

Antonio A. Nunez
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EDUCATION:

B.A.	1970	Florida Atlantic University <i>summa cum laude</i> Major in Psychology
M.A.	1973	Florida Atlantic University Psychology
Ph.D.	1977	Florida State University Tallahassee, FL Neuroscience

Postdoctoral Research Fellow (NIH NRSA postdoctoral fellowship) sponsor: George Wade, 1978-1980, University of Massachusetts, Amherst, MA, Department of Psychology.

PUBLICATIONS:

1. Stephan, F.K. & Nunez, A.A. (1976). Role of retinohypothalamic pathways in the entrainment of drinking rhythms. *Brain Research Bulletin*, 1, 495-497.
2. Stephan, F.K. & Nunez, A.A. (1977). Elimination of circadian rhythms in drinking, activity, sleep, and temperature by isolation of the suprachiasmatic nuclei. *Behavioral Biology*, 20, 1-16.
3. Nunez, A.A. & Stephan, F.K. (1977). The effects of hypothalamic knife cuts on drinking rhythms and the estrous cycle of the rat. *Behavioral Biology*, 20, 224-234.
4. Stephan, F.K. & Nunez, A.A. (1978). Developmental plasticity in retinohypothalamic connections and the entrainment of circadian rhythms. *Behavioral Biology*, 22, 77-84.

5. Nunez, A.A., Nyby, J. & Whitney, G. (1978). The effects of testosterone, estradiol, and dihydrotestosterone on male mouse (*Mus musculus*) ultrasonic vocalizations. *Hormones and Behavior*, 11, 264-272.
6. Nunez, A.A. & Casati, M.J. (1979). The role of efferent connections of the suprachiasmatic nucleus in the control of circadian rhythms. *Behavioral and Neural Biology*, 25, 263-267.
7. Gray, J.M., Nunez, A.A., Siegel, L.I. & Wade, G.N. (1979). Effects of testosterone on body weight and adipose tissues: Role of aromatization. *Physiology and Behavior*, 23, 465-469.
8. Nunez, A.A., Seigel, L.I. & Wade, G.N. (1980). Central effects of testosterone on food intake in male rats. *Physiology and Behavior*, 24, 469-472.
9. Nunez, A.A., Gray, J.M. & Wade, G.N. (1980). Food intake and adipose tissue lipoprotein lipase activity after hypothalamic estradiol benzoate implants in rats. *Physiology and Behavior*, 25, 595-598.
10. Siegel, L.I., Nunez, A.A. & Wade, G.N. (1981). Effects of testosterone on diet selection and carcass composition. *Journal of Comparative and Physiological Psychology*, 95, 529-539.
11. Bean, N.J., Nunez, A.A. & Connor, R. (1981). Effects of medial preoptic lesions on male mouse ultrasonic vocalizations and copulatory behavior. *Brain Research Bulletin*, 6, 109-112.
12. Groblewski, T.A., Nunez, A.A. & Gold, R.M. (1981). Circadian rhythms in vasopressin deficient rats. *Brain Research Bulletin*, 6, 125-130.
13. Nyby, J., Wysocki, C.J., Whitney, G., Dizinno, G., Schneider, J. & Nunez, A.A. (1981). Stimuli for male mouse (*Mus musculus*) ultrasonic courtship vocalizations: Presence of female chemosignals and/or absence of male chemosignals. *Journal of Comparative and Physiological Psychology*, 95, 623-629.
14. Nunez, A.A. (1981). Circadian pacemakers and feeding rhythms. (Commentary). *The Behavioral and Brain Sciences*, 4, 586-587.
15. Siegel, L.I., Nunez, A.A. & Wade, G.N. (1981). Copulation affects body weight but not food intake or dietary self selection in male rats. *Physiology and Behavior*, 27, 943-946.
16. Nunez, A.A. & Grudman, M. (1982). Testosterone affects food intake and body weight of weanling male rats. *Pharmacology Biochemistry and Behavior*, 16, 933-936.
17. Nunez, A.A. (1982). Dose-dependent effects of testosterone on feeding and body weight in male rats. *Behavioral and Neural Biology*, 34, 445-449.
18. Schwartz, S.M., Nunez, A.A. & Axelson, J.F. (1983). Effects of voluntary exercise on sexual behavior in female rats. *Physiology and Behavior*, 30, 963-966.

19. Pomerantz, S.M., Nunez, A.A. & Bean, N.J. (1983). Female behavior is affected by male ultrasonic vocalizations in house mice. *Physiology and Behavior*, 31, 91-96.
20. Nunez, A.A. & Tan, D. (1984). Courtship ultrasonic vocalizations in male Swiss-Webster mice: Effects of hormones and sexual experience. *Physiology and Behavior*, 32, 717-721.
21. Nunez, A.A., Pomerantz, S.M., Bean, N.J. & Youngstrom, T.G. (1985). Effects of laryngeal denervation on ultrasound production and male sexual behavior in rodents. *Physiology and Behavior*, 34, 901-905.
22. Nunez, A.A., Brown, M.H. & Youngstrom, T.G. (1985). Hypothalamic circuits involved in the regulation of seasonal and circadian rhythms in male golden hamsters. *Brain Research Bulletin*, 15, 149-153.
23. Bean, N.J., Nunez, A.A. & Wysocki, C.J. (1986). 70 kHz vocalizations by male mice do not inhibit aggression in lactating mice. *Behavioral and Neural Biology*, 46, 46-53.
24. Brown, M.H. & Nunez, A.A. (1986). Hypothalamic circuits and circadian rhythms: Effects of knife cuts vary with their placement within the suprachiasmatic area. *Brain Research Bulletin*, 16, 705-711.
25. Youngstrom, T.G. & Nunez, A.A. (1986). Comparative anatomy of the retino-hypothalamic tract in photoperiodic and non-photoperiodic rodents. *Brain Research Bulletin*, 17, 485-492.
26. Brown, M.H., Badura, L.L. & Nunez, A.A. (1987). Evidence that neurons of the paraventricular nucleus of the hypothalamus with projections to the spinal cord are sensitive to the toxic effects of N-methyl aspartic acid. *Neuroscience Letters*, 73, 103-108.
27. Youngstrom, T.G. & Nunez, A.A. (1987). Neurons in the suprachiasmatic area are labeled after intravenous injections of horseradish peroxidase. *Experimental Brain Research*, 67, 127-130.
28. Badura, L.L., Sisk, C.L. & Nunez, A.A. (1987). Neural pathways involved in the photoperiodic control of reproductive physiology and behavior in female hamsters (*Mesocricetus auratus*). *Neuroendocrinology*, 46, 339-344.
29. Badura, L.L., Yant, W.R. & Nunez, A.A. (1987). Photoperiodic modulation of steroid-induced lordosis in golden hamsters. *Physiology and Behavior*, 40, 551-554.
30. Youngstrom, T.G., Weiss, M.L. & Nunez, A.A. (1987). A retinal projection to the paraventricular nuclei of the hypothalamus in the Syrian hamster (*Mesocricetus auratus*). *Brain Research Bulletin*, 19, 747-750.
31. Brown, M.H., Badura, L.L. & Nunez, A.A. (1988). Axon-sparing lesions of the hypothalamic paraventricular nucleus abolish gonadal responses to photoperiod in male Syrian hamsters. *Journal of Biological Rhythms*, 3, 59-69.

32. Sisk, C.L., Nunez, A.A. & Thebert, M.M. (1988). Differential effects of electrolytical chemical hypothalamic lesions on LH pulses in rats. *American Journal of Physiology*, 255, E583-E590.
33. Badura, L.L. & Nunez, A.A. (1989). Photoperiodic modulation of sexual and aggressive behavior in female golden hamster (*Mesocricetus auratus*): Role of the pineal gland. *Hormones and Behavior*, 23, 27-42.
34. Badura, L.L., Kelly, K.K., & Nunez, A.A. (1989). Knife cuts lateral but not dorsal to the hypothalamic paraventricular nucleus abolish gonadal responses to photoperiod in female hamsters (*Mesocricetus auratus*). *Journal of Biological Rhythms*, 4, 79-91.
35. Brown, M.H., & Nunez, A.A. (1989). Vasopressin-deficient rats show a reduced amplitude of the circadian sleep rhythm. *Physiology and Behavior*, 46, 759-762.
36. Badura, L.L., Sisk, C.L., & Nunez, A.A. (1991). Effects of photoperiod and hypothalamic knife cuts on the timing of FSH surges in hamsters. *Brain Research Bulletin*, 26, 313-316.
37. Youngstrom, T.G, Weiss, M.L., & Nunez, A.A. (1991). Retinofugal projections to the hypothalamus, anterior thalamus a basal forebrain in hamsters. *Brain Research Bulletin*, 26, 403-411.
38. Elliott, A.S. & Nunez, A.A. (1992). Photoperiod modulates the effects of steroids on socio-sexual behaviors of hamsters. *Physiology and Behavior*, 51, 1189-1193.
39. Badura, L.L., Sisk, C.L. & Nunez, A.A. (1992). Photoperiodic regulation of prolactin release in male hamsters with hypothalamic knife cuts. *Brain Research Bulletin*, 29, 231-237.
40. Youngstrom, T.G. & Nunez, A.A. (1992). Hypothalamo spinal pathways and responses to photoperiod in Syrian hamsters. *Brain Research Bulletin*, 29, 225-229.
41. Krajnak, K., Manzanares, J., Lookingland, K.J. and Nunez, A.A. (1994). Gender differences in tuberoinfundibular dopaminergic activity in a photoperiodic rodent (*Mesocricetus auratus*). *Brain Research*, 634, 159-162.
42. Krajnak, K., Manzanares, J., Lookingland, K.J. and Nunez, A.A. (1994). The effects of short-photoperiod exposure on tuberoinfundibular dopamine (TIDA) neuronal activity in the Syrian hamster (*Mesocricetus auratus*). *Journal of Biological Rhythms*, 9, 125-135
43. Elliott, A.S., and Nunez, A.A. (1994). Ultrastructural study of somal appositions in the suprachiasmatic nucleus and anterior hypothalamus of the rat. *Brain Research*, 662, 278-282.
44. Elliott, A.S. Weiss, M.L. and Nunez, A.A. (1995). Direct retinal communication with the peri-amygdaloid area. *NeuroReport*, 6, 806-808.

45. Krajnak, K., Lookingland, K.J. and Nunez, A.A. (1995). Seasonal changes in median eminence dopamine in male Syrian hamsters: role of the gonads and duration of exposure to short days. *Brain Research Bulletin*, 37, 617-622.
46. Krajnak, K. and Nunez, A.A. (1996) Short-photoperiod exposure reduces L-aromatic-amino-acid decarboxylase immunostaining in the arcuate nucleus and median eminence of male Syrian hamsters. *Brain Research*, 712, 95-101.
47. Novak, C.M. and Nunez, A.A. (1998) Tyrosine hydroxylase and/or aromatic amino acid decarboxylase containing cells in the suprachiasmatic nucleus of the Syrian hamster (*Mesocricetus auratus*). *Journal of Chemical Neuroanatomy*, 14, 87-94.
48. Novak, C.M. & Nunez, A.A. (1998) Daily rhythms of Fos activity in the rat ventrolateral preoptic area and midline thalamic nuclei. *American Journal of Physiology*, 44, R1620-R1626.
49. Novak, C.M., Smale, L. & Nunez, A.A. (1999) Fos expression in the sleep-active cell group of the ventrolateral preoptic area in the diurnal murid rodent (*Arvicanthis niloticus*). *Brain Research*, 818, 375-382.
50. Rose, S., Novak, C.M., Mahoney, M.M., Nunez, A.A. & Smale, L. (1999) Fos expression within vasopressin-containing neurons in the suprachiasmatic nucleus of diurnal rodents compared to nocturnal rodents. *Journal of Biological Rhythms*, 14, 37-46.
51. Nunez, A.A., Bult, A., McElhinny, TL & Smale, L. (1999). Daily rhythms of Fos expression in diurnal and nocturnal rodents. *Journal of Biological Rhythms*, 14, 300-306.
52. Nunez, A.A. and Clemens, L. (1999) Sexual Behavior: brain control. *Encyclopedia of Neuroscience*. G. Adelman & B.H. Smith (eds.) Elsevier: Amsterdam, p. 1851-1852.
53. Novak, C.M. & Nunez, A.A. (2000) A sparse projection from the suprachiasmatic nucleus to the sleep active ventrolateral preoptic area in the rat. *NeuroReport*, 11, 93-96.
54. Mahoney, M.M., Nunez, A.A. & Smale, L. (2000) Calbindin and Fos within the suprachiasmatic nucleus and the adjacent hypothalamus of *Arvicanthis niloticus* and *Rattus norvegicus*. *Neuroscience*, 99, 565-575.
55. Novak, C.M., Harris, J.A., Smale, L. & Nunez, A.A. (2000) Suprachiasmatic nucleus projections to the paraventricular thalamic nucleus in nocturnal rats (*Rattus norvegicus*) and diurnal Nile grass rats (*Arvicanthis niloticus*). *Brain Research*, 874, 147-157.
56. Novak, C.M., Smale, L. & Nunez, A.A. (2000) Rhythms of Fos expression in brain areas related to the sleep-wake cycle in the diurnal *Arvicanthis niloticus*. *American Journal of Physiology*, 278, R1267-R1274
57. Nunez, A.A., Kannan, K., Giesy, J.P., Fang, J. and Clemens, L.G. (2001). Effects of bisphenol A on energy balance and accumulation in brown adipose tissue in rats. *Chemosphere*, 917- 922.

58. Smale, L., Castleberry, C. and Nunez, A.A. (2001). Fos rhythms in the hypothalamus of *Rattus* and *Arvicanthis* that exhibit nocturnal and diurnal patterns of rhythmicity. *Brain Research*, 899, 101-105.
59. Chung, Y.-W., A.A. Nunez and L. Clemens (2001) Effects of neonatal polychlorinated biphenyl exposure on female sexual behavior. *Physiology and Behavior*, 7, 1 – 8.
60. Martinez GS, Smale, L and Nunez AA (2002) Diurnal and nocturnal rodents show rhythms in orexinergic neurons. *Brain Research*, 955, 1-7.
61. Wang XQ, Fang J, Nunez AA and Clemens LG (2002) Developmental exposure to polychlorinated biphenyls affects sexual behavior of rats. *Physiology and Behavior*, 75, 689 – 696.
62. Smale, L, Lee T and Nunez AA (2003) Mammalian diurnality: Some facts and gaps. *Journal of Biological Rhythms*, 18, 356 – 366.
63. Schwartz MD, Nunez AA and Smale L (2004) Differences in the suprachiasmatic nucleus and the lower subparaventricular zone of diurnal and nocturnal rodents. *Neuroscience*, 127, 13 – 23.
64. Cummings JA, Nunez AA and Clemens LG (2005) A cross-fostering analysis of the effects of PCB 77 on the maternal behavior of rats. *Physiology and Behavior*, 85, 83 – 91.
65. Lambert CA, Makida, KK, Smale, L, Nunez AA and Weaver, DR (2005) Analysis of the prokineticin 2 system in a diurnal rodent, the unstriped Nile grass rat (*Arvicanthis niloticus*). *Journal of Biological Rhythms*, 20, 206 – 218.
66. Ramanathan C, Nunez AA, Martinez, GS, Schwartz, MD and Smale L (2006) Temporal and spatial distribution of immunoreactive PER1 and PER2 proteins in the suprachiasmatic nucleus and peri-suprachiasmatic region of the diurnal grass rat (*Arvicanthis niloticus*). *Brain Research*, 1073, 348 – 358.
67. Castillo-Ruiz A and Nunez AA (2007) Cholinergic projections to the suprachiasmatic nucleus and lowe subparaventricular zone of diurnal and nocturnal rodents. *Brain Research*, 1151, 91 – 101.
68. Smale L, Nunez AA and Schwartz MD (2008) Rhythms in a diurnal brain. *Biological Rhythms Research*, 39, 305 – 318.
69. Bucci DJ, Hopkins ME, Nunez AA, Breedlove SM, Sisk CL and Nigg JT (2008) Effects of sex hormones on associative learning in spontaneously hypertensive rats. *Physiology and Behavior*, 93, 651 – 657.
70. Cummings JA, Clemens LG and Nunez AA (2008) Exposure to PCB 77 affects partner preference but not sexual behavior in the female rat. *Physiology and Behavior*, 95, 471 – 475.

71. Ramanathan C, Nunez AA and Smale L (2008) Daily rhythms in PER1 within and beyond the suprachiasmatic nucleus of female grass rats (*Arvicanthis niloticus*). *Neuroscience*, 156, 48 – 58.
72. Ramanathan C, Smale L and Nunez AA (2008) Rhythms in expression of PER1 protein in the amygdala and bed nucleus of the stria terminalis of the diurnal grass rat (*Arvicanthis niloticus*). *Neuroscience Letters*, 441, 86 – 89.
73. Johansen JA, Clemens LG and Nunez AA (2008) Characterization of copulatory behavior in female mice: Evidence for pace mating. *Physiology and Behavior*, 95, 471 – 475.
74. Klomparens K, Beck J, Brockman JL and Nunez AA (2008) *Setting Expectations and Resolving Conflicts in Graduate Education*. Washington, DC: Council of Graduate Schools.
75. Hanley CL, Nunez AA and Clemens LG (2009) Estrogen treatment during development alters adult partner preference and reproductive behavior in female laboratory rats. *Hormones and Behavior*, 55, 68 – 75.
76. Schwartz MD, Nunez AA and Smale L (2009) Rhythmic cFos expression in the ventral subparaventricular zone influences general activity rhythms in the Nile grass rat (*Arvicanthis niloticus*). *Chronobiology International*, 26, 821 – 837.
77. Ramanathan C, Campbell A, Tomczak A, Nunez AA, Smale L and Yan L (2009) Compartmentalized expression of light-induced clock genes in the suprachiasmatic nucleus of the diurnal grass rat (*Arvicanthis niloticus*). *Neuroscience*, 161, 960 – 969.
78. Martinez GS, Schwartz MD, Smale L and Nunez AA (2009) Circadian regulation of daily rhythms in orexinergic neurons in diurnal and nocturnal rodents. *Revista Latinoamericana de Psicologia*, 41, 13 – 25.
79. Castillo-Ruiz A, Nixon, JP, Smale, L and Nunez AA (2010) Neural activation in arousal and reward areas of the brain in day-active and night-active grass rats. *Neuroscience*, 165, 337 – 349.
80. Ramanathan C, Stowie A, Smale L and Nunez AA (2010) Phase preference for the display of activity is associated with the phase of extra-suprachiasmatic nucleus oscillators within and between species. *Neuroscience*, 170, 758 – 772.
81. Ramanathan C, Stowie A, Smale L and Nunez AA (2010) PER2 rhythms in the amygdala and bed nucleus of the stria terminalis in the diurnal grass rat (*Arvicanthis niloticus*). *Neuroscience Letters*, 473, 220 – 223.
82. Cummings JA, Clemens LG and Nunez AA (2010) Mother counts: How effects of environmental contaminants on maternal care could affect the offspring and future generation. *Frontiers in Neuroendocrinology*, 31, 440 – 451.
83. Schrader JA, Nunez AA and Smale L (2010) Changes in and dorsal to the rat suprachiasmatic nucleus during early pregnancy. *Neuroscience*, 171, 513 – 523.

84. Brockman JL, Nunez AA and Basu A (2010) Effectiveness of a conflict resolution training program in changing graduate students style of managing conflict with their faculty advisors. *Innovative Higher Education*, 35, 277 – 293.
85. Henley CL, Nunez AA and Clemens LG (2010) Exogenous androgen during development alters adult partner preference and mating behavior in gonadally intact male rats. *Hormones and Behavior*, 57, 488 – 495.
86. Castillo-Ruiz, A & Nunez AA (2011) Fos expression in arousal and reward areas of the brain in grass rats following induced wakefulness. *Physiology and Behavior*, 103, 384 – 392.
87. Schrader JA, Nunez AA & Smale, L (2011) Changes in and dorsal to the rat suprachiasmatic nucleus during early pregnancy. *Neuroscience*, 171: 513 – 523.
88. Schrader JA, Nunez AA & Smale, L (2011) Site-specific changes in brain extra-SCN oscillators during early pregnancy in the rat. *Journal of Biological Rhythms*, 26: 363 – 367.
89. Henley, CL, Nunez, AA & Clemens, LG (2011) Hormones of choice: The neuroendocrinology of partner preference in animals. *Frontiers in Neuroendocrinology*, 32: 146 – 154.
90. Schwartz, MD, Urbanski, HF, Nunez, AA & Smale, L. (2011) Projections of the suprachiasmatic nucleus and ventral subparaventricular zone in the Nile grass rat (*Arvicanthis niloticus*). *Brain Research*, 1367: 146 – 161.
91. Schrader JA, Smale L and Nunez AA (2012) Pregnancy affects FOS rhythms in brain regions regulating sleep/wake state and body temperature in rats. *Brain Research*, 1480, 53 – 60.
92. Shuboni DD, Cramm S, Yan L, Nunez AA and Smale L (2012) Acute behavioral responses to light and darkness in nocturnal *Mus musculus* and diurnal *Arvicanthis niloticus* *Journal of Biological Rhythms*, 27, 299 – 307.
93. Gall AJ Smale L Yan L & Nunez, A A (2013) Lesions of the intergeniculate leaflet lead to a reorganization in circadian regulation and a reversal in masking responses to photic stimuli in the Nile grass rat. *PLoS One*, 8(6): e67387, 2013.
94. Castillo-Ruiz A Gall AJ Smale L & Nunez, A. A. (2013) Day-night differences in neural activation in histaminergic and serotonergic areas with putative projections to the cerebrospinal fluid in a diurnal brain. *Neuroscience*, 250: 352-363, 2013.
95. Langel J Yan L Nunez AA & Smale L (2014) Behavioral masking and cFos responses to light in day- and night-active grass rats. *Journal of Biological Rhythms*, 29: 192- 201.
96. Gall AJ Yan L Smale L & Nunez AA (2014) Intergeniculate leaflet lesions result in differential activation of brain regions following the presentation of photic stimuli in Nile grass rats.

- Neuroscience Letters*, 579: 101 – 105.
97. Martin-Fairey CA & Nunez AA (2014) Circadian modulation of memory and plasticity gene products in a diurnal species. *Brain Research*, 1581: 30 – 39.
98. Shuboni DD, Cramm SL, Yan L, Ramanathan, C, Cavanaugh BL, Nunez AA & Smale L (2015) Acute effects of light on the brain of diurnal *Arvicanthis niloticus* and nocturnal *Mus musculus*. *Physiology and Behavior*, 138: 75 – 86.
99. Martin-Fairey CA, Ramanathan, C, Stowie A, Walaszczyk E, Smale L & Nunez AA (2015) Plastic oscillators and fixed rhythms: changes in the phase of clock-gene rhythms in the PVN are not reflected in the phase of the melatonin rhythm of grass rats. *Neuroscience*, 288: 178 – 186.
100. Gall A, Shuboni D, Yan L, Nunez AA & Smale L (2016) Suprachiasmatic nucleus and subparaventricular zone lesions disrupt circadian rhythmicity but not light-induced masking behavior in Nile grass rats. *Journal of Biological Rhythms*, 31: 170 – 181.

SELECTED RECENT PRESENTATIONS:

Meeting Presentations:

Ramanathan, C Stowie, A Smale, L & Nunez AA. Voluntary wheel running induces PER2 rhythms in the dentate gyrus of day-active and night-active grass rats (*Arvicanthis niloticus*). Poster presented at the 12th Biennial Meeting of the Society for Research on Biological Rhythms, May 22 – 26, 2010, Destin FL.

Castillo-Ruiz, A, Smale, L & Nunez AA. Differential effects of voluntary and induced wakefulness in arousal and reward areas in a diurnal brain. Poster presented at the 12th Biennial Meeting of the Society for Research on Biological Rhythms, May 22 – 26, 2010, Destin FL.

Castillo-Ruiz, A, Nunez AA & Smale, L Rhythms of neural activity in serotonergic cells with access to the cerebrospinal fluid in a diurnal brain. Poster presented at the annual meeting of the Society for Neuroscience, November 13 – 17, 2010, San Diego CA.

Schrader, JA, Nunez, AA & Smale, L Daily patterns of Fos expression in sleep and wakefulness-associated brain regions of diestrous and pregnant rats (*Rattus norvegicus*). Poster presented at the annual meeting of the Society for Neuroscience, November 13 – 17, 2010, San Diego CA

Martin-Fairey, CA, Smale, L & Nunez, AA (2011) Daily rhythms of BDNF production in the brain of the diurnal grass rat. Poster presented at the Society for Neuroscience meeting in Washington DC.

Shuboni DD, Cramm S, Yan L, Nunez AA and Smale, L (2012) Masking responses and light-induced changes in Fos expression in diurnal and nocturnal rodents. Poster presented at the meeting of the Society for Research on Biological Rhythms, Destin FL, May of 2012; P66.

Gall A, Shuboni DD, Nunez AA, Yan L and Smale, L (2012) The intergeniculate leaflet (IGL) shows differential responses to light in diurnal and nocturnal rodents and contributes to the display of a day-active profile. Poster presented at the meeting of the Society for Research on Biological Rhythms, Destin FL, May of 2012; P75.

Van Loon J, Nunez AA, Yan L and Smale, L (2012) Distinct masking responses in day- and night-active grass rats (*Arvicanthis niloticus*). Poster presented at the meeting of the Society for Research on Biological Rhythms, Destin FL, May of 2012; P207.

Martin-Fairey C and Nunez AA (2012) Novel DCX expression in the dorsal dentate gyrus of a diurnal rodent, *Arvicanthis niloticus*. Poster presented at the meeting of the Society for Research on Biological Rhythms, Destin FL, May of 2012; P273.

Martin-Fairey C, Bostic B, Yan L, Smale, L and Nunez, AA (2012) Daily rhythms in brain trkB expression in the diurnal grass rat is disrupted by nocturnal wheel running. Poster presented at Society for Neuroscience 2012, New Orleans, Louisiana, October of 2012.

Nunez AA, Groves T, Martin-Fairey C, Ramanathan C, Stowie, A Smale, L (2012) The cost of nocturnal activity for a diurnal brain. Poster presented at Society for Neuroscience 2012, New Orleans, Louisiana, October of 2012.

Swann, J, Martin-Fairey C and Nunez AA (2012) Role of steroids in the regulation of growth factors in the medial preoptic area. Poster presented at Society for Neuroscience 2012, New Orleans, Louisiana, October of 2012.

Gall AJ, Nunez AA, Yan, L and Smale, L (2012) Does the intergeniculate leaflet (IGL) play a role in masking responses to light in diurnal rodents? Poster presented at Society for Neuroscience 2012, New Orleans, Louisiana, October of 2012.

Van Loon J, Nunez AA, Yan L and Smale, L (2012) Masking in day and night active grass rats (*Arvicanthis niloticus*): Effects of light pulses on locomotor activity and the brain. Poster presented at Society for Neuroscience 2012, New Orleans, Louisiana, October of 2012.

Gall, A.J., Smale, L., Yan, L., & Nunez, A.A. Effects of intergeniculate leaflet (IGL) lesions on behavioral and brain responses to photic stimuli in diurnal grass rats. Society for Neuroscience, San Diego, CA, November, 2013.

Gall, A. J., Shuboni, D. D., Nunez, A. A., Yan, L., Smale, L. Excitotoxins cause significant damage to the SCN and SPZ of diurnal grass rats, but this damage does not interfere with light-induced masking behavior. Society for Research on Biological Rhythms, Big Sky, Montana, 2014.

Soler JE, Ikeno T, Nunez AA and Yan L (2016) Light modulates spatial learning and memory in a diurnal rodent, the Nile grass rat (*Arvicanthis niloticus*). Slide presentation at the meeting of the Society for Research on Biological Rhythms, May 21 – 25, Palm Harbor FL.

Langel J, Ikeno T, Yan L, Nunez AA and Smale L (2016) Chronotype differences in the distribution of excitatory to inhibitory cell populations in ipRGC target areas. Poster presented at the meeting of the Society for Research on Biological Rhythms, May 21 – 25, Palm Harbor FL.

Invited Talks:

Keynote speaker at the 2007 Graduate School Day, Psychology Department, Florida State University

Congreso Nacional de Ciencias Fisiologicas, Merida, Yucatan, Mexico September, 2008.

Title: What happened to the brain when night became day?

Invited as panelist for a three-day national workshop sponsored by BRAINS (Broadening the Representation of Academic Investigators in NeuroScience). Seattle, Washington, 2014.

Nunez AA (2016) Managing a successful lab: mentorship, conflict resolution and diversity. Invited panel at the meeting of the Society for Research on Biological Rhythms, May 21 – 25, Palm Harbor FL.

Nunez AA (2016) Research intensive faculty careers. Invited panel at the National Institutes of Health Career Symposium, May 6 and 7, Bethesda MD.

TEACHING EXPERIENCE:

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| 1977-1978 | Lecturer, Psychology Department, Bowling Green State University, Bowling Green, OH. |
| 1980-1984 | Assistant Professor, Psychology Department, Michigan State University, East Lansing, MI. |
| 1984-1989 | Associate Professor, Psychology Department, Michigan State University, East Lansing, MI. |
| 1989-present | Professor Psychology Department, Michigan State University, East Lansing, MI |

AWARDS:

- (1978 – 1980) NIH NRSA Postdoctoral Fellowship
- (1984) Michigan State University, Teacher-Scholar Award
- (1990) Florida State University, Neuroscience Distinguished Graduate Award
- (2004) Michigan State University Neuroscience Program, Outstanding Faculty Award
- (2007) Florida State University Doctoral Graduate Award of Distinction
- (2012) Fellow of the Association for Psychological Science

RESEARCH GRANTS:

Funded Proposals:

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| 1983-1989 | "Neurobiology of Behavioral Circadian Rhythms" (NIMH; PI) |
| 1989-1992 | "Neurobiology of Mammalian Photoperiodism" (NSF; PI) |
| 1992-1995 | "Neurobiology of Circadian Rhythms" (NSF; PI) |
| 1996-1999 | "Photoperiod and Non-neuronal Brain Cells" (NSF; PI) |

- 2000-2003 "Environmental Contaminants and the Neuroecology of Reproduction" (NIES; with L. Clemens Co-PI)
- 2001-2011 "The Psychobiology of Rhythms in Diurnal Mammals" (NIMH; Co-PI; L. Smale is PI)
- 2005-2008 "Male sex behavior and development of the pelvic ganglia" (NIH; Co-PI; L. Clemens is PI)
- 2010-2014 "Chronotype Differences in the Acute Behavioral Responses to Light and Darkness and Their Neural Substrates" (NSF; Co-PI with L. Yan as Co-PI and L. Smale as PI)

TRAINING GRANTS

- 1989-1995 "Research Experience for Undergraduates Grants" (5 students; NSF).
- 1996-1998 "Mast Cells and Reproduction" (Sponsor, pre-doctoral grant awarded to Colleen Novak; NIMH).
- 2010 – 2014 NSF Innovation through Institutional Integration (I³) grant: A focus on preparation of the next generation of STEM faculty (CO-PI).
- 2013 – 2017 NSF-AGEP Alliance for Grad Ed and the Professoriate. Continuing 7 year previous AGEP grant with a Michigan alliance of public research universities. Focus is on retention of doctoral students of color in the STEM and SBES fields. (CO-PI).
- 2013 – 2017 NSF-AGEP Alliance for Graduate Education and the Professoriate CIC-wide. Focus is expanding the domestic diversity of postdocs across the CIC (CO-PI).

SERVICE TO FEDERAL AGENCIES:

NSF Panel for Predoctoral Fellowships
 NSF Panel for Research Experience for Undergraduates
 NSF Panel for Science & Technology Centers
 NSF Site visit to the Center for Biological Timing (3 years)
 NIH Behavioral & Neuroscience Study Section
 NIMH Psychobiology Behavior and Neuroscience Study Section
 NIMH Special Emphasis Panel IFCN-3
 NIH Special Emphasis Panel ZRG1 NSF
 IGERT Pre-proposal Review Panel
 NSF Site visit to the Behavioral Neuroscience Center in Atlanta (4 years twice as Team Chair)
 NSF Modulation Panel
 NIH Special Emphasis Panel (the social environment and circadian rhythms)
 NIH Special Emphasis Panel (stress, circadian rhythms and sleep)

ADMINISTRATIVE EXPERIENCE:

- 1982-1986 University-wide Committee for Animal Use and Care
- 1982-1983 Acting Director of the Neuroscience Program
- 1983-1986 Chairperson of the BRAIN BEHAVIOR AND COGNITION Interest Group,
- 1995- 1997 Chairperson of the BRAIN BEHAVIOR AND COGNITION Interest Group
- 1986-1989 Advisory Committee, Psychology Department
- 1992-1995 Advisory Committee, Psychology Department
- 1989-1992 Advisory Committee Neuroscience Program
- 1996- 1999 Associate Chair and Coordinator of Graduate Programs, Psychology Department
- 1998-1999 Vice Chair of the University Graduate Council
- 1999-present Associate Dean for Academic Affairs, the Graduate School, Michigan State University
- 2008-present Director of the MSU Postdoctoral Office

REFERENCES:

- Dr. Friedrich K. Stephan, Florida State University, Psychology Department (Retired).
Dr. George N. Wade, University of Massachusetts, Psychology Department (Retired).
Dr. Karen Klomparens, Dean of the Graduate School, Michigan State University
(Retired)