

EDUCATION

UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

7703 Floyd Curl Drive
San Antonio, TX 78229

Thesis Defense Completed March 30, 2017
Ph.D. Pharmacology – Neuroscience Track

Cum Laude

TEXAS WOMAN'S UNIVERSITY

304 Administration Drive
Denton, TX 76204

Degrees received December 18, 2010
B.S. in Biochemistry, B.S. in Nutrition, Minor in General Sciences

Magna Cum Laude

RESEARCH EXPERIENCE

UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

Lab of Glenn M. Toney, PhD

Appointment: Cellular & Integrative Physiology, School of Medicine

Research Instructor April 2022 – Present

Postdoctoral Fellow June 2017 – March 2022

Funding: *Current:* 940434; American Heart Association Career Development Award

Former: 20POST35030003; American Heart Association Postdoctoral Fellowship

T32 HL 007446-35; National Institutes of Health, National Heart, Lung, and Blood Institute

Primary Project: *Opioid-induced Respiratory Complications*

Goal: Investigate neurocircuitry underlying propagation/reversal of opioid-induced respiratory depression

Public health relevance: There is an important interrelationship between opioids, sleep apnea, and overdose. Given that chronic opioid use dose-dependently increases sleep apnea in humans and that sleep apnea increases opioid sensitivity, patients with sleep apnea have a high risk in the clinic for opioid-induced respiratory depression and subsequent overdose. Thus, an unmet need exists to identify the neurocircuitry that underlies the propagation of sleep apnea-related opioid-induced respiratory complications. Understanding these neurochemical and synaptic mechanisms may lead to identification of safer therapeutic options for this patient population.

New technical skills: Nerve recordings, *in vivo* electrophysiology, microinjections, viral transduction, optogenetics neuroanatomical methods, integrative whole animal approaches using radiotelemetry to measure conscious, unrestrained respiration, slice patch-clamp electrophysiology

Patents: **50% Co-discoverer of a new technology that includes an FDA-approved compound to prevent and rescue lethal opioid-induced respiratory depression in conscious, unrestrained and anesthetized animals. U.S. No. 62/914,025 and International No. PCT/US2020/O54759.**

UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

Lab of Nathaniel A. Jeske, PhD

Appointment: Pharmacology, Graduate School of Biomedical Sci.; Oral & Maxillofacial Surgery, Dental School

Graduate Research Assistant March 2013 – May 2017

Funding: National Institutes of Health, National Institute of Dental and Craniofacial Research

Former: F31 DE 025551, T32 DE 14318-13/12 A1

Dissertation project: *Awakening a DORMant Receptor*

Goal: Identify novel pharmaceutical targets to enhance opioid efficacy: *GRK2, RKIP, AKAP150*

Public health relevance: Current therapies aimed to reduce pain are ineffective in certain populations or have debilitating side effects, like tolerance and addiction. Thus, an unmet need exists for the identification of novel targets that influence analgesic activity in order to improve therapeutic utility.

Technical skills: Primary cell culture, Ca²⁺ imaging, co-immunoprecipitation, cell fractionation, SDS-PAGE Western blotting, immunohistochemistry, confocal microscopy, immortalized cell culture, cDNA transfection of immortalized cell lines, cDNA nucleofection and overexpression of primary cells, naïve tissue dissection (trigeminal ganglion, dorsal root ganglion, spinal cord, midbrain), biotinylation, protein quantification, *in vitro* knockdown using antisense siRNA knockdown, *in vivo* knockdown using antisense oligodeoxynucleotides, intrathecal injections, behavioral models of pain and analgesia

TEXAS WOMAN'S UNIVERSITY

Labs of Huanbiao Mo, PhD and Shanil Juma, PhD, RD

Undergraduate Researcher, Nutrition Department

January 2009 – December 2010

- *Protective dose-dependent effect of polyphenols on ergocalciferol and cholecalciferol*
- *Modulation of mevalonate pathway by dietary isoprenoids and phytochemicals*

GRANTS, FUNDING, & RESEARCH SUPPORT

American Heart Association (AHA)

Individual AHA Career Development Award

Grant Identifier: 940434

April 2022 – March 2025

PI: Brackley, Allison Doyle

Title: Can Oxytocin Neurotransmission Overcome Sleep Apnea-Related OIRD and Pain Hypersensitivity?

Individual AHA Postdoctoral Fellowship

Grant Number: 20POST35030003

January 2020 – December 2021

PI: Brackley, Allison Doyle

Title: Opioid-Induced Respiratory Depression: Unexpected Adaptations to the Hypothalamic Paraventricular Nucleus

National Institutes of Health (NIH) Ruth L. Kirschstein National Research Service Awards (NRSA)

T32 Institutional NRSA Fellowship

Grant Number: T32 HL 007446-35

June 2017 – December 2019

PI: Stockand, James D, Toney, Glenn M; Fellow: Brackley, Allison Doyle

Program: Pathobiology of Occlusive Vascular Disease

Source: National Heart, Lung, and Blood Institute

F31 Diversity Predoctoral Individual NRSA Fellowship

Fellowship Number: F31 DE 025551

June 2015 – May 2017

PI: Brackley (Doyle), Allison

Title: A mechanism for delta opioid receptor priming

Source: National Institute of Dental and Craniofacial Research

T32 Institutional NRSA Fellowship

Grant Number: T32 DE 14318-13/ 14318-12 A1

August 2013 – May 2015

PI: Hargreaves, Kenneth M, Henry, Michael A; Fellow: Doyle, Allison

Program: Craniofacial Oral-Biology Student Training in Academic Research

Source: National Institute of Dental and Craniofacial Research

PEER-REVIEWED PUBLICATIONS

1. **Brackley AD**, Truong T, Contreras J, Andrade MA, Toney GM (2022) Emerging potential for opioid overdose resuscitations by oxytocin neurons of the paraventricular nucleus of the hypothalamus in rats and mice. *In Preparation for April 2022 Submission*
2. **Brackley AD**, Flores EF, Gomez R, Guerrero KA, Jeske NA (2022) FDA-approved drug enhances delta opioid receptor competence in peripheral sensory neurons. *Under Review*.
3. Chivers S*, **Brackley AD***, Jeske NA (2022) Raf Kinase Inhibitory Protein Reduces Bradykinin Desensitization. *Accepted 4/8/2022 in the Journal of Neurochemistry*. *equal contributions/co-first-author
4. **Brackley AD** & Toney GM (2021) Oxytocin receptor activation rescues opioid-induced respiratory depression by systemic fentanyl in the rat. *J Pharmacol Exp Ther* (PMID:33990416)
5. **Brackley AD**, Andrade MA, Toney GM (2020) Intermittent hypercapnic hypoxia induces respiratory hypersensitivity to fentanyl accompanied by tonic respiratory depression by endogenous opioids. *J Physiol* 598(15):3239-3257 (PMID:32415789)
6. Gomez R, Kohler DM, **Brackley AD**, Henry MA, Jeske NA (2018) Serum response factor mediates nociceptor inflammatory pain plasticity. *Pain Rep* 3(3):e658 (PMID29922747:PMC5999410)
7. Por ED, Sandoval ML, Thomas-Benson C, Burke TA, **Doyle Brackley A**, Jeske NA, Cleland JM, Lund BJ (2017) Repeat low-level blast exposure increases transient receptor potential vanilloid (TRPV1) and endothelin-1 (ET-1) expression in the trigeminal ganglion. *PLoS One* 12(8):e0182102 (PMID28797041:PMC5552217)
8. **Brackley AD**, Gomez R, Guerrero KA, Akopian AN, Du J, Carlton SM, Jeske NA (2017) A-Kinase Anchoring Protein 79/150 Scaffolds Transient Receptor Potential A 1 Phosphorylation and Sensitization by Metabotropic Glutamate Receptor Activation. *Scientific Reports* 7 (1): 1842 (PMID 28500286:PMC5431798)
9. **Brackley AD**, Sarrami S, Gomez R, Guerrero KA, Jeske NA (2017) Identification of a signaling cascade that maintains constitutive delta opioid receptor incompetence in peripheral sensory neurons. *J Biol Chem* 292(21):8762-8772 (PMID 28381559:PMC5448103)
10. **Brackley AD**, Gomez R, Akopian AN, Henry MA, Jeske NA (2016) GRK2 constitutively desensitizes delta opioid receptor in the periphery. *Cell Reports* 16(10):2686-98 (PMID27568556:PMC5014669)

11. Hallums DP, Gomez R, **Doyle AP**, Viet C, Schmidt BL, Jeske NA (2016) RKIP in expression and phosphorylation in oral cancer. *Clin Surg* 1:1100 (PMID28529999:PMC5436720)
12. Rowan MP, Szteyn K, **Doyle AP**, Gomez R, Henry MA, Jeske NA (2014) β -arrestin-2-biased agonism of delta opioid receptors sensitizes transient receptor potential vanilloid type 1 (TRPV1) in primary sensory neurons. *Molecular Pain* 10:50 (PMID:PMC4131480)

AWARDS & HONORS

UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

- 2022 Postdoctoral Excellence Award** 04-11-2022
 Recipient of the 2022 Department of Cellular & Integrative Physiology Postdoctoral Fellow Excellence Award, which includes a \$500 check and recognition during the annual research symposium. This nominated award is given to one postdoctoral fellow who has made outstanding scientific contributions to their field and contributed to the department through leadership and service.
- 2022 American Heart Association Career Development Award** 03-17-2022
 Recipient of a 2022 American Heart Association Career Development Award. "Can Oxytocin Neurotransmission Overcome Sleep Apnea-Related OIRD and Pain?" is a 3-year grant totaling \$231,000.
- 2022 Pharma R&D Invited Speaker** 10-17-2021/02-01-2022
 Invitation with travel covered as speaker and session chair for the non-profit 4th International Conference on PharmScience Research & Development held in San Francisco, CA on February 22-26, 2022.
- The Journal of Pharmacology and Experimental Therapeutics** 08-02-2021
Highlighted Trainee Author, August 2021
 The ASPET journals highlight one trainee author each issue to spotlight their research. One exemplary nominated trainee is promoted monthly with their research interests and related published article: "Oxytocin Receptor Activation Rescues Opioid-Induced Respiratory Depression by Systemic Fentanyl in the Rat".
- 1st Place Postdoctoral Poster Presentation Award** 05-21-2021
 Cellular & Integrative Physiology Research Day
- 2021 American Physiological Society Data NCARnation Award Session** 03-12-2021
 Meeting abstract selected for special award session from all abstracts submitted to the Neural Control and Autonomic Regulation Section of the American Physiological Society for Experimental Biology, which took place virtually April 26-30, 2021. The top 12 competed in an awardee oral session.
- 2021 American Physiological Society Research Recognition** 02-10-2021
 Recipient of the 2018 Neural Control & Autonomic Regulation Section Research Recognition Award. This American Physiological Society section award included \$500 and reimbursement of advanced meeting registration at the 2021 Experimental Biology meeting, April 27-30, 2021 - Virtual.
- 2020 American Heart Association Postdoctoral Fellowship** 12-03-2019
 2020 American Heart Association Postdoctoral Fellowship recipient. This award, Opioid-Induced Respiratory Depression: Unexpected Adaptations to the Hypothalamic Paraventricular Nucleus, is a two-year fellowship and received a score of 0.11%.
- 2019 American Physiological Society Data NCARnation Award Session** 01-31-2019
 Meeting abstract selected for special award session from all abstracts submitted to the Neural Control and Autonomic Regulation Section of the American Physiological Society for the international Experimental Biology meeting, which took place in Orlando, FL April 6-10, 2019. *maternity leave
- 2018 American Physiological Society Research Recognition** 01-29-2018
 Recipient of the 2018 Central Nervous System Section Research Recognition Award. This American Physiological Society section award includes \$500 and reimbursement of advanced meeting registration at the 2018 Experimental Biology meeting, April 21-25, 2018 in San Diego, CA.
- The Stephen B. Milam Memorial Scholarship** 12-01-2017
 2017 Pain Research Scholarship recipient for excellence in academics, scientific research and scholarly work at The University of Texas Health Science Center at San Antonio, San Antonio, TX, December 1, 2017.
- Texas A&M University San Antonio Invited Speaker/Panelist** 10-17-2017
 Invited speaker and panelist for the Fall Learning Event "The Opioid Epidemic: A Dangerous Prescription for the Workplace" sponsored by Texas A&M University San Antonio, San Antonio, TX, October 17, 2017.
- Texas Health & Human Services Commission Invited Speaker/Panelist** 07-18-2017

Invited speaker and panelist for the Prescription Drug Misuse Prevention Town Hall sponsored by the Texas Health & Human Services Commission to discuss prescription opioids from a research perspective, San Antonio, TX, July 18, 2017.

T32 NRSA Institutional Fellowship 06-01-2017 – 12-31-2019

Pathobiology of Occlusive Vascular Disease Postdoctoral Fellowship

NIH Invited & Sponsored Poster Presenter 05-31-2017 – 06-01-2017

Invitation to travel to the NIH Campus in Bethesda, MD to present at the 12th Annual Symposium on Advances in Pain Research, May 31-June 1, 2017

Honorarium CME Opioid Ethics Lecturer 05-06-2017

Invited lead speaker for the annual Baptist Health System Ethics Checkup 2017 Symposium held in San Antonio, TX, May 6, 2017

American Pain Society Young Investigator Travel Award 05-11-2016 – 05-14-2016

Award to attend 35th Annual Scientific Meeting of the American Pain Society in Austin, TX, May 11-14, 2016

1st Place Student Poster Presentation Award 05-06-2016

14th Annual Center for Biomedical Neuroscience (CBN) Retreat

American Society for Biochemistry & Molecular Biology 04-01-2016 – 04-06-2016

2016 Graduate/Postdoctoral Travel Award

Award to attend the 2016 American Society for Biochemistry & Molecular Biology Annual Meeting held in conjunction with Experimental Biology, EB2016, in San Diego, CA, April 2-6

1st Place Outstanding Graduate Student Poster 10-09-2015

22nd Annual Graduate Student Symposium

F31 NRSA Individual Fellowship 06-01-2015 – 05-31-2017

A mechanism for delta opioid receptor priming

T32 NRSA Institutional Fellowship 08-01-2013 – 05-31-2015

Craniofacial Oral-Biology Student Training in Academic Research (COSTAR) Predoctoral Fellowship

Co-leader of COSTAR Planning Committee

08-01-2014 – 05-31-2015

2nd Place Student Poster Presentation Award 05-04-2012

10th Annual Center for Biomedical Neuroscience (CBN) Retreat

TEXAS WOMAN'S UNIVERSITY 08-01-2008 – 12-10-2010

Graduated Magna Cum Laude, double major with minor

Dean's and Chancellor's List, Phi Upsilon Omicron Honor Society, Iota Sigma Pi Honor Society for Women in Chemistry, Who's Who Among Students in American Universities and Colleges

MEETING ABSTRACTS – POSTER & ORAL PRESENTATIONS

Poster Presentations

1. A novel role for the hypothalamic paraventricular nucleus in resuscitation from opioid-induced respiratory depression by fentanyl in the rat.

AD Brackley, T Truong, J Contreras, MA Andrade, GM Toney

AHA Scientific Session: Resuscitation Science – virtual; November 2021

Cellular & Integrative Physiology Research Symposium – San Antonio, TX; April 2022

2. Activation of Oxytocin Receptors and Oxytocin Neurons of the Hypothalamic Paraventricular Nucleus Are Individually Capable of Reversing Opioid Overdose.

AD Brackley, GM Toney

Cellular & Integrative Physiology Research Symposium – virtual; May 2021

***1st Place Postdoctoral Poster Presentation**

Experimental Biology Meeting – virtual; April 2021

***2021 American Physiological Society Neural Control & Autonomic Regulation Section Research Recognition Award**

***2021 American Physiological Society Neural Control & Autonomic Regulation Section NCARNation Award Session**

3. Oxytocin Receptor Activation: An Alternative to Naloxone for Rescuing Opioid-Induced Respiratory Depression by Systemic Fentanyl.

AD Brackley, GM Toney

- Experimental Biology Meeting – virtual; April 2021
4. An Alternative to Naloxone for Rescuing Opioid-Induced Respiratory Depression by Systemic Fentanyl in Opioid-Naïve Rats.
AD Brackley, GM Toney
Experimental Biology Meeting – San Diego, CA → virtual; April 2020
 5. A novel rat model of sleep apnea reveals increased hypersensitivity to opioid-induced respiratory depression reveals tonic suppression of inspiratory drive by endogenous opioids.
AD Brackley, MA Andrade, GM Toney
3rd Biennial Texas Pain Research Consortium Meeting – San Antonio, TX; September 2019
 6. Endogenous Opioid Tone in the Hypothalamic Paraventricular Nucleus in an Animal Model of Sleep Apnea: Possible Role in Enhanced Sensitivity to Opioid-Induced Respiratory Depression.
AD Brackley & GM Toney
Experimental Biology – Orlando, FL; April 2019
 7. A Novel Rat Model of Sleep Apnea Reveals Increased Sensitivity to Opioid-Induced Respiratory Depression and an Unexpected Role for Endogenous Opioids.
AD Brackley & GM Toney
Experimental Biology – Orlando, FL; April 2019
***2019 American Physiological Society Neural Control & Autonomic Regulation Section NCARNation Award Session**
 8. Noradrenergic Enhancement of Synaptic Strength in Paraventricular Nucleus Neurons that Innervate the Nucleus Tractus Solitarius.
AD Brackley & GM Toney
Experimental Biology – San Diego, CA; April 2018
***2018 American Physiological Society Central Nervous System Section Research Recognition Award**
 9. FDA-approved drug paroxetine targets GRK2 to enhance peripheral delta opioid receptor-mediated analgesia
AD Brackley, R Gomez, EF Flores, KA Guerrero, NA Jeske
NIH 12th Annual Symposium on Advances in Pain Research– Bethesda, MD; May/June 2017
***NIH Invited/Sponsored Award**
23rd Annual Graduate Student Symposium– San Antonio, TX; November 2016
 10. AKAP-dependent modulation of GRK2 maintains delta opioid receptor incompetence
AD Brackley, R Gomez, KA Guerrero, NA Jeske
45th Annual Meeting of the Society for Neuroscience– San Diego, CA; November 2016
 11. AKAP-dependent modulation of GRK2 directs delta opioid receptor competence
AD Brackley, R Gomez, KA Guerrero, NA Jeske
8th Annual Terry M. Mikiten Graduate Student Research Forum– San Antonio, TX; June 2016
 12. GRK2 Constitutively Downregulates Delta Opioid Receptor Activity in the Periphery
AP Doyle, R Gomez, MA Henry, NA Jeske
35th Annual Scientific Meeting of the American Pain Society– Austin, TX; May 2016
***American Pain Society Young Investigator Travel Award**
14th Annual Center for Biomedical Neuroscience Retreat– San Antonio, TX; May 2016
***1st Place Graduate Student Presentation Award**
American Society for Biochemistry and Molecular Biology– San Diego, CA; April 2016
Experimental Biology – San Diego, CA; April 2016
***Travel Award**
34th Annual School of Dentistry's Dental Science Symposium – San Antonio, TX; March 2016
***Travel Award**
 13. Awakening the Delta Opioid Receptor in Peripheral Sensory Neurons.
AP Doyle, R Gomez, MA Henry, NA Jeske
44th Annual Meeting of the Society for Neuroscience– Chicago, IL; October 2015
22nd Annual Graduate Student Symposium– San Antonio, TX; October 2015
***1st Place Graduate Student Presentation Award**
ASBMB Science Communication and Outreach Career Symposium– San Antonio, TX; September 2015
Texas Pain Research Consortium– Dallas/Richardson, TX; August 2015
 14. GRK-2: A novel regulator of DOR analgesic competence.
AP Doyle & NA Jeske

- 7th Annual Terry M. Mikiten Graduate Student Research Forum– San Antonio, TX; June 2015
 13th Annual Center for Biomedical Neuroscience Retreat – San Antonio, TX; May 2015
 33rd Annual School of Dentistry's Dental Science Symposium– San Antonio, TX; April 2015
15. RKIP expression and phosphorylation in oral cancer.
 DP Hallums, **AP Doyle**, BL Schmidt, NA Jeske
 33rd Annual School of Dentistry's Dental Science Symposium– San Antonio, TX; April 2015
 93rd International Association for Dental Research General Session & Exhibition (IADR/AADR/CADR)–
 Boston, MA; March 2015
 16. β -arrestin-2-biased agonism of delta opioid receptors sensitizes transient receptor potential vanilloid type 1 (TRPV1) in primary sensory neurons.
AP Doyle, MP Rowan, K Szteyn, R Gomez, MA Henry, NA Jeske
 43rd Annual Meeting of the Society for Neuroscience– Washington D.C.; November 2014
 21st Annual Graduate Student Symposium– San Antonio, TX; October 2014
 17. Modulation of RKIP in sensory neurons.
AP Doyle, MA Henry, NA Jeske
 12th Annual Center for Biomedical Neuroscience Retreat– San Antonio, TX; May 2014
 32nd Annual Dental Science Symposium– San Antonio, TX; April 2014
 18. Lipopolysaccharide upregulates kynurenine pathway enzymes in brain regions likely to mediate neuropsychiatric-like behavior in mice.
 JM Heisler, **A Doyle**, J Parrott, JC O'Connor
 41st Annual Meeting of the Society for Neuroscience– New Orleans, LA; October 2012
 19. Adiponectin modulates firing patterns of dopamine neurons in the ventral tegmental area and alleviates depressive behavior in a social defeat model of depression.
AP Doyle, J Liu, M Cui, L Alvarado, JC Garza, DJ Lodge, XY Lu
 19th Annual Graduate Student Symposium– San Antonio, TX; October 2012
 20. The adipocyte-derived hormone adiponectin modulates the mesolimbic dopaminergic system.
A Doyle, J Garza, J Liu, D Lodge, XY Lu
 10th Annual Center for Biomedical Neuroscience Retreat– San Antonio, TX; May 2012
**2nd Place Graduate Student Presentation Award*
 21. Firing properties of dopamine neurons in the ventral tegmental area of Grb10-knockout mice.
A Doyle, M Guo, J Liu, D Lodge, XY Lu
 Behavior, Biology, and Chemistry: Translational Research in Addiction– San Antonio, TX; March 2012

Oral Presentations

1. Preclinical Implications for Repurposing an FDA-Approved Drug: Antinociceptive and Anxiolytic Neuropeptide Prevents and Reverses Opioid-Induced Respiratory Depression in Rodents
AD Brackley, GM Toney
 International Conference on Pharma Research & Development – San Francisco, CA; February 2022
**Invited Speaker, Analysis | Pharmaceutical Technology | Clinical Trials*
2. A novel role for the hypothalamic paraventricular nucleus in resuscitation from opioid-induced respiratory depression by fentanyl in the rat.
AD Brackley, T Truong, J Contreras, MA Andrade, GM Toney
 Society for Neuroscience – virtual; November 2021
3. Activation of Oxytocin Receptors and Oxytocin Neurons of the Hypothalamic Paraventricular Nucleus Are Individually Capable of Reversing Opioid Overdose.
AD Brackley & GM Toney
 Experimental Biology Meeting – virtual; April 2021
**2021 American Physiological Society Neural Control & Autonomic Regulation Section Research Recognition Award Session Invited Speaker*
4. A Novel Rat Model of Sleep Apnea Reveals Increased Sensitivity to Opioid-Induced Respiratory Depression and an Unexpected Role for Endogenous Opioids.
AD Brackley & GM Toney
 Experimental Biology – Orlando, FL; April 2019
**2019 American Physiological Society Neural Control & Autonomic Regulation Section NCARNation Award Session Invited Speaker*
5. Does the paraventricular nucleus play a role in increased susceptibility to opioid-induced respiratory depression in sleep apnea?

AD Brackley & GM Toney

Dept. of Cellular & Integrative Physiology Graduate Student Symposium– San Antonio, TX; April 2018

***Invited Speaker**

6. FDA-approved drug paroxetine targets GRK2 to enhance peripheral delta opioid receptor-mediated analgesia

AD Brackley, R Gomez, EF Flores, KA Guerrero, NA Jeske

Behavior, Biology, and Chemistry: Translational Research in Addiction– San Antonio, TX; March 2017

7. Awakening a peripherally DORMant receptor

AD Brackley

Three-Minute Thesis Competition– San Antonio, TX; August 2016

8. The adipocyte-derived hormone adiponectin functionally interacts with the mesolimbic dopaminergic system.

AP Doyle, DJ Lodge, XY Lu

Annual Departmental Rotations Seminar– San Antonio, TX; August 2012

9. Paternally transmitted brain GRB10: A genomically imprinted gene.

AP Doyle, DJ Lodge, XY Lu

Texas Dopamine Club Biannual Regional Meeting– San Antonio, TX; April 2012

SCIENCE-RELATED VOLUNTEER EXPERIENCE & OUTREACH

Local Girls' STEM Groups

February 2019 – January 2020

Invited Speaker for Girls in STEM Clubs at Area High Schools

Invited speaker for Girls in STEM Clubs in San Antonio, TX. Meetings are meant to inspire local female high school students interested in STEM opportunities. Q & A included discussions on my education, career, mentorship, female-related challenges, and overcoming a disability and disadvantaged background.

Texas A&M University at San Antonio Prescription Misuse Awareness Event

October 2017

Invited Speaker for Fall Learning Event

Invited speaker and panelist for Prescription Misuse Awareness Week event held October 17, 2017 at Texas A&M University San Antonio. Event included local community representatives' presentations on 'The Opioid Epidemic: A Dangerous Prescription for the Workplace' with remarks followed by public comments and suggestions. The goal of the event was to educate and inform community of prescription opioid use and misuse risks from a researcher-, attorney-, university-, and substance use community counsel leader perspective.

Texas Health & Human Services Prescription Drug Misuse Town Hall

July 2017

Invited Speaker for Regional Summit

Invited speaker for the Texas Health and Human Services Commission (HHSC) Prescription Drug Misuse Regional Summit held July 18, 2017. This Town Hall included HHSC and local community representatives' remarks followed by public comments and suggestions. The goal of the Town Hall was to develop a statewide strategic plan and community-based social marketing/public education plan to increase awareness of prescription drug misuse, the need for a coordinated approach, and promote increased use of Prescription Drug Monitoring Program (PDMP) data. My presentation focused on the opioid epidemic at a National, State, and Local level. The three speakers also served as panelists for the community discussion.

Medical Ethics Council Symposium

May 2017

Honorarium Lead Guest Speaker

Invited lead guest speaker for the Baptist Health System's Annual Ethics Checkup 2017 by the Medical Ethics Council. This symposium held May 6, 2017 focused on opioid abuse, titled "Between A Rock and A Hard Place: the medical community and the opioid epidemic." This outreach event included a 45-minute presentation on the opioid epidemic, from a national and local perspective, and panel discussion/Q&A after three presentations.

Reviewer – European Journal of Pain

2016

Ad Hoc Peer Reviewer

Invitation from journal's Section Editor to review manuscripts related to peripheral opioid-mediated analgesia.

Beyond the Bench

August 2016

Brackley, AD. [The Opioid Epidemic](#). *The Pipette Gazette*. August 10, 2016

This article targeted non-scientists and scientists in other fields who are interested in the current climate of the opioid epidemic. It discussed pain in America and the role of opioids in pain management. It also addressed opioid abuse, misuse, and the development of the opioid epidemic. To peak local interest, this article also provided an overview of the opioid crisis from a national and state level, and how the government is responding with opioid-specific legislation.

Science Communication & Outreach Career Symposium

September 2015

Graduate Student Volunteer for S.T.E.M. event

Worked with a team of volunteers to collaborate with event directors for community outreach event. Specific responsibilities included carrying out administrative tasks for registered attendees, providing advocacy support within outreach activities, and multi-tasking with minimal supervision and with people of diverse backgrounds.