Stanford



QiLiang “Q” Chen

Assistant Professor of Anesthesiology, Perioperative and Pain Medicine (Adult Pain)

CLINICAL OFFICE (PRIMARY)

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Bio

BIO

QiLiang “Q” Chen, MD, PhD, is a pain management anesthesiologist and system neuroscientist at Stanford University and VA Palo Alto Healthcare System (VAPAHCS). He specializes in the treatment of complex chronic pain disorders, such as headaches, migraines, orofacial pain, chronic post-traumatic pain, and chronic post-surgical pain.

Dr. Chen obtained his undergraduate degrees in chemistry and clinical laboratory science from University of Wisconsin - Madison. He then received his MD and PhD in Neuroscience, with a focus on the basic brainstem circuits and mechanisms of endogenous pain modulation, at Oregon Health and Science University. After graduating from medical school, he joined Stanford as an anesthesiology resident in the Fellowship in Anesthesia Research and Medicine (FARM) program, and later completed his subspecialty fellowship training in Pain Management.

He now practices pain medicine and anesthesiology at Stanford and VAPAHCS. He continues his circuit-focused neuroscience research in the basic mechanisms of post-traumatic pain, with the goals of translating this fundamental knowledge to patient care and providing potential new therapeutic targets to help those with pain after injury and polytrauma.

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Anesthesiology, Perioperative and Pain Medicine
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Stanford-Coulter Translational Research Grant, Stanford/Coulter Foundation (2026-2027)
- VA CDA2 Career Development Award, US Department of Veterans Affairs, BLR&D (2024-2029)
- Winter Brain Trevel Fellowship, Winter Conference on Brain Research (2025)
- K08 Mentored Clinical Scientist Development Award, NIH/NINDS (2024)

- FAER Mentored Research Training Grant (FAER-MRTG), American Society of Anesthesiologists (ASA) /Foundation for Anesthesia Education and Research (FAER) (2023-2024)
- ASA Annual Meeting Best of Abstracts, American Society of Anesthesiologists (ASA) (2022)
- ASPN Innovation Summit Fellow Scholarship, American Society of Pain and Neuroscience (ASPN) (2022)
- IASP Travel Award, International Association for the Study of Pain (IASP) (2022)
- Stanford Department of Anesthesiology Resident Research Award, Stanford University (2022)
- ASA FAER Resident Abstract 1st Place, American Society of Anesthesiologists (ASA) /Foundation for Anesthesia Education and Research (FAER) (2021)
- ASA FAER Resident Scholar, American Society of Anesthesiologists (ASA) /Foundation for Anesthesia Education and Research (FAER) (2021)
- Trainee Professional Development Award, Society for Neuroscience (SfN) (2021)
- OHSU Exemplary Future Scientist, Oregon Health & Science University (2017)
- Combining Clinical and Research Careers in Neuroscience Training Award, NIH/NINDS/AUPN/ANA/CNS (2016)
- OHSU 3-Minute Thesis Competition 2nd Place, Oregon Health & Science University (2015)
- F31 Individual National Research Service Award, NIH/NINDS (2014-2016)
- Roadmap Scholar Award, Oregon Health & Science University (2014-2015)
- Senate Fund, Oregon Health & Science University (2014, 2015, 2018)
- Excellence in Pain Training Award, Oregon Health & Science University (2014)
- N.L. Tartar Trust Fellowship, Oregon Health & Science University (2013)
- Research Week Top Poster Award, Oregon Health & Science University (2013)
- St. Mary’s Volunteer Scholarship, St. Mary's Health Care System (2010)
- CeO/TRIO Outstanding Mentor Award, University of Wisconsin (2008, 2009)
- GEAR UP Scholarship, University of Wisconsin (2006-2008)
- Charles Loufek Kimport Memorial Scholarship, Madison Community Foundation (2005-2009)
- Friends of Meriter Scholarship, Meriter Foundation (2005)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Fellow, British Journal of Anaesthesia (2025 - present)

PROFESSIONAL EDUCATION

- Medical Education: Oregon Health and Sciences University School of Medicine (2018) OR
- Board Certification: Pain Medicine, American Board of Anesthesiology (2024)
- Fellowship: Stanford University Pain Management Fellowship (2023) CA
- Board Certification: Anesthesia, American Board of Anesthesiology (2023)
- Residency, Stanford University, Anesthesiology Residency , CA (2022)
- Internship, Stanford University, General Surgery Residency , CA (2019)
- MD, Oregon Health & Science University, Medicine , OR (2018)
- PhD, Oregon Health & Science University, Neuroscience , OR (2016)
- MT, University of Wisconsin - Madison, Clinical Laboratory Science , WI (2010)
- BS, University of Wisconsin - Madison, Chemistry , WI (2010)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research focuses on understanding the plasticity in pain-modulating circuits in pathological pain states. I started with defining a basic functional framework that links the pain-transmission system to the pain-modulation system, through which I explored the central mechanism of sensitization in chronic pain after a peripheral injury. Based on this fundamental observation, my work now focuses on investigating the pathophysiology and the role of endogenous opioids in chronic pain related to brain injury and other forms of trauma, a topic especially relevant to chronic post-traumatic pain sufferers. Clinically, I am exploring the use of advance image-guidance in pain interventions for treating complex headache and craniofacial pain. Ultimately, I hope to translate these fundamental knowledge and technologies to patient care and provide potential new therapeutic targets to help those with pain after head injury and polytrauma.

CLINICAL TRIALS

- Suzetrigine in Tonsillectomy for Opioid-sparing Pain Management, Not Specified

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Kylie Lau

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (PhD Program)
- Pain Management (Fellowship Program)

Publications

PUBLICATIONS

- **Persistent behavioral, biological, and physiological sequelae in active-duty treatment-seeking U.S. special operations forces personnel: a cross-sectional study.** *Lancet regional health. Americas*
  Adams, S. W., Frueh, B. C., Sabangan, J., Pawlowski, C. A., Oh, R. C., Pugach, C. P., Chen, Q., Harris, O. A.
  2026; 61: 101534
- **The Q2-Approach for Percutaneous Peripheral Neuromodulation Stimulator Implant Targeting C2 Dorsal Root Ganglion at C2 Lamina for Treating Intractable Headache: A Technical Note.** *Pain medicine (Malden, Mass.)*
  Chen, Q., Qian, X.
  2024
- **Mechanisms and treatments of chronic pain after traumatic brain injury.** *Neurochemistry international*
  Chen, Q., Bharadwaj, V., Irvine, K. A., Clark, J. D.
  2023: 105630
- **Mild Traumatic Brain Injury-Induced Augmented Postsurgical Pain Is Driven by Central Serotonergic Pain-Facilitatory Signaling.** *Anesthesia and analgesia*
  Chen, Q., Sahbaie, P., Irvine, K. A., Clark, J. D.
  2023
- **Shifting the Balance: How Top-Down and Bottom-Up Input Modulate Pain via the Rostral Ventromedial Medulla.** *Frontiers in pain research (Lausanne, Switzerland)*
  Chen, Q., Heinricher, M. M.
  2022; 3: 932476

- **Plasticity in the Link between Pain-Transmitting and Pain-Modulating Systems in Acute and Persistent Inflammation** *JOURNAL OF NEUROSCIENCE*
  Chen, Q., Heinricher, M. M.
  2019; 39 (11): 2065–79

- **Optogenetic Evidence for a Direct Circuit Linking Nociceptive Transmission through the Parabrachial Complex with Pain-Modulating Neurons of the Rostral Ventromedial Medulla (RVM).** *eNeuro*
  Chen, Q., Roeder, Z., Li, M. H., Zhang, Y., Ingram, S. L., Heinricher, M. M.
  2017; 4 (3)

- **Parabrachial complex links pain transmission to descending pain modulation.** *Pain*
  Roeder, Z., Chen, Q., Davis, S., Carlson, J. D., Tupone, D., Heinricher, M. M.
  2016; 157 (12): 2697-2708

- **A meta-analysis of pain intensity changes after placebo interventions in facial pain.** *Pain reports*
  Saluja, S., Kattaa, A. H., Shih, B., Jolly, M., Polat, M., Lopez, C. A., Ahmed, S., Huang, Y., McGeoch, P. D., Chen, Q., Li, A. H., Salmasi, V., Buch, et al
  2026; 11 (6): e1499

- **Exercise plasma improves traumatic brain injury outcomes in mice.** *Scientific reports*
  Sahbaie, P., Shi, X., Guo, T. Z., Li, W. W., Irvine, K. A., Chen, Q., Clark, J. D.
  2025; 15 (1): 17957

- **Interventional neuromodulation techniques for cervicogenic headache.** *Journal of anesthesia and translational medicine*
  Ariyoshi, N., Qian, E., Abliz, R., Chen, Q.
  2025; 4 (1): 1-5

- **Transitioning from Acute to Chronic Pain Management: Addresses strategies to prevent the progression from acute to chronic pain** *Perioperative Pain Management*
  McCarter, A., Chen, Q., Clark, J.
  Springer Nature.2025

- **Chronic Pain and Endogenous Pain Control Mechanisms After Brain Injury**
  Clark, D., Irvine, K., Sahbaie, P., Shi, X., Chen, Q.
  LIPPINCOTT WILLIAMS & WILKINS.2024: E276-E277

- **Leveraging Endogenous Pain Modulation for Analgesia.** *Anesthesiology*
  Chen, Q., Clark, J. D.
  2024; 140 (2): 192-194

- **Treatments for Orofacial Pain** *American Chronic Pain Association-Stanford Resource Guide to Chronic Pain Management*
  Wu, D., Yi, D., Wang, A., Chen, Q., Qian, X.
  American Chronic Pain Association.2024; 2

- **Intravenous Infusion Treatment for Orofacial Pain Relief.** *Facial Pain: A 21st Century Guide*
  Ravi, M., Rasmussen, H., Chen, Q., Qian, X.
  American Chronic Pain Association.2024; 2

- **Pain Modulation and the Transition from Acute to Chronic Pain** *Translational Research in Pain and Itch*
  Chen, Q., Heinricher, M.
  Springer Netherlands.2024; 2

- **Diagnostic Performance of a Novel Automated CT-derived FFR Technology in Detecting Hemodynamically Significant Coronary Artery Stenoses: A Multicenter Trial in China.** *American heart journal*
  Li, Q., Ding, Y., Chen, Q., Tang, Y., Zhang, H., He, Y., Fu, G., Yang, Q., Shou, X., Ye, Y., Zhao, X., Zhang, Y., Li, et al
  2023

- **Continuous Ketamine Infusion as a Treatment for Refractory Facial Pain** *CUREUS JOURNAL OF MEDICAL SCIENCE*
  Garcia, R., Chen, Q., Posadas, E., Tran, J., Kwon, A., Qian, X.
  2023; 15 (3)

- **Treatment Efficacy and Technical Advantages of Temporary Spinal Nerve Root Stimulation Compared to Traditional Spinal Cord Stimulation for Postherpetic Neuralgia.** *Pain physician*
  Huang, M., Chen, Q., Wu, S., Huang, J., Sun, W., Yang, S., Qian, X., Xiao, L.
  2022; 25 (6): E863-E873
- **Treatment Efficacy and Technical Advantages of Temporary Spinal Nerve Root Stimulation Compared to Traditional Spinal Cord Stimulation for Postherpetic Neuralgia** *PAIN PHYSICIAN*
  Huang, M., Chen, Q., Wu, S., Huang, J., Sun, W., Yang, S., Qian, X., Xiao, L.
  2022; 25 (6): E863-E873
- **Dysfunction of the descending pain-modulation system is involved in the augmented pain response after traumatic brain injury**
  Chen, Q., Clark, D.
  LIPPINCOTT WILLIAMS & WILKINS.2022: 737
- **The Molecular Basis and Pathophysiology of Trigeminal Neuralgia.** *International journal of molecular sciences*
  Chen, Q., Yi, D. I., Perez, J. N., Liu, M., Chang, S. D., Barad, M. J., Lim, M., Qian, X.
  2022; 23 (7)
- **Enhanced recovery pathways and patient-reported outcome measures in gynaecological oncology.** *Anaesthesia*
  Chen, Q., Mariano, E. R., Lu, A. C.
  2021; 76 Suppl 4: 131–38
- **Awake CT-guided percutaneous stylomastoid foramen puncture and radiofrequency ablation of facial nerve for treatment of hemifacial spasm.** *Journal of neurosurgery*
  Huang, B. n., Yao, M. n., Chen, Q. n., Lin, H. n., Du, X. n., Huang, H. n., Zhao, X. n., Do, H. n., Qian, X. n.
  2021: 1–7
- **A Narrative Review on Perioperative Pain Management Strategies in Enhanced Recovery Pathways-The Past, Present and Future.** *Journal of clinical medicine*
  Chen, Q., Chen, E., Qian, X.
  2021; 10 (12)
- **Efficacy and Safety of Awake CT-guided Percutaneous Balloon Compression of Trigeminal Ganglion for Trigeminal Neuralgia.** *Pain medicine (Malden, Mass.)*
  Huang, B., Yao, M., Chen, Q., Du, X., Li, Z., Xie, K., Fei, Y., Do, H., Qian, X.
  2021
- **Perioperative Care and Airway Management for a Patient With Sagliker Syndrome** *CUREUS*
  Chen, Q., Lorenzo, J., Lu, A.
  2020; 12 (9)
- **Follow-Up Phone Interviews and Attendance Motivation From A Free Head and Neck Cancer Screening.** *Ear, nose, & throat journal*
  Urdang, Z. D., Rosales, D. H., Chen, Q. n., Li, R. J., Andersen, P. E., Gross, N. D., Clayburgh, D. R.
  2020: 145561320940866
- **Role of fragile X mental retardation protein in chronic pain** *Molecular pain*
  Mei, X., Yang, Y., Zhao, J., Wang, Y., Chen, Q., Qian, X., Li, X., Feng, Z.
  2020; 16 (1744806920928619)
- **Descending Control Mechanisms and Chronic Pain** *CURRENT RHEUMATOLOGY REPORTS*
  Chen, Q., Heinricher, M. M.
  2019; 21 (5)
- **Descending Control Mechanisms and Chronic Pain.** *Current rheumatology reports*
  Chen, Q., Heinricher, M. M.
  2019; 21 (5): 13
- **Efficacy of Dextromethorphan/Quinidine for Patients With Psychosis-Related Aggression: A Retrospective Case Series.** *The primary care companion for CNS disorders*
  Chen, Q., Calcagno, H. E., Shad, M.

2018; 20 (3)

- **Unmasking the Pain in Latent Sensitization.** *Neuroscience*
  Chen, Q., Heinricher, M. M.
  2018; 381: 159-160
- **Effectiveness of Dextromethorphan/Quinidine in Frontotemporal Dementia.** *The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry*
  Chen, Q., Ermann, A., Shad, M. U.
  2018; 26 (4): 506
- **Contribution of adenylyl cyclase modulation of pre- and postsynaptic GABA neurotransmission to morphine antinociception and tolerance.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*
  Bobeck, E. N., Chen, Q., Morgan, M. M., Ingram, S. L.
  2014; 39 (9): 2142-52
- **Empathy is moderated by genetic background in mice.** *PloS one*
  Chen, Q., Panksepp, J. B., Lahvis, G. P.
  2009; 4 (2): e4387
- **Affiliative behavior, ultrasonic communication and social reward are influenced by genetic variation in adolescent mice.** *PloS one*
  Panksepp, J. B., Jochman, K. A., Kim, J. U., Koy, J. J., Wilson, E. D., Chen, Q., Wilson, C. R., Lahvis, G. P.
  2007; 2 (4): e351
- **Role of fragile X mental retardation protein in chronic pain.** *Molecular pain*
  Mei, X. n., Yang, Y. n., Zhao, J. n., Wang, Y. n., Chen, Q. n., Qian, X. n., Li, X. n., Feng, Z. n.
  ; 16: 1744806920928619