

RUDY MARTIN ORTIZ

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POSITIONS

- July 2008 – Present: Assistant Professor Step V, School of Natural Sciences, UC Merced
- July 2006 – June 2008: Assistant Professor Step IV, SNS, UCM
- January 2005- June 2006: Assistant Professor Step III, SNS, UCM
- July 1, 2005 – present: Affiliate Faculty, University of Alaska Fairbanks, School of Fisheries & Ocean Sciences.
- January 2003 – December 2004: Postdoctoral Fellow, Department of Physiology, Tulane University Health Sciences Center
- June 2001 – December 2002: Postdoctoral Fellow, Department of Biology, UC Santa Cruz

EDUCATION

- **Ph.D.** Biology, University of California, Santa Cruz, June 2001
Title: “Endocrinology of Fasting and Renal Function in Pups of the Northern Elephant Seal (*Mirounga angustirostris*)”
Committee: C. Leo Ortiz (chair), Daniel P. Costa, Frank Talamantes, Charles E. Wade
- **M.Sc.** Wildlife & Fisheries Science, Texas A&M University, College Station, December 1994
- **B.A.** Biology, Texas A&M University, College Station, August 1990

REFEREED PUBLICATIONS – Original Articles

1. Vázquez-Medina, JP, DE Crocker, HJ Forman, **RM Ortiz**. 2010. Prolonged fasting does not increase oxidative damage or inflammation in a naturally adapted mammal, the northern elephant seal. *J Experimental Biology*, In Press
2. **Ortiz, RM**, H Kobori, D Conte, and LG Navar. 2010. Chronic angiotensin II infusion stimulates corticosterone in association with body mass reduction. *Growth Hormone & IGF Research*, In Press
3. Rodriguez, R, J Mowrer, J Romo, A Aleman, S Weffer and **RM Ortiz**. 2010. Ethnic and gender disparities in adolescent obesity in a rural US population. *Clinical Pediatrics*, In Press
4. **Ortiz, RM**, B Long, D Casper, CL Ortiz and TM Williams. 2010. Biochemical and hormonal changes during acute food deprivation and re-feeding in bottlenose dolphins (*Tursiops truncatus*). *Marine Mammal Science* 26: 409-419
5. **Ortiz, RM**, A Mamalis and LG Navar. 2009. Aldosterone receptor antagonism reduces urinary C-reactive protein excretion in angiotensin II-infused, hypertensive rats. *Journal of the American Society of Hypertension* 3: 184-191

6. **Ortiz, RM.** 2008. Delineating the contributions of AT1a and AT1b receptor mediated uptake of Ang II in kidneys and adrenals. *American Journal of Physiology Renal Physiol* 294: F291-F292
7. Graciano ML, A Nishiyama, K Jackson, DM Seth, **RM Ortiz**, MC Prieto-Carrasquero, H Kobori, and LG Navar. 2008. Purinergic receptors contribute to early mesangial cell transformation and renal vessel hypertrophy during angiotensin II-induced hypertension. *American Journal of Physiology Renal Physiol* 294: F161-F169
8. **Ortiz, RM**, ML Graciano, JJ Mullins, and KD Mitchell. 2007. Aldosterone receptor antagonism alleviates proteinuria, but not malignant hypertension in Cyp1a1-Ren2 transgenic rats. *American Journal of Physiology Renal Physiol* 293: F1584-F1591
9. **Ortiz, RM**, ML Graciano, D Seth, M Awayda and LG Navar. 2007. Aldosterone receptor antagonism exacerbates intrarenal angiotensin II augmentation in Ang II-dependent hypertension. *American Journal of Physiology Renal Physiol* 293: F139-F147
10. **Ortiz, RM**, DE Crocker, DS Houser, and PM Webb. 2006. Angiotensin II and aldosterone increase with fasting in breeding adult male northern elephant seals (*Mirounga angustirostris*). *Physiological and Biochemical Zoology* 79 (6): 1106-1112
11. **Ortiz, RM** and GAJ Worthy. 2006. Body composition and water turnover rates of bottle-fed West Indian manatee (*Trichechus manatus*) calves. *Aquatic Mammals* 32 (1): 41-45
12. Sherman, RA, **RM Ortiz**, DP Noren, L Pagarigan, CL Ortiz, and F. Talamantes. 2005 Estradiol and testosterone concentrations increase with fasting in weaned pups of the northern elephant seal (*Mirounga angustirostris*). *Physiological and Biochemical Zoology* 78 (1): 55-59
13. **Ortiz, RM** and GAJ Worthy. 2004. Could lower body fat mass contribute to cold-water susceptibility in calves of the West Indian Manatee (*Trichechus manatus*)? *Marine Mammal Science* 20 (1):176-183
14. **Ortiz, RM**, DP Noren, CL Ortiz, and F. Talamantes. 2003. Ghrelin and growth hormone increase with fasting in a naturally adapted species, the northern elephant seal. *Journal of Endocrinology* 178 (1): 83-89
15. **Ortiz, RM**, CE Wade, CL Ortiz, and F. Talamantes. 2003. Acutely elevated vasopressin increases circulating cortisol and aldosterone in fasting northern elephant seal pups (*Mirounga angustirostris*). *Journal of Experimental Biology* 206 (16): 2795-2820
16. **Ortiz, RM**, DS Houser, CE Wade, CL Ortiz. 2003. Hormonal changes associated with the transition between nursing and natural fasting in northern elephant seals (*Mirounga angustirostris*). *General and Comparative Endocrinology* 130: 78-83
17. **Ortiz, RM**, CE Wade and CL Ortiz. 2003. Body water handling in response to hypertonic-saline induced diuresis in fasting northern elephant seal pups (*Mirounga angustirostris*). *Comparative Biochemistry and Physiology A* 134:423-428
18. **Ortiz, RM**, CE Wade, DP Costa and CL Ortiz. 2002. Renal effects of fresh water-induced hypo-osmolality in a marine adapted seal. *Journal of Comparative Physiology B* 172:297-307
19. **Ortiz, RM**, CE Wade, DP Costa and CL Ortiz. 2002. Renal responses to plasma volume expansion and hyperosmolality in fasting seal pups. *American Journal of Physiology Reg Integrative Comp Physiol* 282: R805-R817
20. **Ortiz, RM**, DP Noren, B Litz and CL Ortiz. 2001. A new perspective on adiposity in a naturally obese mammal. *American Journal of Physiology Endocrinol Metab* 281: E1347-E1351

21. **Ortiz, RM**, CE Wade, and CL Ortiz. 2001. Effects of prolonged fasting on cortisol and TH in northern elephant seal pups. *American Journal of Physiology Reg Integrative Comp Physiol* 280: R790-R795
22. Wade CE, **RM Ortiz** and LA Baer. 2000. Increases in body mass of rats during spaceflight: models and measurements. *Aviation, Space, and Environmental Medicine* 71(11): 1126-1130
23. **Ortiz, RM**, CE Wade and E Morey-Holton. 2000. Urinary excretion of LH and testosterone in male rats exposed to increased gravity: Post-spaceflight and centrifugation. *Proceedings of the Society for Experimental Biology and Medicine* 225(1): 98-102
24. **Ortiz, RM** and CE Wade. 2000. Water balance in rats exposed to chronic centrifugation. *Journal of Applied Physiology* 89(1): 56-60
25. **Ortiz, RM**, DS MacKenzie and GAJ Worthy. 2000. Thyroid hormone concentrations in captive and free-ranging West Indian manatees (*Trichechus manatus*). *The Journal of Experimental Biology* 203(23): 3631-3637
26. **Ortiz, RM**, RM Patterson, CE Wade and FM Byers. 2000. Effects of acute fresh water exposure on water flux rates and osmotic response in captive Kemp's ridley sea turtles (*Lepidochelys kempi*). *Comparative Biochemistry and Physiology A* 127(1): 81-87
27. **Ortiz, RM**, CE Wade and CL Ortiz. 2000. Prolonged fasting increases the response of the renin-angiotensin-aldosterone system, but not vasopressin levels, in postweaned northern elephant seal pups. *General and Comparative Endocrinology* 119: 217-223
28. **Ortiz, RM** and GAJ Worthy. 2000. Effects of capture on plasma adrenal steroids and vasopressin levels in free-ranging bottlenose dolphins (*Tursiops truncatus*). *Comparative Biochemistry and Physiology A* 125(3): 317-324
29. Wade CE, LA Baer, WA Belisle, **RM Ortiz** and MF Vasques. 1999. Deposition and renal handling of urinary electrolytes from rats during spaceflight. *Journal of Gravitational Physiology* 6(2): 25-32
30. **Ortiz RM**, TJ Wang and CE Wade. 1999. Urea and osmotic excretion in rats exposed to chronic centrifugation. *Aviation, Space, and Environmental Medicine* 70 (11): 1089-1095
31. **Ortiz RM**, TJ Wang and CE Wade. 1999. Influence of centrifugation and hindlimb suspension on testosterone and corticosterone excretion in rats. *Aviation, Space, and Environmental Medicine* 70(5): 499-504
32. **Ortiz RM**, GAJ Worthy and FM Byers. 1999. Estimation of water turnover rates of captive West Indian manatees (*Trichechus manatus*) held in salt and fresh water. *The Journal of Experimental Biology* 202(1): 33-38
33. **Ortiz RM**, GAJ Worthy and DS MacKenzie. 1998. Osmoregulation in free ranging and captive West Indian manatees (*Trichechus manatus*). *Physiological Zoology* 71(4): 449-457
34. Wade CE and **RM Ortiz**. 1997. Effects of habituated restraint on urinary cortisol levels in rhesus monkeys. *Contemporary Topics in Laboratory Animal Science* 36(5): 55-57
35. **Ortiz RM**, P Plotkin and DW Owens. 1997. Predation upon olive ridley sea turtles (*Lepidochelys olivacea*) by the American crocodile (*Crocodylus acutus*) at Playa Nancite, Costa Rica. *Chelonia Conservation and Biology* 2(4): 585-587
36. **Ortiz RM**, SH Adams, DP Costa and CL Ortiz. 1996. Plasma vasopressin levels and water conservation in fasting, postweaned northern elephant seal pups (*Mirounga angustirostris*). *Marine Mammal Science* 12(1): 99-106

REFEREED PUBLICATIONS – Reviews

37. Talamantes, F. and **RM Ortiz**. 2002. Structure and regulation of expression of the mouse growth hormone receptor. *Journal of Endocrinology* 175: 55-59
38. **Ortiz, RM**. 2001. Osmoregulation in marine mammals. *The Journal of Experimental Biology* 204 (11): 1831-1844

Book Chapters

- Weldon P, **RM Ortiz** and T Sharp. 1992. The chemical ecology of crotaline snakes. *In* Biology of the Pitvipers (JA Campbell and ED Brodie, Jr., eds). Selva Press, Tyler, TX.
- Atkinson S, D St. Aubin and **RM Ortiz**. 2008. Endocrine Systems. *In* Encyclopedia of Marine Mammals (Wm F Perrin, B Wursig and JGM Thewissen, eds). Academic Press, San Diego, CA.

Government Reports

- Greenwood MRC, **RM Ortiz** and PB Crawford. 2009. Legislative Task Force on Diabetes and Obesity: Report to the California Legislature. 38 pp.

Papers Submitted or In Progress

- Conte, D, J Viscarra, A Mamalis, A Nishiyama, **RM Ortiz**. 2009. Chronic angiotensin receptor blockade suppresses intracardiac angiotensin II, but increases aldosterone in Ang II-infused rats. Pending Revision, Clinical & Experimental Physiology and Pharmacology
- Crocker, DE, **RM Ortiz**, DS Houser, PM Webb and DP Costa. Hormonal and metabolite changes associated with extended breeding fasts in male northern elephant seals. In Review, General & Comparative Endocrinology
- Viscarra, J, JP Vázquez-Medina, DE Crocker, **RM Ortiz**. Glut4 expression is upregulated despite decreased insulin signaling during prolonged fasting in an adapted mammal. In Review, General & Comparative Endocrinology
- Lis, A, **RM Ortiz**, KL Awayda, JD Stockand, MS Awayda. Acute cholesterol-induced antinatriuretic effects mediated via changes in epithelial Na⁺ channel activity, protein levels and processing. In Review, J Clinical Investigation

Published Abstracts

- Vazquez-Medina JP, C Champagne, CL Ortiz, DE Crocker and **RM Ortiz**. 2009. Glut4 Increases with Prolonged Fasting in Northern Elephant Seals FASEB J 23:598.3
- Conte D, A Mamalis, R Garcia, A Nishiyama and **RM Ortiz**. 2008. Chronic Angiotensin Receptor Blockade Suppresses Intracardiac Angiotensin II, but not Intracardiac Aldosterone in Ang II-Infused Rats. Hypertension 52(4): LB052.
This abstract was selected for special presentation in the “Novel Signaling Paradigms in Vascular and Renal Disease” program at the 62nd Council on High Blood Pressure Research Conference, Atlanta, GA, September 17, 2008.
- **Ortiz, RM**, D Gravano, S Torres, J Grewal, AD Mamalis, DA Conte, and LG Navar. 2006. Urinary C-Reactive Protein Excretion Increases in Angiotensin II-Dependent Hypertensive Rats. FASEB J 20:470.16
- Prieto-Carrasquero MC, M Evans-Vallas, **RM Ortiz**, H Kobori, J Pagan, D Seth and LG Navar. 2006. Is Collecting Duct Renin in Normotensive and Hypertensive Rats Regulated by Aldosterone? Hypertension 48(4): P147

- Prieto-Carrasquero MC, FT Botros, H Kobori, **RM Ortiz**, DE Casarini, D Seth, M Evans-Vallas, LG Navar. 2006. Collecting Duct Renin is directly upregulated by Angiotensin II-dependent hypertensive animal models. *J Hypertension* 24S:6-46.
- Prieto-Carrasquero MC, M Evans-Vallas, **RM Ortiz**, H Kobori, D Seth, and LG Navar. 2006. Effects of Aldosterone Receptor Blockade on Collecting Duct Renin in Normotensive and Hypertensive Rats. *FASEB J* 20:223.2
- **Ortiz, RM**, Y Ozawa, DV Tran, H Kobori, and LG Navar. 2005. Angiotensin II-Induced Body Mass Reduction is Associated with Decreases in Hepatic Growth Hormone Receptor and Insulin-like Growth Factor 1 mRNA Expressions. *Hypertension* 46(4):868
- **Ortiz, RM**, AN Bailey, M Cabrera, I Vukojicic, MS Awayda, and LG Navar. 2005. Eplerenone Acutely Increases Na⁺ Excretion, but Does Not Chronically Affect Na⁺ Balance, Renal α ENaC Content or Systolic Blood Pressure in Angiotensin II-Induced Hypertension. *FASEB J* 19:905.11
- **Ortiz, RM**, C Mouton, ML Graciano, JJ Mullins, and KD Mitchell. 2005. Aldosterone Antagonism Does Not Attenuate the Development of Malignant Hypertension in Cyp1a1-Ren2 Transgenic Rats. *FASEB J* 19:674.5
- Graciano ML, D Seth, M Cabrera, M Prieto-Carrasquero, **RM Ortiz**, and LG Navar. 2005. Purinergic Receptors Contribute to Mesangial Cell Transformation during Angiotensin II-Induced Hypertension. *FASEB J* 19: 351.23
- Noren DP and **RM Ortiz**. 2005. Plasma Metabolites Indicate Variation in Energy Reserve Utilization in Fasting Northern Elephant Seal Pups. *FASEB J* 19:131.11
- **Ortiz, RM**, AN Bailey, M Cabrera, ML Graciano, and LG Navar. 2004. Eplerenone Enhances Adrenal and Excreted Aldosterone during Angiotensin-II Induced Hypertension. *Hypertension* 44(4):558
- Johnson, RA, **RM Ortiz**, SD Appleton, KE Jackson, LG Navar, and FK Johnson. 2004. Ang II Induces Adrenal Heme Oxygenase-1 to Promote Feedback Inhibition of Aldosterone Synthesis. *Hypertension* 44(4):515
- Johnson, FK, KE Jackson, FJ Teran, W Durante, KJ Peyton, **RM Ortiz**, and RA Johnson. 2004. Spironolactone prevents cardiovascular/renal failure and endothelial dysfunction in hypertensive Dahl rats. *FASEB J* 18:209.4
- Pagarigan, LK, RA Sherman, TM Williams, **RM Ortiz**, CL Ortiz. 2003. Biochemical and hormonal alterations associated with acute food deprivation in bottlenose dolphins (*Tursiops truncatus*). *FASEB J* 17:590.3.
- Sherman, RA, L Pagarigan, DP Noren, **RM Ortiz**, CL Ortiz, and F Talamantes. 2003. Reproductive hormone concentrations in fasting, postweaned northern elephant seal (*Mirounga angustirostris*) pups. *FASEB J* 17:590.2
- **Ortiz, RM**, O Fregoso, CE Wade, CL Ortiz, and F Talamantes. 2002. Effects of vasopressin in fasting northern elephant seal pups (*Mirounga angustirostris*). *FASEB J* 16:
- **Ortiz, RM**, CE Wade and CL Ortiz. 2001. Renal function in naturally fasting northern elephant seal pups. *FASEB J* 15:

PRESENTATIONS

Faculty-Interview Seminar

- "Endocrinology of Fasting in Pups of the Northern Elephant Seal (*Mirounga angustirostris*): A Potential Model for Diabetes?" Division of Neurobiology, Physiology, and Behavior, UC Davis, June 4, 2003. UCD Host: Vice Provost Barbara Horwitz. For position in Natural

Sciences at UC Merced. UCM Host: Dean Maria Pallavicini.

Invited Seminars

- “No Food, No Drink, No Problem: Adaptations to Prolonged Fasting in Northern Elephant Seals” California State University Fresno, November 6, 2009. Host: Dr. Madhu Katti.
- “The Unorthodox Biomedical Research Model: The Northern Elephant Seal” American Association of Lab Animal Science, San Francisco, CA, May 1, 2009.
- “Living in a World of Salt: Adaptations of a Marine Mammal” University of Texas San Antonio, October 17, 2008. Host: Dr. George Negrete.
- “Living in a World of Salt: Adaptations of a Marine Mammal” California State University San Marcos, October 2, 2008. Host: Dr. Victor Rocha.
- “Nutrition & Health” Central Valley Dietetic Association, Fresno, CA, February 26, 2008. Host: Terrie Soares
- “Living in a World of Salt: Renal Handling of Na⁺ & Water in a Marine Adapted Mammal” University of Buffalo Medical School, October 25, 2007. Host: Dr. Mohammed Awayda.
- “Renin-Angiotensin-Aldosterone System in Marine Mammals: The Forgotten System”. Seaward Sea Life Center and University of Alaska, Fairbanks, March 8, 2007. Host: Dr. Shannon Atkinson.
- “Contributions of Aldosterone to Angiotensin II-dependent Hypertension”. Department of Pharmacology, Kagawa Medical University, Kita-gun, Japan, June 30, 2006. Host: Dr. Akira Nishiyama
- “Aldosterone Receptor Antagonism Exacerbates Intrarenal Angiotensin II: Implications for Increased Renal Na⁺ Reabsorption & Hypertension”. NKF of Northern California, Young Investigators Forum, San Francisco, CA, April 29, 2006.
- “Endocrinology of Marine Mammals – An Adventure in Multidisciplinary Research: Comparative, Gravitational, Clinical”. Society for the Advancement of Chicanos and Native Americans in Science annual meeting. Austin, TX, October 21-24, 2004.
- "Living in a World of Salt: Renal Handling of Na⁺ and H₂O in a Marine Adapted Mammal" Department of Biology, Mississippi State University, April 2, 2004. Host: Dr. Randall Buddington
- "Opportunities in Biomedical Research" REU Summer Research Program, UT-El Paso, June 12, 2003.
- “Ghrelin and Growth Hormone Increase with Fasting in an Adapted Mammal” NIH Minority Training Research Forum conference, San Diego, CA, March 14-17, 2003.
- “Marine Mammals in Biomedical Research” Explorations in Marine and Ocean Sciences, University of California, Santa Cruz, November 16, 2002.
- “When Is Too Much Body Fat A Good Thing? Regulation of body fat in a naturally obese mammal – northern elephant seals (*Mirounga angustirostris*)” Department of Biology, University of Texas, El Paso, September 20, 2002. Host: Dr. Kristine Garza
- “When Is Too Much Body Fat A Good Thing? Regulation of body fat in a naturally obese mammal – northern elephant seals (*Mirounga angustirostris*)” Department of Biology, New Mexico State University, September 19, 2002. Host: Dr. Marvin Bernstein
- “Living In A World of Salt: An alternative regulatory mechanism of Na⁺ from a marine mammal” Department of Physiology, Tulane University Medical School (LA), April 18, 2002. Host: Dr. L. Gabriel Navar

- “When Is Too Much Body Fat A Good Thing? Regulation of body fat in northern elephant seals (*Mirounga angustirostris*)” Department of Biology, Xavier University (LA), April 16, 2002. Host: Dr. Roldán Valverde
- “How Do They Control So Much Body Fat? Regulation of body fat in northern elephant seals (*Mirounga angustirostris*)” Department of Biology, Sonoma State University (CA), March 5, 2002. Host: Dr. Dan Crocker
- “Renal Function in Fasting Pups of the Northern Elephant Seal (*Mirounga angustirostris*): The role of vasopressin and aldosterone” Department of Animal Science, University of Vermont, November 2, 2001. Host: Dr. Karen Plautt

Chaired Conference Symposia/Workshops

- Symposium: “Transition from Postdoc to Jr. Faculty: Surviving the Initial Years”, Trainee Advisory Committee, American Physiological Society, Experimental Biology '06, San Francisco, CA April 1-5, 2006
- Workshop: “Developing the Foundation of Essential Career Skills”, Society for the Advancement of Chicanos and Native Americans in Science annual meeting, Albuquerque, NM, October 3-6, 2003 and Austin, TX, October 21-24, 2004.
- Featured Topic: “Comparative Aspects of the Hormonal Responses to Altered Metabolic Demands”, Comparative Section, American Physiological Society, Experimental Biology '03, San Diego, CA, April 11-15, 2003.

Conference Presentations

- Conatser LM, B Litz, LA Baer, **RM Ortiz**, CL Ortiz, C Campagna, and AE Ronca. Behavioral analysis of parturition in the southern elephant seal (*Mirounga leonina*). Sixteenth Biennial Conference on the Biology of Marine Mammals, San Diego, CA, December 16-21, 2005.
- **Ortiz, RM**, FK Johnson, W Durante, LG Navar, and RA Johnson. A heme oxygenase inhibitor increases AII-stimulated plasma aldosterone. American Physiological Society Conference, *Aldosterone and ENaC: From Genetics to Physiology*. Banff, Alberta, Canada, September 10-14, 2003.
- **Ortiz, RM**, O Fregoso, CE Wade, CL Ortiz, and F Talamantes. Saluretic actions of vasopressin in fasting northern elephant seal (*Mirounga angustirostris*) pups. American Physiological Society Conference, *The Power of Comparative Physiology: Evolution, Integration and Application*. San Diego, CA, August 24-28, 2002.
- **Ortiz, RM**. Regulation of vasopressin in fasting pups of the northern elephant seal (*Mirounga angustirostris*). Society for the Advancement of Chicanos and Native Americans in Science annual meeting. Phoenix, AZ, September 27-29, 2001.
- **Ortiz, RM**, CE Wade, and CL Ortiz. Endocrinology of fasting in northern elephant seal pups. XXXIV International Union of Physiological Science, Christchurch, New Zealand, August 26-31, 2001.
- **Ortiz, RM**, TJ Wang, BJ Corbin and CE Wade. 1997. Renal response to chronic centrifugation in rats. Experimental Biology '97, New Orleans, LA, April 6-9.
- Wang, TJ, **RM Ortiz**, BJ Corbin and CE Wade. 1997. Influence of altered mass loading on testosterone excretion and testicular mass. Experimental Biology '97, New Orleans, LA, April 6-9.
- **Ortiz, RM**, RM Patterson, FM Byers and DWm Owens. Osmotic response of Kemp's ridley

sea turtles to acute fresh water exposure. Symposium on Sea Turtle Biology and Conservation, Orlando, FL, March 4-8, 1997.

- **Ortiz, RM** and CE Wade. 1996. Effects of habituated restraint in primates on urinary cortisol. Experimental Biology '96, Washington, DC, April 14-17.
- **Ortiz, RM**, GAJ Worthy, and DS MacKenzie. Osmoregulatory endocrinology of free ranging and captive West Indian manatees (*Trichechus manatus*). Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, FL, December 14-18, 1995.
- **Ortiz, RM**, GAJ Worthy and DS MacKenzie. A comparison of thyroid hormone levels in captive and free ranging West Indian manatees (*Trichechus manatus latirostris* and *T. m. manatus*). First International Manatee and Dugong Research Conference, Gainesville, FL, March 11-13, 1994.
- **Ortiz, RM** and GAJ Worthy. Water balance in captive manatees (*Trichechus manatus*). Tenth Biennial Conference on the Biology of Marine Mammals, Galveston, TX, November 11-15, 1993.
- **Ortiz, RM** and GAJ Worthy. Aldosterone and ADH levels in coastal bottlenose dolphins of Texas. XVIII Reunión Internacional para el estudio de los Mamíferos Marinos, La Paz, Baja California del Sur, México, May 4-7, 1993.
- **Ortiz, RM**, S Adams, DP Costa and CL Ortiz. 1993. Serum ADH levels, urine output and osmolarity in elephant seal pups during prolonged fasts. Experimental Biology '93, New Orleans, LA, March 28-April 1.
- Kohin, S, P Patterson-Buckendahl, **RM Ortiz**, CL Ortiz. 1993. An apparent absence of melatonin in the plasma of Atlantic bottlenose dolphins. Experimental Biology '93, New Orleans, LA, March 28-April 1.
- **Ortiz, RM**, S Adams, DP Costa and CL Ortiz. ADH Levels, Urine output and osmolarity in elephant seal pups during prolonged fasts. Ninth Biennial Conference on the Biology of Marine Mammals, Chicago, IL, December 5-9, 1991. *and* Southwest Regional Conference on Comparative Endocrinology, Austin, TX, April 2-4, 1992.

Students' Presentations

- Rodriguez, R, J Viscarra, D Nakano, A Nishiyama, RM Ortiz. Blockade of the renin-angiotensin system improves glucose intolerance in pre-diabetic rats on a high glucose diet. Experimental Biology '10, Anaheim, CA April 24-28, 2010.
- Vázquez-Medina, JP, J Choi, HJ Forman, DE Crocker, **RM Ortiz**. Fasting increases antioxidant enzymes and glutathione content in elephant seals. Experimental Biology '10, Anaheim, CA April 24-28, 2010. (**JPVM: Travel Award recipient**)
- Viscarra, JA, JP Vázquez-Medina, J Minas, DE Crocker, **RM Ortiz**. Prolonged fasting suppresses cellular insulin-dependent activity in adipose tissue of the northern elephant seal. Experimental Biology '10, Anaheim, CA April 24-28, 2010. (**JV: Travel Award recipient**)
- Vázquez-Medina, JP, DE Crocker, H Forman, **RM Ortiz**. Nox4 and p22^{phox} increase after prolonged fasting without oxidative damage or inflammation in a naturally adapted mammal. 16th Annual Meeting of the Society of Free Radical Biology and Medicine. San Francisco, CA, Nov 18-22, 2009.
- Barragan, F, H Kobori, LG Navar, **RM Ortiz**. Angiotensin receptor blockade recovers Ang II-induced body mass loss along with the mRNA expressions of AT1a and IGF1 in Ang II infused rats. 14th National SACNAS Conference, Dallas, TX, Oct 15-18, 2009. (**FB: Travel Award recipient**)

- Rodriguez, R, J Mowrer, J Romo, A Aleman, S Weffer, **RM Ortiz**. Being overweight and obese are associated with prehypertension and hypertension in adolescents in a rural California population. 14th National SACNAS Conference, Dallas, TX, Oct 15-18, 2009. (**RR: Travel Award recipient**)
- Viscarra, J, D Conte, A Nishiyama, **RM Ortiz**. Heart Angiotensin Receptor Type 1 Protein Levels are Downregulated by Chronic Angiotensin Receptor Blocker Treatment in Angiotensin II-Infused Rats. 14th National SACNAS Conference, Dallas, TX, Oct 15-18, 2009. (**JV: Travel Award recipient**)
- Vázquez-Medina, JP, DE Crocker, H Forman, **RM Ortiz**. NOX4 and Cu-Zn SOD are increased after prolonged fasting in northern elephant seals. International Union of Physiological Sciences 2009, Kyoto, Japan, July 27-Aug 1.
- Vázquez-Medina, JP, C Champagne, CL Ortiz, DE Crocker, **RM Ortiz**. Glut4 increases with prolonged fasting in northern elephant seals. Experimental Biology '09, New Orleans, LA April 18-22. (**JPVP: Novo-Nordisk Travel Award recipient**)
- Vázquez-Medina, JP, DE Crocker, H Forman, **RM Ortiz**. Oxidative Stress and Inflammation Markers during Prolonged Fasting in Northern Elephant Seals. 4th International Workshop on Comparative Aspects of Oxidative Stress in Biological Systems, Taxco, Guerrero, Mx, March 31-April 3, 2009. (**JPVP: Travel Award recipient**)
- Camelo, A, S Chin, G Berzenye, M Suh, **RM Ortiz**. Middle school children fail to meet dietary fiber recommendations. University of California, Merced Research Forum, March 4, 2008, AND 13th National SACNAS Conference, Salt Lake City, UT, Oct 9 – 12, 2008.
- Conte, DA, A Mammalis, R Garcia, A Nishiyama, **RM Ortiz**. Chronic blockade of angiotensin II receptors suppress intracardiac angiotensin II. UC Merced Research Forum, March 4, 2008.
- Garcia, R, A Mamalis, D Conte, A Nishiyama, **RM Ortiz**. Angiotensin receptor blockade exacerbates intracardiac aldosterone during angiotensin II-dependent hypertension. UC Merced Research Forum, April 16, 2007.
- Gonzalez, A, D Conte, A Mamalis, A Nishiyama, **RM Ortiz**. Angiotensin II infusion depresses plasma renin activity & Cyp11B2 in heart tissue suggests aldosterone synthesis. UC Merced Summer Research Forum, July 27, 2007.
- Lona, I, K Mashburn, J Phillips, S Atkinson, **RM Ortiz**. The effects of acute TSH infusion on glucose metabolism in stellar sea lions. UC Merced Summer Research Forum, Aug 8, 2008, Science and Engineering Research Symposium, Sacramento, CA, Sept 19 - 20, 2008, AND 13th SACNAS National Conference. Salt Lake City, UT, Oct 9 – 12, 2008.
- Mamalis, A, D Conte, LG Navar, **RM Ortiz**. Aldosterone receptor antagonism reduces urinary CRP excretion in angiotensin II-infused, hypertensive rats. UC Merced Research Forum, April 16, 2007. (**2nd place award: Undergraduate Student Poster Presentation**)
- Matias, J, J Phillips, C Champagne, DE Crocker, **RM Ortiz**. The effects of fasting on insulin signaling in the northern elephant seal. UC Merced Summer Research Forum, Aug 8, 2008, AND 13th SACNAS National Conference. Salt Lake City, UT, Oct 9 – 12, 2008.
- Mojica, A, JB Phillips, J Choi, MY Sheikh, **RM Ortiz**. Cortisol-Cortisone shuttle regulation in morbidly obese patients with steatohepatitis. UC Merced Summer Research Forum, July 27, 2007.
- Phillips, JB, J Choi, S Srikanth, MY Sheikh, Z Pervez, **RM Ortiz**. Overabundance of 11 β -hydroxysteroid dehydrogenase type I in morbidly obese patients with steatohepatitis. UC Merced Research Forum, April 16, 2007.

- Phillips, JB, DE Crocker, A Rinna, HJ Forman, CL Ortiz, **RM Ortiz**. Inflammation and oxidative stress in response to prolonged casting in a unique mammalian model. UC Merced Research Forum, March 4, 2008.
- Rodriguez, R, J Romo, A Aleman, A Camelo, J Mowrer, M Colvin, **RM Ortiz**. Body mass index and waist circumference as predictors for increased systolic blood pressure in adolescents. UC Merced Research Forum, March 4, 2008, and 13th SACNAS National Conference. Salt Lake City, UT, Oct 9 – 12, 2008. (**RR: SACNAS Travel Award recipient**)
- Romo, J, R Rodriguez, A Aleman, A Camelo, J Mowrer, M Colvin, **RM Ortiz**. Screened behaviors and body mass index as contributors to adolescent obesity. UC Merced Research Forum, March 4, 2008, and 13th SACNAS National Conference. Salt Lake City, UT, Oct 9 – 12, 2008. (**JR: SACNAS Travel Award recipient**)
- Sherman, RA, L Pagarigan, DP Noren, **RM Ortiz**, CL Ortiz, F Talamantes. Reproductive hormone concentrations in fasting, postweaned northern elephant seal (*Mirounga angustirostris*) pups. Society for Integrative and Comparative Biology Annual Meeting, Toronto, Ontario, Canada, Jan 4-8, 2003, AND 15th Biennial Conference on the Biology of Marine Mammals, Greensboro, NC, Dec 14-19, 2003.
- Torres, SN, **RM Ortiz**, LG Navar. Comparison of the effects of mineralocorticoid receptor antagonists on aldosterone during angiotensin II-dependent hypertension. 10th SACNAS National Conference, Denver, CO, Sept 29 – Oct 2, 2005.

FELLOWSHIPS

- April 2009. USDA-HSI E (Kika) de la Garza Fellow, Washington DC
- March 2004 – January 2005. NIH National Research Service Award with Dr. L. Gabriel Navar, Department of Physiology, Tulane University Health Sciences Center.
- April 2002 (Began January, 2003). Ford Foundation Postdoctoral Fellow with Dr. L. Gabriel Navar, Department of Physiology, Tulane University Health Sciences Center.
- July 2001 – December 2003. University of California's Office of the President Postdoctoral Fellow with Dr. Frank Talamantes, Department of Biology, UC Santa Cruz
- September 2000. University of California's Office of the President Dissertation Year Fellowship. Department of Biology, University of California, Santa Cruz
- June, 1997 - 2001. NASA's Graduate Student Researcher Program Predoctoral Fellowship. Department of Biology, University of California, Santa Cruz
- July - August 1996: Minority International Research Training (M.I.R.T.) Fellowship with Dr. C. L. Ortiz, Department of Biology, UC Santa Cruz. Field research in the Gulf of California.

RESEARCH EXPERIENCE

- June - September 1998: NASA-UCSC Education Associate. NASA Ames Research Center
- September 1995 - September 1997: Scientist Associate. Lockheed-Martin Engineering and Science Services, NASA Ames Research Center
- June - August, 1995: Research Assistant I. Bionetics Corp., NASA Ames Research Center
- April - May, 1995: Research Assistant with Dr. F. Michael Byers, Texas A&M University
- February - March 1995: Research Assistant with Dr. Graham Worthy, Texas A&M University – Galveston. Conducted research at Centro Peixe-Boi, Itamaracá, Brasil.
- September - November 1994: Graduate Research Assistant. Dr. Graham Worthy, Texas A&M University

- June 1993 - June, 1994: Graduate Research Assistant with Drs. Graham Worthy and Duncan S. MacKenzie, Texas A&M University
- July 1992: Assisted on NMFS-USFWS project on dolphins in Matagorda Bay, Texas
- June 1991 - August, 1991: Lab Tech for Dr. Leo Ortiz, Department of Marine Biology, University of California, Santa Cruz
- June - August 1990: Research Assistant with Dr. David Owens, Department of Biology, Texas A&M University. Conducted research at Playa Nancite, Costa Rica.
- September 1989 - May, 1990: Lab Tech for Dr. David Owens, Department of Biology, Texas A&M University

TEACHING and MENTORING EXPERIENCE

- Developed and implemented Human Physiology & Lab (BIO 161)
- Developed and implemented Special Topics in Endocrinology (QSB 298)
- Developed and implemented Nutrition (BIO 60)
- Contributed lectures in Current Topics in Quantitative & Systems Biology (BIS 290) and CORE 1
- July, 2005: Physiologist-in-Residence for Summer Science Teachers Forum. Sponsored by American Physiology Society. Airlie, VA
- Spring, 2004: Physiology for Biomedical Engineering (BME 304): Renal Physiology section. Tulane University, New Orleans, LA.
- Spring, 2004: Human Physiology (GPSO 60401): Facilitator for Problem Based-Learning sessions. Tulane University Health Sciences Center, New Orleans, LA.
- Spring, 2002: Developed and taught course, "Bioethics in Science" for MARC/MBRS students, University of California, Santa Cruz
- October 1998 - December 2000: Graduate Teaching Assistant. Department of Biology, University of California, Santa Cruz. Animal Physiology and Introductory Biology
- June - July 1994: Instructor. Duke University's Talent Identification Program at Texas A&M University-Galveston. Comparative Physiology
- January - June 1992 and September 1993 - May 1994: Graduate Teaching Assistant. Department of Marine Biology, Texas A&M University - Galveston. Comparative Physiology, Natural History of Vertebrates, and Introductory Biology
- August 1990 - December 1991: Graduate Teaching Assistant. Department of Biology, Texas A&M University. Introduction to Zoology

Graduate Student Committees - Current

- PhD students: D Conte (chair, UCM), JP Vazquez-Medina (chair, UCM), J Viscarra (chair, UCM), H Orrell (member, UCM), M Keogh (member, Univ AK, Fairbanks)

Graduate Student Committees - Completed

- MS students: L Vazquez (member, UCM: Spr '09), B Litz (member, Univ AK, Fairbanks: Spr '09)

Mentored Students:

- UC Merced, 2005 - present: J Aguil, K Asato, S Balayan, F Barragan, A Camello, D Conte, S Charlie, M de la Vega, R Garcia, D Gravano, J Grewal, A Mamalis, J Minas, J Mowrer, L

- Rodrigues, R Rodriguez, J Romo, S Torres (UNM), J Viscara
- BA-STAR (UCM), 2007-2008: A Gonzalez, I Lona, J Matias, A Mojica
 - Tulane University HSC, 2003-2004: A Bailey
 - UCSC 1997 – 2003: A Bigelow, O Fregoso, A Galarza, G Gurun, S Lacayo, B Litz, L Pagarigan, A Ramirez, J Ramirez, R Sherman

Conference Student Mentor:

- Experimental Biology '09 New Orleans, LA; EB '08 San Diego, CA; EB '06, San Francisco, CA; EB '05, San Diego, CA; EB '04 Washington, DC; EB '03, San Diego, CA; APS Conference, *The Power of Comparative Physiology: Evolution, Integration and Application*, 2002 San Diego, CA

PROFESSIONAL EXPERIENCE

- August 2002 – Independent consultation for University of Miami's Center for Independent Experts to review the National Marine Fisheries Service's International Dolphin Conservation Program Act Science Report
- February 2002 – Independent consultation for University of Miami's Center for Independent Experts to review the National Marine Fisheries Service's Chase Encirclement Stress Studies on dolphins

Current Research Support

- NIH NHLBI: 1 R01 HL091767-01A1 \$1.78 mil
Mechanisms of oxidative stress and inflammation during prolonged fasting and sleep apnea in a naturally adapted mammal, the northern elephant seal
Role: PI 2/01/09 - 1/31/14
- NIH NCMHD: 9 T37 MD001480-12 \$1.16 mil
UCSC – MHIRT
Role: Mentor & Advisory Board Committee 7/01/09 - 6/30/14
- NIH NCMHD: P20 MD005049-01 \$897 K
Center of Excellence for the study of health disparities in rural and ethnic underserved populations
Role: Senior Personnel, Program Leader & Advisory Board Committee 9/01/09-8/30/11
- UC Mexus-CONACYT \$25K
Purine recycling and HIF-1 activation during sleep apnea
Role: PI 8/01/09-1/31/11

AWARDS, HONORS and SUPPORT

- April 2010. New Investigator Award, Comparative Section, American Physiological Society
- April 2009. Early Career Professional Service Award, American Physiological Society
- Invited to attend Treenut, Peanut & Seeds Scientific Nutritional Symposium (March 1-2, 2007. UC Davis)
- Invited to attend POM Wonderful Scientific Symposium (Feb. 7, 2007. UCLA)
- December 2006. Millennium Sports Club gift award for childhood obesity study. (\$5K)
- October 2006. Great Valley Center, Modesto CA, student fellowship award (J Mowrer, R Rodriguez) (\$20)

- June 2006. UCM Graduate Research Committee mini-grant. (\$1830)
- April 2006. National Kidney Foundation of Northern California Young Investigators Forum Award.
- April 2004. NIH National Research Service Award
- March 2004. NIDDK/APS Minority Travel Award
- February & June 2003. NIDDK/APS Minority Travel Award
- January 2003. NIH Minority Trainee Research Forum Award
- February 2002. Young Investigator Award, Comparative Section, American Physiological Society
- February 2002. NIDDK/APS Minority Travel Award
- September 2001. Best oral presentation in Biology, SACNAS conference
- April 2001. American Physiological Society's Travel Award
- March 2001. Society of Experimental Biology Travel Award
- March 2001. NIDDK/APS Minority Travel Award
- August 2000. California Space Grant Consortium Award
- June 2000. American Museum of Natural History's Lerner-Gray Fund for Marine Research
- June 2000. Sigma Xi's Grant-in-Aid of Research
- April 2000. Myers Grant in Marine Research
- February 2000. NIDDK/APS Minority Travel Award
- December 1999. Friend's of Long Marine Lab Graduate Research Grant
- June 1998. NASA-UCSC Education Associates Program Award
- September 1994 - March, 1995. Save the Manatee Club Grant
- May 1994. Texas A&M University's Mini-Grant Program
- March 1994. Best Student Presentation Award. First International Manatee and Dugong Research Conference, Gainesville, Florida
- June 1993 - June 1994. Save the Manatee Club Grant
- September - December 1992. Save the Manatee Club Grant
- Aug. 1992. American Museum of Natural History's Lerner-Gray Fund for Marine Research

ACADEMIC & PROFESSIONAL SERVICE

Committees

- Porter Development Committee (APS). April 2007-present
- Inaugural member California's State Legislature Task Force on Diabetes & Obesity. March 2006-2009
- Inaugural member UCM Institutional Animal Care and Use Committee. March 2007
- UCM Service Committees: chair QSB Education Policy Cmt (previously Curriculum Cmt), Life Sciences CC, 2007-2009
- UCM Faculty Search Committees, 2005-08
- Trainee Advisory Committee of APS, 2003-2006
- Steering Committee of the Comparative Section of APS, 2003-2006
- Advisory Board for the Professional Skills Training for Minority Students in Biomedicine (APS), 2005-present

Grant/Fellowship Reviewer

- 2008-2010: American Physiological Society's Porter Development Predoctoral Fellowship

- 2009: University of California's Office of the President Postdoctoral Fellowship
- 2010-2012: NRC NAS Research Associates Program

Journal Reviewer

- American Journal of Physiology, Aquatic Mammals, Canadian Journal of Zoology, Comparative Biochemistry and Physiology A, Free Radical Biology & Medicine, General and Comparative Endocrinology, Hypertension, Journal of Comparative Physiology B, Journal of Endocrinology, Journal of Experimental Biology, Marine Mammal Science, Peptides, Physiological and Biochemical Zoology, Zoo Biology

Conference Abstract Reviewer

- American Physiological Society, Society for the Advancement of Chicanos and Native Americans in Science, Society of Experimental Biology and Medicine, Society of Marine Mammalogy

PROFESSIONAL MEMBERSHIPS

- American Physiological Society (APS)
- American Heart Association (AHA)
- Endocrine Society
- Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)
- Society for Experimental Biology and Medicine (SEBM)
- Society of Integrative and Comparative Biology (SICB)

REFERENCES

Dr. L. Gabriel Navar
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