

Loren Martin, Ph.D.
Assistant Professor
Tier II Canada Research Chair in Translational Pain Research

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EMPLOYMENT HISTORY

- 2015 – present Canada Research Chair in Translational Pain Research
2015 – present Assistant Professor (cross appointed), Cell and Systems Biology, University of Toronto Mississauga
2015 – present Assistant Professor, Department of Psychology University of Toronto Mississauga
2011 - 2014 Postdoctoral fellow, Department of Psychology, McGill University (Supervisor Dr. Jeffrey Mogil), studying genetic and social modulation of pain
2009 – 2011 Postdoctoral fellow, Department of Pharmacology and Experimental Therapeutics, Boston University (Supervisors, Drs. Howard Eichenbaum and David Farb), studying pattern recognition in aged rats

EDUCATION

- 2004 – 2009 Ph.D., University of Toronto, Institute of Medical Science (Supervisor, Dr. Beverley Orser)
2002 - 2004 M.Sc. Laurentian University, Department of Biology (Supervisor, Dr. Michael Persinger)
1998 – 2002 B.Sc. Laurentian University, Behavioural Neuroscience

FUNDING HISTORY

- 2019 – 2024 CIHR Project Scheme, “Learning mechanisms of pain and pain relief”, \$730,576
2019 – 2021 New Frontiers in Research Fund – Exploration, “The immunological benefits of experiencing awe”, \$190,000, *P.I. Jennifer Stellar*
2019 – 2020 UTM Research and Scholars Activity Fund, “The modulation of pain by social interactions”, \$10,000
2017 – 2019 Ontario Research Fund, “The modification of brain circuits by chronic pain”, \$110,000
2017 – 2022 Ontario Early Researcher Award, “Understanding the social communication and comorbidities of pain”, \$190,000
2017 – 2019 NSERC RTI, “An advanced cell imaging multi-mode reader and cryostat for diverse research programs”, \$147,333
2017 – 2019 Canada Foundation for Innovation, “The modification of brain circuits by chronic pain and its effect on behaviour”, \$275,000
2016 – 2018 Connaught Foundation, “Understanding chronic pain-induced depression by linking stress, inhibition and behavioural changes”, \$35,000
2015 – 2017 American Pain Society (Future Leaders), “Sex differences in the activation of the HPA axis in chronic neuropathic pain”, \$26,000
2015 – 2020 NSERC, “The Neural Mechanisms by which Stress Prevents Empathy in Mice”, \$165,000
CV – Martin

2015 – 2020	Canada Research Chair in Translational Pain Research, \$500,000
2015 – 2017	Canadian Pain Society (Early Career Grant), “Neural Mechanisms of Conditioned Hyperalgesia, \$50,000
2015	UTM Research and Scholars Activity Fund, “The role of stress in the development of chronic pain”, \$10,000

— FELLOWSHIPS AND SCHOLARSHIPS

2012 – 2014	CIHR, Postdoctoral Fellowship (4 th percentile), \$90,000
2011 - 2013	Canadian Pain Society, Postdoctoral Fellowship (Top application), \$80,000
2011 – 2012	McGill University, Ronald Melzack Fellowship, Declined
2009 – 2011	NSERC, Postdoctoral Fellowship (2 nd percentile), \$80,000
2009	University of Toronto, Doctoral Completion Grant, \$6,500
2006 – 2009	CIHR, Canada Graduate Scholarship, \$105,000
2006 – 2007	CIHR, Institute of Aging Scholarship (Top ranked application), \$1,000
2006 – 2007	Ontario Graduate Scholarship, Declined
2005 – 2006	Ontario Graduate Scholarship, \$15,000
2005 – 2006	Savoy Foundation, Graduate Scholarship, declined
2004 – 2005	Ontario Graduate Scholarship, \$15,000
2004 – 2005	Ontario Graduate Scholarship in Science and Technology, declined

— AWARDS AND HONOURS

2019	UTM Dean’s Excellence Award
2019	Canadian Pain Society, Early Career Award
2016	UTM Dean’s Excellence Award
2016	American Pain Society, Future Leaders Award
2015	Canada Research Chair – Translational Pain Research
2015	American Pain Society Young Investigators Award
2014	International Association for the Study of Pain Travel Award
2014	Quebec Pain Research Network Travel Award
2013	Canadian Pain Society Travel Award
2012	Quebec Pain Network Travel Award
2012	International Association for the Study of Pain Travel Award
2012	Canadian Pain Society Travel Award
2012	McGill Pain Day, Best Scientific Poster
2009	Society for Neuroscience Travel Award

— PUBLICATIONS

Google Scholar Bibliometrics: Citation Count=3096; h-index= 23; *Graduate students and postdocs are underlined, undergraduates are double underlined.*

1. Becker, S., Bräscher, AK., Bannister, S., Bensafi, M., Calma-Birling, D., Chan, R., Eerola, T., Ellingsen, DM., Ferdenzi, C., Hanson, J., Joffily, M., Lidhar, N., Lowe, L., Martin LJ, Musser, E., Noll-Hussong, M., Olino, T., Pintos Lobo, R., Wang, Y. 2019. The role of hedonics in the human affectome. *Neurosci Biobehav Rev.* July;102:221-241. [**Impact Factor = 9.440**].
2. Clarke H, Rai A, Bao J, Poon M, Rao V, Djaiani G, Beattie S, Page G, Choiniere M, McGillion M, Parry M, Hunter J, Watt-Watson J, **Martin LJ**, Grosman-Rimon L, Kumbhare D, Hanlon J, Seltzer ZE, Katz J. 2019. Toward a phenomic analysis of chronic postsurgical pain following cardiac surgery. *Canadian Journal of Pain.* 3:58-69.
3. Tansley, S., MacIntyre, L., Diamond, L., Sotocinal, S., George, N., Austin, JS., Coderre, T., **Martin, LJ***,
Curriculum Vitae - Martin

Mogil, JS*. 2019. Conditioned pain modulation in rodents can feature hyperalgesia or hypoalgesia depending on test stimulus intensity. 2019. *Pain*. Apr;160(4):784-792. *Co-corresponding senior authors. [Impact Factor = 5.56]

4. Parisien, M., Samoshkin, Tansley, SN., Piltonen, MH., **Martin, LJ.**, El-Hachem, N., Dagostino, C., Allegri, M., Mogil, JS., Khoutorsky, A., Diatchenko, L. 2019. Genetic pathway analysis reveals a major role for extracellular matrix organization in inflammatory and neuropathic pain. 2019. *Pain*. Apr;160(4):932-944 [Impact Factor = 5.56]
5. Cho, C., Michalidis, V., Lecker, I., Collymore, CV., Loka, M., Danesh, M., Bonin, RP., **Martin, LJ.** 2019 Evaluating analgesic efficacy and administration route following craniotomy in mice using the grimace scale. *Sci Rep*. Jan 23;9(1):359. Impact Factor = 5.56; posted on [BioRxiv](#).
6. **Martin, LJ.** Acland, EL., Cho, C., Gandhi, W., Chen, D., Corley, E., Kadoura, B., Levy, T., Mirali, S., Tohyama, S., MacIntyre, L., Carlson, EN., Schweinhardt, P., Mogil, J. 2019. Male-specific conditioned pain hypersensitivity in mice and people. *Curr Biol*. Jan 21;29(2):192-201. [Impact Factor = 9.97]
7. **Martin, LJ.**, Gerlai, R. Sentience: 2018. All or none or matter of degree? *Animal Sentience* 3 (21), 9.
8. Cho, C., Michailidis, V., **Martin, LJ.** 2018. Revealing brain mechanisms of mTOR-mediated translational regulation: Implications for chronic pain. *Neurobiol Pain*. Aug-Dec;4:27-34. [Impact Factor = 3.596] (role = senior author; refereed = Y). doi.org/10.1016/j.ynpai.2018.03.002.
9. Sivaselvachandran, S., Acland, EL., Abdallah, S., **Martin, LJ.** 2016. Behavioral and mechanistic insight into rodent empathy. *Neurosci Biobehav Rev*. Aug; 91:130-137. [Impact Factor = 9.440].
10. **Martin, LJ.**, Smith, SB., Khoutorsky, A., Magnuson, C., Samoshkin, A., Sorge, RE., Cho, C., Yosefpour, N., Sivaselvachandran, S., Tohyama, S., Cole, T., Khuong, TM., Mir., E., Gibson, DG., Wieskopf, JS., Sotocinal, SG., Austin, JS., Meloto, C., Gitt, JH., Sonenberg, N., Greenspan, JD., Fillingim, RB., Ohrbach, R., Slade, GD., Knott, C., Dubner, R., Nackley, AG., Ribeiro-da-Silva, A., Maixner, W., Zaykin, DV., Mogil, JS., Diatchenko, L. 2017. Epiregulin and EGFR interactions are involved in pain processing. *J Clin Invest*. Sep 1;127(9):3353-3366 . [Impact Factor = 12.784]
11. Tuttle, AH., Tansley, S., Dossett, K., Tohyama, S., Khoutorsky, A., Maldonado-Bouchard, S., Stein, L., Gerstein, L., Crawhall-Duk, H., Pearl, R., Sukosd, M., Leger, P., Hardt, O., Yachnin, D., Austin, JS., Chan, CM., Groves, I., Pooters, T., Sonenberg, N., **Martin, LJ.**, Gkogkas, CG., Mogil, JS., 2017. Social propinquity in Rodents as Measured by Tube Co-occupancy Differs Between Inbred and Outbred Genotypes. *Proc Natl Acad Sci U S A*. May 23; 114(21):5515-5520. [Impact Factor = 9.423].
12. Khoutorsky, A., Sorge, RE., Prager-Khoutorsky, M., Pawlowski, SA., Longo, G., Mehdi Jafarnejad, S., Tahmasebi, **Martin, LJ.**, Pitcher, M., Gkogkas, CG., Sharif-Naeini, R., Riveiro-da-Silva, A., Bourque, CW., Cervero, F., Mogil, JS., Sonenberg, N. 2016. eIF2 α phosphorylation controls thermal nociception. *Proc Natl Acad Sci U S A*. Oct 18;113(42):11949-11954. [Impact Factor = 9.423].
13. Whissell, PD., Tohyama, S., **Martin, LJ.** 2016. The Use of DREADDs to Deconstruct Behavior. *Front Genet*. 2016 May 17;7:70. doi: 10.3389/fgene.2016.00070. eCollection 2016.
14. **Martin, LJ.**, Piltonen, MH., Gauthier, J., Convertino, M., Acland, EA., Dokholyan, NV., Mogil, JS., Diatchenko, L., Maixner, W. 2015. Differential efficacy of the non-selective α -adrenergic antagonist bupranolol for treatment against neuropathic and inflammatory pain. *J Pain* Dec;16(12):1321-33.
15. Khoutorsky, A., Bonin, RP., Sorge, RE., Gkogkas, CG., Pawlowski, SA., Jafarnejad, SM., Pitcher, MH., Alain,

- T., Perez-Sanchez, J., Salter, EW., **Martin, LJ.**, Ribeiro-da-Silva, A., De Koninck, Y., Cervero, F., **Mogil, JS.**, Sonenberg, N. 2015. Translational control of nociception via 4E-binding protein 1. *Elife*. Dec 18;4: pii: e12002. [**Impact Factor = 9.32**]
16. Sorge, RE., Mapplebeck JC., Rosen, S., Beggs, S., Taves, S., Alexander, JK., **Martin, LJ.**, **Austin, JS.**, Sotocinal SG, Chen D, Yang M, Shi XQ, Huang H, Pillon NJ, Bilan PJ, Tu Y, Klip A, Ji RR, Zhang J, Salter MW, **Mogil JS.** 2015. Different immune cells mediate mechanical pain hypersensitivity in male and female mice. *Nat Neurosci*. Aug;18(8):1081-3. [**Impact Factor = 16.095**]
 17. Segall SK, Shabalina SA, Meloto CB, Wen X, Cunningham D, Tarantino LM, Wiltshire T, Gauthier J, Tohyama, S., **Martin, LJ.**, **Mogil, JS.**, Diatchenko, L. 2015. Molecular genetic mechanisms of allelic specific regulation of murine Comt expression. *Pain*. Oct;156(10):1965-77 [**Impact Factor = 5.84**]
 18. Wieskopf, JS., Mathur, J., Limapichat, W., Post, MR., Al-Qazzaz, M., Sorge, RE., **Martin, LJ.**, Zaykin, DV., Smith, SB., Freitas, K., Austin, JS., Dai, F., Zhang, J., Marcovitz, J., Tuttle, AH., Slepian, PM., Clarke, S., Drenan, RM., Janes, J., Al Sharari, S., Segall, SK., Aasvang, EK., Lai, W., Bittner, R., Richards, CI., Slade, GD., Kehlet, H., Walker, J., Maskos, U., Changeux, JP., Devor, M., Maixner, W., Diatchenko, L., Belfer, I., Dougherty, DA., Su, AI., Lummis, SC., Imad Damaj, M., Lester, HA., Patapoutian, A., Mogil, JS. The nicotinic $\alpha 6$ subunit gene determines variability in chronic pain sensitivity via cross-inhibition of P2X2/3 receptors. 2015. *Sci Transl Med*. May 13;7(287):287ra72. [**Impact Factor = 14.41**]
 19. **Martin, LJ.**, Hathaway, GA., Isbester, K., Mirali, S., Acland, EL., Niederstrasser, N., Slepian, P., Trost, Z., Bartz, JL., Sternberg, W., Sapolsky, R., Levitin, D., Mogil, JS. 2015. Elicitation of empathy for pain in strangers by social stress reduction in mice and humans. *Curr Biol*. Feb;25(3):326-32. [**Impact Factor = 9.97**]
 20. Sorge, RE*, **Martin, LJ***, Isbester, KA., Sotocinal, SG., Rosen, S., Tuttle, AH., Wieskopf, JS., Acland, EL., Dokova, A., Kadoura, B., Leger, P., Mapplebeck, JCS., McPhail, M., Delaney, A., Wigerblad, G., Schumann, AP., Quinn, T., Frasnelli, J., Svensson, CI., Sternberg, W., Mogil, JS. 2014. Stress-induced analgesia in the mouse via cross species olfactory exposure to human males. *Nat Methods* Jun;11(6):629-32. ***equal contributions [Impact Factor = 25.953]**
 21. Whissell, PD., Eng, D., Lecker, I., **Martin, LJ.**, Wang, DS., Orser, BA. 2013. Acutely increasing δ GABA_A receptor activity causes memory deficits and inhibits synaptic plasticity in the hippocampus. *Front Neural Circuits* Sept;17(7):146
 22. Sotocinal, SG., Sorge, RE., Zaloum, A., Tuttle, AH., **Martin, LJ.**, Wieskopf, JS., Mapplebeck, JCS., Wei, P., Zhan, S., Zhang, S., Mcdougall, JJ., King, OD., Mogil, JS. 2011. The rat grimace scale: A partially automated method for quantifying pain in the laboratory rat via facial expressions. *Mol Pain* Jul;7:55.
 23. **Martin, LJ.**, Zurek, AA., Bonin, RP., Kim, J., Mount, HTJ., Orser, BA. 2011. The sedative but not the memory-blocking properties of ethanol are modulated by $\alpha 5$ -subunit-containing γ -aminobutyric acid type A receptors. *Behav Brain Res* Mar;17(2):379-85.
 24. **Martin, LJ.**, Zurek, AA., Macdonald, JF., Roder, JC., Jackson, MF., Orser, BA. 2010. $\alpha 5$ GABA_A receptor activity sets the threshold for long-term potentiation and constrains hippocampus-dependent memory. *J Neurosci* Apr;30(15):5269-82. [**Impact Factor = 7.12**]
 25. Vargas-Caballero, M., **Martin, LJ.**, Salter, MW., Orser, BA., Paulsen, O. 2010. Schaffer collateral activation of $\alpha 5$ subunit-containing GABA_A receptors mediates a slowly decaying synaptic current in CA1 pyramidal neurons. *Neuropharm* Mar;58(3):668-75. [**Impact Factor 5.106**]

26. Saab, BJ., Maclean, A.J.B., Kanisek, M., **Martin, L.J.**, Zurek, AA., Roder, J.C., Orser., BA. 2010. Pretreatment with the $\alpha 5$ GABA_A receptor inverse agonist, L-665,708 prevents persistent memory impairment after isoflurane. *Anesthesiology* Nov;113(5):1061-1071. [**Impact Factor 6.168**]
27. Cheung, KW., Lado, WE., **Martin, L.J.**, St-Pierre, LS., Persinger, MA. 2010. Cerebral Neurons in *Rattus norvegicus* Following a Mild Impact to the Skull: Equivalence of Modulation by Post-Impact Pregnancy or Exposure to Physiologically-Patterned Magnetic Fields. *Journal of Biological Sciences* 10(2):84-92.
28. **Martin, L.J.**, Oh, GHT., Orser, BA. 2009. Etomidate Targets $\alpha 5$ GABA_A receptors to regulate synaptic plasticity and memory blockade. *Anesthesiology* Nov;111(5):1025-3. [**Impact Factor 6.168**]
29. Sun, HS., Jackson, MF., **Martin, L.J.**, Jansen, K., Teves, L., Cui, H., Mori, Y., Jones, M., Forder, JP., Golde, TE., Orser, BA., MacDonald, JF., Tymianski, M. 2009. Suppression of hippocampal TRPM7 enhances neuronal survival, function and learning following cerebral ischemia. *Nat Neurosci* Oct;12(10):1300-7. [**Impact Factor = 14.976**]
30. **Martin, L.J.**, Bonin, RP., Orser., BA. 2009. The physiological and therapeutic potential of $\alpha 5$ GABA_A receptors. *Biochem Soc Trans* Dec;37(Pt 6):1334-7.
31. Bonin, RP., **Martin, L.J.**, MacDonald, JF., Orser. BA. 2007. $\alpha 5$ GABA_A receptors regulate the intrinsic excitability of mouse hippocampal pyramidal neurons. *J Neurophys* Oct;98(4):2244-54.
32. Cheng, VY*., **Martin, L.J.*.**, Elliot, EM., Kim, J., Mount, HT., Taverna, FA., Roder, J.C., MacDonald, JF., Bhambri, A., Collinson, N., Wafford, KA., Orser, BA. 2006. $\alpha 5$ GABA_A receptors mediate the amnestic but not sedative-hypnotic effects of the general anesthetic, etomidate. *J Neurosci* Apr;26(14):3713-20. ***equal contributions [Impact Factor = 7.12]**
33. Orser, BA., **Martin, L.J.**, Cheng, VY., Bonin. RP. 2006. Role of extrasynaptic GABA_A receptor in the hippocampus. *Eur Neuropsychopharm* Jan;16(S4), S198-99.
34. Macdonald, DS., Weerapura, M, Beazely, MA, **Martin, L.J**, Czerwinski, W, Roder J.C., Orser, BA., MacDonald, JF. 2005. Modulation of N-methyl-D-aspartate receptors by Pituitary Adenylate Cyclase Activating Peptide in CA1 Neurons Requires G α q, PKC and Activation of Src. *J Neurosci* Dec;25(49):11374-84. [**Impact Factor = 7.12**]
35. **Martin, L.J.**, Koren, SA., Persinger, MA. 2005. Thermal analgesic effects from weak (1 μ T), complex magnetic fields: Critical Parameters. *Elect Bio Med* 24(2):65-85.
36. **Martin, L.J.**, Persinger, MA. 2005. The influence of various pharmacological agents on the analgesia induced by an applied complex magnetic field treatment in the rat: A receptor system potpourri. *Elect Bio Med* 24(2):87-97.
37. **Martin, L.J.**, Koren, SA., Persinger, MA. 2004. Influence of a complex magnetic field treatment on thermal nociceptive thresholds: The importance of polarity and timing *Int J Neurosci* 114(10):1259-76.
38. **Martin, L.J.**, Koren, SA., Persinger MA. 2004. Thermal analgesic effects from Weak, complex magnetic fields and pharmacological interactions. *Pharmacol Biochem Behav* 78(2):217-27.
39. **Martin, L.J.**, Persinger, MA. 2004. Thermal analgesia induced by 30 minutes of exposure to 1 μ T burst-firing magnetic fields is strongly enhanced in a dose-dependent manner by the $\alpha 2$ agonist clonidine in rats. *Neurosci Lett* 366(2):226-9.

40. **Martin, LJ.**, Fournier, NM., Galic, MA., Emond, MH. 2004. Chronic administration of the L-type calcium channel blocker nimodipine can facilitate the acquisition of sequence learning in a radial arm maze *Behav Pharmacol* 15(2):133-9.
41. Galic, MA., Fournier, NM., **Martin, LJ.** 2004. A brief 10-minute exposure to a swim stress augments seizure onset in male rats treated with lithium and pilocarpine. *Pharm Biochem Behav* 79(2):309-16.
42. **Martin, LJ.**, Persinger MA. 2003. Spatial heterogeneity not homogeneity of intensity during exposures to a complex frequency-modulated μ T magnetic field facilitates analgesia. *Percept Mot Skills* 96:1005-12.
43. McKay, BE., Lado, WE., **Martin, LJ.**, Galic, MA., Fournier, NM. 2002. Learning and memory in agmatine-treated rats. *Pharmacol Biochem Behav* 72:551-7.

BOOK CHAPTERS

1. Sivaselvachandran, S., Sivaselvachandran, M., Abdallah, S., **Martin, LJ.** 2018. Lost in translation: Improving our understanding of pain empathy. In: Neuronal correlates of empathy – from rodent to man. Eds. Ksenia Z. Meyza and Ewelina Knapska. Elsevier. Pg. 123-135. *In Press*.
2. Acland, EL., Lidhar, N., **Martin, LJ.** 2017. Bridging the gap between animals and people: The roots of social behavior and its relationship to pain. In: Social and interpersonal dynamics in pain: We don't suffer alone. Eds. Prkachin, K., Karos, K., Vervoort, T., Trost, Z. *Springer. In Press*.
3. **Martin, LJ.** Tuttle, AH., Mogil, JS. 2014. The interaction between pain and social behavior in humans and rodents. In: Current Topics in Behavioral Neuroscience. Eds. Bradley Taylor and David Finn. Vol. 20. Pg. 233-250. *Springer-Verlag Berlin Heidelberg*.

CONFERENCE ABSTRACTS –*Trainees are underlined*

1. Poulson, SJ., Holmes, MM., **Martin, LJ.** 2019. Characterizing Neuropathic and Nociceptive Pain in the African Naked Mole-Rat (*Heterocephalus Glaber*). Canadian Pain Society, Toronto, ON.
2. Cho, C., Michailidis, V., Fatima, A., Park, HB., Presswala, B., Dziekonski, N., **Martin, LJ.** 2019. The Neural Mechanisms behind Conditioned Analgesia in Chronic Neuropathic Pain. Canadian Pain Society, Toronto, ON.
3. Michailidis, V., Cho, C., Sivaselvachandran, M., Acland, EL., Lidhar, N., Chan, C., **Martin, LJ.** 2018. Investigating the comorbidity of chronic pain and depression in mice. Society for Neuroscience, San Diego, CA.
4. Lidhar, N., Sivaselvachandran, S., Turner, HN., Khan, S., Sivaselvachandran, M., Abdallah, S., Bang, J., Kim, JC., Fournier, NM., **Martin, LJ.** 2018. Glucocorticoid receptor activity in the prefrontal cortex prevents emotional contagion in mice. Society for Neuroscience, San Diego, CA.
5. Michailidis, V., Cho, C., Lidhar, N., Sivaselvachandran, M., **Martin, LJ.** 2018. Investigating the comorbidity of chronic pain and depression in mice. IASP World Congress of Pain, Boston, MA.
6. Lidhar, N., Sivaselvachandran, M., Khan, S., Malik, M., **Martin, LJ.** 2018. The relationship between social reward, social stress and thermal pain sensitivity in mice. IASP World Congress of Pain, Boston, MA.
7. Cho, C., Michailidis, V., Fatima, A., Park, HB., **Martin, LJ.** 2018. Neurobiological mechanisms of opioid-

mediated conditioned analgesia in chronic neuropathic pain. IASP World Congress of Pain, Boston, MA.

8. Cho, C., Tohyama, S., Loka, M., Cho, MJ., Chan, C., Danesh, M., Michailidis, V., **Martin, LJ.** 2018. Opioid-mediated conditioning as a novel mouse model of placebo analgesia. *Frontiers in Neurophotonics*. Laval, QC.
9. Poulson, SJ., Holmes, MM., **Martin, LJ.** 2018. Characterizing pain behavior from nerve injury in a rodent that feels no spicy heat. CPIN Research Day. University of Toronto, Toronto, ON.
10. Poulson, SJ., Holmes, MM., **Martin, LJ.** 2018. Characterizing pain behavior from nerve injury in a rodent that feels no spicy heat. Cell and Systems Biology Research Day. University of Toronto, Toronto, ON.
11. Loka, M., Cho, C., Michailidis, V., Danesh, M., **Martin, LJ.** 2018. The Efficacy of Oral Versus Injectable Analgesics for the Treatment of Pain in Rodents. Canadian Pain Society, Montreal, QC.
12. Poulson, SJ., Holmes, MM., **Martin, LJ.** 2018. Characterizing pain behavior from nerve injury in a rodent that feels no spicy heat. Graduate Research Colloquium. University of Toronto Mississauga, Mississauga, ON.
13. **Martin, LJ.**, Michailidis, V., Acland, EL., Cho, C., Sivaselvachandran, M. 2018. Sex differences in depressive-like behavior following peripheral nerve injury in mice. American Pain Society, Anaheim, CA.
14. Tansley, S., Samoshkin, A., Parisien, M., Piltonen, M., **Martin, LJ.**, Mogil, JS., Diatchenko, L., Khoutorsky, A. 2018. Extracellular matrix mediated plasticity in neuropathic pain. American Pain Society, Anaheim, CA.
15. Acland, EL., Sivaselvachandran, M., **Martin, LJ.** 2017. The effect of peripheral nerve injury on depression and anxiety-like behaviours in mice. Sexposium, Toronto, ON.
16. Loka, M., Cho, C., Danesh, M., Michailidis, V., **Martin, LJ.** 2017. The Efficacy of Oral Versus Injectable Administration of Analgesia. Sexposium, Toronto, ON.
17. Lidhar, N., Sivaselvachandran, S., Malik, M., Sivaselvachandran, M., **Martin, LJ.** 2017. Socially induced hyperalgesia in an inflammatory pain model. Canadian Association for Neuroscience, Montreal, QC.
18. Acland, EL., Sivaselvachandran, M., **Martin, LJ.** 2017. The effect of peripheral nerve injury on depression and anxiety-like behaviours in mice. Canadian Association for Neuroscience, Montreal, QC.
19. Loka, M., Cho, C., Danesh, M., Michailidis, V., **Martin, LJ.** 2017. The Efficacy of Oral Versus Injectable Administration of Analgesia. Canadian Association for Neuroscience, Montreal, QC.
20. Sivaselvachandran, S., Lidhar, N., Setak, F., Sivaselvachandran, M., Chandiramohan, A., Rosen, S., Cho, C., **Martin, LJ.** 2017. Stress-related circuitry that regulates empathy-like behaviours in rodents. Canadian Association for Neuroscience, Montreal, QC.
21. Chan, CC., Cho, C., **Martin, LJ.** Neural correlates of affective touch in mice. Canadian Association for Neuroscience, Montreal, QC.
22. Cho, C., **Martin, LJ.** 2017. Opioid-mediated conditioning as a novel mouse model of placebo analgesia. Canadian Association for Neuroscience, Montreal, QC.
23. Acland, EL., Sivaselvachandran, M., **Martin, LJ.** 2017. The effect of peripheral nerve injury on depression and anxiety-like behaviours in mice. Canadian Pain Society, Halifax, NS.

24. **Martin, L.J.**, Sivaselvachandran, S., Abdallah, S., Cho, C., Chandiromohan, A., Tohyama, S., Setak, F. 2016. Increased glucocorticoid receptor activity in the medial prefrontal cortex prevents the expression of empathy in mice. Society for Neuroscience, San Diego, CA.
25. Turner, HN., Sivaselvachandran, S., Abdallah, S., **Martin, L.J.**, Fournier, NM. 2016. Functional mapping of brain circuits supporting social modulation of pain in mice. Society for Neuroscience, San Diego, CA.
26. Sivaselvachandran, S. Abdallah, S., Tohyama, S., **Martin, L.J.** 2016. Increased glucocorticoid expression in the medial prefrontal cortex prevents the expression of empathy in mice. Canadian Association for Neuroscience, Toronto, ON.
27. Tohyama, S. **Martin, L.J.** 2016. Placebo analgesia in a chronic neuropathic pain model in mice. Canadian Association for Neuroscience, Toronto, ON.
28. Turner, HN., Sivaselvachandran, S., Abdallah, S., **Martin, L.J.**, Fournier, NM. 2016. Functional mapping of brain circuits supporting social modulation of pain in mice. Canadian Association for Neuroscience, Toronto, ON.
29. Acland, E., **Martin, L.J.** 2016. Sex Differences in Glucocorticoid Receptor Expression in Mice with Nerve-Injuries. Canadian Pain Society, Vancouver, BC.
30. Tohyama, S., **Martin, L.J.** 2016. Placebo analgesia in a chronic neuropathic pain model in mice. Canadian Pain Society, Vancouver, BC. **(BEST POSTER AWARD)**
31. Sivaselvachandran, S. Abdallah, S., Tohyama, S., **Martin, L.J.** 2016. Increased glucocorticoid expression in the medial prefrontal cortex prevents the expression of empathy in mice. Canadian Pain Society, Vancouver, BC.
32. **Martin, L.J.**, Acland, E., Chen, D., Kadoura, B., Mirali, S., Corley, E., Tohyama, S., Gandhi, W., Schweinhardt, P., Mogil, J.S. 2015. Male-specific conditioned pain hypersensitivity in mice and humans. Canadian Pain Society, Charlottetown, PEI.
33. **Martin, L.J.**, Acland, E., Chen, D., Kadoura, B., Mirali, S., Corley, E., Tohyama, S., Gandhi, W., Schweinhardt, P., Mogil, J.S. 2015. Male-specific conditioned pain hypersensitivity in mice and humans. American Pain Society, Palm Springs, CA.
34. Piltonen, MH., **Martin, L.J.**, Gauthier, J., Convertino, M., Acland, EA., Dokholyan, NV., Mogil, JS., Diatchenko, L., Maixner, W. 2014. Differential efficacy of the non-selective α -adrenergic antagonist bupranolol for treatment against neuropathic and inflammatory pain. IASP World Congress of Pain, Bueno Aires, Argentina.
35. **Martin, L.J.**, Smith, SB., Khoutorsky, A., Magnuson, C., Sorge, RE., Mir, E., Gibson, DG., Otis, V., Wieskopf, JS., Sotocinal, SG., Austin, JS., Gendron, L., Salter, MW., Sonenberg, N., Ribeiro-da-Silva, A., Greenspan, JD., Fillingim, RB., Ohrbach, R., Slade, GD., Knott, C., Dubner, R., Maixner, W., Mogil, JS., Diatchenko, L. 2014. Epregeulin and Epidermal Growth Factor Receptor Involvement in Pain Revealed by a Reverse Translational Approach. IASP World Congress of Pain, Bueno Aires, Argentina.
36. **Martin, L.J.**, Hathaway, GA., Mirali, S., Isbester, K., Niederstrasser, N., Slepian, P., Trost, Z., Sternberg, W., Sapolsky, R., Levitin, D., Mogil, JS. 2013. Elicitation of empathy for pain in strangers by social stress reduction in mice and humans. Society for Neuroscience. San Diego, CA

37. Acland, EL., **Martin, LJ.**, Mogil, JS. 2013. Conditioned pain hypersensitivity in male but not female mice. Society for Neuroscience, San Diego, CA
38. Sorge, RE., **Martin, LJ.**, Alexander, J., Beggs, S., Rosen, S., Zhang, J., Salter, MW., Mogil, JS. 2013. Male and female mice use distinct spinal immune cells to mediate chronic pain. Society for Neuroscience. San Diego, CA
39. **Martin, LJ.**, Hathaway, GA., Mirali, S., Isbester, K., Niederstrasser, N., Slepian, P., Trost, Z., Sternberg, W., Sapolsky, R., Levitin, D., Mogil, JS. 2013. Elicitation of empathy for pain in strangers by social stress reduction in mice and humans. Canadian Pain Society, Winnipeg, MB (**Hot Topics Oral Presentation**)
40. **Martin, LJ.**, Sorge, RE., Isbester, KA., Sotocinal, SG, McPhail, M, Delaney, A., Svensson, CI., Sternberg, WF., Mogil, JS., 2013. Stress-induced analgesia in the mouse via cross species olfactory exposure to human males. McGill Pain Day, Montreal, QC (**BEST POSTER AWARD**)
41. **Martin, LJ.**, Hathaway, GA., Mirali, S., Sternberg, WF., Sapolsky, RM., Levitin, DJ., Mogil., JS. Social modulation of pain: Evidence that social stress blocks empathy. IASP World Congress of Pain, Milan, Italy.
42. Sorge, RE., **Martin, LJ.**, Isbester, KA., Stone, LS., Mogil, JS. 2012. MACHO: *Male-induced Analgesia by Chemosensory Olfaction*. IASP World Congress of Pain, Milan Italy.
43. **Martin, LJ.**, Sorge, RE., et al., 2012. The role of the epiregulin and epidermal growth factor receptor genes in the variability of inflammatory and chronic Pain. Canadian Pain Society. Whistler, BC (**Hot Topics Oral Presentation**)
44. **Martin, LJ.**, Sorge, RE., et al., 2012. The epidermal growth factor receptor mediates hyperalgesia via mTOR and MMP9. McGill Pain Day. Montreal, QC (**Best Scientific Poster**)
45. **Martin, LJ.**, Sorge, RE., et al., Modulation of nociceptive sensitivity in inflammatory and neuropathic pain by the epidermal growth factor receptor. Society for Neuroscience. Washington, DC
46. Tuttle, AH., Sotocinal, SG., Sorge, RE., Zaloum, A., **Martin, LJ.**, et al., 2011 The rat grimace scale: A partially automated method for quantifying pain in the laboratory rat via facial expressions. . Society for Neuroscience. Washington, DC
47. **Martin, LJ.**, Stewart, TM., Farb, DH., Eichenbaum, HB. 2010. Selective inhibition of $\alpha 5\text{GABA}_A$ receptors decreases place field stability in the CA1 and CA3 subfields of the hippocampus. Boston University Neuroscience Research Day. Boston, MA
48. **Martin, LJ.**, Jackson, MF., Ju. W., Macdonald, JF., Roder, JC., Orser. BA. 2010. $\alpha 5\text{GABA}_A$ receptors set the threshold for synaptic plasticity and regulate behavioral memory. Boston University Neuroscience Research Day. Boston, MA
49. **Martin, LJ.**, Orser, BA. 2009. Novel treatment strategies for post-operative cognitive dysfunction. Neuroscience Research Day. Sunnybrook Health Sciences Centre. Toronto, ON
50. **Martin, LJ.**, Jackson, MF., Ju. W, Macdonald, JF., Roder, JC., Orser, BA. 2009. $\alpha 5\text{GABA}_A$ receptors set the threshold for synaptic plasticity and regulate behavioral memory. Society for Neuroscience, Chicago, IL
51. **Martin, LJ.**, Oh, GH., Orser, BA. 2009. The role of $\alpha 5\text{GABA}_A$ receptors in the induction and reversal of memory blockade by etomidate. American Society of Anesthesiologists, New Orleans, LA

52. Orser, BA., **Martin, LJ.** 2009. The unique role of $\alpha 5$ GABA_A receptors in regulating synaptic plasticity and memory. Neuronal glutamate and GABA_A receptor function in health and disease conference. St. Andrews university, UK
53. Eng, DG., **Martin, LJ.**, Whissell, PD., Orser, BA. 2009. The role of δ -subunit GABA_A in the synaptic plasticity of the dentate gyrus. Shields Research Conference. Toronto, ON
54. **Martin, LJ.**, MacDonald, JF., Orser, BA. 2008. Anesthetic-induced impairment of memory and LTP is rescued by blockade of $\alpha 5$ GABA_A receptors. Canadian Association for Neuroscience. Montreal, QC
55. Saab, BJ., MacLean, AJB., Kanisek, M, **Martin, LJ.** Roder, JC., Orser, BA. 2008. Previous exposure to isoflurane induces a $\alpha 5$ GABA_A receptor-dependent impairment in fear memory. Shields Research Conference. Toronto, ON
56. **Martin, LJ.**, Macdonald, JF., Orser, BA. 2008. Anesthetic-induced impairment of memory and LTP is rescued by blockade of $\alpha 5$ GABA_A Receptors. Shields research conference. Toronto, ON
57. **Martin, LJ.**, Macdonald, JF., Orser, BA. 2007. Blockade of $\alpha 5$ GABA_A receptors reverses the LTP impairing effects of a general anesthetic. International conference on synaptic plasticity Toronto, ON
58. **Martin, LJ.**, Macdonald, JF., Orser, BA. 2007. Anesthetic-induced impairment of LTP is reversed by blockade of $\alpha 5$ GABA_A receptors. Society for Neuroscience. San Diego, CA
59. **Martin, LJ.**, Oh, GH., Orser, BA. 2006. Benzodiazepine inverse agonists selective for $\alpha 5$ GABA_A receptors reverse anesthetic-induced memory impairment. Molecular and Cellular Cognitive Society. Program No. 95. Atlanta, GA
60. **Martin, LJ.**, Oh, GH., Orser, BA. 2006. Inverse agonists selective for $\alpha 5$ GABA_A receptors enhance associative learning and reverse anesthetic-induced memory impairment. Society for Neuroscience. Program No. 175.11. Atlanta, GA
61. Orser, BA., **Martin, LJ.**, Cheng, VY., Bonin, RP. 2006. Role of extrasynaptic GABA_A receptor in the hippocampus. 19th ECNP Congress. Paris, FRA
62. **Martin, LJ.**, Cheng, VY., Elliot, EM., Kim, J., Mount, HTJ., Taverna, FA., Roder, JC., MacDonald, JF., Bhambri, A., Collinson, N., Wafford, KA., Orser, BA. 2006. $\alpha 5$ GABA_A receptors mediate the amnestic but not sedative-hypnotic effects of the general anesthetic, etomidate. Southern Ontario Neuroscience Association. Program in Neuroscience. University of Toronto. Toronto, ON
63. **Martin, LJ.**, Bonin, RP., Oh, GH., Orser, BA. 2006. $\alpha 5$ GABA_ARs are not required for memory impairment by ethanol in mice. Canadian Anesthesiology Society. Toronto, ON
64. **Martin, LJ.**, Cheng, VY., Elliot, EM., Kim, J., Mount, HTJ., Taverna, FA., Roder, JC., MacDonald, JF., Bhambri, A., Collinson, N., Wafford, KA., Orser, BA. 2005. Learning and memory impairment by the general anesthetic etomidate is mediated by $\alpha 5$ GABA_A receptors. Society for Neuroscience. Program No. 611.11. Washington, DC
65. **Martin, LJ.**, Cheng, VY., Elliot, EM., Kim, J., Mount, HTJ., Taverna, FA., Roder, JC., MacDonald, JF., Bhambri, A., Collinson, N., Wafford, KA., Orser, BA. 2005. Increased $\alpha 5$ GABA_A receptor function impairs learning and memory processes. Molecular and Cellular Cognitive Society. Program no. 95. Washington DC
66. **Martin, LJ.**, Cheng, VY., Elliot, EM., Kim, J., Mount, HTJ., Taverna, FA., Roder, JC., MacDonald, JF.,

Bhambri, A., Collinson, N., Wafford, KA., Orser, BA. 2005. Modulation of learning and memory through GABA_A receptors containing the $\alpha 5$ subunit by the general anesthetic etomidate. Southern Ontario Neuroscience Association (SONA annual meeting). McMaster University, Hamilton, ON

67. **Martin, LJ.**, Lafrenie, RM., Persinger, MA. 2004. Variable exposure lengths to a weak (μ T) frequency-modulated magnetic pattern activates the MAPK, ERK-1 and ERK-2 pathways which results in different thermal analgesic responses that can be increased with pre-injections of morphine or Agmatine. Society for Neuroscience. Program No. 718.5. San Diego, CA (**Oral Presentation**)
68. **Martin, LJ.**, Koren, SA., Persinger, MA. 2003. Waveform-specific, intensity dependent and time limited efficacy of magnetic fields for analgesia in male Wistar rats. Society for Neuroscience. New Orleans, LA (**Oral Presentation**)
69. Emond, MH., Sikora, LM., **Martin, LJ.** 2004. The interaction of corticosterone injections and noise stress on food intake in rats. Society for Neuroscience. Program No. 427.18. San Diego, CA
70. Galic, MA., Fournier, NM., **Martin, LJ.**, Persinger, MA. 2004. Persinger. Anticonvulsant action from a 10-minute swim stress on behavioral convulsions induced through lithium and pilocarpine. Society for Neuroscience. Program No. 451.15. San Diego, CA.
71. **Martin, LJ.**, Persinger, MA. 2003. Waveform-specific, intensity dependent and time limited efficacy of magnetic fields for analgesia in male Wistar rats. Society for Neuroscience Program No. 238.7. New Orleans, LA (**Oral Presentation**)

INVITED AND SYMPOSIUM TALKS

1. Examining the neural circuits and molecular targets for the social modulation of pain. In symposium: "Social Mechanisms Underlying the Pain Experience: Novel Frameworks for Examining the Influence of Social Context in Pain". (April 3, 2019). **Canadian Pain Society**, Toronto, ON. *Symposium Chair*.
2. Learning models of pain and pain relief. In symposium: "Cognitive Modulation of Pain: An Innovative Multidisciplinary, Multi-Species Approach". (April 3, 2019). **Canadian Pain Society**, Toronto, ON. *Symposium Chair*.
3. Bridging the translational divide in pain research. Early Career Award Plenary Lecture. (April 5, 2019). Canadian Pain Society, Toronto, ON. *Keynote speaker*.
4. The social and cognitive modulation of pain. Laurentian University Research Week. (March 22, 2019). Laurentian University, Sudbury, ON. *Keynote speaker*
5. Examining the neural circuits and molecular targets for the social modulation of pain. (December, 18). Webinar for Pain Research Forum
6. Examining the neural circuits and molecular targets for the social modulation of pain. **Neurobiology of Empathy Conference**. Warsaw, Poland. (September 11, 2018).
7. Learning mechanisms of pain and pain relief. **Canadian Pain Society/Pfizer collaborative meeting**. Montreal, QC. (May 24, 2018).
8. Male-specific conditioned pain sensitivity in mice and humans. **Organization for the study of sex differences**. Atlanta, GA. (May 3, 2018)
9. Identification of novel pain targets through reverse translation. **Brownbag, UTM Neuroscience Group**. University of Toronto Mississauga, Mississauga ON. (April 19, 2018).
10. The social and environmental modulation of pain. **Brain and Behaviour Research Day**. Department of Psychology. University of Toronto, Toronto, ON. (April 9, 2018)
11. Examining the neural circuits and molecular targets for the social modulation of pain. In symposium: "Putting the spotlight on social: An innovative multidisciplinary, multi-species approach for examining the influence of social context in pain." **American Pain Society**, Anaheim, CA. (March 5, 2018).

12. The puzzle of pain. **Tedx Uofft Mississauga**, Mississauga, ON (November 11)
13. Sex Matters: Balancing the scales in pain research. **Sexposium**, Toronto, ON. (June 9)
14. Stress, pain and social interactions in mice. In symposium “Coping with Pain: Basic, Developmental, and Translational Perspectives.” **Canadian Pain Society**, Halifax, NS. (May 24)
15. Contextual conditioned pain responses in male but not female mice and people. In symposium “The Link between Stress and Pain Across the Lifespan: Evidence from Children, Adults, and Rodents.” **Canadian Pain Society**, Halifax, NS. (May 23)
16. Implicit memory for pain in mice and humans. In symposium “The Role of Pain Memories in the Pain Experience: Emerging Evidence in the Developing Child, Adult, and Rodent.” **American Pain Society**, Pittsburgh, PA. (May 19)
17. Involvement of epiregulin and the epidermal growth factor receptor in pain. American Pain Society Future Leaders Presentation for the Basic Science Special Interest Group. **American Pain Society**, Pittsburgh, PA. (May 18).
18. The Social Modulation of Pain in mice and people. *In symposium* “What brain activity and connectivity is necessary for social perception and behavior? An innovative multidisciplinary, multi-species approach.” **International Convention of Psychological Science**, Vienna, AT. (March, 24)
19. Sex matters: Balancing the scales in pain research. University of Toronto Annual Animal Care Committee Retreat. University of Toronto, Toronto, ON. (December 7).
20. Unravelling the biology of the social and environmental influences on pain. Pain in Child Health (PICH)2GO. The Hospital for Sick Children. Toronto, ON. (November 10)
21. What NOT to expect when you’re expecting (an academic job). *In trainee symposium* “The path of least resistance in academia and beyond”. **Canadian Pain Society**, Vancouver BC. (May 26)
22. Empathy and affective communication in rodents. *In symposium* “I feel your pain: The social neuroscience of empathy for pain and touch”. **Canadian Pain Society**, Vancouver, B.C. (May 25). *Session chair*.
23. Sex or Gender? Considering environment and social familiarity in pain research. *In symposium* “Thinking about Gender in Preclinical Models: Examples of models and best practices”. **Organization for the study of sex differences**, Philadelphia, PA. (May 24)
24. Do Animals have Empathy? The Amazing Empathetic Abilities of Animals. **The Pet Professional Guild**, Webinar (April 29).
25. The contribution of olfactory stimuli to the modulation of pain. Department of Psychology, Trent University, Peterborough, ON. *Invited by Dr. Neil Fournier* (January 29).
26. The modulation of pain by social and environmental stress. Department of Psychology, York University, Toronto, ON. *Invited by Dr. Rebecca Pillai Ridell* (December 10).
27. The modulation of pain by stress and fear. **University of Toronto Centre for the Study of Pain (UTCSP)**, University of Toronto, Toronto, ON (November 10).
28. The genetic and psychosocial modulation of pain. University of Toronto, **Brain and Behaviour Seminar Series**. Toronto, ON (November 6).
29. Novel translational models of stress-induced hyperalgesia/analgesia. *In symposium* “The bidirectional effect of stress on pain: from models to mechanisms”. **European Pain Congress (EFIC)**. Vienna, Austria (September 3).
30. The modulation of pain by social and environmental stress. *In symposium* “Unravelling the thread of nature via nurture – The impact of social relationships and context on gene expression and pain response”. **Canadian Pain Society**. Charlottetown, PEI (May 22).
31. Male-specific conditioned pain hypersensitivity in mice and humans. *Data Blitz session*, **American Pain Society**. Palm Springs, CA (May 10).
32. The one body problem. **Montreal Neurological Institute**. Montreal, QC. *Invited by the Quebec Network of Junior Pain Investigators*.
33. Two tales of translational pain research: From genetics to social modulation. Dalhousie University. Halifax, NS. *Invited by Department of Anesthesiology and Perioperative Medicine*.
34. Two tales of translational pain research: From genetics to social modulation. Washington University in St. Louis. St. Louis, MO. *Invited by Department of Anesthesiology*.
35. Two tales of translational pain research: From genetics to social modulation. University of Maryland.

- Baltimore, MD. *Invited by Faculty of Dentistry and School of Nursing.*
36. Two tales of translational pain research: From genetics to social modulation. University of Manitoba Winnipeg, MB. *Invited by Department of Pharmacology.*
 37. Two tales of translational pain research: From genetics to social modulation. University of Toronto Mississauga. Mississauga, ON. *Invited by Department of Psychology.*
 38. Two tales of translational pain research: From genetics to social modulation. University of Toronto. Toronto, ON. *Invited by Department of Pharmacology and Toxicology.*
 39. Two tales of translational pain research: From genetics to social modulation. Queen's University. Kingston, ON. *Invited by Department of Anesthesiology.*
 40. Elicitation of empathy for pain in strangers by social stress reduction in mice and humans. Canadian Pain Society. Winnipeg, MB, *Hot Topics Session.*
 41. The role of the epiregulin and epidermal growth factor receptor genes in the variability of inflammatory and chronic pain. Canadian Pain Society. Whistler, BC, *Hot Topics Session.*
 42. The role of $\alpha 5$ GABA_A receptors in learning, synaptic plasticity and place field remapping. McGill University. Montreal, QC. *Invited by Dr. Karim Nader.*
 43. Memory, Pain and Anesthesia. **SHSC and Baycrest Neuroscience Research Day.** University of Toronto. Toronto, ON.
 44. $\alpha 5$ subunit containing GABA_A receptors modify the threshold for LTP and hippocampus-dependent learning behaviors. **Department of Molecular and Cellular Biology**, University of California Berkeley. Berkeley, CA. *Invited by Dr. Mu-ming Poo.*
 45. Bidirectional regulation of plasticity and learning by $\alpha 5$ subunit containing GABA_A receptors. **Department of Cellular Science**, Rutgers University. Newark, NJ. *Invited by: Dr. György Buzsáki*
 46. Tonic GABAergic inhibition regulates activity-dependent plasticity and learning. **Department of Pharmacology**, Boston University. Boston, MA. *Invited by: Dr. Howard Eichenbaum.*
 47. $\alpha 5$ GABA_ARS mediate the memory-impairing effects of general anesthetics. Regulation of Cerebral Blood Flow and Metabolism: From Cellular Mechanisms to Cerebral Outcomes. **Department of Anesthesia**, University of Toronto. Toronto, ON. *Invited by Dr. Greg Hare.*
 48. $\alpha 5$ GABA_ARS regulate activity-dependent plasticity and memory blockade by general anesthetics. **Institute of Medical Science**, University of Toronto. Toronto, ON. *Laidlaw Manuscript Competition Finalist.*
 49. Blockade of memory by general anesthetics: Implications of awareness during anesthesia and postoperative cognitive dysfunction. Mediterranean Institute of Neurobiology. Marseille, France. *Invited by: Dr. Yehezkel Ben-Ari.*
 50. Molecular substrates for anesthetic induced memory impairment. **University of Toronto Sleep and cognition symposium**, University of Toronto. Toronto, ON.

TEACHING AND GUEST LECTURES

2019	PSY399H5S Biopsychology Laboratory (pain and electrophysiology modules)
2018 – 2019	JCB487Y5 Advanced Interdisciplinary Research Laboratory
2018	PSY5101HF Mechanisms of Behaviour, Graduate Course, University of Toronto
2017	PSY 490 Advanced Topics in Biological Psychology, University of Toronto Mississauga
2016 – present	PSY 362 Animal Cognition, Department of Psychology, University of Toronto Mississauga
2016 – present	PSY 391 “Psychology of Pain”, Department of Psychology, University of Toronto Mississauga
2009	Neuropsychopharmacology, Department of Psychology, Laurentian University
2006	Mechanisms of Intravenous Anesthetics, Guest Lecture, University of Toronto

TRAINING OF HIGHLY QUALIFIED PERSONNEL

Postdoctoral Fellows

Current

2016 – present	Dr. Chulmin Cho, Department of Psychology, University of Toronto Mississauga
2018 – present	Dr. Marcia Roy, Department of Psychology, University of Toronto Mississauga

Graduate Students

Current Masters

2017 – present	Vassilia Michailidis “The role of microglia in affective behaviours following nerve injury”
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Current Ph.D.

2018 – present	Sandra Poulson “Defining a role for the prelimbic cortex in the social modulation of pain”
2017 – present	Soroush Darvish “The role of the ACC and dopaminergic transmission in pain”
2016 – present	Navdeep Lidhar “The social-modulation of inflammatory pain” Funded by NSERC Doctoral Fellowship

Past students

2017 – 2018	Sandra Poulson, M.A. , “Using the naked mole rat to understand neuropathic pain”
2016 – 2018	Claire Chan, M.Sc. , “The rewarding value of gentle touch in mice”
2015 – 2016	Erinn Acland, M.A. , “Sex differences in the HPA axis following chronic pain”
2015 – 2016	Sivaani Sivaselvachandran, M.A. , “Neural correlates of empathy in mice”

Undergraduate – UTM

(Bold indicates Graduate or Medical School Admission; # Indicates NSERC URSA holder)

2019 – present	Nirlap Brar, Department of Psychology, Thesis Student
2019 – present	Mona Mohsin, Department of Psychology, ROP Student
2019 – present	Nafia Mirza, Department of Psychology, ROP Student
2019 – present	Iqra Arain, Department of Psychology, ROP Student
2019 – present	Rachel Stubits, Department of Biology, Volunteer
2019	Rachel Riley, Department of Psychology, Volunteer (McMaster University Student)
2019 – present	Ahmed Aldaraji, Department of Psychology, ROP student
2019 – present	Simran Kanda, Department of Psychology, ROP student
2019 – present	Precia Christian, Department of Psychology, ROP student
2018 – present	Brenden Lyver, Department of Psychology, Volunteer
2019 – present	Amanda Leonetti, Department of Psychology, Volunteer
2018 – 2019	Malak Wahdan, Department of Psychology, Thesis Student
2018 – present	Hyun Been Park, Department of Psychology, Volunteer
2018 – 2019	Fatima Wassif, Department of Psychology, Volunteer
2018 – 2019	Batul Presswala, Department of Psychology, Independent Research Project Student
2018 – present	Natalia Dziekonski, Department of Psychology, Volunteer
2018 – 2019	Ruchi Shah, Department of Psychology, Volunteer
2018	Sophia Munir, Department of Psychology, Volunteer
2017 – present	Sana Khan, Department of Psychology, Research Assistant
2017 – 2018	Dure Khan, Department of Psychology, Volunteer

2017 – 2018	Areej Fatima, Department of Biology, Thesis Student
2017 – 2018	Nirushi Kuhathasan, Department of Psychology, Thesis Student
2017	Vassilia Michailidis , Department of Psychology, Independent Research Project Student
2016 – 2017	Maria Malik , Department of Psychology, Thesis Student
2016 – 2017	Mina Boshra , Department of Psychology, Independent Research Project Student
2016 – 2017	Racheal Lui, Department of Psychology, Volunteer
2016 – 2017	Fatima Safi, Department of Psychology, Thesis Student
2016 – present	Matthew Danesh, Department of Psychology, ROP Student and Volunteer
2016 – present	#Meruba Sivaselvachandran , Department of Psychology, Thesis Student
2016 – 2017	Pawandeep Sandhu , Department of Psychology, Volunteer
2015 – 2017	#Mary Loka , Department of Psychology, Thesis student, NSERC URSA
2016 – 2017	Sara Rosen, Department of Psychology, Volunteer
2015 – 2016	Daina Wilkialis , Department of Psychology, Thesis Student
2015 – 2016	Martha Pokarowski , Department of Psychology, Independent Research Project
2015 – 2016	Loay Moharram, Department of Psychology, Volunteer
2015	Elvea Candra, Department of Psychology, International Research Opportunity Program
2015 – 2017	Abiram Chandiramohan, Department of Psychology, ROP and IRP Student
2015 – 2016	Sally Abdallah , ROP Student and Volunteer
2015 – 2016	Claire Chan , Department of Psychology, Volunteer

Undergraduate – McGill University

2014	Elizabeth Corley, Department of Psychology, Work Study Student
2013-2014	Ann (Di) Chen, Department of Psychology, Undergraduate Volunteer
2013 – 2014	Basil Kadoura, Department of Psychology, Thesis Student
2013	Erindeep Boporai, Department of Psychology, Volunteer
2012 – 2013	Erinn Acland, Department of Psychology, Thesis Student
2012 – 2013	Kelsey Isbester, Department of Psychology, Independent Project Student
2011 – 2012	Daniel Low, Department of Psychology, Thesis Student
2011 – 2012	Georgia Hathaway, Department of Psychology, Thesis Student
2011 – 2012	Sara Mirali, Department of Psychology, Thesis Student
2011 – 2012	Nicole Lajuenesse, Department of Psychology, Independent Project

Research Coordinators

2018 – 2019	Sana Khan, Department of Psychology
2017 – 2018	Mary Loka, Department of Psychology
2016 – 2017	Moon Jeong Cho, Department of Psychology
2015 – 2016	Sarasa Tohyama, Department of Psychology

COMMITTEES AND SERVICES

Thesis Advisory Committees

Karly Franz. Measuring and enhancing interpersonal neural synchrony between children and therapists using brain-computer interface technology in a clinical setting. 2019–present. Ph.D. Thesis. Supervisor. T. Chau, Institute of Biomaterial and Biomedical Engineering, University of Toronto.

Mahmoud Bitar. Investigating the role of androgenic mechanisms in mouse sociosexual signalling. 2017 – present. M.Sc. Thesis. Supervisor: A. Monks, Department of Cell Systems Biology, University of Toronto.

Hamad Reiss. Molecular Characterization of a Ctenophore Voltage Gated Calcium Channel. 2017-2019. M.Sc. Thesis. Supervisor: A. Senatore, Department of Cell Systems and Biology, University of Toronto.

Virginia Yini. The role of affective touch in empathy-related behaviour. 2016-2018. M.Sc. Thesis. Supervisor: R. Bonin, Faculty of Pharmacy, University of Toronto.

Firyal Ramzan. Androgen Receptor and Histone Variant H2A.Z Interact to Regulate Fear Memory. 2016–2019. Ph.D. Thesis. Supervisor(s): I. Zovkic and A. Monks, Department of Psychology, University of Toronto.

Sally Abdallah. Electrophysiological characterization of a Ctenophore Voltage Gated Calcium Channel. 2016-2018. M.Sc. Thesis. Supervisor: A. Senatore, Department of Cell Systems and Biology, University of Toronto.

Thesis external examiner

Troy Collins. The Effects of Social Novelty on Cell Proliferation in a Eusocial Mammal. 2019. MA. Thesis Supervisor: M. Holmes, Department of Psychology, University of Toronto.

Carl Steininger Jr. Histone Variant H2A.Z's Effects on Nicotine Locomotor Sensitization and Reward. 2019. MA. Thesis Supervisor: I. Zovkic, Department of Psychology, University of Toronto.

Celeste Leung. The Role of PAK Signalling in Synaptic Transmission and Plasticity and Social Memory in Mice. 2018. Ph.D. Thesis Supervisor: Zhengping Jia, Department of Physiology, University of Toronto.

Sammy Cai. The role of CP-AMPA's in PKA-dependent LTP within the hippocampus. 2018. M.Sc. Thesis Supervisor: Zhengping Jia, Department of Physiology, University of Toronto.

Diane Seguin. Effects of Early Embryonic Ethanol Exposure on Adult Zebrafish Social Behavior. 2018. Ph.D. Thesis Supervisor: Robert Gerlai, Department of Psychology, University of Toronto.

Kirusanthi Kaneshwaren. 2017. Investigating the central role of astrocytes in mediating postanesthetic memory deficits. M.Sc. Thesis Supervisor: Beverley Orser Department of Physiology, University of Toronto.

Ashlyn Swift-Gallant. Non-Neural and Neural Contributions of Androgen Receptors on Socio-Sexual Behaviours in Mice. 2016. Ph.D. Thesis. Supervisor: DA. Monks, Department of Psychology, University of Toronto.

Matthew J Pelcowitz. A Meta-Analytic Review of Selected Adverse Drug Events (ADEs) of Long-Term Prescription Opioids for Chronic Non-Cancer Pain (CNCP). 2016. M.Sc. Thesis. Supervisor: A. Furlan, Institute of Medical Science, University of Toronto.

Skyler Mooney. Oxytocin-Immunoreactive neurons in the paraventricular nucleus of the hypothalamus in *Hetercephalus glaber*: A Quantitative Analysis. 2015. Ph.D. Thesis. Supervisor: M. Holmes, Department of Psychology, University of Toronto Mississauga.

Philip Evans. Biological aspects of aging: organ measures, neurohistology and the predictive value of mild brain injury. 2011. M.Sc. Thesis. Supervisor: M.A. Persinger, Department of Biology, Laurentian University.

Departmental and University

2019	Psychology, PTR Ranking Committee
2018 – present	Tri-campus Biosciences Animal Care Committee, <i>Chair</i>
2018 – present	University Animal Care Committee
2019 – present	Post-approval Review Monitoring Committee, <i>Chair</i>

2017 – present	Department of Psychology Curriculum Committee
2016	Graduate expansion fund (GEF) Research Impact Committee; Judging research paper entries for the “Hottest paper award” submitted by Psychology graduate students
2016 – present	UTM Local Animal Care Committee, <i>Vice Chair</i>
2016	Psychology, PTR Ranking Committee
2016 – present	University of Toronto Study for the Centre of Pain, Awards Committee
2016 – present	Strategic Infrastructure Committee, Psychology Representative (<i>as needed</i>)
2015 - 2016	Graduate expansion fund (GEF) statistics workshop initiative for undergraduate research students (GENAB representative)

National Committee Positions

2019 – 2021	Canadian Pain Society, Awards Committee, Chair
2018 – 2019	Canadian Pain Society, Awards Committee, Vice-Chair
2016 – present	Canadian Pain Society: Scientific Program Committee, (Halifax, Montreal, Toronto)
2015 – present	Canadian Pain Society, Awards Committee (Basic Science Representative)

Editorial Board Member

2016 – present	Scientific Reports, Nature Publishing Group
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Grant Review Committees

2019	French National Research Agency (ANR) – Human Brain Project
2019	Air Force Office of Scientific Research Cognitive Neuroscience Program
2018 – 2023	Canadian Institutes of Health Research College of Reviewers
2018	Canada Research Chair Program
2018	American Pain Society Grant Review Panel, Future Leaders in Pain Research
2018	Canadian Institutes of Health Research Grant Review Panel, Neuroscience A (NSA)
2017	American Pain Society Grant Review Panel, Future Leaders in Pain Research

Scholarship Review Committees

2019	Louise and Alan Edwards Scientific Foundation, PhD scholarship review.
2019	UTCSP, Queen Elizabeth II/Purdue Pharma OGSST ranking committee
2018	UTCSP, Queen Elizabeth II/Purdue Pharma OGSST ranking committee
2017	UTCSP, Queen Elizabeth II/Purdue Pharma OGSST ranking committee
2016	Psychology, NSERC PhD Ranking Committee
2016	Psychology, Ontario Graduate Scholarship Ranking Committee

Ad hoc Journal Reviewer

Psychology Research and Behavior Management	Neuroscience
Journal of Pain Research	Behavioral Neuroscience
International Journal of Developmental Neuroscience	Neuropharmacology
Epilepsy and Behavior	PLOS One
Neuroscience Letters	Biology Letters
Experimental Brain Research	FEBS OpenBio
Current Biology	Frontiers in Genetics
Pain Reports	Nature Communications
	Scientific Reports

Media

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2. Sharing Stress. Super awesome Science Show. Podcast interview with Dr. Jason Tetro, available on Apple and Spotify podcasts. <https://omny.fm/shows/super-awesome-science-show/stress>
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10. Men and women remember pain differently. Interview with Katherine Gombay for McGill Newsroom. <https://www.mcgill.ca/newsroom/channels/news/men-and-women-remember-pain-differently-293050>
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Professional Affiliations

International Association for the Study of Pain
Canadian Pain Society
American Pain Society
Canadian Association for Neuroscience
Society for Neuroscience
International Behavioral Neuroscience Society