CURRICULUM VITAE

Qing-Hui Chen, MD&Ph.D.

CURRENT ACADEMIC TITLE

Professor, Department of Kinesiology and Integrative Physiology, Michigan Technological University (MTU).
Adjunct Professor, Department of Biological Science, MTU
Adjunct Professor, Department of Biomedical Engineering, MTU

CONTACT INFORMATION

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EDUCATION

*Bachelor of Medicine. Nantong University College of Medicine, Nantong City, China
*M.S. Medical School of Southeast University, Nanjing City, China
*Ph.D. Kagawa University Medical School, Kagawa Prefecture, Japan

POSITION AND EMPLOYMENT

2006-2010 Assistant Professor/Research Track, Department of Physiology, UTHSCSA.
2010-2016 Assistant Professor/Tenure Track, Department of Kinesiology and Integrative Physiology (KIP), Michigan Technological University (MTU).
2016-2022 Associate Professor (Tenured), Department of KIP, MTU
2022 Professor, Department of KIP, MTU

TEACHING EXPERIENCE

Michigan Technological University (MTU):

- 2011 Spring: [EH5350] - Advanced Exercise Integrative Physiology (2 credit hr)
- 2011- present Fall: [BL4380] - Cardiopulmonary Physiology (3 credit hr)
- 2012 Spring: [EH5350] - Neuroendocrine Physiology (2 credit hr)
- 2012- 2013 Summer: [BL4995] – Research in Biochemistry (1 credit hr)
- 2013- present Spring: [KIP4700] – Cardiac Electrophysiology and ECG Interpretation (3 credit hr)
- 2013-2014 Fall [BL1800]-Biochemistry Orientation, lecturing on “Careers in Electrophysiology”.
- 2015 Spring [EH 5920] - KIP Graduate Seminar course (1 credit hr).
- 2016-present Spring [KIP4720] - Exercise Pharmacology (2 credit hr).
- 2023- Spring [KIP1500] - Foundation of Kinesiology (3 credit hr).

MENTORING EXPERIENCE:

Students, post-doc and research associate mentoring in my laboratory at MTU (<u>in progress</u>)

Name	Type	Training Period	Employer
Mingjun Gu	Research Associate	2011-	KIP Dept. MTU
Greg Miodonski	PhD candidate	2023 Spring-	KIP Dept. MTU
Derrick Simet	Under-Grad Student	2021 Fall-	Chem Eng Dept. MTU

Students, post-doc and research associate mentoring in my laboratory at MTU <u>(past)</u>

Name	Type	Training Period	Employer
<u>Under-graduate students:</u>			
Alexander Keim	Under-Grad Student	2012 Summer Research	BME Dept. MTU

Sonethong T. Sitdamlong	Under-Grad Student	2012 Fall	Bio. Sci. Dept. MTU
Cassandra Matchinski	Under-Grad Student	2012 Fall	Bio. Sci. Dept. MTU
Michael J. Huber	Under-Grad Student	2013 Summer Research	Bio. Sci. Dept. MTU
Jared Pecore	Under-Grad Student	2014 Fall	Bio. Sci. Dept. MTU
Dave Schreifels	Under-Grad Student	2014 Fall	CLS Dept. MTU
Yonas Araya	Under-Grad Student (MiCUP program)	2016 Summer-track A (May 9-June 24)	MiCUP program (MTU) (Grand Rapids Community College)
Ken. Juras	Under-Grad Student	2016 Fall-2017 Spring	BME Dept. MTU
Eileen Hoban	Under-Grad Student	2016 Spring-2017 Fall	Bio. Sci. Dept. MTU
Zoe' LaLonde	Under-Grad Student	2016 Fall-2018 Summer	Bio. Sci. Dept. MTU
Greg Kaurala	Under-Grad Student	2018 Fall-2019 Spring	Bio. Sci. Dept. MTU
Greg Miodonski	Under-Grad Student	2018 Fall-2019 Spring	Bio. Sci. Dept. MTU
Hunter Dercks	Under-Grad Student	2019 Fall-2021 Spring	BME Dept. MTU
Marissa Labyak	Under-Grad Student	2019 Fall-2020 Fall	Bio. Sci. Dept. MTU
Pavitra Attanayake,	Under-Grad Student	2020 Spring-2021	BME Dept. MTU
Christian Johnson	Under-Grad Student	2021 Summer	BME Dept. MTU
Haley Ruiter	Under-Grad Student	2022 Summer-Fall	Bio. Sci. Dept. MTU

Graduate students:

Robert A. Larson	Ph.D. student	2013 Spring-2016 Summer	Bio. Sci. Dept. MTU
Andrew D. Chapp	Ph.D. student	2013 Fall-2017 Fall	Bio. Sci. Dept. MTU
Jessica B. Behnke	MS student	2016 Spring-2018 Spring	Bio. Sci. Dept. MTU
Jessica Bruning	PhD student	2018 Fall-2023 Spring	KIP Dept. MTU
Greg Miodonski	MS student	2020 Fall-2022 Fall	KIP Dept. MTU

CURRENTLY ACTIVE FUNDS:

1) 04/01/22-03/31/26 R01HL163159A NIH;
Title: “Contribution of Orexin System to Hypertension”
PI: Zhiying Shan; co-I: Qing-Hui Chen

2) 09/01/19-08/31/23 (one year no-cost extension) 1R15HL145655 NIH;
Title: “Neural Mechanism of Sympathetic Activation in Heart Failure”
PI: Qing-Hui Chen; co-I: Zhiying Shan.

3) 08/11/20-06/30/23 1R 15 HL150703 NIH;
Title: “Involvement of the Brain Orexin System in Hypertension”
PI: Zhiying Shan; co-I: Qing-Hui Chen (MTU)

4) 01/01/20-12/31/23 1R01HL146652 NIH;
Title: “Engineered Anisotropic and Vasularized Human Cardiac Patch”
PI: Feng Zhao (MTU-BME); Consultant: Qing-Hui Chen

COMPLETED RESEARCH SUPPORT:

1) 07/01/16-06/30/20 1R15HL129213 NIH;
Title: “Prorenin receptor and sympathetic activation in salt-sensitive hypertension”
PI: Zhiying Shan; co-I: Qing-Hui Chen

2) 11/01/14-10/31/18 1R15HL122952 NIH;
Title: “ER Stress and Reduced SK Channel Function In PVN in Rats With High Salt Intake”
PI: Qing-Hui Chen;

3) 07/01/18-09/30/19
Portage Health Foundation Middle-Career Award (MTU)
Title: “SK CHANNELS IN THE PVN AND SYMPATHETIC ACTIVATION IN HYPERTENSION”
PI: Qing-Hui Chen

4) 06/10/2019-07/31/2021 Songer Research Award for Human Health Research (MTU)
Title: “Gender Differences in Ethanol Metabolism: Impacts on Sympathetic Activation”
PI: Jessica Bruning, PhD candidate

Supervisor: Qing-Hui Chen.

5) 2020 Undergraduate Research Internship Program (URIP-MTU)
"The Effects of Exercise Training on Cardiac Function in Heart Failure Rats"
PI: Hunter Dercks, Under-graduate student
Supervisor: Qing-Hui Chen.

6) 05/01/2018-08/31/2018
Summer Undergraduate Research Fellowship (SURF-MTU)
Title: "Toxicity of Lactic Acid in Neuron Cells Mediates Toward Neurodegenerative Disease"
PI: Zoe' LaLonde, Under-graduate student
Supervisor: Qing-Hui Chen.

7) 09/01/2017-04/30/2018
Undergraduate Research Internship Program (URIP-MTU)
"Elevated Lactic Acid Levels is Mediated Towards Neurodegenerative Disease"
PI: Zoe' LaLonde, Under-graduate student
Supervisor: Qing-Hui Chen.

8) 01/01/2016-12/31/2017
16PRE27780121 AHA (Predoctoral Fellowship, American Heart Association Midwest Affiliate)
"Acetate as an Active Metabolite of Ethanol: Neural and Cardiovascular Implications"
PI: Andrew Chapp, PhD. Candidate
Supervisor: Qing-Hui Chen.

9) 05/01/2016-08/31/2016
Portage Health Foundation Graduate Fellowship (MTU)
PI: Robert Larson, PhD. Candidate
Supervisor: Qing-Hui Chen.

10) 07/01/2016-06/30/2017
MTU Research Excellence Fund (REF-IE)-Infrastructure Enhancement Grants
"BUILDING ULTRASOUND IMAGING CAPABILITIES TOWARD ADVANCING SCIENCES, PROMOTING COLLABORATIONS AND ENHANCING EDUCATION"
PI: Dr. Victor Busov (Director of LSTI); co-I: Qing-Hui Chen

11) 01/1/10-12/31/14;
10SDG2640130 AHA (Scientist Development Grant, National Center)
Title: "Neural Mechanisms of Sympathetic Activation by High Salt Intake".
PI : Qing-Hui Chen

12) 07/1/12-06/30/13
Michigan Technological University Research Excellence Fund (REF)
Title: "Neural Mechanisms of Sympathetic Activation by High Salt Intake".
PI : Qing-Hui Chen

13) 07/1/08-06/30/10;
0865107F AHA (Begin-Grant-in-Aid South Central Affiliate)
Title: "Neural Mechanisms of Sympathetic Activation in AngII - Salt Hypertension".
PI : Qing-Hui Chen

14) 07/1/02-06/30/04;
022502Y AHA (Texas Affiliate Post-Doc Fellowship)
Title: "Ion Channel Modulation by AngII within the Autonomic PVN" .
PI : Qing-Hui Chen

PUBLICATIONS

Peer-Reviewed Journal publications since I have joined in MTU in 2010

1. Andrew D Chapp, Andréa R Collins, Kyle M Driscoll, Jessica E Behnke, Zhiying Shan, Li Zhang, **Qing-Hui Chen*.** Ethanol Metabolite, Acetate, Increases Excitability of the Central Nucleus of Amygdala Neurons through Activation of NMDA Receptors. *ACS Chem Neurosci 2023 Apr 5;14(7):1278-1290. doi: 10.1021/acschemneuro.2c00784. Epub 2023 Mar 23.*
2. Chapp AD, Huber MJ, Driscoll KM, Behnke JE, Larson RA, Schum S, Shan Z, Zhang L, **Chen QH*.** Production of the Short Chain Fatty Acid, Acetic Acid/Acetate from Ethanol Metabolism Activates NMDAR (https://www.biorxiv.org/content/10.1101/2020.07.20.212597v1). bioRxiv: the preprint server for biology. 2020 July.
3. Fan Y, Jiang E, Gao H, Bigalke J, Chen B, Yu C, **Chen Q*,** Shan Z*. Activation of Orexin System Stimulates CaMKII Expression. Front Physiol. 2021;12:698185. doi: 10.3389/fphys.2021.698185. eCollection 2021. PubMed PMID: 34276418; PubMed Central PMCID: PMC8282234. *(*co-corresponding authors).*
4. Bigalke JA, Gao H, **Chen QH**, Shan Z. Activation of Orexin 1 Receptors in the Paraventricular Nucleus Contributes to the Development of Deoxycorticosterone Acetate-Salt Hypertension Through Regulation of Vasopressin. *Front Physiol. 2021;12:641331. doi: 10.3389/fphys.2021.641331. eCollection 2021. PubMed PMID: 33633591; PubMed Central PMCID: PMC7902066.*
5. Gao H, Bigalke J, Jiang E, Fan Y, Chen B, **Chen QH**, Shan Z. TNFα Triggers an Augmented Inflammatory Response in Brain Neurons from Dahl Salt-Sensitive Rats Compared with Normal Sprague Dawley Rats. *Cell Mol Neurobiol. 2021 Feb 24;. doi: 10.1007/s10571-021-01056-9. [Epub ahead of print] PubMed PMID: 33625627*
6. Hua X, Han J, Zhao C, Tang H, He Z, **Chen QH**, Tang S, Tang J, Zhou W. A novel method for ECG signal classification via one-dimensional convolutional neural network. Multimedia Systems. 2020 November. doi: https://doi.org/10.1007/s00530-020-00713-1.
7. Chapp AD, Behnke JE, Driscoll KM, Hahka T, LaLonde Z, Shan Z, **Chen QH*.** Elevated L-lactate Drives Major Cellular Pathologies Associated with Neurodegenerative Diseases. Neurosci. Bull. March, 2021, 37(3):380–384.
8. Guo X, Zhang J, Zhu J, **Chen QH,** Wang R, Gui L. Enhanced store-operated calcium entry in platelets is associated with acute coronary syndrome. *Acta Biochim Biophys Sin (Shanghai).* 2020 Feb 3;52(2):207-210.
9. Bruning J, Chapp A, Kaurala GA, Wang R, Techtmann S, **Chen QH***. Gut Microbiota and Short Chain Fatty Acids: Influence on the Autonomic Nervous System. *Neurosci Bull. 2020 Jan;36(1):91-95.*
10. Sharma D, Jia W, Long F, Pati S, **Chen QH,** Qyang Y, Lee B, Choi CK, Zhao F. Polydopamine and collagen coated micro-grated polydimethylsiloxane for human mesenchymal stem cell culture. *Bioact Mater. 2019 Dec;4:142-150*.
11. Cheng ZJ, Wang R and **Chen QH*.** Autonomic Regulation of Cardiovascular System: Diseases, Treatments, and Novel Approaches. *Editorial for Special Issue on Regulation of Autonomic Nervous System*. *Neurosci Bull.* Editorial 2019 Feb;35(1):1-3. (https://link.springer.com/journal/12264/35/1)
12. Wu JX, Tong L, Hu L, Xia CM, Li M, **Chen QH**, Chen FX, Du DS. Upregulation of Nav1. 6 expression in the rostral ventrolateral medulla of stress-induced hypertensive rats. *Hypertension Research 2018 Dec;41(12):1013-1022*
13. Chapp AD, Behnke JE, Driscoll KM, Fan Y, Hoban E, Shan Z, Zhang L, **Chen QH*.** Acetate Mediates Alcohol Excitotoxicity in Dopaminergic-Like PC12 Cells. ACS Chem Neurosci. 2019 Jan 16;10(1):235-245.
14. Peng T, Qiao M, Liu H, Teotia S, Zhang Z, Zhao Y, Wang B, Zhao D, Shi L, Zhang C, Le B, Rogers K, Gunasekara C, Duan H, Gu Y, Tian L, Nie J, Qi J, Meng F, Huang L, **Chen QH**, Wang Z, Tang J, Tang X, Lan T, Chen X, Wei H, Zhao Q, Tang G. A Resource for Inactivation of microRNAs Using Short Tandem Target Mimic Technology in Model and Crop Plants. *Mol Plant. 2018 Nov 5;11(11):1400-1417.*
15. Huber MJ, **Chen QH,** Shan Z. The Orexin System and Hypertension. Cell Mol Neurobiol. 2018 Mar;38(2):385-391.

16. Gui L, Guo X, Zhang Z, Xu H, Ji Y, , Wang R, Zhu J, **Chen QH***. Activation of CaMKIIδA promotes Ca2+ leak from the sarcoplasmic reticulum in cardiomyocytes of chronic heart failure rats. *Acta Pharmacol Sin.* 2018 Oct; 39(10):1604-1612.
17. Chapp AD, Schum S, Behnke JE, Shan Z, **Chen QH***. Measurement of cations, anions, and acetate in serum, urine, cerebrospinal fluid, and tissue by ion chromatography. *Physiological Report* 2018 Apr;6(7):e13666. doi: 10.14814/phy2.13666.
18. Fan Y, Jiang E, Hahka T, **Chen QH,*** Yan J*, Shan Z*. Orexin A increases sympathetic nerve activity through promoting expression of proinflammatory cytokines in Sprague Dawley rats. Acta Physiol 2018 Feb. 222(2):1-15. *(*co-corresponding authors*).
19. Jiang E, Chapp AD, Fan Y, Larson RA, Hahka T, Huber MJ, Yan J, **Chen QH**, Shan Z. Expression of proinflammatory cytokines is upregulated in the hypothalamic paraventricular nucleus of Dahl salt-sensitive hypertensive rats. Frontiers Physiol. 2018 Feb 22;9:104 (p1-15).
20. Chapp AD, Wang R, Cheng ZJ, Shan Z, **Chen QH*.** Long-term high salt intake involves reduced small conductance Ca2+-activated K+ (SK) current and increased excitability of PVN neurons with projections to the rostral ventrolateral medulla in rats. Neural Plasticity 2017 Dec. 06, p1-10.
21. Huber MJ, Fan Y, Jiang E, Zhu F, Larson RA, Yan J, Li N, **Chen QH,** Shan Z. Increased activity of the orexin system in the paraventricular nucleus contributes to salt-sensitive hypertension. Am J Physiology Heart Circulation Physiology 2017, 313(6):H1075-H1086.
22. Ji Y, Guo X, Zhang Z, Huang Z, Zhu J, **Chen QH**, Gui L. CaMKIIδ Meditates Phenylephrine Induced Cardiomyocyte Hypertrophy Through Store-Operated Ca^{2+} Entry. Cardiovascular Pathology 2017 27:9-17.
23. Chen J, Li Z, Hatcher JT, **Chen QH**, Chen L, Wurster RD, Chan SL, Cheng Z. Deletion of TRPC6 Attenuates NMDA Receptor-Mediated Ca2+ Entry and Ca2+-Induced Neurotoxicity Following Cerebral Ischemia and Oxygen-Glucose Deprivation. Frontiers Neurosci. 2017; 11:138 (p1-13).
24. Larson RA, Chapp AD, Gui L, Huber MJ, Cheng ZJ, Shan Z, **Chen QH*.** High salt intake augments excitability of PVN neurons in rats: role of the endoplasmic reticulum Ca2+ store. Frontiers Neurosci. 2017; 11:182 (p1-12).
25. Huber MJ, Basu R, Cecchettini C, Cuadra AE, **Chen QH**, Shan Z. Activation of the (pro) renin receptor in the paraventricular nucleus increases sympathetic outflow in anesthetized rats. Am J Physiology Heart Circulation Physiology 2015 309(5):H880-7).
26. Larson RA, Le Gui, Huber MJ, Chapp AD, Zhu J, LaGrange LP, Shan Z, **Chen QH*.** Sympathoexcitation in ANG II-salt hypertension involves reduced SK channel function in the hypothalamic paraventricular nucleus. Am J Physiology Heart Circulation Physiology 2015 308(12):H1547-55.
27. Bardgett ME, **Chen QH**, Guo Q, Calderon AS, Andrade MA, Toney GM. Coping with Dehydration: Sympathetic Activation and Regulation of Glutamatergic Transmission in the Hypothalamic PVN. Am J Physiol Regul Integr Comp Physiol. 2014:306(11):R804-13.
28. Chapp AD, Gui L, Huber MJ, Larson RA, Zhu J, Carter JR and **Chen QH*.** Sympathoexcitation and pressor responses induced by ethanol in the central nucleus of amygdala involves activation of NMDA receptors in rats. Am J Physiol Heart Circulation Physiology 2014;307(5):H701-9.
29. Lin M, Hatcher JT, Wurster RD, **Chen QH**, Cheng ZJ. Characteristics of single large-conductance Ca2+-activated K+ channels and their regulation of action potentials and excitability in parasympathetic cardiac motoneurons in the nucleus ambiguous. Am J Physiol Cell Physiol. 2014 Jan;306(2):C152-66.
30. Gui L, Bao Z, Jia Y, Qin X, Cheng ZX, Zhu J, **Chen QH***. Ventricular tachyarrhythmias in rats with acute myocardial infarction involves activation of small-conductance Ca2+-activated K+-channels. Am J Physiol Heart and Circ Physiol. 2013;304(1):H118-30.
31. Gui L, LaGrange LP, Larson RA, Gu M, Zhu J, **Chen QH*.** Role of small conductance calcium-activated potassium channels expressed in PVN in regulating sympathetic nerve activity and arterial blood pressure in rats Am J Physiol Regul Integr Comp Physiol. 2012;303(3):R301-310.
32. Lin M, Hatcher JT, **Chen QH**, Wurster RD, Harden WS, Li L and Cheng ZX: Maternal diabetes increases large conductance Ca2+-activated K+ outward currents that alter action potential properties but do not contribute to attenuated excitability of parasympathetic cardiac motoneurons in the nucleus ambiguus of neonatal mice. Am J Physiol Regul Integr Comp Physiol 2011; 300:R1070-1078.

33. **Chen QH***, Andrade MA Calderon AS and Toney GM: Hypertension induced by angiotensin II and a high salt diet involves reduced SK current and increased excitability of RVLM projecting PVN neurons. J Neurophysiology. 2010, 104 (5):2329-2337.
34. Lin M, **Chen QH**, Wurster RD, Hatcher JT, Liu YQ, Li LH, Harden WS, and Cheng ZX: Maternal diabetes increases small conductance Ca2+-activated K+ (SK) currents that alter action potential properties and excitability of cardiac motoneurons in the nucleus ambiguus. J Neurophysiol. 2010; 104(4):2125-2138.
35. Lin M, Hatcher JT, **Chen QH**, Wurster RD, Harden WS and Cheng ZX: Small Conductance Ca^{2+}-Activated K^+ Channels Regulate Firing Properties and Excitability in Parasympathetic Cardiac Motoneurons in the Nucleus Ambiguus. Am J Physiol Cell Physiol. 2010, 299(6):C1285-1298.

Peer-Reviewed Journal publication before I joined in MTU

36. **Chen QH** and Toney GM: In vivo discharge properties of hypothalamic paraventricular nucleus neurons with axonal projections to the rostral ventrolateral medulla. J. Neurophysiology 2010; 103(1):4-15.
37. **Chen QH*** and Toney GM: Excitability of paraventricular nucleus neurones that project to the rostral ventrolateral medulla is regulated by small-conductance Ca2+-activated K+ channels. J. Physiology, 2009; 587:4235-4247. *(This work has already resulted in a Journal of Physiology article that was selected for special commentary)* J. *Physiology 2009; 587:4129-4130.*
38. Shi P, Martinez MA, Calderon AS, **Chen QH,** Cunningham JT, and Toney GM: Intra-carotid hyperosmotic stimulation increases Fos staining in forebrain organum vasculosum laminae terminalis neurones that project to the hypothalamic paraventricular nucleus. J. Physiology 2008; 586(Pt 21):5231-5245.
39. Brenner R*, **Chen QH***, Vilaythong A, Toney GM, Noebels JL, Aldrich RW: BK channel beta4 subunit reduces dentate gyrus excitability and protects against temporal lobe seisures. Nature Neurosci. 2005 Dec; 8(12):1752-9. **(* co-first authors)**
(This paper has been evaluated by the Faculty of 1000 Biology Evaluation System; Exceptional). (http://f1000biology.com/article/id/1028946/evaluation).
40. **Chen QH,** Toney GM: Responses to GABA-A receptor blockade in the hypothalamic PVN are attenuated by local AT1 receptor antagonism. Am J Physiol Regul Integr Comp Physiol 2003; 285(5):R1231-R1239**.**
41. **Chen QH,** Haywood JR, Toney GM: Sympathoexcitation by PVN-injected bicuculline requires activation of excitatory amino acid receptors. Hypertension 2003; 42(4):725-31.
42. Toney GM, **Chen QH,** Cato MJ, Stocker SD: Central osmotic regulation of sympathetic nerve activity. Acta Physiol Scand. 2003; 177(1):43-55. Review**.**
43. **Chen QH,** Toney GM: Identification and characterization of two functionally distinct groups of spinal cord-projecting paraventricular nucleus neurons with sympathetic-related activity. Neuroscience 2003; 118:797-807.
44. Nishida Y, **Chen QH,** Zhou MS, Horiuchi J: Sinoaortic denervation abolishes pressure resetting for daily physical activity in rabbits. Am J Physiol Regul Integr Comp Physiol. 2002 Mar; 282(3):R649-657.
45. **Chen QH,** Toney GM: AT1-receptor blockade in the hypothalamic PVN reduces central hyperosmolality-induced renal sympathoexcitation. Am J Physiol Regul Integr Comp Physiol. 2001; 281: R1844-R1853.
46. Zhou MS, Kosaka H, Tian RX, Abe Y, **Chen QH**, Yoneyama H, Yamamoto A and Zhang L: L-Arginine improves endothelial function in renal artery of hypertensive Dahl rats. J Hypertens 2001; 19:421-429.
47. Nishida Y, **Chen QH,** Hiruma MT, Terada SI and Horiuch J: Neuronal nitric oxide strongly suppresses sympathetic outflow in high-salt Dahl rats. J Hypertens 2001; 19:627-634.
48. Zhou MS, Nishida Y, Yoneyama H, **Chen QH,** Kosaka H: Potassium supplementation increases sodium excretion and nitric oxide production in hypertensive Dahl rats. Clin Exper Hypertens 1999; 21(8):1397-1411**.**
49. Zhou MS, Nishida Y, **Chen QH,** Kosaka H: Endothelium-derived contracting factor in carotid artery of hypertensive Dahl rats. Hypertension 1999; 34:39-43**.**
50. Nishida Y, Ding J, Zhou MS, **Chen QH,** Murakami H, Wu XZ, Kosaka H: Role of nitric oxide in vascular hyper-responsiveness to norepinephrine in hypertensive Dahl rats. J Hypertens 1998; 16:1611-1618.

51. **Chen QH,** Nishida Y, Zhou MS, Murakami H, Okada Y, Morita H, Hosomi H, Kosaka H: Organ and development related difference in tissue norepinephrine concentrations in Dahl rats. J Auton Nerv Syst 1998; 71:175-182**.** (continued Autonomic Neuroscience)
52. Zhou MS, Nishida Y, **Chen QH,** Murakami H, Hosomi H, Kosaka H: Is a hypertensinogenic factor present in the kidney of hypertensive Dahl rats? Clin Exper Pharmacol Physiol 1998; 25:800-804**.**
53. **Chen QH*,** Nishida Y, Zhou MS, Murakami H, Okada Y, Morita H, Hosomi H, Kosaka H: Sinoaortic denervation produces sodium retention in Dahl salt-sensitive rats. J Auton Nerv Syst 1998; 69:56-63. (continued Autonomic Neuroscience)
54. **Chen QH,** Morita H, Nishida Y, Hosomi H: EFFECTS OF A HIGH-SALT DIET ON TISSUE NORADRENALINE CONCENTRATIONS IN DAHL SALT-RESISTANT AND-SENSITIVE RATS. Clin Exper Pharmacol Physiol 1995; 22(suppl I):209-211
55. Morita H, **Chen QH,** Hosomi H: Role of hepatic nerves in long-term control of NaCl homeostasis in Wistar-Kyoto rats. J Auton Nerv Syst 1995; 54:9-15. (continued Autonomic Neuroscience)
56. Zhou MS, Nishida Y, **Chen QH,** Morita H, Hosomi H, Kosaka H: Effects of environment on tissue norepinephrine concentration in Chum Salmon. J Exper Zoology 1999; 284:107-111**.**
57. Hosomi H, Negi T, Morita H, **Chen QH,** Nishida Y, Okada Y: Effect of salt intake on tissue catecholamine concentration and physical function. Descente Sports Science 1996; 17; 243-255 (*Japanese*)**.**

Book Chapters:

1. David Petrik, **Qing H. Chen** and Robert Brenner: BK Potassium Channels Mutations Affecting Neuronal Function and Epilepsy: In Animal Models of Epilepsy Methods and Innovations (Scott C. Baraban, Editor. Humana Press), p87-106. 2009. ISBN 978-1-60327-263-6. DOI: 10.1007/978-1-60327-263-6_6
https://www.researchgate.net/publication/286007584_BK_Potassium_Channel_Mutations_Affecting_Neuronal_Function_and_Epilepsy

2. Bin Wang, **Qing H. Chen** and Robert Brenner: Ion Channels/Proepileptic effects of BK channel gene mutations: In Encyclopedia of Basic Epilepsy Research (Philip A. Schwartzkroin, Editor. Elsevier Press), p662-669. 2009. ISBN: 978-0-12-373961-2. DOI: 10.1016/B978-012373961-2.00282-4
https://www.researchgate.net/publication/288228026_ION_CHANNELS_Proepileptic_Effects_of_BK_Channel_Gene_Mutations

Abstracts presented and submitted since I have joined in KIP Dept, MTU in 2010:

1. Gregory Miodonski, Jessica Bruning, Derrick Simet, Haley Ruiter, Christian Johnson, Mingjun Gu, Zhiying Shan, Qing-Hui Chen. Exercise augments small conductance Ca2+ -activated potassium channel (SK) function in the paraventricular nucleus (PVN) of Sprague Dawley rats to reduce sympathetic outflow. American Physiology Society (APS) Summit 2023 (Long Beach, CA, USA. April 20–23, 2023). *This poster has been selected as top 10% scoring abstracts sponsored by APS Central Nervous Session (CNS).*
2. Jessica Bruning, Andrew D. Chapp, Greg Miodonski, Mingjun Gu, Zhiying Shan, Qing-Hui Chen. Sympathoexcitation and pressor responses induced by acetate, an ethanol metabolite in the hypothalamic paraventricular nucleus involves activation of NMDA receptors in rats. American Physiology Society (APS) Summit 2023 (Long Beach, CA, USA. April 20–23, 2023).
3. Jenna R. Disser, Qing-Hui Chen, Robert A. Larson. PVN SK channel blockade alters sympathetic nerve bursting pattern in angiotensin II-infused rats. American Physiology Society (APS) Summit 2023 (Long Beach, CA, USA. April 20–23, 2023).
4. Xinqian Chen, Xin Yan, Leah Gingerich, Qinghui Chen, Lanrong Bi and Zhiying Shan. Brain-Derived Small Extracellular Vesicles from Dahl Salt-Sensitive Rats with High Salt Diet Induce Inflammation and Oxidative Stress. American Physiology Society (APS) Summit 2023 (Long Beach, CA, USA. April 20–23, 2023).
5. D. Simet, G. Miodonski, A.D. Chapp, Q.H. Chen. INHIBITING LOCAL BRAIN METABOLISM OF ETHANOL IN THE CENTRAL NUCLEUS OF THE AMYGDALA BLUNTS SYMPATHOEXCITATORY RESPONSES INDUCED BY ETHANOL IN SPRAGUE DAWLEY RATS. Undergraduate Research & Scholarship Symposium, March 24, 2023, MTU.

6. Robert A. Larson, Jenna R. Disser, Qing-Hui Chen. SK channel blockade in the paraventricular nucleus alters frequency components of renal and splanchnic sympathetic nerve activity in rats. 33rd International Symposium on the Autonomic Nervous System (Sheraton Maui, Lahaina, Hawaii. November 2-5, 2022).
7. Robert A. Larson, Xinqian Chen, Mingjun Gu, Zhiying Shan, Qing-Hui. Chen. SK Channel Dysfunction in the Hypothalamic Paraventricular Nucleus Contributes to Sympathoexcitation in Dahl Salt-Sensitive Rats. Experiment Biology 2022 (Philadelphia, USA. April 02–05, 2022).
8. A.D. Chapp, A.R. Collins, J.E. Behnke, M.J. Huber, S. Schum, M. Gu, Z. Shan, QH. Chen. SEX DIFFERENCES IN ACETATE AND ELECTROLYTES FOLLOWING ACUTE ALCOHOL IN MALE AND FEMALE SPRAGUE DAWLEY RATS. The 45th Annual Research Society on Alcoholism (RSA) Scientific Meeting (Orlando, Florida, June 25-29, 2022).
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108. Chen QH, Morita H, Nishida Y, Hosomi H: Effect of high-salt diet on tissue noradrenaline concentration in Dahl-strain rats. The 8th International Symposium on SHR and Related Studies *(Osaka, Japan, Oct., 1994)*
109. Chen QH, Chen RX: Effect of clonidine on cat arrhythmias during myocardial ischemia and reperfusion. International Symposium on Hypertension and Coronary Heart Disease *(Beijing, China, Oct., 1991) Chinese Medical Sciences Journal. 1991;6 (suppl):123.*
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119. Morita H, Tsunook J, Sugimoto I, Chen QH, Zhou MS, Nishida Y, Hosomi H: Role of the hepato-portal Na+ sensitive mechanism in controlling Na+ balance and arterial pressure in Dahl rats. The 73rd Japanese Physiology Conference *(Fukui, Japan, Apr., 1996) Jpn. J. Physiol. 1996;46(suppl):S165*
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122. Zhou MS, Morita H, Chen QH, Nishida Y, Yamashida Y, Hosomi H: Effect of kidney extract on blood pressure in conscious Dahl-salt sensitive rats. The 4th Japanese Pathophysiology Conference *(Japan, Jan., 1996) Jpn. J. Pathophysiology. 1996;4(3):S51*
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STUDENTS HONORS/AWARDS

2023 Gregory Miodonski, PhD candidate in the Lab, has poster presentation of research project title: "Exercise augments small conductance Ca2+ -activated potassium channel (SK) function in the PVN of Sprague Dawley rats to reduce sympathetic outflow" in the 2023 APS Summit (Long Beach, CA, USA. April 20–23, 2023). This poster has been selected as Top 10% scoring abstracts sponsored by APS Central Nervous Session (CNS).

2023 Gregory Miodonski, PhD candidate in the Lab, was awarded First Place for the poster session at the 2023 Health Research Institute's (HRI) Student Forum on February 24, 2023 MTU. Research project title: "Exercise Training Upregulates SK Channel Function in the Hypothalamic Paraventricular Nucleus (PVN) of Sprague Dawley Rats".

2022 Derrick Simet, Under-graduate student in the Lab received 2022 Undergraduate Research Internship Program (URIP) for his project entitled "The Role of Acetic Acid/ Acetate in the Development of Neurodegeneration".

2022 Jessica R Bruning, PhD candidate in the Lab has received Fall 2022 Finishing Fellowship Award, Michigan Technological University (MTU).

2022 Gregory Miodonski, MS candidate in the Lab has received 2022 Summer Health Research Institute (HRI) graduate fellowship, Michigan Technological University (MTU).

Research project title: “Effect of exercise training on SK+ Channel function and expression in the Hypothalamic Paraventricular Nucleus (PVN)”.

2021 Jessica R Bruning, PhD candidate in the Lab has received 2021 Fall Health Research Institute (HRI) graduate fellowship, Michigan Technological University (MTU).
Research project title: “Microbial Derived Short-Chain Fatty Acids and Salt-Sensitive Hypertension”.

2020 Hunter Dercks, Under-graduate student in the Lab received 2020 Undergraduate Research Internship Program (URIP) for his project entitled “The Effects of Exercise Training on Cardiac Function in Heart Failure Rats”.

2019 Jessica R Bruning, PhD candidate in the Lab received 2019 Michigan Technological University (MTU) Songer Research Award for Human Health Research for the project “Gender Differences in Ethanol Metabolism: Impacts on Sympathetic Activation”.

2018 Zoe' LaLonde, Under-graduate student in the Lab. received 2018 Summer Undergraduate Research Fellowship (SURF-MTU) for her project “Toxicity of Lactic Acid in Neuron Cells Mediates Toward Neurodegenerative Disease”.

2017 Andrew D Chapp, PhD candidate in the Lab received 2017 Michigan Technological University (MTU) Outstanding Scholarship Award to recognize his academic performance.

2017 Student Merit Award to graduate student, Andrew D Chapp, PhD candidate in the Lab, 2017 Research Society on Alcoholism meeting (Denver, CO, June 24-28, 2017). Research on “Acidification with Acetic Acid Activates NMDAR and Increases Central Nucleus of Amygdala Neurons with Axon Projecting to Rostral Ventrolateral Medulla”.

2016 FASEB Graduate Student Travel Award to student, Andrew D Chapp, PhD candidate in the Lab. FASEB Summer Research Conference on Hypertension, 2016 FASEB Science Research Conferences (Saxtons River, VT, July 17-22, 2016). Research on “The Ethanol Metabolite, Acetate, Increases Sympathetic Nerve Activity, Neuronal Excitability, Cytosolic Ca^{2+} and Pro-Inflammatory Cytokine mRNA”.

2016 Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards to graduate student, Andrew D Chapp, PhD candidate in the Lab, American Physiological Society, 2016 EB meeting (San Diego, CA, USA).

2015 Merit Research Award to Robert A Larson (graduate student working in the Lab) for the research on “High salt intake augments excitability of pre-sympathetic PVN neurons through dysfunction of the endoplasmic reticulum Ca^{2+} ATPase”. (Sep. 24-25, 2015, 1st Life Science and Technology Institute (LSTI) Research Forum of Michigan Tech. Univ., MI).

2015 Outstanding Oral Presentation Award to Andrew D Chapp (graduate student working in the Lab) for the Research on “Acetate is an active metabolite of ethanol: increases firing and evokes inward currents through activation of NMDA receptors in RVLM projecting CeA neurons”. (April 30 – May 01, 2015, Boyne Mountain Resort, Boyne, MI, 2nd Annual Meeting of Michigan Physiology Society).

2014 Outstanding Oral Presentation Award to Andrew D Chapp (graduate student working in the Lab) for the Research on “Ethanol metabolite increases activity of rostral ventrolateral medulla projecting central nucleus of amygdala (CeA-RVLM) neurons and requires activation of local NMDA receptors“. (May 15-16, 2014, East Lansing, MI, 1st Annual Meeting of Michigan Physiology Society).

2014 Outstanding Research Recognition Van Harreveld Award to Robert A Larson (graduate student working in the Lab) for the outstanding research on "Inhibition of Endoplasmic Reticulum Function in Pre-sympathetic PVN Neurons by Thapsigargin Increased Neuronal Excitability and Sympathetic Nerve Activity" (April 26-30, 2014 Experimental Biology annual meeting, APS, CNS Section)
https://blogs.mtu.edu/kip/2014/04/scenes-from-experimental-biology-2014/

SERVICE AND OTHER ACTIVITY

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIP

1999-2004 Member of Society for Neuroscience (SFN)
1999-present Member of American Physiological Society (APS)
2008-present Member of American Heart Association (AHA)
2017-present Member of Michigan Physiological Society (MPS)
2018-present Member of Chinese Neuroscience Society

UNIVERSITY, COLLEGE, DEPARTMENT COMMITTEE AND OTHER SERVICE

University Service:

2013-2017 Senate Representative, MTU
2013-2014 Member, MTU Academic Policy Committee (APC) (University Senate), MTU
2014-2015 Member, MTU Research Policy Committee (RPC) (University Senate), MTU
2014-2017 Member, MTU Graduate Faculty Council (GFC), MTU
2016-2017 General Education and Assessment Committee (University Senate), MTU
2017-2019 Member, Biochemistry and Molecular Biology (BMB) steering committee, MTU
2020 Nov.- Member of Evaluation Committee, Health Research Institute (HRI), MTU
2021.04- Committee member of Michigan Tech Forward in Health Research, Health Research Institute (HRI), MTU
2021 Fall- Member, Health Research Institute (HRI) Executive Committee, MTU
2021 Fall- Senate Representative, MTU
2021 Fall- Academic and Instructional Policy Committee (AIPC) (University Senate), MTU
2022- Member, Health Research Institute (HRI) Medical Conference Planning committee, MTU
2022- Member, Health Research Institute (HRI) Faculty Search Committee, MTU

College Service:

2016 Member, College of Science & Arts (CSA) Dean Review Committee, MTU
2017-2019 Member, CSA Promotion & Tenure (P&T) Review Committee, MTU
2011-present Member, Biotechnology Research Center (BRC/LSTI/HRI), MTU

Department Service:

2011 Member, KIP Department Charter Committee
2011 KIP Department SFHI Cognate Reviewer
2011-present Member, KIP Department Council Committee
2011-2014 Member, KIP Department Graduate Proposal Committee
2012 Member, Biological Science Dept. Faculty Search Committee
2012, 2014 Member, KIP Assessment Committee
2012-2015 Chair, KIP Department, Faculty Search Committee
2018 Member, KIP Department Chair Search Committee
2019 Chair, KIP Department Promotion, Tenure, and Reappointment (PTR) Committee
2020 Member, KIP Department, Faculty Search Committee
2020 Member, CLS Department PTR Committee
2021. Fall- Chair, KIP Department, Faculty Search Committee
2022 Member, KIP Department Chair Search Committee
2022 Chair, KIP Department PTR Committee

Other:

2008	Serving as a judge at the Science & Engineering Fair of the Alamo Regional Academy of Science and Engineering, San Antonio, TX
2012-2014	Serving as a judge at the Graduate Research Colloquium (GRC), Graduate Student Government at MTU
2014	Serving as a faculty sponsor for Emily Morin's research paper (Under-Grad Student), Honors Institute, MTU
2014-present	Serving as a judge at BRC/LSTI/HRI Research Forum at MTU
2014-present	Serving as a judge at the Undergraduate Research Expo at MTU
2011-present	Biological Science Dept. Graduate Candidates Review, MTU
2014-present	Internal Research Excellence Fund (REF) Seed Grant Review, MTU
2014-present	Internal SURF Grant Review, MTU
2014-present	KIP Dept. Graduate Candidates Review, MTU
2020	Faculty Evaluation for Leading Scholar Award application, MTU
2020	Summer [ED5101] Foundation of online teaching training, MTU
2021.04.10	Volunteer for Copper Country ISD COVID-19 testing event at the Houghton High School.
2021-2022	MTU Advanced Career Management (ACM) Affinity Group discussion