

Chia Shan Wu, Ph.D.

Research Assistant Professor
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[Google Scholar](#)

EDUCATION

- 1999- 2005 **Ph.D.**, Department of Physiology, University of Auckland, New Zealand.
Advisor: Dr. Kathleen Mountjoy, Dr. Garth Cooper.
Dissertation: Melanocortin peptides: Signal transduction pathways.
- 1994-1997 **B. Technology** (Biomedical Sciences – 1st class honors), University of Auckland, New Zealand. Honors thesis advisor: Dr. Bruce Baguley.

PROFESSIONAL EXPERIENCE

- 2016 Apr – present **Research Assistant Professor**, Department of Nutrition, Texas A&M University.
- 2015 Apr – 2016 Apr **Postdoctoral Research Associate**, Baylor College of Medicine
Department of Pediatrics-Nutrition.
Mentor: Dr. Yuxiang Sun.
- 2007 Oct – 2012 Sept **Postdoctoral Associate**, Baylor College of Medicine.
Department of Pediatrics-Neurology, Jan and Dan Duncan
Neurological Research Institute.
Mentor: Dr. Hui-Chen Lu.
- 2004 Dec – 2007 Sept **Postdoctoral Fellow**, Neuroscience Division, Institute of Biomedical Sciences, Academia Sinica, Taiwan.
Mentor: Dr. Yijuang Chern.
- 2000 Jan – 2005 May **Graduate Student**, Department of Physiology, University of Auckland, New Zealand.
Mentors: Dr. Kathleen Mountjoy, Dr. Garth Cooper (for proteomics).
- 1998 Mar – 1999 Dec **Research technician**, University of Auckland.
Department of Pediatrics, School of Medical Sciences, University of Auckland, New Zealand.
Mentor: Dr. Kathleen Mountjoy.
- 1997 Dec – 1998 Feb **Summer Internship**, Department of Pediatrics, University of Auckland, New Zealand.
Mentor: Dr. Kathleen Mountjoy.

AWARDS AND HONORS

- 2019 The Jackson Aging Center Pilot Projects Award, Nathan Shock Center for Excellence in the Basic Biology of Aging [Scope: National].
- 2019 Butler-Williams Scholar, National Institute on Aging, July 29-Aug 2, Bethesda, MD [Scope: National; 1 of 50 selected scholars, out of over 250 applicants].
- 2018 Travel fellowship, Annual Symposium of Gill Center for Biomolecular Science, Sep 26, Bloomington, IN.
- 2017 Second place, poster competition award, Annual Disease Research Symposium of Baylor Scott & White, October 5 & 6, Temple, TX [Scope: Regional].

- 2017 Selected for 2 oral presentations, 77th Annual Meeting of American Diabetes Association, June 9-13, San Diego, CA [Scope: International].
- 2009 Poster competition award, Gordon Research Conference – Cannabinoid Function in the CNS, August 2-7, University of New England [Scope: National].
- 2007 Poster competition award, the 15th annual meeting of the Chinese Society of Cell and Molecular Biology, February, Taiwan [Scope: National].
- 2006 Poster competition, 1st prize in postdoctoral category, Institute of Biomedical Sciences, Academia Sinica, Taiwan [Scope: Regional].
- 2004 Travel Award, Neurological Foundation of New Zealand to attend Australasian Winter Conference on Brain Research, Queenstown, New Zealand [Scope: National].
- 2002 Faculty of Medical and Health Sciences Postgraduate Students' Poster Competition, 1st runner-up prize in Biomedical Science category, December 6, New Zealand.
- 2002 Graduate Research Fund towards conference travel, University of Auckland.
- 2002 International Neuroendocrine Federation Travel Award for trainees to attend the 5th International Congress of Neuroendocrinology, Bristol, UK [Scope: International].
- 2001 Travel award from the Australian Electrophoresis Society to attend ComBio2001/International Proteomics Conference 2001, Canberra, Australia [Scope: International].
- 2001 Postgraduate Student Travel Award, Faculty of Medical and Health Sciences, University of Auckland.
- 2000-02 Pre-doctoral fellowship, Health Research Council of New Zealand [Scope: National; I was awarded a 3-year pre-doctoral fellowship (NZ\$63,000 in total; funding rate ~8% at the time) to carry out my thesis work.
- 1997-98 Summer student scholarship, Health Research Council of New Zealand [Scope: National].

RESEARCH SUPPORT

Current Support:

- *Ghrelin signaling regulates microbiome-gut-brain axis in inflammatory bowel disease and posttraumatic stress disorder.*

Principal Investigator: Chia-Shan Wu

Agency: DOD-Army-Medical Research and Materiel Command

Type: Discovery Grant

Proposal Number PR192467, Award Number W81XWH-20-1-0127

Period: 03/01/2020 - 02/28/2023 (\$200,000.00 directs)

The major goals of this project are to understand the roles and underpinning mechanisms of microbiota and metabolites in inflammatory bowel disease, neuroinflammation, and subsequent vulnerability to posttraumatic stress disorder, and to explore the potential therapeutic benefits of ghrelin in rebalancing microbiota.

Completed Projects

- *Ghrelin deficiency predisposes mice to aging-associated inflammation through compromised gut function and microbiota dysbiosis.*

Principal Investigator: Chia-Shan Wu

Agency: NIH/NIA. Type: R21.

Period: 09/30/2019 - 05/31/2022 (\$238,327.00 directs)

This study investigates the inter-relationship between ghrelin deficiency, gut barrier function, microbiota dysbiosis and low-grade inflammation associated with aging.

Impact score: 20, 2 percentile.

- *Novel functions and regulations of the calcium-inhibitable adenylyl cyclases in the central nervous system.*
Role: Fellow (Mentor: Yijuang Chern)
Agency: Academia Sinica. Type: Postdoctoral Fellowship (full salary support).
Period: 08/01/2005 – 07/31/2007
This project examines functional significance of molecular interactions between adenylyl cyclase VI and its interacting partners, Snapin and SNAP25, in neurite outgrowth, and explores novel binding proteins via proteomics approach.
- *Melanocortin peptides: Signal transduction pathways.*
Role: Trainee (Mentor: Kathleen Mountjoy)
Agency: Health Research Council of New Zealand. Type: Pre-doctoral fellowship.
Period: 01/01/2000 – 12/31/2002 (\$63,000).
This study explores hypothalamic proteins involved in the control of feeding and body weight balance via comparative proteome analysis, and characterizes regulation of melanocortin-4 receptor.

COMPLETE LIST OF PUBLICATIONS

RESEARCH ARTICLES (underlined are undergraduate students under my direct supervision)

1. Tuchaai, E., Endres, V., Jones, B., Shankar, S., Klemashevich, C., Sun, Y.[#], **Wu, C.-S.[#]** Deletion of ghrelin alters tryptophan metabolism and exacerbates experimental ulcerative colitis in aged mice. *Experimental Biology and Medicine*, accepted, 2022.
2. Zhu, B., Li, H., Lu, B., Guo, X., **Wu, C.-S.**, Wang, F., Li, Q., Xie, L., Glaser, S., Francis, H., Alpini, G., Wu, C. Indole supplementation ameliorates MCD-induced NASH in mice. *Journal of Nutritional Biochemistry*, accepted, 2022.
3. Muthyala, S. D.V., Shankar, S., Klemashevich, C., Blazier, J. C., Hillhouse, A., **Wu, C.-S.** Differential Effects of the Soluble Fiber Inulin in Reducing Adiposity and Altering Gut Microbiome in Aging Mice. *Journal of Nutritional Biochemistry* 105: 108999, 2022.
4. Noh, J.Y., **Wu, C.-S.**, Deluca, J.A.A., Deveraj, S., Jayaraman, A., Alaniz, R. C., Tan, X.-D., Allred, C. D., Sun, Y. Novel Role of Ghrelin Receptor in Gut Dysbiosis and Experimental Colitis in Aging. *International Journal of Molecular Sciences* 23 (4): 2219, 2022. PMID: PMC8875592.
5. Pradhan, G., Lee, J.H., **Wu, C.-S.**, Wang, H., Lin, L., Donti, T., Graham, B.H., Ragan, A.S., Balasubramanyam, A., Samson, S.L., Guo, S., Sun, Y. Mechanistic investigation of GHS-R mediated glucose-stimulated insulin secretion in pancreatic islets. *Biomolecules* 12 (3): 407, 2022. PMID: PMC8945998.
6. Perez, J.L., Shivanagoudra, S. R., Perera, W. H., Kim, D. M., **Wu, C.-S.**, Sun, Y., Jayaprakasha, G. K., Patil, B. S. Bitter melon extracts and cucurbitane-type triterpenoid glycosides antagonize lipopolysaccharide-induced inflammation via suppression of NLRP3 inflammasome. *Journal of Functional Foods* 86: 104720, 2021.
7. Wei, Q., Lee, J.H., **Wu, C.-S.**, Zang, Q. S., Guo, S., Lu, H.-C., Sun, Y. Metabolic and inflammatory functions of cannabinoid receptor type 1 are differentially modulated by adiponectin. *World Journal of Diabetes* 12 (10): 1750-1764, 2021. PMID: PMC8554371.
8. Pradhan, G., **Wu, C.-S.**, Villarreal D., Lee, J.H., Han, H. W., Gaharwar, A., Tian, Y., Fu, W., Guo, S., Smith, R. G., Sun, Y. β cell GHS-R regulates insulin secretion and sensitivity. *International Journal of Molecular Sciences* 22 (8): 3950, 2021. PMID: [33920473](https://pubmed.ncbi.nlm.nih.gov/33920473/). PMID: PMC8069226.
9. Lee, J.H., Fang, C., Li, X., **Wu, C.-S.**, Noh, J. Y., Ye, X., Chapkin, R. S., Sun, K., Sun, Y. GHS-R suppression in adipose tissues protects against obesity and insulin resistance by

- regulating adipose angiogenesis and fibrosis. *International Journal of Obesity* 45 (7): 1565-1575, 2021. PMID: [33903722](#). PMCID: PMC8238886.
10. **Wu, C.-S.**[#], **Muthyala, S. D. V.**, Klemashevich, C., Ufondu, A. U., Menon, R., Chen, Z., Devaraj, S., Jayaraman, A., Sun, Y.[#] Age-dependent remodeling of gut microbiome and host serum metabolome in mice. *Aging* 13 (5): 6330, 2021. [#]Co-corresponding authors. PMID: [33612480](#). PMCID: PMC7993679.
11. **Wu, C.-S.**, Wei, Q., Wang, H., Kim, D. M., Balderas, M., Wu, G., Lawler, J., Safe, S., Guo, S., Devaraj, S., Chen, Z., Sun, Y. Protective effects of ghrelin on fasting-induced muscle atrophy in aging mice, *The Journal of Gerontology: Series A* 75 (4): 621-630, 2020. PMID:30407483. PMCID: [PMC7328200](#).
12. **Wu, C.-S.**^{*,#}, Jew, C. P^{*}, Sun, H., Ballester-Rosado, C. J., Lu, H.-C[#]. mGlu5 in GABAergic neurons modulates spontaneous and psychostimulant-induced locomotor activity. *Psychopharmacology* 237 (2): 345-361, 2020. ^{*}Co-first authors. [#]Co-corresponding authors. PMID: 31646346. PMCID: [PMC7024012](#).
13. Villarreal D., Pradhan, G., **Wu, C.-S.**, Allred, C. D., Guo, S., Sun, Y. A simple high efficiency protocol for pancreatic islet isolation from mice. *J. Vis. Exp.*, 2019. PMID: [31524856](#). PMCID: PMC7954665.
14. Shivanagoudrea, S. R., Perera, W. H., Perez, J. L., Athrey, G., Sun, Y., **Wu, C.-S.**, Jayaprakasha, G. K., Patil, B. S. In vitro and in silica elucidation of antidiabetic and anti-inflammatory activities of bioactive compounds from *Momordica charantia* L. *Bioorg. Med. Chem.* 27 (14): 3097-3109, 2019. PMID: 31196754.
15. **Wu, C.-S.**^{*}, Bongmba, O.Y.N.^{*}, Lee, J.H., Tuchaai, E., Zhou, Y., Li, D.P., Xue, B., Chen,, Z., Sun, Y. Ghrelin receptor in agouti-related peptide neurons regulates metabolic adaptation to calorie restriction. *J. Neuroendocrinology*, 2019: e12763. ^{*}Co-first authors. PMID: 31251830. PMCID: [PMC7233797](#).
16. Mohankumar, K., Lee, J., **Wu, C.-S.**, Sun, Y., Safe, S. Bis-Indole-Derived NR4A1 ligands and metformin exhibit NR4A1-dependent glucose metabolism and uptake in C2C12 cells. *Endocrinology* 159 (5): 1950-1963, 2018. PMID: 29635345. PMCID: [PMC5888234](#).
17. Qiu, Z., Guo, H., Yang, J., Ji, Y., **Wu, C.-S.**, Chen, X. Down-regulation of guanylate binding protein 1 causes mitochondrial dysfunction and cellular senescence in macrophages. *Scientific Reports* 8 (1): 1679, 2018. PMID: 29374208. PMCID: [PMC5785964](#).
18. Ma, X.^{*}, Lin, L.^{*}, Yue, J.^{*}, **Wu, C.-S.**, Guo, C. A., Wang, R., Yu, K.-J., Devaraj, S., Murano, P., Chen, Z., Sun, Y. Suppression of ghrelin exacerbates HFCS-induced adiposity and insulin resistance. *International Journal of Molecular Sciences* 18 (6): 1302, 2017. PMCID: PMC5486123.
19. Wei, Q., Lee, J. H., Wang, H., Bongmba, O.Y.N., **Wu, C.-S.**, Pradhan, G., Sun, Z., Chew, L., Bajaj, M., Chan, L., Chapkin, R. S., Chen, M. H., Sun, Y. Adiponectin is required for maintaining normal body temperature in a cold environment. *BMC Physiology* 17 (1): 8, 2017. PMID: 28629187. PMCID: [PMC5486123](#).
20. **Wu, C.-S.**^{*}, Bongmba, O. Y. N.^{*}, Yue, J., Lee, J. H., Lin, L., Saito, K., Pradhan, G., Li, D.-P., Pan, H.-L., Xu, A., Guo, S., Xu, Y., Sun, Y. Suppression of GHS-R in AgRP neurons mitigates diet-induced obesity by activating thermogenesis. *International Journal of Molecular Sciences* 18 (4): E832, 2017. ^{*}Co-first authors. PMID: 28420089. PMCID: [PMC5412416](#).
21. Pradhan, G., **Wu, C.-S.**, Lee, J. H., Kanikarla, P., Guo, S., Yechoor, V., Samson, S., Sun, Y. Obestatin stimulates glucose-induced insulin secretion through ghrelin receptor GHS-R. *Scientific Reports* 7 (1): 979, 2017. PMID: 28428639. PMCID: [PMC5430520](#).
22. Meadows, A.^{*}, Lee, J. H.^{*}, **Wu, C.-S.**^{*}, Wei, Q., Pradhan, G., Yafi, M., Lu, H.-C., Sun, Y. Deletion of G-protein coupled receptor 55 promotes obesity by reducing physical activity. *International journal of obesity* 40 (3): 417-24, 2016. PMID: 26447738. ^{*}Co-first authors.

23. **Wu, C.-S.***, Morgan, D.* , Jew, C., Haskins, C., Andrews, M.-J., Leishman, E., Spencer, C., Czyzyk, T., Bradshaw, H., Mackie, K., Lu, H.-C. Long-Term consequences of perinatal fatty acid amino hydrolase inhibition. *British Journal of Pharmacology* 171 (6): 1420-1434, 2014. *Co-first authors. PMID: 24730060. PMCID: [PMC3954482](#).
24. Jew, C. P.* , **Wu, C.-S.***, Sun, H.* , Zhu, J., Huang, J.-Y., Yu, D., Justice, N. J., Lu, H.-C. mGluR5 ablation in cortical glutamatergic neurons increases novelty-induced locomotion. *PLoS ONE* 8 (8): e70415, 2013. *Co-first authors. PMID: 23940572. PMCID: [PMC3734292](#).
25. **Wu, C.-S.**, Chen, H., Sun, H., Zhu, J., Jew, C. P., Wager-Miller, J., Straiker, A., Spencer, C., Bradshaw, H., Mackie, K., Lu, H.-C. GPR55, a G-protein coupled receptor for lysophosphatidylinositol, plays a role in motor coordination. *PLoS ONE* 8 (4): e60314, 2013. PMID: 23565223. PMCID: [PMC3614963](#).
26. Sun, Y.G., Pita-Almenar, J. D., **Wu, C.-S.**, Renger, J. J., Uebele, V. N., Lu, H. C., Beierlein, M. Biphasic cholinergic synaptic transmission controls action potential activity in thalamic reticular nucleus neurons. *J. Neurosci.* 33 (5): 2048-59, 2013. PMID: 23365242. PMCID: [PMC3711637](#).
27. Díaz-Alonso, J., Aguado, T., **Wu, C.-S.**, Palazuelos, J., Hofmann, C., Garcez, P., Guillemot, F., Lu, H.-C., Lutz, B., Guzman, M., Galve-Roperh, I. The CB (1) cannabinoid receptor drives corticospinal motor neuron differentiation through the Ctip2/Satb2 transcriptional regulation axis. *J. Neurosci.* 32 (47): 16651-65, 2012. PMID: 23175820. PMCID: [PMC3545190](#).
28. Sun, Y. G., **Wu, C.-S.**, Renger, J. J., Uebele, V. N., Lu, H. C., Beierlein, M. GABAergic synaptic transmission triggers action potentials in thalamic reticular nucleus neurons. *J. Neurosci.* 32 (23): 7782-90, 2012. PMID: 22674255. PMCID: [PMC3376355](#).
29. Ljunberg, M. C.* , Ali, Y. O.* , Zhu, J., **Wu, C.-S.**, Oka, K., Zhai, R. G., Lu, H. C. CREB-activity and nmnat2 transcription are down-regulated prior to neurodegeneration, while NMNAT2 over-expression is neuroprotective, in a mouse model of human tauopathy. *Human Molecular Genetics* 21 (2): 251-67, 2012. PMID: 22027994. PMCID: [PMC3276285](#).
30. **Wu, C.-S.**, Lin, J. T., Chien, C. L., Chang, W. C., Lai, H. L., Chang, C. P., Chern, Y. Type VI adenylyl cyclase (AC6) regulates neurite extension by binding to Snapin and Snap25. *Molecular and Cellular Biology* 31 (24): 4874-4886, 2011. PMID: 21986494. PMCID: [PMC3233025](#).
31. Sun, Y. G., **Wu, C.-S.**, Lu, H. C., Beierlein, M. Target-dependent control of synaptic inhibition by endocannabinoids in the thalamus. *J. Neurosci.* 31 (25): 9222-9230, 2011. PMID: 21697372. PMCID: [PMC3138491](#).
32. Asprer, J. S., Lee, B., **Wu, C.-S.**, Vadakkan, T., Dickinson, M. E., Lu, H. C., Lee, S. K. LMO4 functions as a co-activator of neurogenin 2 in the developing cortex. *Development* 138 (13): 2823-2832, 2011. PMID: 21652654. PMCID: [PMC3109604](#).
33. Ballester-Rosado, C.J., Albright, M. J., **Wu, C.-S.**, Liao, C.-C., Zhu, J., Xu, J., Lee, L. J., Lu, H. C. mGluR5 in cortical excitatory neurons exerts both cell-autonomous and – nonautonomous influences on cortical somatosensory circuit formation. *J. Neurosci.* 30 (50): 16896-16909, 2010. PMID: 21159961. PMCID: [PMC3008407](#).
34. **Wu, C.-S.**, Zhu, J., Wager-Mille, J., Wang, S., O'Leary, D, Monory, K., Lutz, B., Mackie K., and Lu, H.-C. Requirement of cannabinoid CB₁ receptor in cortical pyramidal neurons for appropriate development of corticothalamic and thalamocortical projections. *Eur. J. Neurosci.* 32 (5): 693-706, 2010. PMID: 21050275. PMCID: [PMC2970673](#).
35. **Wu, C.-S.**, Greenwood, D. R., Cooney, J.M., Jensen, D.J., Cooper, G. J. S. Mountjoy, K. G. Peripherally administered desacetyl- α -MSH and α -MSH both influence post-natal rat growth and associated rat hypothalamic protein expression. *Am J Physiol Endocrinol Metab.* 291 (6): E1372-1380, 2006. PMID: 16868223.

36. Daniel, P. B., Fernando, C., **Wu, C.-S. J.**, Marnane, R., Marnane, R., Broadhurst, R., Mountjoy, K. G. 1 kb of 5' flanking sequence from mouse MC4R gene is sufficient for tissue specific expression in a transgenic mouse. *Mol Cell Endocrinol* 239(1-2): 63-71, 2005. PMID: 15950372.
37. Dumont, L. M., **Wu, C.-S. J.**, Tatnell, M. A., Cornish, J., Mountjoy, K. G. Evidence for direct actions of melanocortin peptides on bone metabolism. *Peptides* 26 (10): 1929-1935, 2005. PMID: 15979763.
38. Mountjoy, K.G., **Wu, C.-S. Jenny**, Dumont, L. M., Wild, J. M. Melanocortin-4 receptor messenger ribonucleic acid expression in rat cardiorespiratory, musculoskeletal, and integumentary systems. *Endocrinology* 144(12): 5488-5496, 2003. PMID: 12959974.
39. Mountjoy, K.G., **Wu, C.-S.**, Cornish, J., Callon, K. E. α -MSH and desacetyl- α -MSH signalling through melanocortin receptors. *Ann NY Acad Sci.* 994: 58-65, 2003. PMID: 12851298.
40. Dumont, L.M., **Wu, C.-S.**, Aschkenasi, C.J., Elmquist, J. K., Lowell, B. B., Mountjoy, K.G. Mouse melanocortin-4 receptor gene 5'-flanking region imparts cell specific expression *in vitro*. *Mol Cell Endocrinol* 184(1-2): 173-185, 2001. PMID: 11694353.
41. Iqbal, J., Pompolo, S., Dumont, L. M., **Wu, C.-S.**, Mountjoy, K.G., Henry, B.A., Clarke, I. J. Long term alterations in body weight do not affect the expression of melanocortin receptor-3 and -4 mRNA in the ovine hypothalamus. *Neuroscience* 105(4): 931-940, 2001. PMID: 11530231.

REVIEW ARTICLES

1. **Wu, C.-S.**, Jew, C. P., Lu, H. C. Lasting impacts of prenatal cannabis exposure and the role of endogenous cannabinoids in the developing brain. *Future Neurol.* 6 (4), 459-480, 2011. PMID: 22229018. PMCID: [PMC3252200](#).
2. **Wu, C.-S.**, Ballester-Rosado, C. J., Lu, H. L. What can we get from 'barrels': the rodent barrel cortex as a model for studying the establishment of neural circuits. *Eur. J. Neurosci.* Special Issue: Molecular Mechanisms of Neuronal Differentiation 34 (10): 1663-1676, 2011. PMID: 22103423. PMCID: [PMC3233236](#).

SELECTED CONFERENCE PRESENTATIONS

1. **Wu, C-S**, Noh, J., Tuchaai, E., DeLuca, J., Allred, K.F., Allred, C.D., Sun, Y. Suppression of ghrelin signaling exacerbates ulcerative colitis in older mice. Poster presentation. Gerontological Society of America, Austin, TX, Nov 13-17, 2019.
2. **Wu, C-S**, Noh, J., Tuchaai, E., Devaraj, S., Chen, Z., Sun, Y. Aging gut microbiome profile and ghrelin signaling in microbiome homeostasis. Poster presentation. Experimental Biology, Orlando, FL, April 6-9, 2019.
3. **Wu, C-S**, Bongmba, O. Y. N., Li, D.-P., Pan, H.-L., Sun, Y. Ghrelin receptor in hypothalamic AgRP neurons regulates adipose tissue browning and glucose homeostasis. Poster presentation. Annual Symposium of Gill Center for Biomolecular Science, Bloomington, IN, Sep 26, 2018. **Travel fellowship recipient**.
4. Wang, H.*, **Wu, C-S***, Kim, S., Li, J., Xiao, X., Zheng, H., Sun, Y. Ghrelin receptor regulates macrophage polarization to control neuro-inflammation in aging. Poster presentation. Keystone Symposia, Colorado, Jun 17-21, 2018.
5. **Wu, C-S**, Wei, Q., Wang, H., Pradhan, G., Guo, S., Chen, Z., Devaraj, S., Sun, Y. Ghrelin in fasting-induced muscle atrophy in aging mice. Annual Disease Research Symposium of Baylor Scott & White, Temple, Texas, Oct 5 & 6, 2017. **Poster award winner**.
6. **Wu, C-S**, Pradhan, G., Guo, S., Xu, Y., Sun, Y. Suppression of ghrelin receptor in AgRP neurons mitigates diet-induced obesity by activating thermogenesis. **Oral presentation**, 77th annual American Diabetes Association meeting, San Diego, Jun 9-13, 2017.

7. **Wu, C-S**, Lee, J. H., Pradhan, G., Zang, Q., Sun, Y. Suppression of myeloid-specific ghrelin receptor inhibits inflammation, attenuates obesity and enhances insulin sensitivity. **Oral presentation**, 77th annual American Diabetes Association meeting, San Diego, Jun 9-13, 2017.
8. **Wu, C-S**, Chou, S.-J., O'Leary, D., Marsicano, G., Conrad, A., Lutz, B., Mackie, K., Lu, H. C. The Roles of CB1R in axonal pathfinding. Gordon Research Conference – Cannabinoid Function in the CNS, University of New England, Aug 2-7, 2009. **Poster award winner**.
9. **Wu, C-S**, Chern, Yijuang. Type VI adenylyl cyclase interacts with Snapin to modulate neurite outgrowth. Neuroscience 2006, the Society's 36th annual meeting at Atlanta, Oct 14-18, 2006. **Travel grant recipient**.
10. **Wu, C-S**, Cannell, M.B., Mountjoy, K.G. Confocal imaging of ligand-induced internalisation of GFP-tagged melanocortin-4 receptors stably expressed in HEK293 cells. 22nd International Australasian Winter Conference on Brain Research, Queenstown, New Zealand, Aug 28- Sep 1, 2004. **Travel grant recipient**.
11. **Wu, C-S**, Cannell, M. B., Mountjoy, K.G. Dynamic imaging of ligand-induced internalization of GFP-tagged melanocortin 4 receptors stably expressed in HEK293 cells. 5th International Congress of Neuroendocrinology, Bristol, UK, Aug 31 – Sep 4, 2002. Abstract P48. **Travel award recipient**.
12. **Wu, C-S**, Guan, J., Cooper, G.J.S., Greenwood, D. R., Mountjoy, K.G. A proteomic approach to understand melanocortin peptide signaling in rat hypothalamus. 5th International Melanocortin Meeting, Oregon, USA, Aug 25 – 28, 2002. **Travel grant recipient**.

PROFESSIONAL SOCIETIES

- Gerontological Society of America (member since 2019)
 - reviewed abstracts for GSA 2020 and 2021 abstract peer review process.
 - volunteer for GSA's Lapsed Member Outreach Program.
- Society for Experimental Biology and Medicine (member since 2020)
- American Society for Biochemistry and Molecular Biology

PROFESSIONAL SERVICE

Ad-hoc journal review: Life Sciences, Scientific Reports, Journal of Cell Physiology, Plos One, Experimental Biology and Medicine, Journal of Nutritional Biochemistry, Cells, Beneficial Microbes.

- Selected for Experimental Biology and Medicine Outstanding Reviewer Award, 2020.
- Appointed Editorial Member for Experimental Biology and Medicine on July 1, 2022.

Departmental service:

2020 Member of the task force for developing new Nutrition Ph.D. program.
2019 Judge (oral), Annual Nutrition Symposium, Department of Nutrition & Food Science.
2018 Judge (oral), Annual Nutrition Symposium, Department of Nutrition & Food Science.
2017 Judge (poster), Annual Nutrition Symposium, Department of Nutrition & Food Science.
2017 Section Chair, Nutrition Obesity symposium.

MENTORED STUDENTS (selected)

- Valerie Endres, undergraduate, Texas A&M University, 2021-present
 - Co-authorship in a publication.
- Brock Jones, undergraduate, Texas A&M University, 2021.
 - Co-authorship in a publication.

- Acceptance to TAMU Medical School for Fall 2022.
- Sai Deepak Venkata Muthyala, undergraduate, Texas A&M University, 2019-2020.
 - Co-authorship in publications.
 - Acceptance to TAMU Medical School for Fall 2021.
- Ellie Tuchaai, undergraduate, Texas A&M University, 2018-2020.
 - Major accomplishments: Fall 2019, Spring 2020, Department of Nutrition Undergraduate Student Scholarship.
 - Co-authorship in publications. Co-authorship in 2 scientific abstracts.
 - Acceptance to McGovern Medical School for Fall 2020.
- Ji Yeon Noh, Ph.D. candidate, Texas A&M University, 2017-present (serving as special graduate committee member).