

BIOGRAPHICAL SKETCH

NAME	POSITION TITLE		
Leon Paul Collis	Research Associate		
EDUCATION			
<i>Institution and Location</i>	<i>Degree</i>	<i>Date Conferred</i>	<i>Field of Study</i>
Lancaster University, Lancaster, United Kingdom.	B.Sc.	Jul. 1996	Physiology/Genetics
University of Rhode Island, Kingston, Rhode Island.	Ph.D.	Dec. 2002	Cardiac Physiology

RESEARCH AND PROFESSIONAL EXPERIENCE

01/1997-08/2002	<u>Doctoral Student</u> . Dept. of Biological Sciences, Univ. of Rhode Island. Supervisor: Prof. Robert B. Hill.
1997-2000 (summer)	<u>Research Diver</u> , Graduate School of Oceanography, Univ. of Rhode Island.
11/2002-06/2005	<u>Postdoctoral Fellow</u> . Department of Pediatric Cardiology, New York University School of Medicine. Supervisor: Dr. Michael Artman.
04/2004	<u>Trainee</u> . Advanced Microscopy Course (Leica Microsystems). Harvard Medical School.
08/2005-09/2007	<u>Postdoctoral Fellow</u> . BioCurrents Research Center, Marine Biological Laboratory. Director: Dr. Peter J.S. Smith.
04/2006	<u>Trainee</u> . NRBC Microphysiological Simulations Workshop. Pittsburgh Supercomputing Center.
10/2007 - present	<u>Research Associate</u> . BioCurrents Research Center, Marine Biological Laboratory. Director: Dr. Peter J.S. Smith.

TEACHING EXPERIENCE

01/1998-06/2000	<u>Tutor</u> . Talent Development Program and Learning Assistance Network, Univ. of Rhode Island.
06/1999	<u>Lecturer</u> . Human Physiology course. College of Continuing Education, Univ. of Rhode Island.
01/1997-06/1999	<u>Teaching Assistant</u> . Human Physiology Laboratory. Univ. of Rhode Island.
11/2002-06/2005	<u>Mentor</u> . Trained Clinical Fellows and medical students. New York University School of Medicine.

ACADEMIC AND PROFESSIONAL HONORS

08/1997	Exxon Corporation Tuition Scholarship Award. Bermuda Biological Station for Research.
09/1999-06/2001	Awarded full tuition scholarship and stipend by the Partnership in Physiological Measurements and Computing, Univ. of Rhode Island.
05/2001	Hope and Heritage Fund Travel Award. Univ. of Rhode Island.
2002	Member of Faculty Search Committee. Dept. of Biological Sciences, Univ. of Rhode Island.
09/2001-06/2002	Awarded University of Rhode Island Graduate Fellowship.
2008	U.S. patent for Neuromuscular Digital Control System

PROFESSIONAL MEMBERSHIPS

Society for Neuroscience; Biophysical Society

SELECTED PEER-REVIEWED PUBLICATIONS

Messerli, M.A., Collis, L.P. & Smith P.J.S. 2008. Ion trapping with fast response, ion-selective microelectrodes enhances detection of extracellular ion channel gradients. *Biophys. J.* [In press].

Li, H., Chen, Y., Jones, A.F., Collis, L.P., Sanger, R., Smith, P.J.S., Hardwick, J.M. & Jonas, E.A. 2007. BCL-xL controls synaptogenesis by targeting mitochondria to presynaptic sites. *PNAS*. 105(6):2169-2174.

Collis, L.P., Coetzee, W.A. & Artman, M. 2007. β_2 adrenergic receptor agonists stimulate L-type calcium current independent of PKA in newborn rabbit ventricular myocytes. *American Journal of Physiology*. 293:H2826-H2835.

Kreitzer, M.A., Collis, L.P., Molina, A.J.A., Smith, P.J.S. & Malchow, R.P. 2007. Modulation of extracellular proton fluxes from retinal horizontal cells of the catfish by depolarization and glutamate. *J. Gen. Physiol.* 130(2):169-182.

Collis, L.P., Meyers, M.B., Zhang, J., Phoon, C.K.L., Sobie, E.A., Coetzee, W.A. & Fishman, G.I. 2006. Expression of a sorcin missense mutation in the heart modulates excitation-contraction coupling. *FASEB.J.* 21(2):475-487.

Collis, L.P., Sun, Y. & Hill, R.B. 2006. Length-dependent deactivation of ventricular trabeculae in the bivalve, *Spisula solidissima*. *J. Comp. Physiol. B.* 176(4):317-85.

Kang, G., Chepurny, O.G., Rindler, M.J., Collis, L.P., Chepurny, Z., Li, WH., Harbeck, M., Roe, M. & Holz, G.G. 2005. A cAMP & calcium coincidence detector in support of calcium-induced calcium-release in pancreatic β -cells. *J. Physiol.* 566(1):173-188.

Collis, L.P., Coetzee, W.A., Artman, M. 2005. β_2 -adrenergic stimulation of L-type Ca^{2+} current in newborn rabbit ventricular myocytes. *XXVIIth Annual Meeting of International Society for Heart Research. J. Mol. Cell. Cardiol.* 38(5). 809-885.

Hill, R.B., Collis, L.P. & Cofone, J. 2005. Stretch activation versus shortening deactivation in invertebrate muscle. *Comp. Biochem. Physiol. A – Mol. & Integ. Physiol.* 141(3):S149-S150.

Go, A., Srivastava, S., Collis, L.P., Coetzee, W.A. & Artman, M. 2004. The negative inotropic effect of nifedipine in the immature rabbit heart is due to shortening of the action potential. *Pediatr. Res.* 57(3):399-403.

Srivastava, S., Collis, L.P., Mancarella, S., Go, A., Coetzee, W.A. & Artman, M. 2004. Paradoxical effect of dofetilide on action potential & calcium transient amplitude in newborn rabbit ventricular myocytes. *J Cardiovasc. Pharmacol.* 45(2):165-174.

Mancarella, S., Collis, L.P., Coetzee, W.A. and Artman, M. 2003. β_2 -adrenergic stimulation increases $\text{Na}^+/\text{Ca}^{2+}$ exchanger current in neonatal rabbit ventricular myocytes. *XXVIth Annual Meeting of International Society for Heart Research. J. Mol. Cell Cardiol.* 35(6) A1.

SELECTED POSTER ABSTRACTS

Collis, L., Gleichmann, M., Mattson, M.P. & Smith, P.J.S. 2008. Glutamate toxicity and energy metabolism studied in the single neuron. *Society for Neuroscience*.

Collis, L., Sanger R.H. , Jones, A., McNay, E., Smith, P.J.S., Hardwick, J.M. & Jonas, E.A. 2008. BCL-xL alters metabolism of cultured hippocampal neurons. *Society for Neuroscience*.

Collis, L., Molina, A.J.A., Malchow, R.P. & Smith P.J.S. 2006. Oxygen consumption in single horizontal cells: the metabolic cost of signal processing. *Society for Neuroscience*.

Kang, G., Chepurny, O., Rindler, M., Collis, L., Chepurny, Z., Holz, G. 2004. Epac-mediated signaling properties of the GLP-1 receptor in support of calcium-induced calcium release & insulin secretion in pancreatic β -cells. *Society for Neuroscience*.

Collis, L., Coetzee, W.A., Artman, M. 2004. Developmental changes in β_2 -adrenergic regulation of the cardiac L-type calcium current. *Gordon Research Conference*.

Wu, J., Hill, R.B., Collis, L., Sun, Y. 2002. Voltage clamping with digital signal processor based feedback control. *American Physiological Society*.

Collis, L., Sun, Y. & Hill, R.B. 2001. Ionic mechanisms involved in the generation of action potentials & force in the ventricle of the surf clam. *Society for Experimental Biology*.

INVITED TALKS

2000 Software for characterizing the ionic basis of the molluscan cardiac action potential. *Northeast IEEE Bioengineering Conference*

2007 Heterometric autoregulation in the bivalve heart. *World Congress of Malacology*.

OTHER SUPPORT

Dr. Collis' salary/fringe are currently supported by the BioCurrents Research Center grant from the National Institutes of Health to the Marine Biological Laboratory (P41 RR001395; Principal Investigator, Peter J.S. Smith)