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PROFESSIONAL EXPERIENCE

- 2003 - **Assistant Professor.** Department of Applied Science, The College of William and Mary, Williamsburg, VA.
- 2001 - 2003 **Parker B. Francis Foundation Fellow.** Department of Neurobiology, David Geffen School of Medicine at UCLA, Los Angeles, CA.
- 1999 - 2001 **NINDS, NIH Postdoctoral Research Fellow.** National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH), Bethesda, MD.

EDUCATION

- 1998 **Ph.D.** in Physiological Sciences. University of California, Los Angeles.
- 1992 **A.B.** in Kinesiology. Occidental College, Los Angeles, CA.

PROFESSIONAL SERVICE

- 2004 **Grant Reviewer.** Florida State University. Cornerstone Program Enhancement Grant.
- 2002 **Grant Review Panelist.** National Science Foundation. Joint NSF-NIH Collaborative Research in Computational Neuroscience Grant Program.
- 1999 - **Reviewer of manuscripts.** *The Journal of Physiology (London)*, *The Journal of Neuroscience*, *The Journal of Neurophysiology*, *Anesthesiology*, *Physical Review E*.

PUBLICATIONS

- Del Negro, C. A.**, Morgado-Valle, C., Mackay, D. D., and Feldman, J. L. Sodium and calcium current-mediated pacemaker neurons and respiratory rhythm generation. *Journal of Neuroscience*, In press 2005.
- Sekerli, R. H., Lee, R. H., **Del Negro, C. A.**, and Butera, R. J. Estimating action potential thresholds from neuronal time series: new metrics and evaluation of methodologies. *IEEE Transactions on Biomedical Engineering*, 51(9): 1665-72, 2004.
- Del Negro, C. A.**, Morgado-Valle, C., and Feldman, J. L. Respiratory rhythm: an emergent property? *Neuron*, 34: 821-30, 2002.
- Del Negro, C. A.**, Wilson, C. G., Butera, R. J., and Smith, J. C. Periodicity, mixed-mode oscillations, and quasiperiodicity in a rhythm-generating neural network. *Biophysical Journal*, 82(1): 206-14, 2002.
- Del Negro, C. A.**, Koshiya, N., Butera, R. J., and Smith, J. C. Persistent sodium current, membrane properties, and intrinsic bursting behavior of pre-Bötzinger complex inspiratory neurons in vitro. *Journal of Neurophysiology*, 88(5): 2242-50, 2002.
- Butera, R. J., Wilson, C. G., **Del Negro, C. A.**, and Smith, J. C. A methodology for achieving high-speed rates for artificial conductance injection in electrically excitable biological cells. *IEEE Transactions on Biomedical Engineering*, 48(12): 1460-70, 2001.
- Del Negro, C. A.**, Butera, R. J., Johnson, S. M., and Smith, J. C. Models of respiratory rhythm generation in the pre-Bötzinger complex. III. Experimental tests of model predictions. *Journal of Neurophysiology*, 86(1): 59-74, 2001.
- Smith, J. C., Butera, R. J., Koshiya, N., **Del Negro, C. A.**, Wilson, C. G., and Johnson, S. M. Respiratory rhythm generation in neonatal and adult mammals: the hybrid pacemaker-network model. *Respiration Physiology*, 122(2-3): 131-47, 2000.
- Del Negro, C. A.**, Hsiao, C.-F., and Chandler, S. H. Slow outward currents influencing bursting dynamics in guinea pig trigeminal motoneurons. *Journal of Neurophysiology*, 81(4): 1478-85, 1999.
- Del Negro, C. A.** and Chandler, S. H. Regulation of intrinsic and synaptic properties of neonatal rat trigeminal motoneurons by metabotropic glutamate receptors. *Journal of Neuroscience*, 18(22): 9216-26, 1998.
- Del Negro, C. A.**, Hsiao, C.-F., Chandler, S. H., and Garfinkel, A. Evidence for a novel mechanism of bursting in rodent trigeminal neurons. *Biophysical Journal*, 75(1): 174-82, 1998.
- Hsiao, C.-F., **Del Negro, C. A.**, Trueblood, P. R., and Chandler, S. H. Ionic basis for serotonin-induced bistable membrane properties in guinea pig trigeminal motoneurons. *Journal of Neurophysiology*, 79(6): 2847-56, 1998.
- Del Negro, C. A.** and Chandler, S. H. Physiological and theoretical analysis of K⁺ currents controlling discharge in neonatal rat mesencephalic trigeminal neurons. *Journal of Neurophysiology*, 77(2): 537-53, 1997.

BOOK CHAPTERS

- Del Negro, C. A.**, Wilson, C. G., Butera, R. J., Koshiya, N., Johnson, S. M., and Smith, J. C. Unstable breathing rhythms and quasiperiodicity in the pre-Bötzinger complex. In *Frontiers in modeling and control of breathing: integration at molecular, cellular, and systems levels*, C.-S. Poon and H. Kazemi, editors. New York: Kluwer, 133-8, 2001.

- Wilson, C. G., Butera, R. J., **Del Negro, C. A.**, Rinzel, J., and Smith, J. C. Interfacing computer models with neurons: respiratory “cyberneurons” created with the dynamic clamp. In *Frontiers in modeling and control of breathing: integration at molecular, cellular, and systems levels*, C.-S. Poon and H. Kazemi, editors. New York: Kluwer, 119-28, 2001.
- Butera, R. J., Johnson, S. M., **Del Negro, C. A.**, Rinzel, J. R. and Smith, J. C. Dynamics of excitatory networks of pacemaker neurons: experimental and modeling studies of the respiratory rhythm generator. *Neurocomputing*, 32-33: 323-30, 2000.
- Chandler, S. H., **Del Negro, C. A.**, and Hsiao, C.-F. Trigeminal motoneurons, interneurons, and the control of neuronal discharge. In *Neurobiology of mastication- from molecular to systems approach*, Y. Nakamura and B. J. Sessle, editors. Amsterdam: Elsevier, 99-115, 1999.

AWARDS AND SUPPORT

- 2005 **Faculty development award.** Howard Hughes Medical Institute and The College of William and Mary.
- 2004 - 2005 **The Jeffress Memorial Trust Grant.** Richmond, VA.
- 2002 **Fine Science Tools Postdoctoral Award.** Brain Research Institute, UCLA.
- 2002 **Department of Neurobiology Lecture Award.** David Geffen School of Medicine, UCLA.
- 2001 **Parker B. Francis Fellowship Award.** Francis Family Foundations, Kansas City, MO.
- 2001 **Giannini Family Fellowship Award.** Giannini Family Foundation, San Francisco, CA.
- 2000 **Distinguished Young Investigator Award.** VIII Ann. Oxford Conference, Falmouth, MA.
- 1999 **NINDS, NIH Competitive Fellowship Award.** National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD.
- 1992 **Phi Beta Kappa.** Occidental College, Los Angeles, CA.
- 1992 **Magna cum Laude.** Occidental College, Los Angeles, CA.

INVITED LECTURES

- 2003 **Seminar Speaker.** Department of Pharmacology. University of Virginia.
- 2003 **Monroe Scholars Luncheon.** The College of William and Mary.
- 2003 **Department of Physics Colloquium.** The College of William and Mary.
- 2001 **The Society for Mathematical Biology Annual Conference.**

PROFESSIONAL AFFILIATIONS

- 1994 - **The Society for Neuroscience**