support of the Summer 2015 COURI Symposium [my comments begin at 2:41]. <https://www.youtube.com/watch?v=aOy6WQjLRHg>.

UTEP COVERAGE (CONT.)

- **Fall, 2014.** *KTEP Radio Interview.* Online radio interview of myself as part of KTEP's "100@100" radio interview series celebrating 100 years of research at UTEP. <https://www.ktep.org/ktep-local/2014-09-23/100-100-arshad-khan>. 21 Sep 14. Interviewer: Dr. Keith Pannell.
- **Fall, 2014.** *UT System News.* Online article about the creation of the Virtual Neuroscience Institute by the UT System in response to the BRAIN Initiative. I was quoted in the article. <https://www.utsystem.edu/news/2014/08/21/regents-approve-creation-virtual-institute-advance-neuroscience-and-neurotechnology-#>.
- **Summer, 2014.** *UTEP Communications.* Online article showcasing our current laboratory research on brain mapping: "UTEP Researchers attempt to map brain function," by Laura L. Acosta. <http://news.utep.edu/utep-researchers-attempt-to-map-brain-function/>. 11 Jul 14.
- **Summer, 2014.** *UTEP Communications.*



Online article regarding the HHMI award we received: "New program uses research to retain STEM majors," by Daniel Perez. (Photo by Laura Trejo / UTEP News Service – reproduced above). <http://news.utep.edu/new-program-uses-research-to-retain-stem-majors/>. 24 Jun 14.

- **Summer, 2014.** Research Translational Network (RTRN) E-newsletter. Online article on our research: "Deconstructing neuroscience," by Theresa Valenzuela. <http://sites.jsu.edu/rtrn/2014/06/20/deconstructing-neuroscience/#more-1850>. 20 Jun 14.
- **Fall, 2012.** *UTEP Magazine* profile of my new lab: "New Science Faculty Raise the Research Bar", p. 27. Fall, 2012 issue. Archived online: <http://news.utep.edu/new-science-faculty-raise-the-research-bar/>.

USC COVERAGE

- **Fall, 2011.** Our research featured in local campus news at the University of Southern California: "USC scientists find missing link in regulation of blood glucose," by Robert Perkins. <http://dornsife.usc.edu/news/stories/1074/usc-scientists-find-missing-link-in-regulation-of-glucose/>.
- **Spring 2009.** Annenberg Television at the University of Southern California. Video interview for a segment on 'Stress, Mind, and Health'.
- **Spring 2009.** Annenberg Radio Interview for feature on "Hunger in California". Interviewer: Jenny Lauren Lee.
- **Summer 2007.** MSNBC web coverage of my research. "Chemical may alert brain it's running on empty. Hormone triggers energy consumption to manage glucose levels, study finds." Archived now on the ScienceDaily website as "Chemical in brain acts like a fuel gauge": <https://www.sciencedaily.com/releases/2007/07/070706090036.htm>. (July 10).
- **Summer, 2007.** Our research featured on the Diabetes Blog. "Hypoglycemia and the brain." Archived now on the MedicineWatch blog: <https://medicinewatch.blogspot.com/2007/07/hypoglycemia-and-brain.html>. Also originally featured on the Medical News Today website. "Low blood sugar' message provides insights in the fight against diabetes."
- **Summer, 2007.** A July 2 *Los Angeles Times* article quoted A.M. Khan in conjunction with a study showing that repeated stress causes a buildup of abdominal fat.