



CURRICULUM VITAE

for
Suraj Unniappan

Professor

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Website: <http://www.unniappanlab.com>

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One Reproductive Health Research Group

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DEGREES

2004 **PhD**, University of Alberta, Canada. Department: Biological Sciences. Speciality: Cell Biology and Physiology. Mentor: Dr. Richard Ector Peter.

1998 **MSc**, University of Kerala, India. Department: Zoology – University Main Campus, Thiruvananthapuram. Speciality: General and Applied Zoology.

1996 **BSc**, University of Kerala, India. Department: Zoology - University College Campus, Thiruvananthapuram. Speciality: Zoology.

CREDENTIALS

Post-doctoral training (Mentor: Dr. Timothy James Kieffer), Department of Cellular and Physiological Sciences, Faculty of Medicine, University of British Columbia, Canada, 2006.

APPOINTMENTS AND PROMOTIONS (University of Saskatchewan)

July 2017 – Present: Professor (Tenured), VBMS, WCVM, University of Saskatchewan

July 2012 – 2017: Associate Professor (Tenured), VBMS, WCVM, University of Saskatchewan

PREVIOUS POSITIONS:

July 2011 – June 2012 Associate Professor (Tenured), Department of Biology, York University, Toronto, Canada.

January 2007 – June 2011 Assistant Professor (Tenure Track), Department of Biology, York University, York University, Toronto, Canada.

AWARDS, HONOURS, and RECOGNITIONS

28. 2017 Shastri Indo-Canadian Scholar Travel Award
27. 2016 Yoshitaka Nagahama Lectureship and Award in Fish Endocrinology, International Society for Fish Endocrinology, France (*this prize is awarded every four years*)
26. 2015 Zoetis Animal Health Research Excellence Award (Saskatoon) from Zoetis (Pfizer), University of Saskatchewan
25. 2014 Elsevier Award of Excellence in Reviewing (UK)
24. 2013 Pickford Medal in Comparative Endocrinology (Barcelona) from the International Federation of Comparative Endocrinology Societies (*this prize is awarded every four years to an outstanding researcher under the age of 45*)
23. 2012 Saskatchewan Health Research Foundation Top Researcher Award-Biomedical (Saskatoon) from the Saskatchewan Health Research Foundation
22. 2012-2015 Discovery Accelerator Supplement Award (for 3 years) from the Natural Sciences and Engineering Research Council (NSERC) of Canada
Awarded 120,000 CAD, CAD 40,000 X 3 years
21. 2010-2015 Canadian Institutes of Health Research (CIHR) New Investigator Award
Awarded 300,000 CAD
20. 2012 Bob Boutilier New Investigator Award, Canadian Society of Zoologists
19. 2011 Early Investigator Award, the Endocrine Society, USA Elsevier Top Reviewer Award (for General and Comparative Endocrinology)
18. 2011 Early Researcher Award, Faculty of Science and Engineering, York University
17. 2010 Top Cited Award from Elsevier 2008 – 2010; for an article in *Comparative Biochemistry and Physiology*
16. 2009 Elsevier Top Reviewer Award (for General and Comparative Endocrinology)
15. 2009 Early Researcher Award, Ontario Ministry of Research and Innovation
14. 2009 Young Investigator Abstract Award, International Regulatory Peptides Symposium, USA
13. 2006 CIHR-INMD New Investigator Travel Award
12. 2006 Young Investigator Abstract Award, International Regulatory Peptides Symposium, Japan
11. 2006 Canadian Diabetes Association Abstract Award, Annual Meeting, Toronto, Canada
10. 2005 Young Investigator Abstract Award, International Society for Cellular Therapy
9. 2004 International Society of Endocrinology-Sankyo Japan Abstract/Travel Award
8. 2002 Letter of Commendation for Excellence in Teaching, University of Alberta
7. 2002 Best Poster Prize (Cell Biology and Physiology), University of Alberta
6. 2001 Letter of Commendation for Excellence in Teaching, University of Alberta
5. 2000 Coordinator of the Year Award, University of Alberta Student Residence Services
4. 1998 Prof. N.G. Kurup Memorial Gold Medal (Zoology), University of Kerala, India
3. 1998 Prof. K. Bhaskaran Nair Gold Medal (Zoology), University of Kerala, India
2. 1998 First Rank, M.Sc. in General and Applied Zoology, University of Kerala, India
1. 1997 Dr. S. Padmanabha Iyer Memorial Shield for the Zoology Intercollegiate Quiz

Fellowships/Scholarships/Assistantships

12. 2006-2009 Michael Smith Foundation (BC) Post-doctoral Fellowship (declined-2006)
11. 2004-2007 Canadian Institutes of Health Research Post-doctoral Fellowship (declined-2006)
10. 2004-2006 Canadian Diabetes Association Post-doctoral Fellowship (declined-2004)
9. 2003 University of Alberta Department of Biological Sciences Travel Grant
8. 2003 GSA Professional Development Grant, University of Alberta
7. 2002 J Gordin Kaplan Graduate Student Award, University of Alberta
6. 2000-2002 University of Alberta GTA bursary, University of Alberta
5. 1999-2004 Graduate Teaching Assistantship, University of Alberta
4. 1999-2004 Graduate Research Assistantship, University of Alberta
3. 1999-2002 Faculty of Science Dean's Scholarship, University of Alberta
2. 1999 FGS Recruitment Scholarship, University of Alberta
1. 1998 Indian Academy of Sciences Summer Fellowship

PUBLICATIONS

Publication and Impact Summary

Book Chapters	3
Papers in Refereed Journals	66
Submitted Manuscripts	6
Refereed Conference Publications	7

	<i>h-index</i>	Total Citations
Google Scholar	24	2739
Scopus	23	2064
Web of Knowledge	23	1957

Book Chapters

NOTE: Trainee names are underlined, and my name is in **bold** letters.

3. Mohan H, **Unniappan S**. 2013. Discovery of Ghrelin O-acyltransferase. In: A Benso, FF Casanueva, E Ghigo, and A Granata (Eds.), *The Ghrelin System, Endocrine Development vol. 25* (pp. 16-24). Basel: Karger.
2. Tachie-Mensah E, Volkoff H, **Unniappan S**. 2010. Galanin in Non-mammalian Vertebrates With Special Focus on Fishes. In: Tomas Hokfelt (Ed.), *Galanin, Experientia Supplementum vol. 102* (pp. 243-262). Basel: Springer Basel.
1. Volkoff H, **Unniappan S**, Kelly SP. 2009. The Endocrine Regulation of Food Intake. In: Nicholas Bernier, Glen Van Der Kaark, Anthony Farrell, and Colin Brauner (Eds.), *Fish Physiology: Fish Neuroendocrinology, vol. 28* (pp. 421-465). London: Elsevier.

Papers in Refereed Journals:

NOTE: Trainee names are underlined, and my name is in **bold** letters.

71. Morton K, Hargraeves L, Mortazavi S, Weber LP, Blanco AM, Unniappan S. 2018. Tissue-specific expression and circulating concentrations of nesfatin-1 in domestic animals. *Domest Anim Endocrinol*. 2018 May 9;65:56-66.
70. Scuderi M, Petito MP, Unniappan S, Waldner C, Mehain S, McMillan CJ, Snead E. Safety and 2018. Efficacy Assessment of a GLP-1 Mimetic: Insulin Glargine Combination for Treatment of Feline Diabetes Mellitus. *Domest Anim Endocrinol*. Article in Press. doi: <https://doi.org/10.1016/j.domaniend.2018.04.003>
69. Mesah E, Blanco AM, Donini A, Unniappan S. Galanin decreases spontaneous resting contractions and potentiates Acetyl Choline-induced contractions of goldfish gut. *Neuropeptides*. 69:92-97.
68. Kerbel B, Badal K, Sundarrajan LS, Blanco AM, Unniappan S. Xenin is a novel anorexigen in goldfish (*Carassius auratus*). *PLoS One*. 2018 May 23;13(5):e0197817.
67. Falcinelli S, Gioacchini G, Rodiles A, Hatef A, Picchiatti S, Cossignani S, Merrifield DL, **Unniappan S**, Carnevali O. Influences of dietary fat and probiotic administration on zebrafish microbiota core: effects on glucose and lipid metabolism. *Journal of Clinical Gastroenterology*. Article in Press. doi: 10.1097/MCG.0000000000001064.
66. Carmalt JL, Mortazavi S, McOnie RC, Allen AL, **Unniappan S**. 2018. Profiles of pro-opiomelanocortin and encoded peptides, and their processing enzymes in equine pituitary pars intermedia dysfunction. *PLoS One*, 13(1): e0190796.
65. Legg-St Pierre CB, Mackova M, Miskiewicz EI, Hemmings DG, **Unniappan S**, MacPhee DJ. 2017. Insulinotropic nucleobindin-2/nesfatin-1 is dynamically expressed in the haemochorial mouse and human placenta. *Reproduction, Fertility, and Development*, DOI: 10.1071/RD16486.
64. Sundarrajan L, Yeung C, Hahn L, Weber LP, **Unniappan S**. 2017. Irisin Regulates Cardiac Physiology in Zebrafish. *PLoS One*, 12(8): e0181461.
63. Sundarrajan L, **Unniappan S**. 2017. Small Interfering RNA Mediated Knockdown of Irisin Suppresses Food Intake and Modulates Appetite Regulatory Peptides in Zebrafish. *General and Comparative Endocrinology*, pii: S0016-6480(17)30224-1.
62. Bertucci JI, Blanco AM, Canosa LF, **Unniappan S**. 2017. Direct actions of macronutrient components on goldfish hepatopancreas in vitro to modulate the expression of ghr-I, ghr-II, igf-I and igf-II mRNAs. *General and Comparative Endocrinology*, 250: 1-8.
61. Falcinelli S, Rodiles A, Hatef A, Picchiatti S, Cossignani L, Merrifield DL, **Unniappan S**, Carnevali O. 2017. Dietary lipid content reorganizes gut microbiota and probiotic *L. rhamnosus*

- attenuates obesity and enhances catabolic hormonal milieu in zebrafish. *Scientific Reports*, 7(1): 5512.
60. Gawli K, Ramesh N, **Unniappan S**. 2017. Nesfatin-1 Like Peptide is a Novel Metabolic Factor that Suppresses Feeding, and Regulates Whole-Body Energy Homeostasis in Male Wistar Rats. *PLoS One*, 12(5): e0178329.
59. Bertucci JI, Tovar MO, Blanco AM, Gomez-Requeni P, **Unniappan S**, Canosa LF. 2017. Influence of Water Salinity on Genes Implicated in Somatic Growth, Lipid Metabolism and Food Intake in Pejerrey (*Odontesthes bonariensis*). *Comparative Biochemistry and Physiology Part B: Biochemistry & Molecular Biology*, 210: 29-38.
58. Bertucci JI, Tovar MO, Navarro JC, **Unniappan S**, Canosa LF. 2017. Effects of dietary vegetable oil on growth parameters, fatty acid profiles and expression of genes regulating growth and metabolism in the pejerrey (*Odontesthes bonariensis*) fry. *Aquaculture Nutrition*, DOI: 10.1111/anu.12603.
57. Blanco AM, Bertucci JI, Valenciano AI, Delgado MJ, **Unniappan S**. 2017. Ghrelin suppresses cholecystokinin (CCK), peptide YY (PYY) and glucagon-like peptide-1 (GLP-1) in the intestine, and attenuates the anorectic effects of CCK, PYY and GLP-1 in goldfish (*Carassius auratus*). *Hormones and Behavior*, pii: S0018-506X(16)30457-3.
56. Blanco AM, Bertucci JI, Ramesh N, Delgado MJ, Valenciano AI, **Unniappan S**. 2017. Ghrelin Facilitates GLUT2-, SGLT1- and SGLT2-mediated Intestinal Glucose Transport in Goldfish (*Carassius auratus*). *Scientific Reports*, 7: 45024.
55. Blanco AM, Sundarrajan L, Bertucci JI, **Unniappan S**. 2017. Why Goldfish? Merits and Challenges in Employing Goldfish as a Model Organism in Comparative Endocrinology Research. *General and Comparative Endocrinology*, pii: S0016-6480(17)30094-1.
54. Hatef A, **Unniappan S**. 2017. Gonadotropin Releasing Hormone, Kisspeptin and Gonadal Steroids Directly Modulate NUCB2/nesfatin-1 in Murine Hypothalamic GnRH Neurons and Gonadotropes. *Biology of Reproduction*, 96(3): 635-651.
53. Blanco AM, Gomez-Boronat M, Alonso-Gomez AL, Yufa R, **Unniappan S**, Delgado MJ, Valenciano AI. 2017. Characterization of Ghrelin O-Acyltransferase (GOAT) in Goldfish (*Carassius auratus*). *PLoS One*, 12(2): e0171874.
52. Bertucci JI, Blanco AM, Canosa LF, **Unniappan S**. 2017. Glucose, Amino Acids and Fatty Acids Directly Regulate Ghrelin and NUCB2/Nesfatin-1 in the Intestine and Hepatopancreas of Goldfish (*Carassius auratus*) In Vitro. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 206: 24-35.
51. Blanco AM, Bertucci JI, Sánchez-Bretaña A, Delgado MJ, Valenciano AI, **Unniappan S**. 2017. Ghrelin modulates gene and protein expression of digestive enzymes in the intestine and hepatopancreas of goldfish (*Carassius auratus*) via the GHS-R1a: Possible roles of PLC/PKC and AC/PKA intracellular signaling pathways. *Molecular and Cellular Endocrinology*, 442: 165-181.

50. Ramesh N, Gawli K, Pasupuleti V, **Unniappan S**. 2017. Metabolic and Cardiovascular Actions of Nesfatin-1: Implications in Health and Disease. *Current Pharmaceutical Design*, 23(10): 1453-1464.
49. Mensah ET, Blanco AM, Donini A, **Unniappan S**. 2017. Brain and intestinal expression of galanin-like peptide (GALP), galanin receptor R1 and galanin receptor R2, and GALP regulation of food intake in goldfish (*Carassius auratus*). *Neuroscience Letters*, 637: 126-135.
48. Sundarrajan L, Blanco AM, Bertucci JI, Ramesh N, Canosa LF, **Unniappan S***. 2016. Nesfatin-1-Like Peptide Encoded in Nucleobindin-1 in Goldfish is a Novel Anorexigen Modulated by Sex Steroids, Macronutrients and Daily Rhythm. *Nature Scientific Reports*, 6: 28377.
47. Hamilton JL, Imran Ul-Haq M, Abbina S, Kalathottukaren MT, Lai BF, Hatef A, **Unniappan S**, Kizhakkedathu JN. 2016. In vivo efficacy, toxicity and biodistribution of ultra-long circulating desferrioxamine based polymeric iron chelator. *Biomaterials*, 102: 58-71.
46. Mohan H, Gasner M, Ramesh N, **Unniappan S**. 2016. Ghrelin, ghrelin-O-acyl transferase, nucleobindin-2/nesfatin-1 and prohormone convertases in the pancreatic islets of Sprague–Dawley rats during development. *Journal of Molecular Histology*, 47(3): 325-336.
45. Ramesh N, Mortazavi S, **Unniappan S**. 2016. Nesfatin-1 stimulates cholecystokinin and suppresses peptide YY expression and secretion in mice. *Biochemical and Biophysical Research Communications*, 472(1): 201-208.
44. Nair N, Gerger C, Hatef H, Weber LP, **Unniappan S**. 2016. Ultrasonography reveals *in vivo* dose dependent inhibition of end systolic and diastolic volumes, heart rate and cardiac output by nesfatin-1 in zebrafish. *General and Comparative Endocrinology*, 234: 142-150.
43. Blanco AM, Bertucci JI, Delgado MJ, Valenciano AI, **Unniappan S**. 2016. Tissue-specific expression of ghrelinergic and NUCB2/nesfatin-1 systems in goldfish (*Carassius auratus*) is modulated by macronutrient composition of diets. *Comparative Biochemistry and Physiology Part A: Molecular and Integrative Physiology*, 195: 1-9.
42. Bertucci JI, Blanco AM, Canosa LF, **Unniappan S**. 2016. Estradiol and testosterone modulate the tissue-specific expression of ghrelin, ghs-r, goat and nucb2 in goldfish. *General and Comparative Endocrinology*, 228: 17-23.
41. Falcinelli S, Rodiles A, **Unniappan S**, Pichetti S, Gioacchini G, Merrifield DL, Carnevali O. 2015. Probiotic treatment reduces appetite and glucose level in the zebrafish model. *Nature Scientific Reports*, 5: 18061.
40. Gonzalez R, **Unniappan S**. 2015. Mass Spectrometry Assisted Confirmation of the Inability of Dipeptidyl Peptidase 4 to Cleave Goldfish Peptide YY(1-36), and the Lack of Anorexigenic Effects of PYY(3-36) in Goldfish (*Carassius auratus*). *Fish Physiology and Biochemistry*, 42(3): 831-844.

39. Sánchez-Bretaña A, Blanco AM, **Unniappan S**, Kah O, Gueguen MM, Bertucci JJ, Alonso-Gómez ÁL, Valenciano AI, Isorna E, Delgado MJ. 2015. In Situ Localization and Rhythmic Expression of Ghrelin and ghs-r1 Ghrelin Receptor in the Brain and Gastrointestinal Tract of Goldfish (*Carassius auratus*). *PLoS One*, 10(10): e0141043.
38. Hatef A, Yufa R, **Unniappan S**. 2015. Ghrelin O-Acyl Transferase in Zebrafish is an Evolutionarily Conserved Peptide Upregulated During Calorie Restriction. *Zebrafish*, 12(5): 327-338.
37. Ramesh N, Mortazavi S, **Unniappan S**. 2015. Nesfatin-1 stimulates glucagon-like peptide-1 and glucose-dependent insulinotropic polypeptide secretion from STC-1 cells in vitro. *Biochemical and Biophysical Research Communications*, 462(2): 124-130.
36. Ramesh N, Mohan H, **Unniappan S**. 2015. Nucleobindin-1 encodes a nesfatin-1-like peptide that stimulates insulin secretion. *General and Comparative Endocrinology*, 216: 182-189.
35. Mortazavi S, Gonzalez R, Ceddia R, **Unniappan S**. 2015. Long-term infusion of nesfatin-1 causes a sustained regulation of whole-body energy homeostasis of male Fischer 344 rats. *Frontiers in Cell and Developmental Biology*, 3: 22.
34. Hatef H, Shajan S, **Unniappan S**. 2015. Nutrient Status Modulates the Expression of Nesfatin-1 Encoding Nucleobindin 2A and 2B mRNAs in Zebrafish Gut and Brain. *General and Comparative Endocrinology*, 215: 51-60.
33. Hamilton JL, Hatef A, Imran Ul-haq, Nair N, **Unniappan S**, Kizhakkedathu, J*. 2014. Clinically Approved Iron Chelators Influence Zebrafish Mortality, Hatching Morphology and Cardiac Function. *PLoS One*, 9(10): e109880. ***Co-corresponding authors.**
32. Mohan H, Le A, Iwakura H, **Unniappan S**. 2014. Nutrients Differentially Regulate Nucleobindin-2/Nesfatin-1 In Vitro in Cultured Stomach Ghrelinoma (MGN3-1) Cells and In Vivo in Male Mice. *PLoS One*, 9(12): e115102.
31. Senejani Reza AG, Gaupale TC, **Unniappan S**, Bhargava S. 2014. Nesfatin-1/Nucleobindin-2 Like Immunoreactivity in the Olfactory System, Brain and Pituitary of Frog, *Microhyla ornata*. *General and Comparative Endocrinology*, 202: 8-14.
30. Mohan H, **Unniappan S**. 2013. Phylogenetic Aspects of Nesfatin-1. *Current Pharmaceutical Design*, 19(39): 6929-6934.
29. Gonzalez R, Shepperd E, Thiruppugazh V, Lohan S, Grey CL, Chang JP, **Unniappan S**. 2012. Nesfatin-1 regulates the hypothalamo-pituitary-ovarian axis of fish. *Biology of Reproduction*, 87: 84(1-11).
28. Mohan H, **Unniappan S**. 2012. Ontogenic pattern of nucleobindin-2/nesfatin-1 expression in the gastroenteropancreatic tissues and serum of Sprague Dawley rats. *Regulatory Peptides*, 175: 61-69.

27. Shepperd E, Peng C, Unniappan S. 2012. Ghrelinergic System in Fish Ovaries and Ghrelin Inhibition of Oocyte Maturation in Zebrafish. *General and Comparative Endocrinology*, 176: 426-431.
26. Gonzalez R, Mohan H, Unniappan S. 2012. Nucleobindins: Bioactive Precursor Proteins Encoding Putative Endocrine Factors?. *General and Comparative Endocrinology*, 76: 341-6.
25. Kerbel A, Unniappan S. 2011. Nesfatin-1 Suppresses Energy Intake, Co-localizes Ghrelin and Inhibits Brain Preproghrelin and Ghrelin Receptor mRNA Expression in Goldfish. *Journal of Neuroendocrinology*, 24: 366-377.
24. Shlimun A, Unniappan S. 2011. Ghrelin O-Acyl Transferase: Bridging Ghrelin and Energy Homeostasis. *International Journal of Peptides*, 2011: 217957. *Invited Review for the special issue "Updates on Ghrelin 2011"*.
23. Gonzalez R, Perry RLS, Gao X, Tsushima RG, Ceddia RB, Unniappan S. 2011. Nutrient Responsive Nesfatin-1 Regulates Energy Balance and Induces Glucose Stimulated Insulin Secretion in Rats. *Endocrinology*, 152: 3628-3637.
22. Gonzalez R, Reingold BK, Gao X, Gaidhu MP, Tsushima R, Unniappan S. 2011. Nesfatin-1 Exerts a Direct, Glucose-Dependent Insulinotropic Action on Mouse Islet Beta and MIN6 Cells. *Journal of Endocrinology*, 208: R9-R16.
21. Gonzalez R, Kerbel B, Chun A, Unniappan S. 2010. Molecular, Cellular and Physiological Evidences for the Anorexigenic Actions of Nesfatin-1 in Goldfish. *PLoS ONE*, 5(12): e15201.
20. **Unniappan S.** 2010. Ghrelin: An Emerging Player in the Neuroendocrine Regulation of Reproduction in Non-Mammalian Vertebrates. *General and Comparative Endocrinology*, 167: 340-343. *Invited review*.
19. Gonzalez R, Unniappan S. 2010. Molecular Characterization, Appetite Regulatory Effects and Feeding Related Changes of Peptide YY in Goldfish. *General and Comparative Endocrinology*, 166: 273-279.
18. Gonzalez R, Tiwari A, Unniappan S. 2009. Pancreatic Beta-Cells Colocalize Insulin and Ponesfatin Immunoreactivity in Rodents. *Biochemical and Biophysical Research Communications*, 381: 643-648.
17. Amole N, Unniappan S. 2009. Fasting Induces Preproghrelin mRNA Expression in the Brain and Gut of Zebrafish, *Danio rerio*. *General and Comparative Endocrinology*, 161: 133-137.
16. **Unniappan S,** Wideman RD, Donald C, Gunn V, Wall JL, Zhang Q, Webber TD, Cheung AT, Kieffer TJ. 2009. Treatment of Diabetes by Transplantation of Drug-Inducible Insulin-Producing Gut Cells. *Journal of Molecular Medicine*, 87: 703-712.
15. Kaiya H, Miyazato M, Kangawa K, Peter RE, **Unniappan S.** 2008. Ghrelin: a multifunctional hormone in non-mammalian vertebrates. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 149: 109-128.

14. **Unniappan S**, Kieffer TJ. 2008. Metabolic effects of chronic obestatin infusion in rats. *Peptides*, 29: 1354-1361.
13. Oosman SN, Lam A, **Unniappan S**, Webber TD, Kieffer TJ. 2008. Treatment of obesity and diabetes in mice by transplant of gut cells engineered to produce leptin. *Molecular Therapy*, 16: 1138-1145.
12. **Unniappan S**, Kieffer TJ. 2008. Leptin extends the anorectic effects of chronic PYY(3-36) administration in ad libitum-fed rats. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 295: R51-58.
11. Covey S, Wideman RD, McDonald CD, Hyunh F, **Unniappan S**, Webber TD, Chua S, Kieffer TJ. 2006. The Pancreatic Beta Cell is a Key Site for Mediating the Effects of Leptin on Glucose Homeostasis. *Cell Metabolism*, 4: 291-302.
10. **Unniappan S**, McIntosh CHS, Demuth H-U, Heiser U, Wolf R, Kieffer TJ. 2006. Effects of Dipeptidyl Peptidase IV on the Satiety Effects of Peptide YY. *Diabetologia*, 49: 1915-1923.
9. Canosa LF, **Unniappan S**, Peter RE. 2005. Periprandial Changes in Growth Hormone Release in Goldfish: Role of Somatostatin, Ghrelin and Gastrin Releasing Peptide. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 289: R125-R133.
8. **Unniappan S**, Peter RE. 2005. Structure, Distribution and Physiological Functions of Ghrelin in Fish. *Comparative Biochemistry and Physiology Part A: Molecular and Integrative Physiology*, 140: 396-408.
7. Volkoff H, Canosa LF, **Unniappan S**, Cerda-Reverter JM, Bernier NJ, Kelly SP, Peter RE. 2005. Neuropeptides and Control of Food Intake in Fish. *General and Comparative Endocrinology*, 142: 3-19.
6. **Unniappan S**, Peter RE. 2004. *In Vitro* and *In Vivo* Effects of Ghrelin on Growth Hormone and Luteinizing Hormone Release in Goldfish. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 286: R1093-1101.
5. **Unniappan S**, Cerda-Reverter JM, Peter RE. 2004. *In Situ* Localization of Preprogalanin mRNA in the Goldfish Brain and Changes in its Expression During Feeding and Starvation. *General and Comparative Endocrinology*, 136: 200-207.
4. **Unniappan S**, Canosa LF, Peter RE. 2004. Orexigenic Actions of Ghrelin in Goldfish: Feeding Induced Changes in Brain and Gut mRNA Expression and Serum Levels, and Responses to Central and Peripheral Injections. *Neuroendocrinology*, 79(2): 100-108.
3. Yunker WK, Smith S, Graves C, Davis PJ, **Unniappan S**, Rivier JE, Peter RE, Chang JP. 2003. Endogenous Hypothalamic Somatostatins Differentially Regulate Growth Hormone Secretion from Goldfish Pituitary Somatotropes *In Vitro*. *Endocrinology*, 144: 4031-4041.

2. **Unniappan S**, Lin X and Peter RE. 2003. Characterization of Complementary Deoxyribonucleic Acids Encoding Preprogalanin and its Alternative Splice Variants in the Goldfish. *Molecular and Cellular Endocrinology*, 200: 177-187.
1. **Unniappan S**, Lin X, Cervini L, Rivier J, Kaiya H, Kangawa K, and Peter RE. 2002. Goldfish Ghrelin: Molecular Characterization of the Complementary Deoxyribonucleic Acid, Partial Gene Structure and Evidence for its Stimulatory Role in Food Intake. *Endocrinology*, 143: 4143-4146.

Refereed Conference Publications:

7. Mohan H, **Unniappan S**. Nesfatin-1 Regulation of Energy Balance. Invited Review in the *Proceedings of the Seventeenth International Congress of Comparative Endocrinology*, pp. 1-4. September 2014. Medimond, Bologna, Italy.
6. Oosman SN, Webber TD, Zhang Q, **Unniappan S**, Bruch D, Lam N, Cheung AT, Korbitt G, Kieffer TJ. Treatment of Obesity and Type 2 Diabetes by Leptin Cell Therapy. *Obesity Research, Supplement 1, 2005*. Wiley, New Jersey, USA.
5. **Unniappan S**, McIntosh CHS, Kieffer TJ. Dipeptidyl Peptidase IV Regulates the Anorectic Effects of Peptide YY. *Obesity Research, Supplement 1, 2005*. Wiley, New Jersey, USA.
4. Gunn V, **Unniappan S**, Cheung AT, Zhang Q, Webber TD, Kieffer TJ. A Cell Based Therapy for Type 1 Diabetes Using Genetically Engineered Gut Cells. *Cytotherapy, Volume 7, Supplement 1, 2005*. Elsevier, Amsterdam, Netherlands.
3. Wong SL, **Unniappan S**, Gunn V, Kieffer TJ. Microencapsulated Insulinoma Cells Ameliorate Diabetes and Promote Beta Cell Regeneration in Diabetic Mice. *Cytotherapy, Volume 7, Supplement 1, 2005*. Elsevier, Amsterdam, Netherlands.
2. **Unniappan S**, Peter RE. Ghrelin is a Growth Hormone Secretagogue in Goldfish. *Proceedings of the International Congress of Endocrinology 2004*, pp. 945-948. Published by Monduzzi Editore Medimond Srl, Bologna, Italy.
1. **Unniappan S**, Peter RE. Is Ghrelin a Reproductive Hormone in Goldfish? *Proceedings of the International Congress of Endocrinology 2004*, pp. 941-944. Published by Monduzzi Editore Medimond Srl, Bologna, Italy.

PRESENTATIONS

Invited Presentations

41. **Unniappan S.** Nucleobindin Encoded Orphan Ligands Nesfatin-1, and Nesfatin-1-Like Peptide: Emerging Roles in Physiological Homeostasis. Central University of Kerala, India. November 27, 2017. **(Invited Lecture)**
40. **Unniappan S.** Biology of Nucleobindin Encoded Nesfatin-1 and Nesfatin-1-Like Peptide: Current Trends and Emerging Thoughts. International Symposium on Recent Advances in Comparative Endocrinology. Chennai, India. November 30, 2017. **(Plenary Lecture)**
39. Snead EC, Scuderi M, Ribeiro Petito M, **Unniappan S**, Waldner C, Mehain S, Snead, E. Safety and Efficacy Assessment of A GLP-1 Mimetic: Insulin Glargine Combination for Treatment of Feline Diabetes Mellitus. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017. **(Invited Symposium Talk)**
38. Falcinelli S, Rodiles A, Hatef A, Picchietti S, Cossignani L, Merrifield DL, **Unniappan S**, Carnevali O. Effects of Gut Microbiota Variation on Host's Energy Balance and Development in Fish Model. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017. **(Invited Symposium Talk; S. Falcinelli presented.)**
37. Hatef A, **Unniappan S**. Interaction of GnRH, Kisspeptin and Sex Steroids with NUCB2/NESFATIN-1 in Mice Hypothalamic Neurons and Gonadotropes. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017. **(Invited Symposium Talk; A. Hatef presented.)**
36. **Unniappan S.** Nesfatin-1 Biology: A Decade and Beyond. Invited State-of-the Art Lecturer at the 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017. **(State of the Art Lecture)**
35. **Unniappan S.** Nucleobindin Encoded Peptides: Novel Regulators of Homeostasis in Animals. Confirmed plenary speaker at the joint meeting of the 22nd International Congress of Zoology, and the 87th Annual Meeting of the Zoological Society of Japan. Okinawa, Japan. November 14-19, 2016. **(Plenary Lecture)**
34. Blanco AM*, Bertucci JI, Valenciano AI, Delgado MJ, **Unniappan S.** Ghrelin modulates digestive enzymes and glucose transporters in goldfish gut and hepatopancreas in vitro via the GHS-R1a receptor, and PLC-PKC and AC-PKA signaling pathways. 28th Conference of European Comparative Endocrinologists (CECE). Leuven, Belgium. August 21-25, 2016. **Since I was unable to attend, Ayelen Blanco, my visiting student, was chosen as the presenting author.* **(Invited Symposium Talk)**
33. Carnevali O*, Falcinelli S, Basilio R, Francesca, Merrifield LD and **Unniappan S**, Olivotto I. Changes in zebrafish gut microbiota modulates IGF system and metabolic hormones during larval development. 28th Conference of European Comparative Endocrinologists (CECE). Leuven, Belgium. 2016. **Dr. Carnevali, my collaborator, is the presenting author.* **(Invited Symposium Talk)**

32. **Unniappan S.** The Yoshitaka Nagahama Lecture on July 2, 2016, Title: Current trends in the neuroendocrine regulation of feeding and metabolism in fish: an overview. International Congress of Fish Endocrinology. Gothenburg, Sweden. June 28 – July 2, 2016. (**Nagahama Lecture - Plenary**)
31. **Unniappan S.** Nesfatin-1 Like Peptide (NLP): A Novel Anorexigen in Fish? International Congress on the Biology of Fish. San Marcos, Texas. June 12-16, 2016. (**Invited Symposium Talk**)
30. **Unniappan S.** Special Plenary Lecture entitled Metabolic and Endocrine Functions of Nesfatin-1 and Related Peptides in Fish and Mammals. National Symposium on Comparative Endocrinology and Reproductive Biology. Viswa-Bharati, West Bengal, India. October 1-3, 2015. (**Plenary Lecture**)
29. **Unniappan S.** Comparative Endocrinology of Nesfatin-1: Update 2015. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015. (**Invited Symposium Talk**)
28. **Unniappan S.** Nesfatin-1 Regulation of Growth Hormone Secretion in Fish. International Congress on the Biology of Fish. Heriott-Watt University, Edinburgh, Scotland. August 3-7, 2014. (**Invited Symposium Talk**)
27. **Unniappan S.** Hormonal Control of Appetite and Energy Balance – New Proteins, Novel Functions at the ICCE 2013. Barcelona. Spain. July 17, 2013. (**Pickford Medal Lecture - Plenary**)
26. **Unniappan S.** Nesfatin-1 Regulation of Energy Balance in Vertebrates. Invited seminar at the Faculty of Science, hosted by Department Chair Dr. James Nagler. University of Idaho, Department of Biological Sciences, USA. October 1, 2013. (**Departmental Seminar**)
25. **Unniappan S.** Nesfatin-1: A Multifunctional Metabolic Protein. Western Canadian Medicinal Chemistry Workshop. University of Saskatchewan, Canada. September 2012. (**Invited Symposium Talk**)
24. **Unniappan S.** New and Emerging Players in the Regulation of Growth Hormone Secretion and Feeding in Goldfish. International Symposium on Fish Endocrinology. Buenos Aires, Argentina. September 2012. (**Invited Symposium Talk**)
23. **Unniappan S.** Goldfish: An ideal model in comparative endocrinology? 26th Annual Conference of the European Comparative Endocrinologists. Zurich, Switzerland. August 2012. (**Invited Symposium Talk**)
22. **Unniappan S.** New and Emerging Players in the Regulation of Feeding and Metabolism in Fish. International Conference on the Biology of Fish. Madison, Wisconsin. July 2012. (**Invited Symposium Talk**)

21. **Unniappan S.** Neuroendocrine Regulation of Energy Balance: Nesfatin-1-From Genes to Physiology. Canadian Society for Zoologists, Sackville, New Brunswick, Canada. May 2012. (Boutilier Lecture - Plenary)
20. **Unniappan S.** Nesfatin-1 in Fish: A Novel Multifunctional Regulator of Metabolism and Reproduction. Comparative Endocrinology and Stress Physiology meeting. Kerala, India. February 2012. **(Plenary Lecture)**
19. **Unniappan S.** Adipose-Islet Interactions, Refresher Course in Endocrinology. Experimental Biology Meeting. San Diego, California. March 2012. **(Plenary Lecture)**
18. **Unniappan S.** Ghrelin and Kisspeptin: Two Novel Regulators of Gonadal Physiology in Fish. International Symposium of Fish Reproductive Endocrinology. Kerala, India. July 2011 **(Invited Symposium Talk)**
17. **Unniappan S.** Nesfatin-1: A Novel, Multifunctional Endocrine Factor in Vertebrates. University of Maryland – Institute of Marine Biotechnology, USA. June 8, 2011. **(Invited Talk)**
16. **Unniappan S.** Harnessing Hormones to Develop Therapies For Diabetes and Obesity: Proteins, Cells and the Power of Genetic Engineering. Rajiv Gandhi Center for Biotechnology, Kerala, India. February 23, 2011. **(Invited Talk)**
15. **Unniappan S.** Nesfatin-1: A Novel Multifunctional Protein With Anti-Obesity and Anti-Diabetes Properties. Department of Zoology, University of Kerala. February 23, 2011. **(Invited Talk)**
14. **Unniappan S.** A Novel, Multifunctional Hormone Nesfatin-1: Emerging Endocrine Tales From Mammals and Fish. Indian Institute of Science. February 22, 2011. **(Invited Talk)**
13. **Unniappan S.** Life Sciences Research at York University, Institute of Nuclear Medicine and Allied Sciences. Symposium on York University and Indian Research Institution partnerships. March 2, 2011. **(Invited Talk)**
12. **Unniappan S.** Novel Neuroendocrine Factors Regulating Reproduction in Fish. Second International Symposium on Fish Growth and Reproduction. Hong Kong. June 21, 2009. **(Invited Symposium Talk)**
11. **Unniappan S.** Neuroendocrine Regulation of Energy Homeostasis. Neuroscience Graduate Diploma Program. York University, Toronto, Canada. March 31, 2009. **(Invited Talk)**
10. **Unniappan S.** Gut-Brain Axis and the Neuroendocrine Regulation of Energy Balance. Neuroscience Seminar Series. Department of Biology, University of Toronto-Mississauga Campus. December 5, 2008. **(Invited Talk)**
9. **Unniappan S.** Gut-Brain Axis and the Neuroendocrinology of Energy Balance in Fish: Past, Present and the Future. Sixth International Symposium of Fish Endocrinology. Calgary, Alberta. June 2008. **(Invited Symposium Talk)**

8. **Unniappan S.** PYY(3-36) and Obestatin: Two Potential Anti-Obesity Hormones from the Gut? Department of Biochemistry, National Cardiovascular Research Center, Suita, Osaka, Japan. September 2006. **(Invited Talk)**
7. **Unniappan S.** The Gut-Brain Axis and the Endocrine Regulation of Energy Balance: From Fish to Mammals. Department of Biology, York University, Toronto, Canada. January 2006. **(Invited Talk)**
6. **Unniappan S.** Orexigenic and Hypophysiotropic Actions of Ghrelin in Vertebrates. Department of Biology, University of Kerala, India. December 2005. **(Invited Talk)**
5. **Unniappan S.** Ghrelin: A Novel, Multifunctional Hormone in Goldfish. Comparative Physiology Seminar Series. Department of Zoology, University of British Columbia. September 2004. **(Invited Talk)**
4. **Unniappan S.** Ghrelin is a Novel, Multifunctional Hormone in Goldfish. Laboratory of Molecular and Cellular Medicine, Department of Physiology, University of British Columbia. June 2003. **(Invited Talk)**
3. **Unniappan S.** Ghrelin: A Novel Hormone in Goldfish. Department of Biological Sciences, University of Alberta. April 2003. **(Departmental Seminar)**
2. **Unniappan S.** Novel Forms of Neuropeptide Galanin in Goldfish. Departments of Zoology and Botany, University of Kerala, India. May 2001. **(Invited Talk)**
1. **Unniappan S.** Identification of Multiple Forms of Galanin in Goldfish. Biology 642 Seminar Series. Department of Biological Sciences, University of Alberta. April 2001. **(Departmental Seminar)**

Contributed Presentations

*(*My Student Who Presented; Non-Invited, Abstract Based)*

35. Mohan H*, Gasner M, Ramesh N, Le A, Mortazavi S, Pasupulletti V, Tsushima R, Ceddia R, **Unniappan S.** Characterization of endogenous nucleobindin-2/nesfatin-1 in rodents. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015. **Oral Presentation.**
34. Hatef A*, **Unniappan S.** Nesfatin-1 - Kisspeptin Interactions In Murine Hypothalamic Cells (GT1-7) In Vitro. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015. **Oral Presentation.**
33. Nair N*, Gerger C, Weber L, **Unniappan S.** Nesfatin-1 Regulation of Cardiovascular Functions in Zebrafish. International Congress on the Biology of Fish. Heriott-Watt University, Edinburgh, Scotland. August 3-7, 2014. **Oral Presentation.**
32. Mohan H*, Le A, Iwakura H, **Unniappan S.** Nutrients Differentially Regulate Nucleobindin-2/Nesfatin-1 *In Vitro* In Cultured Stomach Ghrelinoma (MGN3-1) Cells and *In Vivo* in Male Mice. Canadian Lipoprotein Conference, Saskatoon, Saskatchewan. October 2014. **Oral Presentation.**

31. Mohan H*, Le A, Iwakura H, **Unniappan S**. Macronutrients Differentially Regulate Nucleobindin-2/Nesfatin-1 *In Vivo* in Male Mice and *In Vitro* in Cultured Stomach Ghrelinoma (MGN3-1) Cells from Mice. 2014 Annual Meeting of the Canadian Neurometabolic Club Annual Meeting. Montreal, Canada. May 2014.
30. Hatef A*, Shajan S, **Unniappan S**. Nutrient status modulates the expression of nesfatin-1 encoding nucleobindin 1A and 2A mRNAs in zebrafish gut and brain. Genomes to Biomes. Annual Meeting of the Canadian Society of Zoologists. Montreal, Canada. May 2014.
29. Mohan H*, Iwakura H, **Unniappan S**. Macronutrients Differentially Regulate Nucleobindin-2/Nesfatin-1 *In Vivo* in Male Mice and *In Vitro* in Cultured Stomach Ghrelinoma (MGN3-1) Cells from Mice. Genomes to Biomes. Annual Meeting of the Canadian Society of Zoologists. Montreal, Canada. May 2014.
28. Morton KA*, Loewen M, Harding J, Montgomery J, Weber L, **Unniappan S**. Characterization of Nesfatin-1, a Novel Metabolic Protein in Domestic Animals. Genomes to Biomes. Annual Meeting of the Canadian Society of Zoologists. Montreal, Canada. May 2014.
27. Pham V*, Kerbel B, Gonzalez R, Bernier NJ, Chang JP, **Unniappan S**. Is nesfatin-1 a modulator of stress response in fish? Second Meeting of the North American Society of Comparative Endocrinology. Quretaro, Mexico. June 2013.
26. Kerbel, B; Badal K, **Unniappan S**. Does Xenin regulate Food Intake in Fish? Annual Meeting of the Canadian Society of Zoologists. Sackville, New Brunswick. May 2012.
25. Vandersluis, Y, **Unniappan S**. Nesfatin-1 Opposes the Metabolic Effects of Ghrelin in Rats. Annual Meeting of the Canadian Society of Zoologists. Sackville, New Brunswick. May 2012.
24. Gonzalez R, **Unniappan S**. Nesfatin-1: A novel hormone in fish and rats. First Annual Meeting of the North American Society for Comparative Endocrinology. July 2011.
23. Shepperd E, **Unniappan S**. Ghrelin regulates reproductive physiology in fish. First Annual Meeting of the North American Society for Comparative Endocrinology. July 2011.
22. Kerbel B, **Unniappan S**. Do ghrelin and nesfatin-1 interact to regulate feeding in goldfish? Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
21. Gonzalez R, Perry R, Dong X, Gaidhu P, Tsushima R, Ceddia R, **Unniappan S**. Nesfatin-1 regulates whole body energy homeostasis in rats. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
20. Gonzalez R*, Reingold B, Gaidhu MP, Gao X, Ceddia RB, **Unniappan S**. Is Nesfatin-1 a Metabolic Hormone With Glucoregulatory/Insulinotropic Effects in Rodents? Submitted to the 92nd Annual Meeting of the Endocrine Society of USA. San Diego, California. June 2010.
19. Kerbel B*, Gonzalez R, **Unniappan S**. Molecular and Functional Evidences for Endogenous Nesfatin-1 and Its Physiological Actions in Non-Mammalian Vertebrates. Submitted to the 92nd Annual Meeting of the Endocrine Society of USA. San Diego, California. June 2010.

18. Mortazavi S, Gonzalez R*, Ceddia RB, **Unniappan S**. Chronic Subcutaneous Infusion of Nesfatin-1 Inhibits Food Intake and Alters Energy Expenditure in Fischer 344 Rats. Submitted to the 92nd Annual Meeting of the Endocrine Society of USA. San Diego, California. June 2010.
17. Gonzalez R* and **Unniappan S**. Peptide YY in Goldfish: Molecular Characterization, Appetite Regulatory Effects and the Absence of Dipeptidyl-Peptidase IV Generated Peptide YY(3-36). Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
16. Gonzalez R*, Tiwari A, **Unniappan S**. Prepronesfatin Immunoreactivity is Present in the Gastroenteropancreatic Tissues of Rodents. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
15. Mortazavi S* and **Unniappan S**. Nesfatin-1 is a Novel Metabolic Hormone in Rats. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
14. Mensah E* and **Unniappan S**. Identification of a Galanin Receptor mRNA and the Elucidation of Appetite Regulatory Functions of Galanin-Like Peptide in Goldfish. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
13. Amole N* and **Unniappan S**. Nutrient Status Modulates Ghrelin and Ghrelin Receptor mRNAs in Endocrine Tissues Involved in the Regulation of Feeding, Growth and Reproduction of Fish. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
12. Abbassi S* and **Unniappan S**. Goldfish Adipocytes are Glucose Responsive Insulin Producing Cells that Express the Cellular Machinery Required for Preproinsulin Processing. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
11. Bedi G* and **Unniappan S**. Molecular Evidences for a Potential Role for the AMP Activated Protein Kinase (AMPK) in the Regulation of Energy Balance in Fish. Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
10. Lim Y*, Loomer M, Amole N, Kelly SP, **Unniappan S**. A Role for Ghrelin in the Maintenance of Salt and Water Balance in Goldfish? Annual Meeting of the Canadian Society of Zoologists. Toronto, Canada. May 2009.
9. Mortazavi S*, Tiwari A, **Unniappan S**. Nesfatin-1: A Novel Metabolic Hormone in Rodents. Seventeenth International Symposium of Regulatory Peptides. Santa Barbara, California, USA. January 2009.
8. ***Unniappan S**, Tachie-Mensah E, Amole N, Gonzalez R. Gut-Brain Axis and the Neuroendocrinology of Energy Balance in Fish: Past, Present and the Future. Sixth International Symposium of Fish Endocrinology. Calgary, Alberta. June 2008.
7. **Unniappan S***, Gunn V, Wall JL, Webber TD, Zhang Q, Cheung AT, Kieffer TJ. Transplantation of Insulin-Producing Gut Cells Ameliorates Type 1 Diabetes in Mice. Sixteenth International Symposium on Regulatory Peptides. Tokyo and Hakone, Japan. 2006.

6. **Unniappan S***, McIntosh CHS, Kieffer TJ. Dipeptidyl Peptidase IV Regulates the Anorectic Effects of Peptide YY. Annual Meeting of the North American Association for the Study of Obesity (NAASO), NAASO 2005. Vancouver, Canada. 2005.
5. Oosman SN, Webber TD, Zhang Q, **Unniappan S**, Bruch D, Lam N, Cheung AT, Korbitt G, Kieffer TJ. Treatment of Obesity and Type 2 Diabetes by Leptin Cell Therapy. Annual Meeting Of the North American Association for the Study of Obesity (NAASO), NAASO 2005. Vancouver, Canada. 2005.
4. **Unniappan S***, McIntosh CHS, Kieffer TJ. Regulation of the Satiety Action of PYY by Dipeptidyl Peptidase IV. 87th Annual Meeting of the Endocrine Society of USA (ENDO 2005). San Diego, California, USA. 2005.
3. **Unniappan S***, Peter RE. Ghrelin: A Novel Hypophysiotropic Hormone in Goldfish. International Symposium of Fish Endocrinology. Castellon, Spain. 2004.
2. Peter RE, Volkoff H, **Unniappan S**, Kelly SP, Cerda Reverter JM, Bernier NJ, Canosa LF. Neuropeptides and Control of Food Intake in Fish. International Symposium of Fish Endocrinology. Castellon, Spain. 2004. *First Richard E. Peter Lecture in Comparative Endocrinology*
1. Canosa LF, **Unniappan S**, Peter RE. Interactions between Bombesin/Gastrin Releasing Peptide and Ghrelin in the Post-Prandial Control of Growth Hormone Secretion. International Symposium of Fish Endocrinology. Castellon, Spain. 2004.

Poster Presentations

(* *My Student Who Presented*)

70. Ramesh N*, **Unniappan S**. Characterization of a NESFATIN-1-Like Peptide (NLP) in Mice. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017.
69. Rajeswari JJ*, Hatef A, Golshan M, **Unniappan S**. Profile of Ghrelin, Ghrelin Receptor and Ghrelin-O-Acyl Transferase in Fish Gonads During Metabolic Stress. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017.
68. Gawli K*, **Unniappan, S**. NESFATIN-1 Like Peptide is a Novel Metabolic Factor in Rats. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017.
67. Sundarrajan L*, Chanel Y, Logan H, Weber LP, **Unniappan S**. Irisin Modulates Feeding and Cardiac Physiology in Zebrafish. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017.
66. Pasupuleti V*, **Unniappan S**. NESFATIN-1 Regulation of Hepatic Gluconeogenesis. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017.

65. Gawli K*, Ramesh N, **Unniappan S**. Metabolic Effects of Nesfatin-1-Like Peptide in Rats. Annual Meeting of the US Endocrine Society. March 2017.
64. Blanco AM*, Gómez-Boronat M, Delgado MJ, Yufa R, **Unniappan S**, Alonso-Gómez AL, Valenciano AI. Cloning and characterization of ghrelin O-acyltransferase (GOAT) in goldfish (*Carassius auratus*). Poster. 30th New European Society for Comparative Physiology and Biochemistry (ESCPB) Congress. Barcelona, Spain. September 4-7, 2016.
63. Blanco AM*, Bertucci JI, Valenciano AI, Delgado MJ, **Unniappan S**. Ghrelin suppresses enteric anorectic hormones cholecystokinin, peptide YY and glucagon like peptide-1 in goldfish (*Carassius auratus*). Poster. 28th Conference of European Comparative Endocrinologists (CECE). Leuven, Belgium. August 21-25, 2016.
62. dos Santos Silva R*, Cardoso A, **Unniappan S**, Papa P. Differential expression analysis of components of the insulin signaling cascade in the canine corpus luteum after RNA sequencing. Brazilian Embryo Technology Society (SBTE). Cumbuco, Brazil. August 18-20, 2016.
61. Sundarrajan L*, Blanco AM, Bertucci JL, Canosa LF, **Unniappan S**. Nesfatin-1 Like Peptide Encoded in Nucleobindin-1 is a Novel Anorexigen in Goldfish. International Symposium on Fish Endocrinology. Gothenburg, Sweden. June 28-July 2, 2016.
60. Ramesh N*, Mortazavi S, Mohan H, **Unniappan S**. Nucleobindin Encoded Novel Insulinotropic Peptide: Implications in Health and Disease. Poster. Canada Student Health Research Forum (CSHRF). University of Manitoba, Winnipeg. 2016.
59. Blanco AM*, Delgado MJ, Valenciano AI, **Unniappan S**. Ghrelin and nesfatin-1 differentially modulate the expression of digestive enzymes in the goldfish intestine and hepatopancreas in vitro. Poster. Conference of the Canadian Society of Zoologists. London, Canada. May 9-13, 2016.
58. Juan Ignacio Bertucci*, Ayelén M. Blanco, Oswaldo Tovar, Luis Fabián Canosa, **Unniappan S**. Distribution of ghrelin and nesfatin-1 in the brain and gut of pejerrey (*Odontesthes bonariensis*). Poster. Canadian Society of Zoologists. May 2016.
57. Juan Ignacio Bertucci*, Mario Oswaldo Tovar, Javier Edgardo Herdman, Luis Fabián Canosa, **Unniappan S**. Can Sunflower Oil Replace Dietary Fish Oil Without Compromising Growth in Pejerrey larvae (*Odontesthes bonariensis*)? Poster. Canadian Society of Zoologists. May 2016.
56. Juan Ignacio Bertucci*, Mario Oswaldo Tovar, Javier Edgardo Herdman, Luis Fabián Canosa, **Unniappan S**. Dietary protein and lipid levels affect growth and expression of growth-related genes in pejerrey larvae (*Odontesthes bonariensis*). Poster. Canadian Society of Zoologists. May 2016.
55. Hatef, A*, **Unniappan, S**. Gonadotropin Releasing Hormone, Kisspeptin, Testosterone and Estradiol Stimulate NUCB2/Nesfatin-1 mRNA Expression in Murine Cells In Vitro in a Dose- and Time-Dependent Manner. Presidential poster competition. ENDO2016. Boston, USA. April 1- 4, 2016.

54. Mohan H*, Gasner M, Ramesh N, Le A, Mortazavi S, Pasupulletti V, Tsushima R, Ceddia R, **Unniappan S**. Characterization of endogenous nucleobindin-2/nesfatin-1 in rodents. Poster. 3rd Biennial Conference of The North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
53. Hatef A*, **Unniappan S**. Interactions of Nesfatin-1-GnRH-Kisspeptin In Murine Hypothalamic (GT1-7) and Pituitary(LβT2) Cells In Vitro. Poster. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
52. Ramesh N*, Mohan H, **Unniappan S**. Insulinotropic Actions of a Nesfatin-1-Like Peptide Encoded in Nucleobindin-1. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
51. Ramesh N*, Mortazavi S, **Unniappan S**. Does Nesfatin-1 Regulate Enteric Hormone Secretion in Mice? Poster. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
50. Sundarrajan L*, **Unniappan S**. Nucleobindin-1 Encoded Nesfatin-1 like Peptide (NLP) Decreases Food Intake and Downregulates Preproghrelin mRNA Expression in Fish. Poster. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
49. Venkata Kiran P*, **Unniappan S**. Nesfatin-1 Modulates Ghrelin and Leptin in Mouse Insulinoma (MIN6) Cells. Poster. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
48. Mortazavi S*, **Unniappan S**. Enteric Hormone Regulation of NUCB2/Nesfatin-1 Expression in Mice. Poster. Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015.
47. Ramesh N*, Mohan H, **Unniappan S**. Nucleobindin-1 (NUCB1) Encodes a Nesfatin-1-Like Peptide that has Insulinotropic Actions. Poster. Meeting of the Canadian Society of Zoologists, Calgary, Alberta. May 2015.
46. Ramesh N*, Mortazavi S, **Unniappan S**. Nesfatin-1 Regulation of Enteric Hormone Secretion in Mice. Poster. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015.
45. Sundarrajan L*, **Unniappan S**. Tissue Distribution and Functions of a Nucleobindin-1 Encoded Nesfatin-1-Like Peptide (NLP) in Fish. Poster. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015.
44. Venkata Kiran P*, **Unniappan S**. Nesfatin-1 Modulates Ghrelin and Leptin in Mouse Insulinoma (MIN6) Cells. Poster. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015.

43. Mortazavi S*, **Unniappan S**. Glucagon Like Peptide-1 (GLP-1) Regulation of Nesfatin-1 in Stomach Cells. Poster. Meeting of the Canadian Society of Zoologists. Calgary, Alberta. May 2015.
42. Ramesh N*, Mohan H, **Unniappan S**. Nucleobindin-1 (NUCB1) Encodes an Insulinotropic Nesfatin-1-Like Peptide. Poster. ENDO 2015. San Diego, California. March 2015.
41. Ramesh N*, Mortazavi S, **Unniappan S**. Nesfatin-1 is Present in Mouse Intestinal Enteroendocrine Cells and Regulates Enteric Hormone Secretion. Poster. ENDO 2015. San Diego, California. March 2015.
40. Ramesh N*, Mohan H, **Unniappan S**. Nucleobindin-1 (NUCB1) Encodes an Insulinotropic Nesfatin-1-Like Peptide. Poster. 15th Annual Rachmiel Levine Diabetes and Obesity Symposium. San Diego, California. March 2015.
39. Ramesh N*, Mortazavi S, **Unniappan S**. Nesfatin-1 is Present in Mouse Intestinal Enteroendocrine Cells and Regulates Enteric Hormone Secretion. Poster. 15th Annual Rachmiel Levine Diabetes and Obesity Symposium. San Diego, California. March 2015.
38. Mohan H*, Le A, Iwakura H, **Unniappan S**. Macronutrients Differentially Regulate Nucleobindin-2/Nesfatin-1 *In Vivo* in Male Mice and *In Vitro* in Cultured Stomach Ghrelinoma (MGN3-1) Cells from Mice. Annual Meeting of the Endocrine Society. Chicago, USA. June 2014.
37. Nair N*, Gerger C, Weber L, **Unniappan S**. Nesfatin-1 Regulation of Cardiovascular Functions in Zebrafish. Genomes to Biomes. Annual Meeting of the Canadian Society of Zoologists. Montreal, Canada. May 2014.
36. Yufa R*, **Unniappan S**. Ghrelin O-Acyl Transferase in Fish. Second Meeting of the North American Society of Comparative Endocrinology. Quretaro, Mexico. June 2013.
35. Mensah E*, Donini A, **Unniappan S**. The Galaninergic System Regulates Feeding and Gut Contractions in Goldfish. Second Meeting of the North American Society of Comparative Endocrinology. Quretaro, Mexico. June 2013.
34. Pham V*, Kerbel B, Gonzalez R, **Unniappan S**. Nesfatin-1 modulates the hypothalamo-pituitary-interrenal axis in goldfish. International Symposium on Fish Endocrinology. Buenos Aires, Argentina. September 2012.
33. Kerbel B*, Badal K, **Unniappan S**. Central and peripheral administration of xenin suppresses food intake in goldfish. International Symposium on Fish Endocrinology. Buenos Aires, Argentina. September 2012.
32. Shepperd E*, Lohan S, **Unniappan S**. Ghrelin and nesfatin-1 regulate ovarian physiology in goldfish and zebrafish. International Symposium on Fish Endocrinology. Buenos Aires, Argentina. September 2012.
31. Vandersluis R*, Mohan H, **Unniappan S**. Nesfatin-1 Attenuates the Orexigenic Effects of

Ghrelin and Suppresses Endogenous Ghrelin in Fischer 344 Rats. Western Canadian Medicinal Chemistry Workshop. University of Saskatchewan. September 2012.

30. Vandersluis Y*, Mohan H, **Unniappan S**. Nesfatin-1 Attenuates the Orexigenic Effects of Ghrelin and Suppresses Endogenous Ghrelin in Fischer 344 Rats. Annual Meeting of the Endocrine Society. Boston, USA. June 2012.
29. Shepperd V*, Lohan S, **Unniappan S**. Nesfatin-1 and Ghrelin: Two Novel Endocrine Factors that Regulate Germinal Vesicle Breakdown in Zebrafish. Annual Meeting of the Canadian Society of Zoologists. Sackville, New Brunswick. May 2012.
28. Pham V*, Kerbel B, Gonzalez R, **Unniappan S**. Nesfatin-1 Regulation of Stress Axis in Fish. Annual Meeting of the Canadian Society of Zoologists. Sackville, New Brunswick. May 2012.
27. Mohan H*, Gasner M, **Unniappan S**. Pro-hormone Convertases and Ghrelin O-Acyl Transferase in Sprague Dawley Rats: Developmental Profile and Functional Implications. Annual Meeting of the Canadian Society of Zoologists. Sackville, New Brunswick. May 2012.
26. Gonzalez R*, Perry RLS, Gaidhu MP, Gao XD, Tsushima RG, Ceddia RB, **Unniappan S**. Nesfatin-1: A Novel Satiety Hormone with Insulinotropic Action in Rodents. Annual Meeting of the Canadian Diabetes Association. Toronto, Canada. October 2011.
25. Vandersluis Y*, **Unniappan S**. Nesfatin-1 Co-localizes and Modulates Gut Hormones in Rats. Annual Meeting of the Canadian Diabetes Association. Toronto, Canada. October 2011.
24. Mohan H*, **Unniappan S**. Ontogenic Pattern of Nesfatin-1 in the Pancreas of Sprague-Dawley Rats. Annual Meeting of the Canadian Diabetes Association. Toronto, Canada. October 2011.
23. Mohan H*, **Unniappan S**. Developmental Expression of Nesfatin-1 in the Pancreas of Sprague-Dawley Rats. First Annual Meeting of the North American Society for Comparative Endocrinology. Toronto, Canada. July 2011.
22. Kerbel B*, **Unniappan S**. Nesfatin-1 and Ghrelin Interacts to Regulated Feeding in Fish. First Annual Meeting of the North American Society for Comparative Endocrinology. Toronto, Canada. July 2011.
21. Gonzalez R*, **Unniappan S**. Nucleobindin-2 In Non-Mammalian Vertebrates: Molecular, Cellular And Physiological Evidence For The Anorexigenic Actions Of An Endogenous Form Of Nesfatin-1 in Goldfish, *Carassius auratus*. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
20. Vandersluis S*, **Unniappan S**. Nesfatin-1 Co-Localizes Appetite Regulatory Gastrointestinal Hormones in Rats. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
19. Mandivenga C*, **Unniappan S**. Peptide YY Inhibits Energy Intake and Promotes Fat Utilization in Rats. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.

18. Mohan H*, **Unniappan S**. Differential Expression Of Nesfatin-1 In Sprague-Dawley Rat Tissues During Development. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
17. Shepperd S*, **Unniappan S**. Is Ghrelin Involved In The Regulation Of Gonadal Functions In Fish? Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
16. Simpson L*, Ceddia R, **Unniappan S**. Dietary Macronutrients Regulate Tissue-Specific mRNA Expression And Circulating Levels Of Nucleobindin-2/Nesfatin-1 In Rats. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
15. Kerzman K*, **Unniappan S**. Gonadal Effects Of Kisspeptin In Zebrafish. Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
14. Thiruppugazh V*, Gonzalez R, Grey C, Yu Y, Pemberton J, Chang J, **Unniappan S**. Nesfatin-1: A Novel Hypophysiotropic Hormone In Goldfish? Annual Meeting of the Canadian Society of Zoologists. Ottawa. May 2011.
13. Gonzalez R*, **Unniappan S**. Peptide YY in Goldfish: Molecular Characterization, Appetite Regulatory Effects and the Absence of Dipeptidyl Peptidase IV Generated Peptide Y (3-36). 91st Annual Meeting of the Endocrine Society of USA. Washington, DC. June 2009.
12. **Unniappan S***, Rampersad K, Mortazavi S. Peripheral Administration of Nesfatin-1 Causes a Transient Reduction in Food Intake of Fischer 344 rats. 90th Annual Meeting of the Endocrine Society of the USA. June 2008.
11. Gonzalez RG*, **Unniappan S**. Molecular and Functional Characterization of Peptide YY in Goldfish. Sixth International Symposium of Fish Endocrinology. Calgary, Alberta. June 2008.
10. Amole N*, **Unniappan S**. Orexigenic Actions of the Ghrelin: Ghrelin-Receptor System: Further Evidences From Goldfish and Zebrafish. Sixth International Symposium of Fish Endocrinology. Calgary, Alberta. June 2008.
9. **Unniappan S**, Kieffer TJ. Leptin Enhances the Satiety Actions of Peptide YY(3-36) in Rats. Sixteenth International Symposium on Regulatory Peptides. Tokyo and Hakone, Japan. 2006.
8. Gunn V, **Unniappan S***, Cheung AT, Zhang Q, Webber TD, Kieffer TJ. A Cell Based Therapy for Type 1 Diabetes Using Genetically Engineered Gut Cells. 11th Annual Meeting of the International Society for Cellular Therapy (ISCT 2005). Vancouver, Canada. 2005.
7. Wong SL, **Unniappan S***, Gunn V, Kieffer TJ. Microencapsulated Insulinoma Cells Ameliorate Diabetes and Promote Beta Cell Regeneration in Diabetic Mice. 11th Annual Meeting of the International Society for Cellular Therapy (ISCT 2005). Vancouver, Canada. 2005.
6. **Unniappan S***, Peter RE. Ghrelin is a Growth Hormone Secretagogue in Fish. International Congress of Endocrinology. Lisbon, Portugal. 2004.

5. **Unniappan S***, Peter RE. Is Ghrelin a Reproductive Hormone? International Congress of Endocrinology. Lisbon, Portugal. 2004.
4. **Unniappan S***, Cerda-Reveter JM, Peter RE. Galanin mRNA Expression in the Goldfish Brain: An *In Situ* Hybridization Study. International Symposium of Fish Endocrinology. Castellon, Spain. 2004.
3. **Unniappan S***, Canosa LF, Rivier JE, Peter RE. Ghrelin as an Orexigen: Lessons from a Non-Mammalian Vertebrate. International Symposium on Gut hormones, Appetite and Energy Balance. Imperial College, London, UK. 2003.
2. **Unniappan S***, Lin X, Kaiya H, Kangawa K, Peter RE. Identification of the cDNA and the Partial Gene Structure of Ghrelin in the Goldfish. 5th International Congress of Neuroendocrinology. Bristol, UK. 2002.
1. **Unniappan S***, Lin X, Peter RE. Identification of Novel Forms of Galanin in the Goldfish Brain. 5th International Congress of Neuroendocrinology. Bristol, UK. 2002.

RESEARCH FUNDING HISTORY

Funding Obtained

Total *external* peer reviewed funding obtained as an independent researcher at the University of Saskatchewan: **\$2,753,227 CAD**
(excluding internal funding and trainee salary support)

Total *external* peer-reviewed trainee salary support as independent researcher at the University of Saskatchewan: **\$620,000 CAD**

Peer-Reviewed External Research Funding

15. **Ferring Institute Innovation Grant** (industrial funding, 8 among 300 applicants funded) [Endocrine Functions of Nesfatin-1 and Nesfatin-1-Like Peptide]. 2017-2019. Amount: \$85,000. PI: Suraj Unniappan. *No co-applicants*.
14. **NSERC Discovery Grant** [“Hormonal Regulation and Integration of Feeding, Metabolism and Reproduction in Fish”]. 2017-2022. Total Amount: \$160,000. PI: Suraj Unniappan. *No co-applicants. Operating Grant*.
13. **Canadian Institutes of Health Research – Operating Grant** [“Nesfatin-1 Regulation of Glucose and Energy Homeostasis”] – 2013-2018. Total Amount: \$602,264; PI: Suraj Unniappan. *No co-applicants. Operating Grant*.
12. **Canada Foundation for Innovation – Leaders Opportunities Fund** [“Endocrinology and Metabolism Laboratory”]. 2013. Total Amount: \$437,396.50; PI: Suraj Unniappan; *Co-applicants*: None. *Infrastructure Grant*.

11. **Saskatchewan Health Research Foundation Establishment Grant** [“Hormonal Regulation of Metabolism and Body Weight”]. 2012-2015. Total Amount: \$120,000. PI: Suraj Unniappan. *No co-applicants. Infrastructure and Trainee Salary Support Grant.*
10. **NSERC Discovery Accelerator Supplement** [“Hormonal Regulation and Integration of Feeding, Metabolism and Reproduction in Fish”]. 2012-2015. Total Amount: \$120,000. PI: Suraj Unniappan. *No co-applicants. Operating Grant.*
9. **NSERC Discovery Grant** [“Hormonal Regulation and Integration of Feeding, Metabolism and Reproduction in Fish”]. 2012-2017. Total Amount: \$235,000. PI: Suraj Unniappan. *No co-applicants. Operating Grant.*
8. **CIHR New Investigator Salary Award** [“Neuroendocrine Regulation of Energy Homeostasis”]. July 2010 – June 2015. Total Amount: \$300,000; \$60,000/year for 5 years. \$60,000X3 years = \$180,000 was administered at the UofS. PI: Suraj Unniappan; *No Co-applicants. Salary Support for the PI.*
7. **Canada Foundation for Innovation and Ontario Ministry of Research and Innovation** [“Cellular and Molecular Neuroendocrinology Facility”] 2010-2011 Total Amount: \$236,631. PI: Suraj Unniappan. *No co-applicants. Infrastructure Grant.*
6. **James H. Cummings Foundation Grant** [Cell Biology Tools for Obesity and Diabetes Research]. 2010-2011. Total Amount: US\$50,000. PI: Suraj Unniappan. *No co-applicants. Equipment Grant.*
5. **CIHR Operating Grant – Individual** [“Neuroendocrine Regulation of Energy Homeostasis”]. 2010-2013. Total Amount: \$293,172; \$97,724/year for 3 years. PI: Suraj Unniappan; *No Co-applicants. Operating Grant.*
4. **NSERC Discovery Grant – Individual** [“Gut-Brain Axis and the Neuroendocrine Integration of Energy Balance, Growth and Reproduction in Fish”]. 2007-2012. Total Amount: \$165,150; \$33,030/year for 5 years. PI: Suraj Unniappan; *No Co-applicants. Operating Grant.*
3. **Early Researcher Award – Ontario Ministry of Research and Innovation** [“Hormonal Regulation of Feeding and Body Weight in Fish and Rodents”]. 2009-2014. Total Amount: \$150,000. PI: Suraj Unniappan; *No Co-applicants. Funds for Lab Personnel Salary.*
2. **NSERC Research Tools and Instruments Category 1 Grant** [“Instruments to study the appetite regulatory and hypophysiotropic actions of neuroendocrine factors in fish”]. 2007. Total Amount: \$29,005. PI: Suraj Unniappan; *No Co-applicants. Infrastructure Grant.*
1. **NSERC Research Tools and Instruments Category 1 Grant** [“Fluorescence Microscope and Imaging System.”]. 2008. Total Amount: \$62,780; PI: Suraj Unniappan; *Co-applicants*: Drs. Joel Shore and Andrew Donini. *Infrastructure Grant.*

External Research Awards – Applications Submitted, Under Review

4. **CIHR Catalyst Grant**: Sexual Dimorphism in Nesfatin-1 Regulation of Metabolism and Reproduction – Physiological and Molecular Cues from Nesfatin-1 Knockout Mice. Total Amount Requested: \$150,000
3. **CIHR Project Grant**: Nesfatin-1 Regulation of Metabolism: Implications in Health and Disease. Total Amount Requested: \$1,195,000

2. **CIHR Project Grant:** Nesfatin-1-Like Peptide: A Novel Orphan Ligand Regulating Reproduction and Metabolism? Total Amount Requested: \$985,000
1. **NSERC CRD Grant:** Nesfatin-1 Regulation of Growth and Stress. Total Amount Requested: \$82,000 (Matching funds for the Ferring Innovation Grant)

Major Peer Reviewed Trainee Salary Awards

6. SHRF Post-doctoral fellowship to Dr. Ayelen Blanco Imperiali (\$100,000, June 2017)
5. Xunta Galicia (Spain) fellowship to Dr. Ayelen Blanco Imperiali (\$100,000, June 2017)
4. SHRF Post-doctoral fellowship to Dr. Kavishankar Gawli (\$100,000, June 2015)
3. CIHR Post-doctoral fellowship to Dr. Azadeh Hatef (\$120,000, June 2014)
2. SHRF Post-doctoral fellowship to Dr. Azadeh Hatef (\$100,000, June 2013)
1. SHRF Post-doctoral fellowship to Dr. Edward Narayan (\$100,000, June 2013)

Internal Research Funding

6. **Companion Animal Health Fund (WCVF):** Evaluation of Nesfatin-1 in Obese and Diabetic Cats. Applicants: Drs. Elizabeth Snead, Suraj Unniappan and Melissa Meachem. Amount: \$11,378.
5. **Equine Health Research Fund (EHRF):** Is Equine PPID a Prohormone Processing Defect? PI: Suraj Unniappan, Co-applicants: Drs. James Carmalt and Andrew Allen. Total Amount: \$7,500.
4. **WCVF Vitamin D Fund:** Obesity and Vitamin D in Cats and Dogs. PI: Dr. Lynn Weber; Co-applicants: Drs. Suraj Unniappan, Tawni Silver, Peter Gilbert. Total Amount: \$25,000.
3. **Start-up funds, Department of Veterinary Biomedical Sciences, Western College of Veterinary Medicine, University of Saskatchewan.** Total Amount: \$60,000
2. **Start-up funds, Department of Biology, Faculty of Science and Engineering, York University.** Total Amount: \$100,000
1. **York U/FSE Junior Faculty Funds and Minor Research Awards – received in 2007, 2008, 2009 & 2010.** Total Amount: ~\$10,500 (cumulative for the period of 2007-2010)

SUPERVISION AND ADVISORY ACTIVITIES

Ph.D. Students (Supervised)

6. Jithine JR. October 2016 – Present
5. Naresh Ramesh. September 2015 – Present
4. Venkatakiran Pasupulletti. September 2014 – Present
3. Lakshminarasimhan Sundarrajan. September 2014 – Present

2. Haneesha Mohan. July 2011 – May 2015.
1. Ronald Gonzalez. September 2007 – July 2011 (graduated with Distinction, thesis prize nomination)

M.Sc. Students

7. Naresh Ramesh. September 2013-May 2015 (graduated)
6. Neelima Nair, Supervisor, Thesis Title: Nesfatin-1 Regulation of Cardiovascular Functions in Zebrafish and HL-1 Cardiomyocytes, September 2012 – December 2014 (graduated)
5. Brent Kerbel. September 2010 - 2012 (graduated)
4. Erin Sheppard. May 2010 – 2012 (graduated)
3. Elsie Mensah. January 2009 - 2011 (graduated) *Co-supervisor: Dr. Andrew Donini*
2. Navpreet Amole. January 2008 - June 2009 (graduated)
1. Sima Mortazavi. May 2007 - May 2009 (graduated)

Post-doctoral Supervision

4. Mahdi Golshan, Supervisor, Project title: Energy Status, Steroids and Metabolic Peptides in Goldfish, January – June, 2016; funded by University of South Bohemia, Czech Republic (*Completed, currently a post-doctoral fellow at the University of South Bohemia, Czech Republic*)
3. Dr. Kavishankar Gawli, Supervisor, Project Title: Nesfatin-1 and Energy Balance in Mice, October 2015 – Present; funded by the SHRF post-doctoral fellowship) (In Progress)
2. Dr. Edward Narayan, Supervisor, Project Title: Nesfatin-1 and Stress in Rodents, October 2013-August 2014; funded by the SHRF post-doctoral fellowship (*Completed, currently assistant professor/lecturer at the School of Animal And Veterinary Sciences, Faculty of Science, Charles Sturt University, Wagga, Australia*)
1. Dr. Azadeh Hatef, Supervisor, Project Title: Nesfatin-1 and Reproduction in Mice, March 2013 – Present; funded by CIHR & SHRF post-doctoral fellowships) (In Progress)

Visiting PhD Students (National and International Collaborations)

[Note: All these students visited my laboratory to conduct a part of their thesis research, or a separate project related to their thesis. I was their sole supervisor.]

8. Cristina Velasco Rubial (University of Vigo, Spain), October – December 2017 (Completed).

7. Ayelen Blanco Imperiali (Universidad Complutense, Madrid, Spain), Supervisor, Thesis/Project Title: Ghrelin Regulation of Intestinal Function in Fish, January – August, 2016 (Completed).
6. Juan Ignacio Bertucci (IIB-Tech, CONICET, Argentina), Supervisor, Thesis/Project Title: Endocrine Control of Gut Functions and Metabolism in Pejerrey, February – August, 2016 (Completed)
5. Renata Santos de Silva (University of Sao Paulo, Brazil), Supervisor, Thesis/Project Title: Insulin Signalling in Canine Corpus Luteum, August – November, 2015 (Completed)
4. Ayelen Blanco Imperiali (Universidad Complutense, Madrid, Spain), Supervisor, Thesis Title: Macronutrients and Gut Hormones in Fish, February – August, 2014 (Completed)
4. Juan Ignacio Bertucci (IIB-Tech, CONICET, Argentina, ELAP student), Supervisor, Thesis Title: Steroid Regulation of Nesfatin-1 and Ghrelin in Fish, February – August, 2014 (Completed)
2. Silvia Falcinelli (Università Politecnica Delle Marche, Ancona, Italy), Supervisor, Thesis Title: Probiotics, Gut Microbiota and Gastrointestinal Hormones in Zebrafish, February – July, 2014 (Completed)
1. Jasmine Hamilton (Department of Pathology, University of British Columbia), Supervisor, Thesis Title: Physiological Effects of Iron Chelators in Zebrafish, March-September, 2013. (Completed)

Undergraduate Student Supervision

9. Andrew Lee, NSERC USRA, Summer 2017.
8. Laura Hargreaves, DVM Summer student, Supervisor, Various projects. Summer 2017.
7. Laura Hargreaves, DVM Summer student, Supervisor, Thesis Title: Nesfatin-1 in the Pancreatic Islets of Domestic Animals, May – August 2015 (Completed)
6. Katie Anne Morton, DVM Research Elective Student, Supervisor, Thesis Title: Nesfatin-1 in Domestic Animals, January – April 2015 (Completed)
5. Rebecca McOnie, DVM, Merial funded summer student, Co-supervised: with Dr. James Carmalt, Thesis Title: Equine PPID, May – August 2014 (Completed)
4. Katie Anne Morton, DVM summer student, Supervisor, Thesis Title: Nesfatin-1 in Domestic Animals, May – June 2014 (Completed)
3. Sofia Ciccolo, DVM, ELAP funded visiting student from Brazil, Co-supervised: with Dr. James Carmalt, Thesis Title: Equine PPID, January – May 2014 (Completed)
2. Katie Anne Morton, DVM, Interprovincial Research Scholarship summer student, Supervisor, Thesis Title: Nesfatin-1 in Domestic Animals, May – August 2013 (Completed)

1. Sooraj Shajan, BSc Nutrition, NSERC USRA scholarship summer student, Thesis Title: Nesfatin-1 in Zebrafish, May – August 2013 (Completed)

High School Student Supervision

5. 2015-16 Andrew Lee, Co-op placement student, Centennial Collegiate, Supervisor, (Completed)
4. 2011 Hardik Zandwala (Summer; 1 month)
3. 2009 Rose Ly (Summer; 1 month)
2. 2008 Steven Tran (Summer; 1 month)
1. 2007 Linda Do (Summer; 1 month)

Graduate Student Supervisory Committees (Advisory Role)

20. Aimee Crook (MVetSc, Dr. Kevin Cosford, Biology, 2017-Present)
19. Julietter Bouillon (MVetSc, Dr. Kevin Cosford, Biology, 2016-Present)
18. Adriana Guerrero (PhD Cognate member, Dr. Jeffrey Lane, Biology, 2017-Present)
17. Alper James Garcia Alcaraz (PhD Cognate member, Dr. Markus Hecker, 2016-Present)
16. Danielle Renee Rivet (PhD Cognate member, Dr. Jeffrey Lane, Biology, 2016-2017)
15. Hui, Jasmine Ying-Wai (MSc – Dr. Baljit Singh, VBMS, 2015-Present)
14. Zakary Neil Baker (PhD Cognate Member, Dr. Scott Leary, February 2014-Present)
13. Dr. James Lawrence Carmalt (PhD – Supervisor: Dr. Andrew Allen, 2013-Present)
12. Benjamin Elwood (MSc – Supervisor: Dr. Daniel MacPhee, 2013-2015)
11. Dr. Margaret Ann Scuderi (MVSc – Supervisor: Dr. Elizabeth Snead, 2012-Present)
10. Hattan Al Harabi (Ph.D – Supervisor: Dr. John Giesy, Toxicology, 2012-2013, tendered resignation)
9. Jelena Brkic (Ph.D – Supervisor: Dr. Chun Peng, 2011-Present)
8. Rina Abramov (M.Sc – Supervisor: Dr. Chun Peng, 2010-Present)
7. Amir Koldrof (M.Sc – Supervisor: Dr. Robert Tsushima, 2010-Present)
6. Adam Freud (M.Sc – Supervisor: Dr. Robert Tsushima; 2008-2010)
5. Justin Cressor (Ph.D – Supervisor: Dr. Gary Sweeney; 2008-2010; *withdrawn from the program*)

4. Cecilia Jobst (M.Sc – Supervisor: Dr. Joseph D’Souza; 2008-present)
3. Nicole Duffy (M.Sc - Supervisor: Dr. Scott Kelly; 2007-2009)
2. Darya Safavian (M.Sc - Supervisor: Dr. Joel Shore; 2007-2009)
1. Andrea Zagrodany (M.Sc - Supervisor: Dr. Chun Peng; 2007-2009; *withdrawn from the program*)

Ph.D Preliminary/Comprehensive Examination Committees

10. Jelena Brkic (Supervisor: Dr. Chun Peng; 2010)
9. Keith Dadson (Supervisor: Dr. Gary Sweeney; 2009)
8. Sergiu Fediuc (Supervisor: Dr. Rolando Ceddia; 2009)
7. Ying Liu (Supervisor: Dr. Gary Sweeney; 2008)
6. Hyukho Sheen (Supervisor: Dr. K. Andrew White; 2008)
5. Salma Jahan (Supervisor: Dr. John McDermott; 2008)
4. Kristin Schram (Supervisor: Dr. Gary Sweeney; 2007)
3. Mehran Bhaktiari (Supervisor: Dr. Chun Peng; 2007)
2. Lubna Nadeem (Supervisor: Dr. Chun Peng; 2007)
1. Jennifer Rose (Supervisor: Dr. Imogen R. Coe; 2007)

M.Sc or Ph.D Thesis Defense Committees

20. Sanaz Badarian (Supervisor: Dr. Rolando Ceddia, 2011)
19. Carolyn Arbanas (Supervisor: Dr. Scott P Kelly, 2011)
18. Mandeep Pinky Gaidhu (Supervisor: Dr. Rolando Ceddia, 2011)
17. Phuong Bui (Supervisor: Dr. Scott P Kelly, 2011)
16. Helena Samami Seisen (Supervisor: Dr. Olasunkanmi AJ Adegoke, 2010)
15. Deep Trivedi (Supervisor: Dr. Michael Connor, 2010)
14. Kara L. Hawkins – M.Sc (Supervisor: Dr. Lauren Sergio; 2010)
13. Jennifer B. Rose – Ph.D (Supervisor: Dr. Imogen Coe; 2010)

12. Kaustabh Singh – M.Sc (Supervisor: Dr. David Hood; 2010)
11. Eric Shikatani – M.Sc (Supervisor: Dr. Tara Haas; 2009)
10. Susie Tan – M.Sc (Supervisor: Dr. Chun Peng; 2009)
9. Glen A. Selkrik – Ph.D (Supervisor: Dr. Tom McLellan, 2009)
8. Heather Wright – Ph.D (Supervisor: Dr. Tom McLellan, 2009)
7. Mandy So – M.Sc (Supervisor: Dr. Rolando Ceddia, 2009)
6. Rajini Seevaratnam (Supervisor: Mazen J. Hamadeh; 2009)
5. Guoxiong Xu – Ph.D (Supervisor: Dr. Chun Peng; 2008)
4. Mandheep Gaidhu – M.Sc (Supervisor: Dr. Rolando Ceddia; 2008)
3. Nicole Gaid – M.Sc (Supervisor: Dr. Laurie Wilcox; 2008)
2. Alina Constatin – Ph.D (Supervisor: Dr. Doug Crawford; 2008)
1. Barkha Patel – M.Sc (Supervisor: Mazen J. Hamadeh; 2008)

Trainee and Student Awards and Accolades

45. Dr. Ayelen Blanco Imperiali – SHRF Post-doctoral fellowship – 2017 June
44. Dr. Ayelen Blanco Imperiali – Xunta Galicia (Spain) Post-doctoral fellowship – 2017 June
43. Cristina Velasco Rubial – Xunta Galicia (Spain) PhD visiting fellowship – 2017 October
42. Andrew Lee – NSERC USRA 2017
41. Dr. Kavishankar Gawli – US Endocrine Society – 2017 Trainee Day and Abstract Award
40. Naresh Ramesh – Zoetis Graduate Student Award – 2016 September
39. Ayelen Melissa Blanco – Spanish Ministry of Science Visiting Fellowship – 2016
38. Jithine JR – CGSR-WCVM PhD Scholarship – 2016
37. Ayelen Blanco – Canadian Society of Zoologists, Abstract Travel Award – 2016
36. Juan Bertucci – Canadian Society of Zoologists, Abstract Travel Award – 2016
35. Azadeh Hatf – Finalist in US President poster competition, Category: Reproduction – 2016

34. Naresh Ramesh – Honourable Mention, CIHR Poster Competition – 2016
33. Naresh Ramesh – Indian Student Association Graduate Student Achievement Award -2016
32. Ayelen Melissa Blanco – Spanish Ministry of Science Visiting Fellowship – 2015-2016
31. Laura Hargreaves – Third Place, WCVM Undergraduate Poster Competition – 2015
30. Renata Santos de Silva (visiting PhD student) – Government of Brazil CAPES Scholarship – 2015
29. Dr. Kavishankar Gawli – Saskatchewan Health Research Foundation Post-doctoral Fellowship-2015
28. Haneesha Mohan – Zoetis Animal Research Graduate Student Award – 2014
27. Naresh Ramesh – 1st Place (Diabetes), US Endocrine Society President’s Poster Competition – 2015
26. Naresh Ramesh – Rachmiel Levine Diabetes Symposium Outstanding Student Achievement Award – 2015
25. Naresh Ramesh – CGSR Dean’s Scholarship – 2015
24. Neelima Nair – American Fisheries Society Abstract/Travel Award – 2015
23. Naresh Ramesh – US Endocrine Society Trainee Day Award – 2015
22. Juan Ignacio Bertucci – IIBTECH-CONICET Argentina, ELAP Scholarship – 2014
21. Dr. Azadeh Hatef – North American Society for Comparative Endocrinology Research Fellowship – 2014
20. Dr. Azadeh Hatef - CIHR Post-doctoral fellowship – 2014
19. Dr. Azadeh Hatef - SHRF Post-doctoral fellowship – June 2013
18. Dr. Edward Narayan - SHRF Post-doctoral fellowship – June 2013
17. Vi Pham – Abstract/Travel Award, NASCE 2013, Mexico – 2013
16. Haneesha Mohan – Best Poster Award, Western Canada Medicinal Chemistry Workshop – 2012
15. Haneesha Mohan – The US Endocrine Society Trainee Day Award – 2012
14. Vi Pham – 3rd Place, Holeton prize for the best poster, Annual meeting of the CSZ – 2012

13. Brent Kerbel – Abstract/Travel Award, Annual meeting of the CSZ – 2012
12. Vi Pham – Abstract/Travel Award, Annual meeting of the CSZ – 2012
11. Erin Shepperd – Abstract/Travel Award, Annual meeting of the CSZ – 2012
10. Ronald Gonzalez – CIHR Science to Business MBA Scholarship – 2011
9. Yona Vandersluis – CIHR Banting and Best Masters Scholarship – 2011
8. Vetri Thiruppugazh – Finalist, Holeton Poster competition, CSZ 2011 meeting, Ottawa – 2011
7. Erin Shepperd – Abstract Award from the NASCE 2011, sponsored by the Endocrine Society – 2011
6. Ronald Gonzalez – Abstract Award from the NASCE 2011, sponsored by the Endocrine Society – 2011
5. Brent Kerbel – Ontario Graduate Scholarship – 2011 (declined)
4. Brent Kerbel – Alexander Graham Bell Masters Scholarship from the NSERC – 2011
3. Ronald Gonzalez – Ontario Graduate Scholarship – 2009 and 2010
2. Sima Mortazavi – Best Abstract Award – 2009 International Symposium on Regulatory Peptides – 2009
1. Ronald Gonzalez – Trainee Day Travel Award, Endocrine Society – 2009

External Examiner for Theses Defense/Thesis Assesor

6. Andrea D'Aquila, University of Toronto (PhD thesis), 2018
5. Paul Pitts, Memorial University of Newfoundland (MSc thesis), 2017
4. Kalpana Das, Monash University (PhD thesis), Sunway Campus, Malaysia, May 2016
3. Chen Shuang, University of Hong Kong (PhD thesis), Faculty of Science, April 2015
2. Mina Moussavi – University of Calgary (PhD thesis) – June 2013 – thesis defense
1. Zachary Constanguay – Laurentian University (MSc thesis) – October 2012 – thesis evaluation

PRACTICE OF PROFESSIONAL SKILLS:

Journal Editorial Board Memberships

7. 2017-Present **Special Issue Topic Editor** – Frontiers in Endocrinology
6. 2016-Present **Associate/Senior Editor** – General and Comparative Endocrinology, Elsevier
5. 2014-2015 **Associate Editor** – Frontiers in Cellular Endocrinology, Nature Publishing Group (resigned)
4. 2013-Present **Handling Editor** – General and Comparative Endocrinology, Elsevier
3. 2011-2013 **Editorial Board Member** – General and Comparative Endocrinology
2. 2010-2015 **Review Editor** – Frontiers in Experimental Endocrinology, Nature Publishing Group
1. 2010-2014 **Review Editor** – Frontiers in Cellular Endocrinology, Nature Publishing Group

Review Panel Membership and Review Activities for Funding Agencies

Review Panels

12. 2018 Saskatchewan Health Research Foundation Biomedical Fellowship Panel
11. 2017-Present CIHR College of Reviewers
10. 2017 Saskatchewan Health Research Foundation Biomedical Fellowship Panel
9. 2017 CIHR Project Scheme Panel (January – March)
8. 2016 Saskatchewan Health Research Foundation Biomedical Fellowship Panel
7. 2016 CIHR Project Scheme Panel (May – June)
6. 2015 CIHR Translational Open Operating Grant Review Panel (May – June)
5. 2015 CIHR Post-PhD fellowship Review Panel
4. 2014 CIHR Post-PhD fellowship Review Panel
3. 2013 Canadian Institutes of Health Research (CIHR) – Diabetes, Obesity and Lipid Disorders (May)
2. 2013 Canadian Institutes of Health Research (CIHR) – Diabetes, Obesity and Lipid Disorders (May)
1. 2013 CIHR Post-PhD fellowship Review Panel

External Reviewer

10. 2017 Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
9. 2016 Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
8. 2015 US-Israel Binational Agricultural Research and Development Fund
7. 2015 *Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
6. 2015 Hong Kong Special Administrative Region Health and Medical Research Fund
5. 2014 *Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
4. 2013 *Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
3. 2013 The Endocrine Society USA, Trainee and Early Career Awards
2. 2012 *Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) of Canada
1. 2012 Canada Council for Arts, The Killam Program

* Served as a reviewer for two NSERC Discovery evaluation groups: 1501 – Genes, Cells and Molecules, and 1502-Biological Systems and Functions.

Evaluation of Manuscripts for Science Journals

American Journal of Physiology
Journal of Endocrinology
Journal of Molecular Endocrinology
Endocrinology
Endocrine
Nature Scientific Reports
General and Comparative Endocrinology
Journal of Neuroendocrinology
Comparative Biochemistry and Physiology: Molecular and Integrative Physiology
Peptides
Marine and Freshwater Behavior and Physiology
Hormones and Behaviour
Journal of Experimental Biology
Regulatory Peptides
British Journal of Pharmacology
Molecular and Cellular Endocrinology
Indian Journal of Medical Research
Journal of Comparative Physiology
PLoS One
Cell and Tissue Research
Journal of Reproduction and Fertility
Domestic Animal Endocrinology
Tissues and Cell
Fish Physiology and Biochemistry
Journal of Pediatric Endocrinology
Frontiers in Cellular Endocrinology
Journal of Neurochemistry
Pediatric Endocrinology
Gene
Mammalian Genome

Chairing of Symposium/Conference Sessions

11. **Session on:** Hormonal Regulation of Reproduction, at the International Symposium on Recent Advances in Comparative Endocrinology. Chennai, India. November 2017.
10. **Session on:** Integrating Factors of Appetite, Energy Balance and Growth. 18th International Conference of Comparative Endocrinology. Lake Louise, Alberta, Canada. June 4-9, 2017. Co-chairs: Drs. Suraj Unniappan, Oliana Carnevali, Encarni Capilla.
9. **Session on:** Diverse Adaptation Strategies of Animals: Recent Progress in Homeostasis Biology. Joint meeting of the 22nd International Congress of Zoology, and the 87th Annual

Meeting of the Zoological Society of Japan. Okinawa, Japan. November 14-19, 2016. Co-chairs: Drs. Susumu Hyodo, Hiroyuki Kaiya, Suraj Unniappan.

8. **Session on:** Growth and Metabolism in Fishes, International Congress on the Biology of Fish. Texas State University, San Marcos, Texas. June 12-16, 2016. Co-chairs: Drs. Brian Small, Brian Peterson, Suraj Unniappan.
7. **Session on:** Regulation of Energy Balance. 3rd Biennial Conference of the North American Society for Comparative Endocrinology. Ottawa, Ontario. June 2015. Co-chairs: Drs. Peggy Biga, Suraj Unniappan.
6. **Co-chair for the session on:** Growth and Metabolism. International Congress of Fish Biology. Edinburgh, Scotland. August 2-7, 2014. Co-chairs: Drs. Brian Small, Brian Peterson & Suraj Unniappan.
5. **Co-chair for the session on:** Disease Modeling and Biomarker Discovery. Canada-India Frontiers 2012 – partnership development meeting at York University, Life Sciences section. 2012. Co-chairs: Dr. Rakesh Sharma and Suraj Unniappan.
4. **Co-chair for the session on:** Feeding and Metabolism. First annual meeting of the North American Association for the Study of Comparative Endocrinology (NAASCE 2011). Ann Arbor, Michigan. July 2011. Co-chairs: Drs. Suraj Unniappan and J. Sook-Chung.
3. **Co-chaired the session on:** Central and Peripheral Signals for Growth and Reproduction. The Second International Symposium For FISH Growth and Reproduction Satellite Symposium for 16th ICCE Meeting 2009. June 20-21, 2009. Co-chairs: Drs. Mark A. Sheridan and Suraj Unniappan.
2. **Organized and chaired the trainee symposium on career development:** Sixth International Symposium of Fish Endocrinology. Calgary, Alberta. June 2008.
1. **Chaired the trainee symposium session on:** Career-Life Balance. 90th Annual Meeting of the Endocrine Society of the USA. San Francisco, California. June 2008.

International and National Scientific Committees

5. Member, International Council of the International Society for Fish Endocrinology (France), 2015-Present.
4. Member, Local Organizing Committee, and Fund Raising Lead. 18th International Congress of Comparative Endocrinology. Lake Louise, Alberta. 2017.
3. Member, International Program Committee, North American Society for Comparative Endocrinology Biennial Meeting. Ottawa, Ontario. 2015.
2. Member, International Program Planning Council of the International Symposium on Fish Endocrinology. Sweden. 2014-2016.

1. Member, International Program Committee, North American Society for Comparative Endocrinology. Quertero, Mexico. 2012-2014.