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**CURRICULUM VITAE**

**Home Address**      **Kerri D. Pryce**  
67 E 97th Street, Apt 2  
New York, NY 10029  
Phone: (347) 987-9837

**Work Address**      Department of Neuroscience,  
Friedman Brain Institute,  
Icahn School of Medicine at Mount Sinai  
1425 Madison Ave  
Box 10-65  
New York, NY 10029  
Phone: (212) 559-8612

**EDUCATION**

05/2018-present      Postdoctoral Fellow  
Department of Neuroscience,  
Friedman Brain Institute,  
Icahn School of Medicine at Mount Sinai  
Mentor: Venetia Zachariou  
Project: Understanding the Molecular mechanisms of chronic neuropathic pain,  
and pain-addiction comorbidities

8/2013 – 05/2018      Ph.D., Pharmacology  
Department of Pharmacology and Toxicology  
State University of New York, University of Buffalo  
Mentor: Arin Bhattacharjee  
Thesis: Function Regulation of ion channels in Dorsal Root Ganglion Neurons by  
Magi-1: Implications in Pain Signaling.

9/2007- 5/2011      BS in Biological Science (*summa cum laude*)  
Department of Biology  
City University of New York, Medgar Evers College.

**AWARDS AND HONORS**

02/2020      Carl Storm Underrepresented Minority (CSURM) Fellowship to Attend  
GRC on Phosphorylation and G-Protein Mediated Signaling Networks.  
05/2019      Dennis Higgins Award for best dissertation in the Department of Pharmacology  
and Toxicology (University at Buffalo)  
05/2018      NIH T32 Trainee Grant Award (Icahn School of Medicine at Mount Sinai)  
08/2017      Neuroscience Scholars Program Professional Development Award  
05/2017      Best Oral Presentation Award New York Pharmacology Society Graduate Student  
Presidential Symposium  
08/2016-08/2018      Neuroscience Scholars Program Associate Program (Mentoring)  
09/2015      Bishop Best Poster Award (UB Chapter of the Society for Neuroscience)  
07/2015      NIH Diversity Supplement Award  
04/2015      Delores Shockley Best Poster Award (ASPET)  
04/2015      Graduate Student Travel Award to Attend ASPET

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06/2014	SUNY Board of Trustees Meeting–Student Representative for the Jacobs School of Medicine and Biomedical Science
09/2013	Panelist for SUNY UB’s 1 <sup>st</sup> Critical Conversations Forum– Diversity and STEM Fields
7/2013-6/2015	Scholar-Initiative for Maximizing Student Development (IMSD)
7/2013-2018	Scholar-Collaborative Learning and Integrated Mentoring in the Biosciences (CLIMB)
06/2013	SUNY Doctoral Diversity Fellowship in STEM
05/2013	Arthur A. Schomburg Fellowship
05/2011	Scholar Athlete of the Year (CUNY-Medgar Evers College)
10/2010	2 <sup>nd</sup> Place Best Research Poster Presentation (UMBC)
09/2010	2 <sup>nd</sup> Place for Best Research Poster Presentation (MACUB)
05/2010-05/2011	First Team All CUNY Soccer Award
05/2010	Athlete of the Year Award (CUNY -Medgar Evers College)
04/2010	Provost’s List (CUNY Medgar Evers College)
10/2009	2 <sup>nd</sup> Place Best Research Poster Presentation (UMBC)
10/2009	President’s List (Medgar Evers College)
03/2009	Merck index Award for Excellence in Chemistry and Research
05/2008-05/2011	CUNY Scholar Athlete
12/2007-5/2011	Dean’s List (CUNY Medgar Evers College)

***PROFESSIONAL SOCIETY MEMBERSHIP***

2014-Present	Society for Neuroscience (SFN)
2014-Present	American Society for Pharmacology and Experimental Therapeutics (ASPET)
2009-2011	National Shellfisheries Association (NSA)
2009-2011	Society for Integrative and Comparative Biology (SICB)
2009-2011	Metropolitan Association of College and University Biologists (MACUB)
2009-2011	Society of Toxicology (SOT)

***RESEARCH INTERESTS***

Signal Transduction, Spinal cord physiology, Neuropharmacology, Genetic Mouse Models, Epigenetic and transcriptional mechanisms of chronic Pain, Pain-Addiction comorbidities, mechanism of pain chronicity, RNA Sequencing, Bioinformatics, protein interactions in brain disorders, Covid-actions in the CNS

***PROFESSIONAL DEVELOPMENT***

08/2016-08/2018	Neuroscience Scholars Program (Society for Neuroscience) Participate in professional development workshops and seminars including: <ul style="list-style-type: none"><li>• Diversity Poster session at Society for Neuroscience</li><li>• Scientific Communication Workshops</li><li>• Research Communication Workshops</li></ul>
7/2013-present	IMSD/CLIMB Scholar Participated in all professional development workshops and seminars including: <ul style="list-style-type: none"><li>• Professional Development Catalyst Series (PDCS)</li><li>• Research Communication Workshop (RCW)</li><li>• Scientific Communications for Success (SCS)</li><li>• Advanced Writing for Research Communication</li><li>• Graduate Student Forum</li></ul>

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**RESEARCH EXPERIENCE**

05/2018

Department of Neuroscience, ISMMS, Zachariou lab

Project 1: The impact of chronic pain on oxycodone dependence. I established an oxycodone misuse paradigm in order to understand gene expression adaptations in addiction circuits associated with oxycodone dependence, under neuropathic pain and pain-free states. I monitored sensory and affective signs of oxycodone withdrawal and determined if nerve injury exacerbates behavioral signs of opioid dependence. I applied RNA Sequencing and bioinformatic analysis to gain insight on gene expression adaptations and cellular pathways associated with oxycodone withdrawal in the presence and in the absence of pain.

Project 2. Interventions in G protein signaling to disrupt the maintenance of chronic pain. The Aim of this project is to understand mechanisms contributing to the transition to chronic pain and pain chronification, and make interventions in key regions of the pain pathway, such as the thalamus and the dorsal root ganglia, to disrupt chronic neuropathic pain states. This project combines genetic mouse models for gene inactivation in the mouse thalamus or in the dorsal root ganglia, brain and spinal cord biochemistry, RNA Scope, snRNA Sequencing, and pharmacological approaches to understand the mechanism by which Regulator of G protein 4 and downstream pathways promote the maintenance of sensory hypersensitivity under nerve injury states. I developed interventions to inhibit RGS4 activity in spinal or supraspinal sites, in order to disrupt the maintenance of chronic pain

Project 3. In collaboration with H. Hamm at Vanderbilt University, I investigated the role of SNAP-25 in neuropathic pain. SNAP-25 is a component of the trans-SNARE complex that is regulated by G protein beta subunits, and inhibits several Calcium channel subtypes. I am using mutant mice expressing a G protein beta subunit insensitive SNAP25 form, in order to understand the role of SNAP25 in the induction, intensity and maintenance of chronic pain symptoms. My analysis reveals that prevention of SNAP25 action is sufficient to promote recovery from neuropathic pain states.

11/2014

Department of Pharmacology and Toxicology – SUNY at Buffalo

Laboratory: Dr. Arin Bhattacharjee

Project: Function Regulation of ion channels in DRG neurons by Magi-1.

This project focused on dorsal root ganglia signal transduction adaptation associated with chronic pain. I applied electrophysiology, cell culture and biochemical assays to understand the function of Magi-1 and critical protein interactions that promote pain. I also used rodent models and shRNA methodology in order to apply interventions in Magi-1 function for the alleviation of chronic pain

Skills: Electrophysiology, Immunohistochemistry, Immunocytochemistry, Western Blot/Immunoprecipitation assays, small animal surgery, animal Behavior, Site Directed Mutagenesis, Primary Cell culture, Data Analysis,

06/2010-08/2010

The BRIDGE and C-Step Program–Medgar Evers College

Laboratory: Dr. Edward Catapane

Project: To determine the role of Octopamine of Cardiovascular Function in *Crassostrea Virginica*

Skills: ECG, Data Analysis, Western Blot, Microscopy, Scientific Writing,

06/2009-08/2009      The BRIDGE Program –Medgar Evers College  
Laboratory, Dr. Edward Catapane  
Project: To identify the Presence of Octopamine in various tissues of *Crassostrea*  
*Virginica*  
Skills: Competitive and Non-Competitive ELISA, HPLC. Western Blot,  
Immunohistochemistry, Microscopy, Dissection

***RESEARCH POSITIONS/ EMPLOYMENT***

07/2013-04/2018      **Graduate Research Assistant**  
University of Buffalo  
Department of Pharmacology and Toxicology  
Laboratory: Dr. Arin Bhattacharjee  
Skills: Electrophysiology, Grant Writing, Research Presentation, Data Analysis,  
Western Blot, Primary cell culture, Immunohistochemistry,  
Immunocytochemistry

05/2012-06/2013      **Medicare Member Operations Specialist**  
Visiting Nurse Services of New York  
Medicare Member Services

06/2009-06/2011      **Laboratory Assistant**  
Medgar Evers College, CUNY, C-STEP Laboratory  
PI: Dr. Edward Catapane and Margaret Carrol

***TEACHING EXPERIENCE***

03/2012-06/2012      Mathematics and English instructor  
Course: General Educational Development (GED) Test  
Medgar Evers College -School of Professional and Community Development  
Course Director: Mr. Abraham Nyameh

08/2009 -06/2010      Organic Chemistry and General Workshop Instructor  
Medgar Evers College, CUNY  
Department of Chemistry  
Course Director: Dr. Wilbert Hope

06/2009- 01/2010      Upward Bound Program Instructor  
Mathematics, Chemistry and Biology  
Medgar Evers College  
Director: Kaemanje Thomas

***MENTORING EXPERIENCE***

Mentor for Shruti Bidani, State University of New York at Buffalo, CLIMB Program Summer Student  
Current Status: MD Program, University of Pittsburg

Mentor for Allan Nip, State University of New York at Buffalo, Undergraduate Researcher  
Current Status: Research Trainee, the Bonaventure Lab at Harvard

Mentor for Rasheen Powell, State University of New York at Buffalo, CLIMB Program  
Current Status: PhD Candidate, Department of Pharmacology and Toxicology, University at Buffalo

Mentor for Garrett Sheehan, State University of New York at Buffalo, CLIMB Program  
Current Status: PhD Candidate, Department of Pharmacology and Toxicology, University at Buffalo

Mentor for Anna Young, State University of New York at Buffalo, Ph.D. student  
Current Status: PhD Candidate, Department of Pharmacology and Toxicology, University at Buffalo

Mentor for Randal Serafini; Icahn School of Medicine at Mount Sinai, MD/PhD program  
Current Status Ph.D. candidate at Icahn School of Medicine (MD/PhD)

Mentor for Claire Polizu, Icahn School of Medicine at Mount Sinai, Research Associate  
Current Status: MD Program, State University of New York at Stony Brook

Mentor for Jeffrey Zimmering, Icahn School of Medicine at Mount Sinai, Resident Physician  
Current Status: Neuro Thoracic Surgery Residency program Icahn School of medicine at Mount Sinai.

Mentor for Brianna Fu, University of New York (NYU), Undergraduate Researcher  
Current Status: Senior Year, New York University.

Mentor for Feodora Bertherat, Icahn School of Medicine at Mount Sinai, Research Associate  
Current Status: MS Program, Oxford University (UK)

### **GRANT SUPPORT AND FELLOWSHIPS**

06/2018-07/2019	NIH T32 trainee grant 5T32DA007135-34 – Icahn School of medicine at mount Sinai PI: Lakshmi Devi Role: Postdoctoral Trainee
07/2015-06/2017	NIH Diversity Supplement 5RO1NS078184-03 PI: Arin Bhattacharjee Role: Graduate Trainee
07/2013-06/2015	R25 GM095459 Enabling Access to Cutting-Edge Biomedical and Behavioral Science PI: Dubocovich Role: Graduate Trainee
06/2014-06/2018	Authur Schonberg Fellowship University of Buffalo Role: Graduate Student \$40,000
06/2013-06/2013	State University of New York Diversity Fellow Role: Graduate Student \$20,000

### **PRESENTATIONS**

09/2020 Research Presentation “RGS4 Maintains Chronic Pain States in Rodent Models”  
Gulf Coast Consortium for Translational Pain Research (GCC TPR) Workshop  
#pain2020

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- 07/13/2020 Research presentation “Transcriptional and Epigenetic Adaptations in Models of Neuropathic Pain” International Association for the Study of Pain (IASP) Research forum (PFR) seminar series.
- 6/18/2020 Travel Award GRC Phosphorylation and G Protein Signaling (postponed).
- 6/1/2020 Pain mechanisms and Therapeutics, Taormina NY (postponed for 2021).
- 04/2019 Oral and Poster Presentation “Oxycodone-induced Gene adaptations in the brain reward center in a murine Model of Neuropathic pain” American Society for Experimental Therapeutics (ASPET) Orlando, FL)
- 11/2017 Research Poster Presentation (Society for Neuroscience (SfN) Washington, D.C.
- 10/2017 Oral Research Presentation (UB Chapter of the Society for Neuroscience) Buffalo NY)
- 05/2017 Oral Research Presentation New York Pharmacology Society Graduate Student Presidential Symposium Buffalo, NY
- 11/2016 Research Poster Presentation (Society for Neuroscience (SfN) San Diego Ca)
- 10/2016 Research Poster Presentation (UB Chapter of the Society for Neuroscience) Buffalo NY)
- 04/2015 Research Poster Presentation (American Society for Experimental Therapeutics (ASPET) Boston, MA)
- 05/2011 Research Poster Presentation (National Shellfisheries Association (NSA) Baltimore, MD)
- 10/2010 Research Poster Presentation (UMBC) (Baltimore, MD)
- 09/2010 Research Poster Presentation (MACUB) (New York, New York)
- 05/2010 Oral Research Presentation National Shellfisheries Research Symposium (San Diego, CA)
- 10/2009 Research Poster Presentation (UMBC) (Baltimore, MD)

### ***PEER REVIEWED PUBLICATIONS/ABSTRACTS***

#### **Papers**

Sakloth, F., Manouras, L., Avrampou, K., Mitsi, Serafini, R.A., **Pryce, K.D.**, Cogliani, V., Berton, O., Jarpe, M., and Zachariou, V. HDAC6-selective inhibitors decrease nerve-injury and inflammation-associated mechanical hypersensitivity in mice. *Psychopharmacology* 237, 2139–2149 (2020). <https://doi.org/10.1007/s00213-020-05525-9>

Serafini, R.A., **Pryce, K.D.**, Zachariou, V. The mesolimbic dopamine system in chronic pain and associated affective comorbidities *Biol. Psychiatry.*, 87 (2020), pp. 64-73

Avrampou, K., **Pryce, K.D.**, Ramakrishnan, A., Sakloth, F., Gaspari, S., Serafini, R., Mitsi, V., Polizu, C., Swartz, C., Ligas, B., Richards, A., Shen, L., Carr, F., and Zachariou, V. (2018). RGS4 maintains chronic pain symptoms in rodent models. *J. Neuroscience* 39(42):8291-8304.

**Pryce, K.D.**, Agwa, D., Evely, K. M., Powell, R., Sheehan, G., Tomasello, D.L., Bhattacharjee, A. (2018). Magi-1 scaffolds NaV1.8 and Slack KNa channels in dorsal root ganglion neurons regulating excitability and pain. *The FASEB Journal*.

Gururaj, S., Evely, K. M., **Pryce, K. D.**, Li, J., Qu, J., & Bhattacharjee, A. (2017). Protein Kinase A induced internalization of Slack channels from the neuronal membrane occurs by Adaptor Protein-2/Clathrin mediated endocytosis. *J Biol Chem*. doi:10.1074/jbc.M117.804716

Evely, K. M., **Pryce, K. D.**, Bausch, A. E., Lukowski, R., Ruth, P., Haj-Dahmane, S., & Bhattacharjee, A. (2017). Slack KNa Channels Influence Dorsal Horn Synapses and Nociceptive Behavior. *Mol Pain*, 13, 1744806917714342. doi:10.1177/1744806917714342

Evely, K. M., **Pryce, K. D.**, & Bhattacharjee, A. (2017). The Phe932Ile mutation in KCNT1 channels associated with severe epilepsy, delayed myelination and leukoencephalopathy produces a loss-of-function channel phenotype. *Neuroscience*, 351, 65-70. doi:10.1016/j.neuroscience.2017.03.035

**Pryce, K.**, Samuel, D., Lagares, E., Myrthil, M., Bess, F., Harris, A., . . . Catapane, E. J. (2015). Presence of Octopamine and an Octopamine Receptor in *Crassostrea virginica*. *In Vivo*, 37(1), 16-24.

### **Published Abstracts**

**Kerri, Pryce**, Hope Kronman, Aarthi Ramakrishnan, Sevasti Gaspari, Catherine Pena, Li Shen, Eric Nestler and Venetia Zachariou. Oxycodone-induced Gene Expression Adaptations in the Brain Reward Center in a Murine Model of Neuropathic Pain. ASPET 2019

**Kerri Pryce**, Rasheen Powell, Arin Bhattacharjee. The scaffold protein Magi-1 regulates voltage-dependent sodium channels in dorsal root ganglion neurons, The Society for Neuroscience, 2017.

Rasheen Powell, **Kerri Pryce**, Sushmitha Gururaj, Arin Bhattacharjee. Regulation of the sodium Activated Potassium Channel Slack by 14-3-3 in Dorsal Root Ganglion Neurons. Society for Neuroscience, 2017.

Sushmitha Gururaj, Katherine Evely, **Kerri Pryce**, Arin Bhattacharjee. Protein Kinase A induced internalization of Slack channels from the neuronal membrane occurs by Adaptor Protein-2/Clathrin mediated endocytosis.

**Kerri Pryce**, Dalia Agwa, Danielle Tomasello, Allan Nip, Arin Bhattacharjee. Scaffolding of the Sodium activated Potassium Channel  $K_{Na}$  Slack and Slick by Magi-1, The Society for Neuroscience 2016

**Kerri Pryce**, Dalia Agwa, Danielle Tomasello, Arin Bhattacharjee. Regulation of the sodium-activated potassium channel Slack by Magi-1, The FASEB Journal April 2014

**Kerri Pryce**, Jordan Knight, Margaret A. Carroll, Edward J. Catapane Pharmacological Study of the effects of Octopamine on Heart Rate of *Crassostrea Virginia*. *Journal of Shellfish Research*, Vol. 30, No. 2, 459, 2011.

**Kerri Pryce**, Dahniel Samuel, Mathilde Myrthil, Margaret A. Carroll, Edward J. Catapane: Presence of Octopamine in Hemolymph and Tissues of *Crassostrea Virginia* and it's possible role as a cardio-Regulatory Hormone. *World Aquaculture* 2010.

### **TRAINING/ CERTIFICATIONS**

Handling of Radioactive Substances  
Animal Handling and Care  
Research Ethics  
Animal Surgery  
Rodent Anesthesia

Surgery & Post-Operative Care and Pain  
Recognition  
Pharmacology in Drug Discovery and  
Development

## SKILLS

Electrophysiology (Patch clamp),	Data Analysis	Anxiety and depression-like Behaviors
RNA and DNA Isolation	Scientific Writing	(Open-field, sucrose preference, elevated plus maze, Novelty suppress feeding, running wheel, social recognition).
Western Blot and Co-Immunoprecipitation assays,	Grant Writing	Pain models: (Formalin assay, CFA, Sciatic Nerve Injury (SNI), Sciatic Nerve cuff, Paw incisional model of surgical pain, Acetone assay.
Primary Cell Culture	Rodent Surgery	
PCR	Rodent Anesthesia	
Immunohistochemistry	Spinal Nerve Injection	
Immunocytochemistry	Animal Behavior assays:	
HPLC	Mouse Pain assays (Von Frey, cold plate, hot plate, Hargreaves test, Adhesive tape test, locomotor test).	
ELISA	Models for Assessing	
ECG		

## EXTRA CURRICULUM ACTIVITIES

07/2020-09/2020	Anti- Racist reading group at Mt. Sinai
03/2016-04/2018	UB Neuro GSA Brain Awareness Week Volunteer
09/2014-09/2015	Secretary of UB's Pharmacology and Toxicology Graduate School Student Association
07/2010-05/2011	Captain of Medgar Evers Soccer Team
07/2010-07/2011	Student Government Junior Class President Medgar Evers College
09/2010-07-2011	Vice President and Co-founder of PHAME (Public Health Alliance of Medgar Evers)
01/2009-06/2011	Track and Field Team – Medgar Evers College
08/2008-06/2011	Soccer –Medgar Evers College