

Claudio Esteban Pérez Leighton

Education

- PhD in Neuroscience, University of Minnesota. Thesis Supervisor Catherine Kotz. 2012
- Bsc Biochemistry, Pontificia Universidad Católica de Chile. Thesis Supervisor Katia Gysling. 2006

Academic Positions and Research Experience

- Assistant Professor, Medicine Department, Universidad Andres Bello, Chile. 2013 - 2017
- Adjunct Assistant Professor, Department of Food Science and Nutrition, University of Minnesota, USA. 2015 -
- Postdoctoral Research Associate, Minnesota Obesity Center. Supervisor Charles Billington. 2012 - 2013

Education Awards

- University of Minnesota Doctoral Dissertation Fellowship 2011 - 2012
 - Fulbright-CONICYT scholarship for Graduate Studies in USA 2006 - 2010
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Research Support

Active Grants

- **Co-investigator. FONDECYT Regular 1160820.** Saturated fatty acids activate the fatty acid receptor GPR40: implication in autophagy, inflammation and insulin sensitivity. PI Eugenia Morselli, Pontificia Universidad Católica de Chile. 2016 - 2020
- **Principal Investigator. FONDECYT Regular 1150274.** Role of orexin and non-opioid dynorphin peptides in energy balance and individual susceptibility to obesity. 2015 - 2019
- **Consultant. NIH/NIDDK USA 1R01DK100281-01A1.** Role of variability in SPA in susceptibility to obesity. PI Catherine Kotz, University of Minnesota. 2014 - 2018

Completed Grants

- **Principal Investigator. Concurso Nacional de Apoyo al Retorno de Investigadores desde el Extranjero PAI 82310017.** Effects of neuropeptides orexin and dynorphin in food intake and physical activity in obesity. 2013 - 2015
 - **Principal Investigator. Internal grants Universidad Andres Bello DI-523-14/R.** Role of Glucagon Peptide 1 (GLP1) in food intake in obesity. 2013 - 2015
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Professional Service

[1] Ad-hoc Reviewer (2012 – 2018)

Appetite, American Journal of Physiology – Regulatory Integrative and Comparative Physiology, Biological Research, European Neuropsychopharmacology, Frontiers in Physiology, Frontiers in Nutrition - Nutrition Methodology, Hormone and Metabolic Research, International Journal of Obesity, International Journal of Peptide Research and Therapeutics, Neuropharmacology, Nutritional Neuroscience, The Journal of Steroid Biochemistry and Molecular Biology.

[2] Editorial Service

- Review Editor, Frontiers in Nutrition Methodology, Frontiers in Nutrition 2015 - present

[3] Research Grants Reviews

- FONDECYT de Iniciación, Consejo Nacional Ciencia y Tecnología (CONICYT), Gobierno de Chile
- Becas de Asistencia a Congresos y Cursos Cortos, CONICYT, Gobierno de Chile
- Becas FONDECYT de Magister, CONICYT, Gobierno de Chile.
- National Fellowships Committee for Sigma Delta Epsilon, Graduate Women in Science.
- Portuguese Foundation for Science and Technology.
- Pilot Feasibility Grant for the Diabetes Center at the University of Michigan.

[4] Panel Member

- Panel Consenso. Becas FONDECYT de Doctorado y Magister, CONICYT, Gobierno de Chile.
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Academic Service Universidad Andres Bello.

- Workgroup Master Program In Research, Medicine Department, UNAB 2015 - 2016
 - Participated in developing and mentoring in programs for undergraduate research at the Medicine Department (“Alumno Ayudante en Investigación para Estudiantes de Nutrición y Dietética”, “Pasantías de Verano en Investigación para Estudiantes de Medicina”) 2014 - 2017
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Professional Societies Memberships.

Society for Neuroscience (SFN), Society for the Study of Ingestive Behavior (SSIB), Sociedad Chilena de Neurociencia (SCN), Sociedad Chilena de Ciencias Fisiológicas (SchCF)

Teaching and Mentoring

[1] Graduate Students.

- Barrientos T. Neuronal mechanisms of action DYN-A₂₋₁₇ in the paraventricular hypothalamic nucleus. Masters Program in Biotechnology, Faculty of Biological Sciences, Universidad Andres Bello. 2015 - 2018
- Mella R. The anorexigenic activity of GLP1 is modulated by individual preference in an animal model of obesity. Masters Program in Biotechnology, Faculty of Biological Sciences, Universidad Andres Bello. 2015 - 2016

[2] Undegraduate Student Research Projects.

- Bello P, Fernández N, Medina F. Analysis of orexin expression in a hypothalamic cell line. Undegraduate Thesis, Medical Technology Major, Faculty of Medicine, Universidad Andres Bello. 2016
- Cordero G. Standarization of a protocol for immunofluorescence for CRF and Fos in PVN. Undegraduate Thesis, Medical Technology Major, Faculty of Medicine, Universidad Andres Bello. 2016
- Casanueva D, Pardo D. Standarization of a conditioned place preference test for chocolate. Undegraduate Thesis, Medical Technology Major, Faculty of Medicine, Universidad Andres Bello. 2015
- Kalany V*, Ramirez V*. Analysis of obesogenic potential of a personalized cafeteria diet in mice. Undegraduate Thesis, Medical Technology Major, Faculty of Medicine, Universidad Andres Bello. 2015
- Gac L*, Salinas T. Analysis of the biological variability determining individual susceptibility to obesity. Undegraduate Thesis, Medical Technology Major, Faculty of Medicine, Universidad Andres Bello 2014

* co-authors in published scientific papers.

[3] Courses

- **Lecturer**, Cellular Communication (BIO4141), PhD Program in Physiology, 2018 - Department of Physiology, Faculty of Biological Sciences, Pontificia Universidad Católica de Chile
- **Lecturer**, Physiological Regulation (BIO4204), PhD Program in Physiology, 2018 - Department of Physiology, Faculty of Biological Sciences, Pontificia Universidad Católica de Chile
- **Coordinator**. Physiopathology, School of Nutrition, Faculty of Medicine, , 2015 - 2017 Universidad Andres Bello, Chile
- **Coordinator**. Physiology Seminars, School of Nutrition, Faculty of Medicine, 2014 - 2017 Universidad Andres Bello, Chile
- **Lecturer**. Physiology, School of Nutrition, Faculty of Medicine, , Universidad 2013 - 2014 Andres Bello, Chile.
- **Guest Lecturer**. Introduction to Medicine I, School of Nutrition, Faculty of 2015 - 2017 Medicine, Universidad Andres Bello, Chile
- **Guest Lecturer**. Nanomedicine, School of Biotechnology, Faculty of 2014 - 2017 Biological Sciences, Universidad Andres Bello, Chile
- **Guest Lecturer**. Molecular Physiopathology, School of Biochemistry, Faculty 2014 - 2018 of Biological Sciences, Universidad Andres Bello, Chile
- **Guest Lecturer**. Obesity prevention, from the molecule to the bedside, 2014 - 2016 Department of Food Science and Nutrition, University of Minnesota, USA.
- **Guest Lecturer**. Neuropsychopharmacology, Department of Neuroscience, 2013 University of Minnesota, USA.
- **Guest Lecturer**. Nutritional Physiology, University of Minnesota, USA. 2013

Publications

1. Alvarez B, Barrientos T, Gac L, Teske JA, **Perez-Leighton CE**. Effects on Hedonic Feeding, Energy Expenditure and Balance of the Non-opioid Peptide DYN-A₂₋₁₇. Neuroscience 2018 371:337-345.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
2. Coborn JE, Houser MM, **Perez-Leighton CE**, Teske JA. Role of Sex and the Environment in Moderating Weight Gain Due to Inadequate Sleep. Curr Obes Rep. 2017 6(4):397-404
Role: conception of review idea, drafting and revising the manuscript.
3. Kotz CM, **Perez-Leighton CE**, Teske JA, Billington CJ. Spontaneous Physical Activity Defends Against Obesity. Curr Obes Rep. 2017 6(4):362-370
Role: drafting and revising the manuscript.
4. Mella R, Schmidt CB, Romagnoli PP, Teske JA, **Perez-Leighton C**. The Food Environment, Preference, and Experience Modulate the Effects of Exendin-4 on Food Intake and Reward. Obesity (Silver Spring). 2017 25(11):1844-1851
Role: conception and design of studies, data analysis and interpretation, figure preparation, drafting and revising the manuscript.
5. **Perez-Leighton C**, Little MR, Grace M, Billington C, Kotz CM. 2017. Orexin signaling in rostral lateral hypothalamus and nucleus accumbens shell in the control of spontaneous physical activity in high- and low-activity rats. Am J Physiol Regul Integr Comp Physiol. 312(3):R338-R346.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.

6. Verdugo G, Arias V, **Perez-Leighton CE**. Costo de una dieta saludable en la Region Metropolitana de Chile. Archivos Latinoamericanos de Nutrición 2016 66 (4):272-278.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
7. Teske J, **Perez-Leighton CE**, Noble E, Wang CF, Billington C, Kotz C. Effect of Housing Types on Growth, Feeding, Physical Activity and Anxiety-like Behavior in Male Sprague-Dawley Rats. Frontiers in Nutrition 2016 3:4.
Role: data analysis and interpretation, figure preparation, drafting and revising the manuscript.
8. Gac L, Butterick TA, Duffy CM, Teske JA, **Perez-Leighton CE**. Role of the non-opioid dynorphin peptide des-Tyr-dynorphin (DYN-A2-17) in food intake and physical activity, and its interaction with orexin-A. Peptides 2016 76:14-8
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
9. Gac L, Kanaly V, Ramirez V, Teske JA, Pinto MP, **Perez-Leighton CE**. Behavioral characterization of a model of differential susceptibility to obesity induced by standard and personalized cafeteria diet feeding. Physiology & Behavior 2015 152(Pt A):315-322.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
10. Mavanji V, **Perez-Leighton CE**, Kotz CM, Billington CJ, Parthasarathy S, Sinton CM, Teske JA. Promotion of Wakefulness and Energy Expenditure by Orexin A in the Ventrolateral Preoptic Area. Sleep 2015 38(9):1361-70.
Role: data analysis and interpretation, figure preparation, drafting and revising the manuscript.
11. Zink AN, **Perez-Leighton CE**, Kotz CM. The orexin neuropeptide system: physical activity and hypothalamic function throughout the aging process. Front Syst Neurosci. 2014 Nov 4;8:211.
Role: review idea conception, drafting and revising the manuscript.
12. **Perez-Leighton CE**, Grace M, Billington CJ, Kotz CM. Role of spontaneous physical activity in prediction of susceptibility to activity based anorexia in male and female rats Physiology & Behavior. 2014 135:104-11
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
13. Teske JA, **Perez-Leighton CE**, Billington CJ, Kotz CM. Methodological considerations for measuring spontaneous physical activity in rodents. Am J Physiol Regul Integr Comp Physiol. 2014 306(10):R714-21
Role: data analysis and interpretation, figure preparation, drafting and revising the manuscript.
14. Teske JA, **Perez-Leighton CE**, Billington CJ, Kotz CM. Role of the locus coeruleus in enhanced orexin A-induced spontaneous physical activity in obesity resistant rats. Am J Physiol Regul Integr Comp Physiol. 2013 305(11):R1337-45
Role: data analysis and interpretation, figure preparation, drafting and revising the manuscript.
15. **Perez-Leighton CE**, Billington CJ, Kotz CM. Orexin modulation of Adipose Tissue. Biochim Biophys Acta. 2014 1842(3):440-5
Role: review idea conception, drafting and revising the manuscript.
16. **Perez-Leighton CE**, Boland K, Billington C, Kotz CM. High and low activity rats: Elevated intrinsic physical activity drives resistance to diet induced obesity in non-bred rats. Obesity (Silver Spring). 2013 Feb;21(2):353-60.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
17. **Perez-Leighton CE**, Butterick-Peterson TA, Billington CJ, Kotz CM. Role of orexin receptors in obesity: from cellular to behavioral evidence. Int J Obes (Lond). 2013 37(2):167-74.
Role: review idea conception, drafting and revising the manuscript.

18. **Perez-Leighton CE**, Boland K, Teske JA, Billington C, Kotz CM. Behavioral responses to orexin, orexin receptor gene expression, and spontaneous physical activity contribute to individual sensitivity to obesity. Am J Physiol Endocrinol Metab. 2012 303(7):E865-74.
Role: conception and design of studies, data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
 19. Kotz C, Nixon J, Butterick T, **Perez-Leighton C**, Teske J, Billington C. Brain orexin promotes obesity resistance. Ann N Y Acad Sci. 2012 1264(1):72-86.
Role: contributed to review idea conception, drafting and revising the manuscript.
 20. **Perez-Leighton CE**, Schmidt TM, Abramowitz J, Birnbaumer L, Kofuji P. Intrinsic phototransduction persists in melanopsin-expressing ganglion cells lacking diacylglycerol-sensitive TRPC subunits. Eur J Neurosci. 2011 33(5):856-67.
Role: data acquisition, analysis and interpretation, figure preparation, drafting and revising the manuscript.
 21. Tang X, Schmidt TM, **Perez-Leighton CE**, Kofuji P. Inwardly rectifying potassium channel Kir4.1 is responsible for the native inward potassium conductance of satellite glial cells in sensory ganglia. Neuroscience. 2010 166(2):397-407.
Role: acquisition and analysis of real time PCR data and figure preparation.
 22. Blanco E, Rojas R, Haeger P, Cuevas R, **Perez C**, Munita R, Quiroz G, Andrés ME, Forray MI, Gysling K. Intron retention as an alternative splice variant of the rat urocortin 1 gene. Neuroscience. 2006 140(4):1245-52.
Role: performed bioinformatic analysis.
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Symposiums

- Obesity Journal Symposium, Obesity Week 2017, Washington DC, USA (October 31, 2017).
- XIII Annual Meeting Sociedad Chilena Neurociencia, Castro, Chile (October 2, 2017; speaker and organizer).
- XXXI Annual Meeting Chilean Society of Physiology, Huio-Huilo, Chile (September 7, 2016)
- Young Investigator Symposium, 2nd FALAN Meeting, Buenos Aires Argentina (October 19, 2016)
- Young Investigator Symposium, XI Congreso Sociedad Chilena De Neurociencia. Valdivia, Chile, (October 2015).

Guest Speaker

- Physiology Institute, School of Sciences, Pontificia Universidad Católica de Chile de Valparaíso (January 18, 2018; invited by Alexies Diagnino, PhD).
 - Department of Cell Biology, Faculty of Biological Sciences, Universidad de Concepción (December 2, 2016; invited by Juan Pablo Henriquez)
 - Centro de Estudios Científicos del Sur, Valdivia, Chile (December 18, 2015; invited by Bradford Kerr).
 - Department of Food Science and Nutrition, University of Minnesota, USA (October 27, 2015; invited by Catherine Kotz).
 - Physiology Department, School of Biological Sciences, Pontificia Universidad Católica de Chile (March 27, 2015; invited by Alejandro Godoy).
 - Department of Nutritional Sciences, University of Arizona, USA (November 12, 2014; invited by Jennifer Teske).
 - School of Medicine, Universidad Católica del Norte (October 18, 2014; invited by Paola Haeger).
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Meeting Abstracts.

1. Baeza N, Barrientos T, Alvarez B, **Perez-Leighton CE**. Interaction of neuropeptides DYN-A1-13 and orexin-A in the selection and intake of palatable foods. XIII Reunión Anual de Sociedad Chilena de Neurociencia 2017, Castro, Chile, 2017.
 2. Barrientos T, Alvarez B, **Perez-Leighton CE**. Role and mechanisms of action of DYN-A₂₋₁₇ on food intake in PVN. XIII Reunión Anual de Sociedad Chilena de Neurociencia 2017, Castro, Chile, 2017.
 3. Mella R, **Perez-Leighton CE**. Role of Glucagon-like Peptide 1 (GLP1) in hedonic food intake is modulated by individual preference. 2nd FALAN Meeting. Buenos Aires, Argentina, 2016.
 4. **Perez-Leighton CE**, Alvarez B, Gac L., Hernandez MP, Morselli E, Teske J. Role of a non-opioid DYN peptide (des-Tyr DYN) in physical activity and hedonic food intake in the paraventricular hypothalamic nucleus. 10th FENS Forum of Neuroscience 2016, Copenhagen, Dinamarca, 2016.
 5. Arias-Figueroa V, Giacometto M, **Perez-Leighton CE**. Nivel de actividad física y conducta frente al consumo de alimentos en la población chilena. XXI Congreso Sociedad Chilena de Nutrición, Concepción, Chile, 2015.
 6. **Perez-Leighton CE**, Gac L, Alvarez B. Individual susceptibility to obesity and the role of the orexin and dynorphin peptides. Society For Neuroscience Annual Meeting, Chicago, USA, 2015.
 7. Parker K, **Perez-Leighton CE**, Billington C, Kotz C. Spontaneous physical activity (SPA) following optogenetic manipulation of lateral hypothalamic orexin neurons is dependent on the circadian cycle. Society For Neuroscience Annual Meeting, Washington DC, USA, 2014.
 8. **Perez-Leighton CE**, Sarmiento M, Velasquez L. Interaction between orexin and opioid/non-opioid dynorphin in PVN in the regulation of food intake and physical activity. Society For Neuroscience Annual Meeting, Washington DC, USA, 2014.
 9. **Perez-Leighton CE**, Sarmiento M. Interaction between orexin and opioid/non-opioid dynorphin in PVN in the regulation of food intake and physical activity. X Congreso Sociedad Chilena De Neurociencia. Valdivia, Chile, 2014.
 10. **Perez-Leighton CE**, Billington C, Kotz CM. The orexins, variability in physical activity and resistance to obesity. Latin American Research Network in Drug Abuse, First Joint Meeting Alcohol and other Drugs of Abuse: from molecules to human disorders, Concepcion, 2013.
 11. **Perez-Leighton CE**, Billington C, Kotz CM. Optogenetic Activation of the Orexin Neurons Stimulates Spontaneous Physical Activity. Society for the Study of the Ingestive Behavior (SSIB) Annual Meeting, New Orleans, USA, 2013.
 12. **Perez-Leighton CE**, Billington C, Kotz CM. Role of the orexins in individual susceptibility to obesity. Congreso Nexos Chile-USA, New York, NY, USA, 2012.
 13. **Perez-Leighton CE**, Billington C, Kotz CM. Feeding Responses to Orexin A in High and Low Activity Rats. Society For Neuroscience Annual Meeting, New Orleans, USA, 2012.
 14. **Perez-Leighton CE**, Billington C, Kotz CM. Orexin response profile in High Activity (HA) and Low Activity (LA) rats and sensitivity to high-fat diet induced obesity. Society For Neuroscience Annual Meeting, Washington DC, USA, 2011.
 15. Nixon JP, Butterick TA, **Perez-Leighton CE**, Kotz CM. Effect of orexin A on neuropeptide Y expression in a novel immortalized hypothalamic cell line Society For Neuroscience Annual Meeting, Washington DC, USA, 2011.
 16. Butterick TA, Nixon JP, **Perez-Leighton CE**, Kotz CM. Orexin A influences lipid peroxidation and neuronal metabolic status in a novel immortalized hypothalamic cell line. Society For Neuroscience Annual Meeting, Washington DC, USA, 2011.
 17. **Perez-Leighton CE**, Butterick-Peterson TA, Billington C, Kotz CM. Sequence Independent Phylogenetic Footprinting Analysis Identifies Novel Transcription Regulation for Orexin Receptor. Experimental Biology Meeting, Washington, USA, 2011.
 18. **Perez-Leighton CE**, Billington C, Kotz CM. Effect of High-Fat Consumption on Activity of the Orexin Peptides and Receptors. Society For Neuroscience Annual Meeting, San Diego, USA, 2010.
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