

**UNIVERSITY OF COLORADO, SCHOOL OF MEDICINE  
CURRICULUM VITAE**

**Alison Xiaoqiao Xie, B.S., M.S., Ph.D.**

**1. Current Position**     Associate Research Professor

Office address:     Department of Surgery, Division of Urology  
School of Medicine  
University of Colorado, Anschutz Medical Campus  
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**2. Education**

1997/9-2002/7     B.S. in Biophysics.  
University of Science and Technology of China, Hefei, Anhui, P.  
R. China

2003/9-2005/7     M.Sc. in Biophysics and Neurobiology.  
University of Science and Technology of China, Hefei, Anhui, P.  
R. China

2006/8-2011/8     Ph.D. in Neuroscience.  
University of California Riverside, Riverside, California (CA),  
USA

2011/9-2016/8     Postdoctoral Training in Neuropharmacology and Glia Biology,  
University of North Carolina at Chapel Hill, Chapel Hill, North  
Carolina (NC), USA

**3. Academic Appointments**

2016/9-2017/2     Research Assistant Professor  
Department of Pharmacology, School of Medicine, University  
of North Carolina at Chapel Hill, Chapel Hill, NC

2017/8-2019/9     Instructor  
Division of Urology, Department of Surgery, School of  
Medicine, University of Colorado, Anschutz Medical Campus,  
Aurora, Colorado (CO)

2019/10-2025/6     Assistant Research Professor  
Division of Urology, Department of Surgery, School of  
Medicine, University of Colorado, Anschutz Medical Campus,  
Aurora, CO

2025/7-present Associate Research Professor  
Division of Urology, Department of Surgery, School of  
Medicine, University of Colorado, Anschutz Medical Campus,  
Aurora, CO

#### **4. Professional Positions**

2001/9-2002/7 Undergraduate Research Assistant  
Department of Biology, University of Science and Technology  
of China, Hefei, Anhui, P. R. China

2002/8-2003/8 Professional Research Assistant  
Department of Biophysics, School of Life Science, University of  
Science and Technology of China, Hefei, Anhui, P. R. China

2003/9-2005/7 Graduate Research and Teaching Assistant  
Department of Biophysics, School of Life Sciences, University  
of Science and Technology of China, Hefei, Anhui, P. R. China

2006/8-2011/8 Graduate Research and Teaching Assistant  
Neuroscience Graduate Program, University of California  
Riverside, Riverside, CA, USA

#### **5. Honors and Awards**

2005 Dong-gang Scholarship  
University of Science and Technology of China

2014 Excellence in Mentoring Undergraduates  
University of North Carolina at Chapel Hill

2016 Young Investigator Award  
Federation of American Societies for Experimental Biology (FASEB)  
Maximizing Access to Research Careers (MARC) Program

2022 Best Poster Award  
American Urological Association (AUA)

2023 Young Investigator Award  
Society of Basic Urologic Research (SBUR)

2024 Faculty Professionalism Award  
Department of Surgery, School of Medicine, University of Colorado,  
Anschutz Medical Campus

#### **6. Professional Affiliations**

2021- Faculty Member, Neuroscience Graduate Program, University of  
Colorado, Anschutz Medical Campus

2023- Faculty Member, Ludeman Family Center for Women's Health  
Research

- 2024- Faculty Member, Medical Scientist Training Program, University of Colorado, Anschutz Medical Campus
- 2024- Faculty Member, Integrated Physiology Program, University of Colorado, Anschutz Medical Campus
  
- 2007-2011 Member, Society of Neuroscience (SfN)
- 2007- Member, American Society of Neurochemistry (ASN)
- 2017- Faculty Member, Colorado Clinical & Translational Sciences Institute (CCTSI), Aurora, CO
- 2017- Faculty Member, Center for NeuroScience (CNS), Aurora, CO
- 2018 Member, AUA
- 2018 Member, South Central Section (SCS) of the AUA
- 2019 Member, Society for Basic Urologic Research (SBUR)
- 2024 Member, International Society of Neurochemistry (ISN)
- 2024- Member, American physiological Society (APS)
- 2025- Member, Gates Institute

## **7. Professional Leadership and Service**

### ***Departmental and interdepartmental***

#### University of North Carolina at Chapel Hill

- 2013-2016 Mentor for undergraduate research
- 2013, 2015 Mentor, Carolina Summer Fellowship Program, Department of Pharmacology, School of Medicine

#### University of Colorado, Anschutz Medical Campus

- 2022 Member, The Uro Social Media Workgroup, Department of Surgery
- 2022- Research Advisor, Urology Resident Research Program, Department of Surgery
- 2022- Mentor, Women in STEM (WiSTEM) Mentorship Program
- 2022, 2024 Judge, Undergraduate Summer Research Symposium
- 2024 Judge, Postdoc Research Day, School of Medicine
- 2024 Steering Committee, Neuroscience Graduate Program
- 2024 Co-chair, Neuroscience Graduate Program Retreat
- 2024- Admission Committee, Neuroscience Graduate Program
- 2024- Steering Committee, Academy of Research Mentoring Educators (ARME), Graduate School
- 2025, 2026 CIMER facilitator, ARME, Graduate School
- 2025, 2026 Basic science judge, Annual Department of Surgery Research Symposium
- 2025 Chair, Neuroscience Graduate Program Retreat
- 2026 Mentoring Award Review Committee for the Graduate School's Dean's Doctoral Mentoring Award, Graduate School

### **National and international**

- 2019/05 Member, Neuroscience in Urology Thank Tank, NIH/NIDDK, Rockville, MD
- 2022/09 Moderator, Reconstruction/Neuro-urology Poster Session, South Central Section of the American Urological Association Meeting, Coronado, CA
- 2024/04 Co-chair, Foundational Science Session “Peripheral glia take center stage in autonomic functions”, American Physiological Society Summit. Long Beach, CA
- 2024/04 Chair, Scientific symposium “The roles of satellite glial cells during development and diseases”. American Society of Neurochemistry meeting, Portland, OR.
- 2026/04 Chair, Scientific symposium “The role of sensory ganglionic glia and peripheral neuroimmune interactions in persistent pain - from omics to function”. American Society of Neurochemistry meeting, St Charles, MO.

### **Local/community**

- 2010-2017 TED transcriber and translator (English, Mandarin)
- 2018-2024 Judge, Denver Metro Regional Science and Engineering Fair
- 2024, 2025 Volunteer, Ludeman Center Youth Career Day, Aurora, CO
- 2025 Volunteer, the Center for Health Equity, “Healing the Divide”: Community Campus Forum, Aurora, CO

### **Professional development and leadership training**

- 2022 Leadership, Empower & Engage, Authenticity & Awareness, Diversity (LEAD) training, University of Colorado, Department of Surgery
- Training program for developing leadership identity.
- 2022-2023 Women’s Leadership training, University of Colorado, School of Medicine
- Selected from all women Assistant Professors with primary appointments in the School of Medicine to receive professional development training.
- 2024 Mentoring Academy, Center for the Improvement of Mentored Experiences in Research (CIMER) facilitator training, University of Colorado, School of Medicine.
- Selected from all School of Medicine faculty to receive mentoring facilitators training. The trainees in this program are expected to implement mentorship training at their institution or organization

and therefore increase the capacity for research mentor training offered at colleges and universities, research institutes, and organizations.

- 2024-2025 Striving Towards Excellence Program (STEP) training, University of Colorado, Department of Surgery
- Aligned with the departmental mission of “Enlightening Tomorrow’s Leaders,” this 10-module training program assist faculty in developing five essential skills: Communication, Collaboration, Coaching, Change Management and Credibility.
- 2025-2026 Community Engagement & BOND Mentoring, Office of Access and Engagement, University of Colorado
- Aligned with the School of Medicine mission of increasing access to mentorship for all staff and faculty on the CU Anschutz Medical Campus. This program last one year with monthly mentor-mentee meetings, 10 group meeting and discussions (on average 1.5 hours each).
- 2025-2026 Advanced Leadership Development (LEAD 2.0) training, University of Colorado, Department of Surgery
- This one-year course revisit core topics through table discussions, while strengthening resilience and leadership skills. It discusses burnout, imposter phenomenon, executive presence, and self-care strategies for leaders

## **8. Review, Referee and Editorial Activities**

### ***Editorial board***

- 2022- Review Editor, Frontiers in Pain Research  
2022- Review Editor, Frontiers in Systems Neuroscience

### ***Reviewer***

Journal of Visualized Experiments (JoVE)  
Journal of Pain research  
Frontiers in Molecular Neuroscience  
Cell Reports  
American Journal of Physiology - Regulatory, Integrative and Comparative Physiology

### ***Grant review committees and study sections***

- 2019- Reviewer, CCTSI Pilot Grant Program

- 2022 Reviewer, NIH/CSR Renal/Urological Sciences Small Business Activities Special Emphasis Panel
- 2023 Reviewer, NIH/NIDDK Kidney and Urological Systems Function and Dysfunction study section
- 2024 Reviewer, NIH/CSR Neurobiology of Pain and Itch study section

**9. Lectures, Presentations, Workshops**

- 2014/07 Cold Spring Harbor Laboratory Glia in Health & Disease meeting, Cold Spring Harbor, NY. “Ganglionic GFAP+ glia regulate cardiovascular function via Gq-GPCR activation”
- 2016/03 American Society of Neurochemistry Meeting, Denver, CO. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”
- 2016/04 Department of Pharmacology Retreat, University of North Carolina at Chapel Hill, Chapel Hill, NC. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”
- 2016/09 Department of Pharmacology, University of North Carolina at Chapel Hill, Chapel Hill, NC. “Targeting sympathetic satellite glial cells for treating cardiovascular diseases.
- 2016/04 Duke Neuroimmunology and Glia Group Annual Retreat, Duke University, Durham, NC. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”
- 2017/10 Integrative Physiology Program, University of Colorado Boulder, Boulder, CO. “DREADD the Glia: Pharmacogenetic Approaches for Studying the Role of GFAP+ Glia in Physiology and Disease”
- 2018/05 American Urological Association Meeting, San Francisco. “VEGF-induced bladder nerve remodeling and visceral hyperalgesia in bladder pain”
- 2020/10 South Central Section of the American Urological Association Meeting, Virtual. “Lumbar-sacral neuromodulation alleviates visceral pain and improves lower urinary tract symptoms in animal model of urological chronic pelvic pain syndrome”
- 2021/09 American Urological Association Meeting, Virtual. “Sensory glial Gq-GPCR signaling alleviates visceral pain and improves micturition

- function in an animal model of urological chronic pelvic pain syndrome”
- 2021/10 Department of Anesthesiology, University of Colorado, Anschutz Medical Campus, Aurora, CO. “The analgesic role of peripheral GFAP+ glia in vivo”
- 2022/01 Neuroscience Graduate Program, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Peripheral glia modulation of autonomic control: from heart to bladder”
- 2022/09 South Central Section of the American Urological Association Meeting, Coronado, CA. “Modulation of Sensory Glia Gq-GPCR Signaling in vivo Affects Spontaneous Voiding and Bladder Function in an Animal Model of Chronic Pelvic Pain”
- 2023/05 American Urological Association Meeting, Chicago, IL . “Manipulating peripheral glial signaling to treat pelvic pain”
- 2023/10 Department of Surgery Retreat, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Satellite Glial Cells Regulate Bladder Functions and Pain”
- 2023/11 Department of Biology, Johns Hopkins University, Baltimore, MD. “Probing the roles of satellite glial signaling in vivo and in physiology”
- 2023/11 Department of Surgery, Urology resident research seminar, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Research strategies and experimental models used in basic and translational urology research”
- 2024/01 Department of Surgery, Research seminar series, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Peripheral Glial Signaling Modulates Micturition and Bladder Pain”
- 2024/03 Division of Urology Grand Rounds, Department of Surgery, University of Colorado, Anschutz Medical Campus, Aurora, CO. “The neural (and glial) regulation of bladder functions”
- 2024/04 American Physiological Society Summit, Long Beach, CA. "Satellite glial regulation of bladder function and pain"

- 2024/04 American Society of Neurochemistry Meeting, Portland, OR. “The analgesic role of satellite glial signaling in bladder sensory ganglia and chronic pelvic pain”
- 2024/09 Integrative Physiology Program, University of Colorado, Anschutz Medical Campus, Aurora, CO. “The Role of GFAP+ Glia in bladder functions”
- 2024/10 Neuroscience Program Retreat, University of Colorado, Anschutz Medical Campus, Estes Park, CO. “Satellite glial regulation of bladder functions”
- 2025/04 Department of Anesthesiology Research seminar, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Molecular and cellular sexual dimorphism in dorsal root ganglia and its implications for visceral pain”
- 2025/08 CU-CSU Summit, Denver, CO. “A pelvic ganglia-bladder ex vivo model for studying neural control of micturition”
- 2025/10 Department of Surgery, Annual research retreat, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Sensory ganglionic glia as key drivers of visceral pain”
- 2025/11 Integrative Physiology Program, Annual research retreat University of Colorado, Anschutz Medical Campus, Aurora, CO. “Gaining new insights into pelvic pain using RNA profiling”
- 2026/02 Michigan State University, Research Seminar, East Lansing, Michigan. “Sex-Specific mechanisms of chronic pelvic pain revealed by transcriptomic and glial-specific translational profiling of dorsal root ganglia”
- 2026/02 Society for Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU), 2026 Winter Meeting, San Juan, Puerto Rico. “Sensory ganglionic glia as key drivers of visceral pain”
- 2026/03 Glia Gathering, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Sensory satellite glial cells: from form to function”
- 2026/04 American Society of Neurochemistry Meeting, St. Charles, MO. “Sensory ganglionic glia as key drivers of visceral pain”

2026/05 Grand Rounds, Division of Urology “Insights on UCPPS phenotypes from the MAPP network research studies”

## **10. Teaching and Mentoring Record**

### **Courses and lectures**

#### University of Science and Technology of China

2004 Teaching Assistant, Zoology Experiments

#### University of California, Riverside

2008-2009 Teaching Assistant, Introduction to Cell and Molecular Biology Lab

2010 Teaching Assistant, Genetics

2010 Teaching Assistant, Introduction to Neuroscience

2009-2011 Instructor, Neuroscience Laboratory

2010-2011 Teaching Assistant, Cellular Neuroscience: Membrane and Synaptic Phenomena

2009, 2011 Instructor, Human Reproduction and Sexual Behavior

### **Teaching certificate**

#### University of California, Riverside

2011 University Teaching Certificate  
University Teaching Program, the Graduate Division, University of California, Riverside

### **Mentorship for students and postdoctoral fellows**

#### University of North Carolina at Chapel Hill

2013 **Shailja Admin**, Undergraduate Student, Department of Biology.

2013/06-07 **Jakovin J. Lee**, Undergraduate Student, Department of Biology.  
Carolina Summer Fellowship Program

2013-2014 **Jakovin J. Lee**, Undergraduate Student, Department of Biology.

2014-2016 **Jakovin J. Lee**, B.S., Professional Research Assistant. Department of Pharmacology.

2014 **Brook Teffera**, Undergraduate Student, Department of Biology.

2014 **Miles Herr**, Undergraduate Student, Department of Biology,  
Department of Music, and Department of Computer science.

2015/06-07 **David Reich**, Undergraduate Student, Department of Biochemistry and Molecular Biology, Brown University.

Carolina Summer Fellowship Program

- 2015 **Stephanie K. Yu**, Undergraduate Student, Department of Computer science, Department of Biology, and Department of Physics.
- 2016 **Esther Y. Lee**, Undergraduate Student, Department of Biology.
- 2016 **Dante N. Duncan**, Undergraduate Student, Department of Chemistry.
- 2016 **Tanya Qureshi**, Undergraduate Student, Department of Biology.
- 2016 **Angelo Chaia**, Undergraduate Student, Department of Chemistry.

University of Colorado

- 2018-2019 **Kelly P. Smith**, B.S., Master Student, Department of Bioengineering, College of Engineering, Design and Computing, Anschutz Medical Campus
- 2022- **Sathish Kumar Yesupatham**, Ph.D., Postdoctoral Research Associate, Department of Surgery, School of Medicine, Anschutz Medical Campus
- 2022-2023 **Jin Cha**, B.S., Professional Research Assistant, Department of Surgery, School of Medicine, Anschutz Medical Campus
- 2024/06-07 **Alyssa Granley**, Undergraduate student research assistant, Department of Molecular, Cellular, and Developmental Biology, University of Colorado Boulder.  
Alyssa worked in the lab via the Colorado Research Experiences (CORE) program, Anschutz Medical Campus
- 2024/09-12 **Alyssa Granley**, Undergraduate student research assistant, Department of Surgery, School of Medicine, Anschutz Medical Campus
- 2024/09- **Emmett Spreitzer**, Undergraduate student research assistant, Department of Neuroscience, University of Colorado Boulder.
- 2025/01- **Trinity Wright**, Undergraduate student research assistant, Department of Psychology and Neuroscience, Regis University
- 2025/04- **Sara Sherman**, T32 “Integrative Physiology of Aging”. Postdoctoral Research Fellow, Linda Crnic Institute for Down Syndrome. Anschutz Medical Campus

Women in STEM (WiSTEM) Mentorship Program

- 2022-2023 **Kayla Janevski**, B.S., PA-II.
- 2022-2023 **Ester Oh**, Ph.D., Postdoctoral Fellow, Division of Renal Diseases and Hypertension
- 2023-2024 **Aubrianna Gholar**, B.A., Master student, Master of Science in Modern Human Anatomy (MHA) Program
- 2023-2024 **Aurélie Ledreux**, Ph.D., Associate Professor, Department of Neurosurgery, School of Medicine
- 2024-2025 **Emma Shelby**, B.S., MD Program, Class of 2027

- 2024-2025 **Isabella Tyler**, B.S., Graduate Student, Neuroscience Graduate Program
- 2025-2026 **Haley Colling**, B.S., Professional Research Assistant, Department of Pediatric Gastroenterology
- 2025-2026 **Madison X. Rodriguez**, B.S., Graduate Student, Barbara Davis Center for Diabetes

**Thesis Committee**

- 2024 **Lowe, Samantha**  
Biomedical Engineering Master student, University of Colorado - Boulder  
Thesis mentor: Sarah Calve, Ph.D. Associate Professor of Mechanical Engineering, Materials Science and Biomedical Engineering University of Colorado Boulder University of Colorado – Boulder
- 2024 **Garcia Gonzalez, Paola**  
Toxicology PhD student, the Skaggs School of Pharmacy  
Thesis mentor: Manisha Patel, Ph.D. Associate Dean for Research and Graduate Studies, Professor of CU School of Pharmacy
- 2025 **Spreitzer, Emmett**  
Undergraduate student, Department of Neuroscience, University of Colorado Boulder.  
Honor thesis mentor

**Mentorship for faculty – training workshops and certificate**

- 2024-2025 CIMER level 1 facilitator
- 2024-2026 Steering committee, ARME, Graduate School, University of Colorado
- 2026 CIMER level 2 facilitator
- 2025/03 CIMER training to CU Anschutz faculty, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Entering mentoring”
- 2025/10 CIMER training to CU Anschutz faculty, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Entering mentoring”
- 2026/05 CIMER training to CU Anschutz faculty, University of Colorado, Anschutz Medical Campus, Aurora, CO. “Entering mentoring”

**Mentorship awards and nominations**

- 2014 Excellence in Mentoring Undergraduates  
Office for Postdoctoral Affairs, University of North Carolina at Chapel Hill
- 2023 Outstanding Mentorship Award (nomination)

Women in STEM (WiSTEM) Mentorship Program, University of  
Colorado, Anschutz Medical Campus  
2025                      2026 CU Anschutz Research Mentor Award (nomination)

## **11. Research Grants**

### ***Ongoing research funding***

1. NIH/NIA 5T32AG000279

“Integrative Physiology of Aging”

Role: Mentor

08/05/2001-04/30/2029

Direct cost: \$669,869 in 2025

- This project supports research training efforts on aging physiology at both the CU Anschutz and CU Boulder.

### ***Pending research funding***

2. CCTSI/Translational Methods Award, Colorado Clinical and Translational Sciences Institute (CCTSI)

“Implantable bladder neck cuff for on-demand urination via pelvic neuromodulation”

Role: **Principal Investigator**

07/01/2026-06/30/2027

Direct cost: \$30,000

- This project identify visceral pain-associated signaling pathways and cell-cell communication in sensory ganglia.

3. NIH/NIDDK R01 (DK129260)

“Targeting Satellite Glial Signaling for Visceral Pain Relief”

Role: Principal Investigator

12/01/2026-05/31/2031

Direct cost: \$2,295,078

- This project studies how neuro-immune interaction in sensory nerve system drives persistent pelvic pain.

4. National Disease Research Interchange (NDRI)/HTORR Pilot Award

“Probing the sensory ganglionic neuroimmune mechanisms driving pelvic sensitization in human dorsal root ganglia”

Role: Principal Investigator

09/01/2026-08/31/2028

Direct cost: N/A

- This project provides 10 human specimens.

## **Completed research funding**

### ***Principal Investigator***

5. Colorado Pilot Program Mentored Award, Colorado Clinical and Translational Sciences Institute

“Beyond the neurons: the role of peripheral glia in neurogenic bladder dysfunction”

Role: Principal Investigator

03/01/2019-02/29/2020

Total direct cost: \$30,000

- This project supported our investigation on how satellite glial Gq-GPCR activation modulates visceral afferent sensitivity in vivo. Pharmacogenetic method was used to remotely activate satellite glial Gq-GPCR signaling in awake mice. This project also included investigations of changes in glial transcriptome and translome in sensory glia innervating the lower urinary tract.

6. Academic Enrichment Fund, Department of Surgery, School of Medicine

“The role of mechanosensitive TREK-1 channels in detrusor overactivity and voiding dysfunction in patients with overactive bladder (OAB)”

Role: Principal Investigator

09/01/2020-08/30/2021

Total direct cost: \$40,000

- This project investigated the cellular and molecular mechanisms of aberrant mechano-sensitivity in idiopathic detrusor overactivity and identify molecular targets and signaling pathways associated with increased sensory activity in overactive LUTS.

7. NIH/NIDDK R01 DK129260

“Activating Peripheral Glia to Relieve Visceral Pain in Animal Models of Urological Chronic Pelvic Pain Syndrome (UCPPS)”

Role: Principal Investigator

08/05/2021-05/31/2026

Direct cost: \$1,100,000

- This project studies how dorsal root ganglia glial cells regulate bladder function and pelvic pain.

8. Ludeman Center Early Career Faculty Research Development Awards

“Sex differences in sympathetic glial regulation of blood pressure”

Role: Principal Investigator

09/01/2023-10/31/2024

Total direct cost: \$25,000

- This project studies sexual dimorphism in sympathetic glial regulation of blood pressure.

9. CCTSI Translational Methods Award

“Development of a murine pelvic ganglia-bladder preparation for the study of glial control of micturition”

Role: co-Principal Investigator

08/01/2024-07/31/2025

Total direct cost: \$30,000

- This project established an MPG-bladder ex vivo experimental model enabling optogenetic manipulation in ganglionic neurons and glia.

**Key Personnel**

10. NIH/NINDS R21 NS081589 (McCarthy)

Role: Key Personnel

9/01/2012 – 8/31/2014

Total direct cost: \$270,000

- This project identified the cellular mechanism of glial modulation of cardiovascular functions.

11. NIH/MH RO1 MH099564 (McCarthy)

“Function of Astrocytic GPCR Signaling Cascades in Physiology and Mental Illness”

Role: Key Personnel

6/01/2013 – 5/31/2017

Total direct cost: \$1,368,000

- The proposal for this project was submitted in response to a Request for Applications entitled New Tools for Examining Astrocyte Heterogeneity. The goal was to develop new mouse models expressing engineered GPCRs driven by intersectional gene activation.

12. NIH/NIDDK R01 DK121506 (Malykhina)

“Regulation of pelvic pain and micturition reflex by VEGF in urological chronic pelvic pain syndrome”

Role: Key Personnel

08/01/2019-07/30/2022

Total direct cost: \$600,000

- This work evaluated the role of bladder VEGF signaling pathways in neurogenesis and neural plasticity of the neural pathways innervating the lower urinary tract.

13. NIH/NIDDK R01 DK116648 (Malykhina)

“Mechanisms of neurogenic voiding dysfunction in a viral murine model of multiple sclerosis”

Role: Key Personnel

09/08/2020-8/30/2023

Total direct cost: \$600,000

- The project investigated the neural mechanisms of lower urinary tract symptoms in an animal model of multiple sclerosis induced by mouse hepatitis virus (MPV).

## **12. Bibliography**

### ***Thesis***

- 2022 Bachelor of Science, Biophysics  
“Effects of different stimulation modes on short-term synaptic plasticity of visual cortex in adult rats”
- 2005 Master of Science, Neurobiology and Biophysics  
“The function of visual cortex neurons of different age rats”
- 2011 Doctor of Philosophy, Neuroscience  
“Bidirectional scaling of astrocytic metabotropic glutamate receptor signaling following long-term changes in neuronal synaptic transmission”

### ***Peer-reviewed publications***

#### Research as trainee

- 2004 Jia F, **Xie X**, Zhou Y. “Short-term depression of synaptic transmission from rat lateral geniculate nucleus to primary visual cortex in vivo”. Brain Research. doi: 10.1016/j.brainres.2004.01.001
- 2005 **Xie X**, Wang H, Chen B, Zhou Y. “Neural response characteristic of neuron to flashing stimulus in visual cortex of young rats”. Progress in Biochemistry and Biophysics. 2005,32(11):1088-1092
- 2005 Jia F, Wei H, Li X, **Xie X**, Zhou Y. “Short-term synaptic plasticity in the rat geniculo-cortical pathway during development in vivo”. Neuroscience Letters. doi: 10.1016/j.neulet.2005.12.054
- 2006 Wang H, **Xie X**, Li X, Chen B, Zhou Y. “Functional degradation of visual cortical cells in aged rats”. Brain Research. doi: 10.1016/j.brainres.2006.09.010
- 2009 Carson MJ, Crane J, **Xie AX**. “Modeling CNS microglia: the quest to identify predictive models”. Drug Discovery Today: Disease Models. Doi: 10.1016/j.ddmod.2008.07.006

- 2012 **Xie AX**, Sun MY, Murphy T, Lauderdale K, Tiglao E, Fiacco TA. “Bidirectional scaling of astrocytic metabotropic glutamate receptor signaling following long-term changes in neuronal firing rates”. PLoS One. doi: 10.1371/journal.pone.0049637
- 2013 Sun MY, Devaraju P, **Xie AX**, Holman I, Samones E, Murphy TR, Fiacco TA. “Astrocyte calcium microdomains are inhibited by bafilomycin A1 and cannot be replicated by low-level Schaffer collateral stimulation in situ”. Cell Calcium. doi: 10.1016/j.ceca.2013.10.004
- 2013 Agulhon C, Boyt KM, **Xie AX**, Friocourt F, Roth BL, McCarthy KD. “Modulation of the autonomic nervous system and behaviour by acute glial cell Gq protein-coupled receptor activation in vivo”. Journal of Physiology. doi: 10.1113/jphysiol.2013.261289
- 2014 **Xie AX**, Lauderdale K, Murphy T, Myers TL, Fiacco TA. “Inducing plasticity of astrocytic receptors by manipulation of neuronal firing rates”. Journal of Visualized Experiments. doi: 10.3791/51458
- 2015 **Xie AX**, Petravicz, J, McCarthy KD. “Molecular approaches for manipulating astrocytic signaling in vivo”. Frontier in Cellular Neuroscience. doi: 10.3389/fncel.2015.00144
- 2016 Annis RP, Swahari V, Nakamura A, **Xie AX**, Hammond SM, Deshmukh M. “Mature Neurons Dynamically Restrict Apoptosis via Redundant Pre-Mitochondrial Brakes”. the FEBS Journal. doi: 10.1111/febs.13944
- 2017 **Xie AX\***, Lee JJ, McCarthy KD. “Ganglionic GFAP+ Glial Gq-GPCR Signaling Enhances Heart Functions in vivo”. **\*Corresponding author.** Journal of Clinical Investigation Insight. 2017;2(2):e90565. doi: 10.1172/jci.insight.90565.
- 2017 **Xie AX\***, Chaia A, McCarthy KD. “Targeting sympathetic glia for treating cardiovascular diseases”. **\*Corresponding author.** Receptors and Clinical Investigation. 2017;4:e1572. doi: 10.14800/rci.1572.

#### PI-led and Collaborative Research

- 2019 **Xie AX†**, Pan XQ†, Meacham RB, Malykhina AP. “The Expression of Transcription Factors Mecp2 and CREB Is Modulated in Inflammatory Pelvic Pain”, Frontiers in Systems Neuroscience. †Equal contribution. doi: 10.3389/fnsys.2018.00069.

- 2020 **Xie AX\***, Madayag A, Minton SK, McCarthy KD, Malykhina AP. “Sensory Satellite Glial Gq-GPCR Activation Alleviates Inflammatory Pain via Peripheral Adenosine 1 Receptor Activation”. **\*Corresponding author**. Scientific Reports. Sci Rep. 2020 Aug 25;10(1):14181. doi: 10.1038/s41598-020-71073-z
- 2021 **Xie AX†\***, Taves S†, McCarthy KD. “Nuclear factor Kappa B-COX2 pathway activation in non-myelinating Schwann cells is necessary for the maintenance of neuropathic pain in mice”. **\*Corresponding author**. †Equal contribution. Frontiers in Cellular Neuroscience. doi: 10.3389/fncel.2021.782275
- 2021 Iguchi N, Carrasco A Jr, **Xie AX**, Pineda RH, Malykhina AP, Wilcox DT. (2021) Functional constipation induces bladder overactivity associated with upregulations of Htr2 and Trpv2 pathways. Scientific Reports. doi: 10.1038/s41598-020-80794-0.
- 2022 Clarkson TC, Iguchi N, **Xie AX**, Malykhina AP. Differential transcriptomic changes in the central nervous system and urinary bladders of mice infected with a coronavirus. PLoS ONE. doi: 10.1371/journal.pone.0278918
- 2022 **Xie AX**, Iguchi N, Clarkson TC, Malykhina AP. “Pharmacogenetic inhibition of lumbosacral sensory neurons alleviates visceral hypersensitivity in a mouse model of chronic pelvic pain”. PLoS ONE. doi: 10.1371/journal.pone.0262769
- 2024 **Xie AX†**, Iguchi N†, Malykhina AP\*. “Long-term follow-up of TREK-1 KO mice reveals the development of bladder hypertrophy and impaired bladder smooth muscle contractility with age”. American Journal of Physiology, Renal Physiology. †Equal contribution. doi: 10.1152/ajprenal.00382.2023.
- 2025 Yesupatham SK, Malykhina AP, **Xie AX\***. “Transcriptome Profiling Suggest Molecular Sexual Dimorphism in Lumbosacral Dorsal Root Ganglia and Sex-specific Mechanisms Underlying Visceral Pain”. **\*Corresponding author**. Physiological Genomics. doi: 10.1152/physiolgenomics.00066.2025

### **Competitive abstracts**

- 2016 **Xie AX**, McCarthy KD. “Chemogenetic Activation of Satellite Glial Gq-GPCR Signaling Regulates Cardiovascular Functions in vivo”. Arteriosclerosis, Thrombosis and Vascular Biology and Peripheral

Vascular Disease (ATVB/PVD) Meeting, May 5 - 7, 2016. Nashville, TN.  
Moderated Poster Presentation

- 2018 **Xie AX**, Nedumaran B, Meacham RB, Malykhina AP. “Vascular Endothelial Growth Factor (VEGF) induces bladder nerve remodeling and visceral hyperalgesia in mouse model of bladder pain”. American Urological Association Meeting, May 17 - 21, San Francisco, CA. Oral Presentation
- 2018 **Xie AX**, Meacham R, Malykhina AP. “VEGF-induced bladder nerve remodeling and visceral hyperalgesia in bladder pain”. South Central Section of the American Urological Association Meeting, September 26 – 29, 2018. Nashville, TN. Moderated Poster Presentation
- 2019 **Xie AX**, Meacham RB, Malykhina AP. “Pharmacogenetic inhibition of afferent excitability alleviates VEGF-induced visceral allodynia and hyperalgesia in a mouse model of urological chronic pelvic pain syndrome (UCPPS)”. South Central Section of the American Urological Association Meeting, September 25 - 28, 2019. Colorado Springs, CO. Moderated Poster Presentation
- 2019 **Xie AX**, Meacham RB, Malykhina AP. “Pharmacogenetic inhibition of afferent excitability alleviates VEGF-induced visceral allodynia and hyperalgesia in a mouse model of UCPPS”. Society for Basic Urologic Research meeting, November 7–10, 2019. New Orleans, LA. Poster Presentation
- 2020 **Xie AX**, Meacham RB, Malykhina AP. “Pharmacogenetic inhibition of lumbosacral spinal and sensory neurons alleviates visceral pain and improves lower urinary tract symptoms in animal model of urological chronic pelvic pain syndrome”. American Urological Association Meeting (cancelled due to COVID-19). Accepted for Moderated Poster Presentation
- 2020 **Xie AX**, Meacham RB, Malykhina AP. “Lumbar-sacral neuromodulation alleviates visceral pain and improves lower urinary tract symptoms in animal model of urological chronic pelvic pain syndrome”. South Central Section of the American Urological Association Meeting, October 10, 2020, virtual. Oral Presentation
- 2020 **Xie AX**, Meacham RB, Malykhina AP. “Adeno-associated viral vector (AAV)-mediated pharmacogenetic inhibition of lumbosacral sensory neurons alleviates visceral hypersensitivity in a mouse model of

- urological chronic pelvic pain syndrome (UCPPS)”. Society for Basic Urologic Research meeting, Virtual. [Poster Presentation](#)
- 2021 **Xie AX**, Meacham RB, Malykhina AP. “Sensory glial Gq-GPCR signaling alleviates visceral pain and improves micturition function in an animal model of urological chronic pelvic pain syndrome”. American Urological Association Meeting, September 10 – 13, 2021. Virtual. [Oral Presentation](#)
- 2022 **Xie AX**, Meacham RB, Malykhina AP. “Modulation of Sensory Glia Gq-GPCR Signaling in vivo Affects Spontaneous Voiding and Bladder Function in an Animal Model of Chronic Pelvic Pain”. American Urological Association Meeting, May 13 – 16, 2022. New Orleans, LA. [Moderated Poster Presentation](#)  
This poster presentation was awarded the "**2022 AUA Best Poster**".
- 2022 **Xie AX**, Meacham RB, Malykhina AP. “Modulation of Sensory Glia Gq-GPCR Signaling in vivo Affects Spontaneous Voiding and Bladder Function in an Animal Model of Chronic Pelvic Pain”. South Central Section of the American Urological Association Meeting, September 7 - 10, 2022. Coronado, CA. [Oral Presentation](#)
- 2023 **Xie AX**. “Manipulating peripheral glial signaling to treat pelvic pain”. American Urological Association Meeting, April 28 – May 1, 2023. Chicago, IL. [Oral Presentation](#)
- 2023 **Xie AX**, Iguchi N, Malykhina AP. “The Lack of Mechanosensitive TREK-1 Channel Mimics the Development of Aging-related Bladder Phenotypes in Mice”. American Urological Association Meeting, April 28 – May 1, 2023. Chicago, IL. [Moderated Poster Presentation](#)
- 2023 Yesupatham SK, **Xie AX**. “Transcriptome Analysis in Lumbosacral Dorsal Root Ganglia Reveals Key Molecular Changes in Animal Models of Urological Chronic Pelvic Pain Syndrome (UCPPS)”. American Urological Association Meeting, April 28 – May 1, 2023. Chicago, IL. [Moderated Poster Presentation](#)
- 2023 Yesupatham SK, **Xie AX**. “Transcriptome Analysis in Lumbosacral Dorsal Root Ganglia Reveals Key Molecular Changes in Animal Models of Urological Chronic Pelvic Pain Syndrome (UCPPS)”. South Central Section of the American Urological Association Meeting, September 6 - 9, 2023. Austin, TX. [Moderated Poster Presentation](#)

- 2024 Yesupatham SK, **Xie AX**. “Targeted Purification of Polysomal mRNA Sequencing reveals satellite glial cells-specific translome changes during in animal models of urological chronic pelvic pain syndrome”. American Urological Association Meeting, May 3 – May 6, 2024. San Antonio, TX. [Moderated Poster Presentation](#)
- 2024 Yesupatham SK, **Xie AX**. “Targeted Purification of Polysomal mRNA Sequencing reveals satellite glial cells-specific translome changes during in animal models of urological chronic pelvic pain syndrome”. South Central Section of the American Urological Association Meeting, October 30 - November 2, 2024. Colorado Springs, CO. [Moderated Poster Presentation](#)
- 2024 **Xie AX**, Yesupatham SK. “A new approach to neuromodulation: how to use pharmacogenetic activation in non-neuronal cells to promote micturition and alleviate visceral pain”. South Central Section of the American Urological Association Meeting, October 30 - November 2, 2024. Colorado Springs, CO. [Moderated Poster Presentation](#)
- 2024 Yesupatham SK, **Xie, AX**. “Sex-specific sympathetic satellite glial regulation of resting blood pressure”. National Conference on Women's Health and Sex Differences Research - Sex Differences Across the Lifespan: Focusing on Cardiometabolism and Mental Health. October 23 - 25, 2024. Colorado Springs, CO.
- 2025 Yesupatham SK, **Xie AX**. “Polysomal mRNA sequencing reveals sex differences in satellite glial cell-specific translome changes during urological chronic pelvic pain syndrome”. American Physiological Society: New Trends in Sex Differences and Women's Health Research, October 23 – 25, 2025, New Orleans, LA.

**Non-competitive abstracts**

- 2007 **Xie X**, Carson M. “Microglial activation in the cuprizone model of adult demyelination and remyelination”. Society for Neuroscience Meeting, November 3 - 7, 2007. San Diego, CA. [Poster Presentation](#)
- 2008 **Xie X**, Carson M. “TLT2 has both constitutive and inducible patterns of expression in the healthy and inflamed CNS”. American Society for Neurochemistry meeting, March 1 - 5, 2008. San Antonio, Texas. [Poster Presentation](#)

- 2008 **Xie X**, Carson M. “TLT2 has both constitutive and inducible patterns of expression in the healthy and inflamed CNS”. La Jolla Immunology Conference, October 21 - 23, 2008. La Jolla, CA. [Poster Presentation](#)
- 2009 **Xie X**, Fiocco TA. “Homeostatic scaling of astrocyte glutamate receptors and transporters”. Gordon Conference, Glial Biology: Functional Interactions among Glia & Neurons, March 15 - 20, 2009. Ventura, California. [Poster Presentation](#)
- 2009 **Xie AX**, Fiocco TA. “Homeostatic scaling of astrocyte glutamate receptors and transporters”. Society for Neuroscience Meeting, October 17 – 21, 2009. Chicago, IL. [Poster Presentation](#)
- 2010 **Xie AX**, Fiocco TA. “Homeostatic scaling of astrocyte glutamate receptors and transporters”. Society for Neuroscience Meeting, November 13 – 17, 2010. San Diego, CA. [Poster Presentation](#)
- 2011 **Xie AX**, Fiocco TA. “Homeostatic plasticity of astrocytic metabotropic glutamate receptors”. Gordon Conference, Glial Biology: Functional Interactions among Glia & Neurons, March 6-11, 2011. Ventura, California. [Poster Presentation](#)
- 2011 **Xie AX**, Fiocco TA. “Bidirectional scaling of astrocytic metabotropic glutamate receptor signaling following long term changes in neuronal synaptic transmission”. Society for Neuroscience Meeting, November 12 – 16, 2011. Washington, DC. [Poster Presentation](#)
- 2013 **Xie AX**, Boyt K, Agulhon C, McCarthy KD. "Studying the Role of Glial Gq Signaling in the Regulation of the Cardiovascular System". Gordon Conference, Glial Biology: Functional Interactions among Glia & Neurons, March 3 - 8, 2013. Ventura, California. [Poster Presentation](#)
- 2013 **Xie AX**, Boyt K, Agulhon C, McCarthy KD. "Studying the Role of Glial Gq Signaling in the Regulation of the Cardiovascular System". Department of Pharmacology Retreat, University of North Carolina at Chapel Hill. March 26, 2013. Chapel Hill, NC. [Poster Presentation](#)
- 2013 **Xie AX**, McCarthy KD. “Elimination of neuronal driven Ca<sup>2+</sup> Activity in astrocytes in IP3R2 knock-out (IP3R2 KO) mice”. Society for Neuroscience Meeting, November 9 – 13, 2013. San Diego, CA. [Poster Presentation](#)
- 2014 **Xie AX**, Lee JJ, McCarthy KD. “Ganglionic glia regulate cardiovascular function via Gq-GPCR activation”. UNC’s Integrative Vascular Biology

(IVB) T32 Training Program and the McAllister Heart Institute (MHI) joint Research Symposium, March 11, 2014. Chapel Hill, NC. [Poster Presentation](#)

- 2014 **Xie AX**, Lee JJ, McCarthy KD. “Chemogenetic activation of GFAP+ glia localizes a new regulatory unit of sympathetic output”. Cold Spring Harbor Laboratory Glia in Health & Disease meeting, July 17 – 21, 2014. Cold Spring Harbor, NY. [Oral Presentation](#)
- 2015 **Xie AX**, Lee JJ, McCarthy KD. “Ganglionic GFAP+ glia regulate cardiovascular function”. Gordon-Kenan Research Seminar and Gordon Conference, Glial Biology: Functional Interactions among Glia & Neurons, February 28 - March 1, 2015. Ventura, CA. [Poster Presentation](#)
- 2015 **Xie AX**, Lee JJ, McCarthy KD. “Ganglionic GFAP+ glia regulate cardiovascular function”. Glial Biology Across Taxonomy – Implications for Function & Dysfunction symposium at Duke, March 25, 2015. Durham, NC. [Poster Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”. American Society of Neurochemistry Meeting, March 19 - 23, 2016. Denver, CO. [Oral Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Chemogenetic Activation of Satellite Glial Gq-GPCR Signaling Regulate Cardiovascular Functions in vivo”. American Society of Neurochemistry Meeting, March 19 - 23, 2016. Denver, CO. [Poster Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Chemogenetic Activation of Satellite Glial Gq-GPCR Signaling Regulate Cardiovascular Functions in vivo”. UNC’s Integrative Vascular Biology (IVB) T32 Training Program and the McAllister Heart Institute (MHI) joint Research Symposium, March 8, 2016. Chapel Hill, NC. [Poster Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”. Department of Pharmacology Retreat, University of North Carolina at Chapel Hill, April 1, 2016. Chapel Hill, NC. [Oral Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Gq-GPCR Signaling in Sympathetic Satellite Glial Cells Regulate Cardiovascular Functions in vivo”. Duke

- Neuroimmunology and Glia Group Annual Retreat, April 11, 2016.  
Durham, NC. [Oral Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Sympathetic ganglionic GFAP+ Glia Regulate Cardiovascular Functions in vivo”. Weinstein Cardiovascular Development and Regeneration Conference, May 19 – 21, 2016. Durham, NC. [Poster Presentation](#)
- 2016 **Xie AX**, Lee JJ, McCarthy KD. “Chemogenetic activation of satellite glial Gq-GPCR signaling enhances cardiovascular function in vivo”. International Conference on Glial Biology in Medicine, October 16 – 18, 2016. Roanoke, VA. [Poster Presentation](#)
- 2018 **Xie AX**, Taves S, Madayag A, McCarthy KD, Malykhina AP. “Targeting Satellite Glial Signaling for the Treatment of Chronic Pain”. American Society of Neurochemistry Meeting, March 24 - 28, 2018. Riverside, CA. [Poster Presentation](#)
- 2018 **Xie AX**, Taves S, Madayag A, McCarthy KD, Malykhina AP. “Targeting Satellite Glial Signaling for the Treatment of Chronic Pain”. Rocky Mountain Regional Neuroscience Group Annual Meeting, May 11, 2018. Aurora, CO. [Poster Presentation](#)
- 2021 **Xie AX**, Malykhina AP. “Pharmacogenetic inhibition of afferent excitability alleviates VEGF-induced visceral hypersensitivity in a mouse model of UCPPS”. American Society of Neurochemistry Meeting, June 28 - July 1, 2021. Virtual. [Poster Presentation](#)
- 2023 Yesupatham SK, **Xie AX**. “Transcriptome Analysis in Lumbosacral Dorsal Root Ganglia Reveals Key Molecular Changes Underlying Nociceptive Sensitization in Animal Models of Urological Chronic Pelvic Pain Syndrome”. ASN annual meeting, American Society of Neurochemistry Meeting, March 18 - 22, 2023. Lexington, KY. [Poster Presentation](#)
- 2024 **Xie AX**. " Satellite Glial Regulation of Autonomic Function". American Physiological Society Summit, April 4 - 7, 2024. Long Beach, CA. [Oral Presentation](#)
- 2024 **Xie AX**. “The analgesic role of satellite glial signaling in bladder sensory ganglia and chronic pelvic pain”. American Society of Neurochemistry Meeting, April 14 - 18, 2024. Portland, OR. [Oral Presentation](#)

- 2024 Yesupatham SK, **Xie, AX**. “Targeted Purification of Polysomal mRNA Sequencing reveals satellite glial cells-specific translome changes during in animal models of urological chronic pelvic pain syndrome”. American Society of Neurochemistry Meeting, April 14 - 18, 2024. Portland, OR. [Poster Presentation](#)
- 2024 Granley A, Yesupatham SK, **Xie, AX**. “TRAP and glia: Revealing Translational Change in Sensory Glia during the Pathogenesis of Visceral Pain”. Undergraduate Summer Research Symposium, July 26, 2024. Aurora, CO. [Poster Presentation](#)
- 2024 Granley A, Yesupatham SK, **Xie, AX**. “Revealing Translatome Changes in Sensory Glia using Translating Ribosome Affinity Purification & RNA Sequencing” Neuroscience Graduate Program Retreat, October 24 - 26, 2024. Esters Park, CO. [Poster Presentation](#)
- 2025 Yesupatham SK, **Xie AX**. “Polysomal mRNA sequencing reveals sex differences in satellite glial cell-specific translome changes during urological chronic pelvic pain syndrome”. Ludeman Family Center, Women's Health Research Day. February 22, 2025. Aurora, CO. [Poster Presentation](#)
- 2025 Yesupatham SK, **Xie AX**. “Polysomal mRNA sequencing reveals sex differences in satellite glial cell-specific translome changes during urological chronic pelvic pain syndrome”. Postdoc Research Day. July 10, 2025. Aurora, CO. [Poster Presentation](#)
- 2025 Yesupatham SK, **Xie AX**. ““Transcriptome Analysis in Lumbosacral Dorsal Root Ganglia Reveals Key Molecular Changes Underlying Nociceptive Sensitization in Animal Models of Urological Chronic Pelvic Pain Syndrome”. CU-CSU summit: “Chronic Disease Frontiers: Colorado Approach to Causes, Prevention, and Treatment”. August 13, 2025. Denver, CO. [Poster Presentation](#)
- 2025 Spreitzer EJ, Deuel D, Calve S, **Xie AX**. “A pelvic ganglia-bladder ex vivo model for studying neural control of micturition”. CU-CSU summit, “Chronic Disease Frontiers: Colorado Approach to Causes, Prevention, and Treatment”. August 13, 2025. Denver, CO. [Poster Presentation](#)
- 2025 Yesupatham SK, **Xie AX**. “Polysomal mRNA sequencing reveals sex differences in satellite glial cell-specific translome changes during urological chronic pelvic pain syndrome”, International Society of

Neurochemistry/American Society of Neurochemistry Joint Meeting. August 19 - 22, 2025. New York City, New York. Poster Presentation

- 2025 Spreitzer EJ, Deuel D, Calve S, **Xie AX**. “A pelvic ganglia-bladder ex vivo model for studying neural control of micturition”. Neuroscience Graduate Program Retreat. October 9 - 10, 2025. Esters Park, CO. Poster Presentation
- 2025 Yesupatham SK, **Xie AX**. “Transcriptome and translome profiling in lumbosacral dorsal root ganglia reveals sex-specific molecular mechanisms underlying Visceral Pain”. New Trends in Sex Differences and Women’s Health Research Meeting. October 23 - 25, 2025. New Orleans, LA. Poster Presentation
- 2026 Yesupatham SK, **Xie AX**. “Gap junction dysregulation in satellite glial cells is a key driving in visceral hypersensitivity”, American Society of Neurochemistry Meeting. April 18 - 22, 2026. Saint Charles, Missouri.
- 2026 Yesupatham SK, **Xie AX**. “New insights into sex-specific visceral pain mechanisms”, American Physiology Summit. April 23–26, 2026. Minneapolis, Minnesota.
- 2026 Spreitzer EJ, **Xie AX**. “Development of a murine pelvic ganglia-bladder preparation for the study of neural control of micturition”. American Physiology Summit. April 23–26, 2026. Minneapolis, Minnesota.

### **13. Citations and Highlights of Work in Media**

- 2017 UNC School of Medicine, News. “Ganglionic GFAP+ glial Gq-GPCR signaling enhances heart functions in vivo”. <https://www.med.unc.edu/pharm/ganglionic-gfap-glia-gq-gpcr-signaling-enhances-heart-functions-in-vivo/>
- 2022 AUA News, November issue. “Sensory Glia Gq-GPCR Activation In Vivo Modulates Micturition Functions in an Animal Model of Chronic Pelvic Pain”. <https://auanews.net/issues/articles/2022/november-2022/aua2022-best-posters-sensory-glia-gq-gpcr-activation-in-vivo-modulates-micturition-functions-in-an-animal-model-of-chronic-pelvic-pain>
- 2023 AUA Daily News. “New approaches to understanding and treating pelvic pain”.

<https://www.auadailynews.org/aua-2023/article/22860473/new-approaches-to-understanding-and-treating-pelvic-pain>

- 2023 University of Colorado, Anschutz Medical Campus, Department of Surgery, News. "Studying the Role of Glial Cells in Regulating Blood Pressure".  
<https://news.cuanschutz.edu/department-of-surgery/role-of-glial-cells-in-regulating-blood-pressure>
- 2023 The John Hopkins Newsletter. "Alison Xie describes analgesic effects of glial-neuron interactions".  
<https://www.jhunewsletter.com/article/2023/10/alison-xie-describes-analgesic-effects-of-glial-neuron-interactions>
- 2023 University of Colorado, Anschutz Medical Campus, Department of Surgery, News. "Alison Xie, PhD, Named SBUR Young Investigator for 2023".  
<https://news.cuanschutz.edu/department-of-surgery/alison-xie-phd-named-sbur-young-investigator-for-2023>
- 2024 American Journal of Physiology-Renal Physiology, "First Author Highlights".  
<https://journals.physiology.org/doi/full/10.1152/ajprenal.2024.326.6.AU>
- 2024 University of Colorado, Anschutz Medical Campus, Department of Surgery, News. "CCTSI Grant Funds New Model for Bladder Research".  
<https://news.cuanschutz.edu/department-of-surgery/cctsi-grant-funds-new-model-for-bladder-research>
- 2025 University of Colorado, Anschutz Medical Campus, Department of Surgery, News. "CU Department of Surgery Researcher Looking for Better Way to Treat Pelvic Pain".  
<https://news.cuanschutz.edu/department-of-surgery/researcher-looking-for-better-way-to-treat-pelvic-pain>