ELENA PETROFF

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EDUCATION

1996 **D Phil in Biology**, University of York, United Kingdom

1990 **BSc/MSc in Biophysics**, Kiev University, Ukraine

EMPLOYMENT

Assistant Professor, Department of Biology and Molecular Biology, Montclair State University, Montclair, NJ, 2008 - present.

Assistant Research Scientist, Department of Internal Medicine, University of Iowa, Iowa City, IA, 2001 – 2008.

Research Associate, Department of Physiology and Biophysics, University of Iowa, Iowa City, IA, 1998 – 2001.

Postdoctoral Research Associate, Department of Pharmacology, Cambridge University, Cambridge, United Kingdom, 1996 – 1998.

Graduate Teaching Assistant, Department of Biology, University of York, York, United Kingdom, 1993 – 1996.

Graduate Research Fellow, Membranology and Phytochemistry Laboratory, Institute of Botany, Academy of Sciences of Ukraine, Kiev, Ukraine, 1990 – 1992.

CURRENT PROFESSIONAL AFFILIATIONS

American Physiological Society
Society for Neuroscience

RESEARCH SUPPORT

2012, Electron and Fluorescence Microscopy for Imaging Structure and Function in Biological Systems, Sokol Faculty Award with Dr. Laying Wu, $149,458.

2011, Interaction of ASIC and BK channels and its role in glial proliferation, NIH R15 award, $320,657.

2011, Montclair State University, Sokol Faculty-Student Research Grant.

2010, Montclair State University, Career Development Award.

2009, Montclair State University, Student Faculty Research Funding Award.

2007, University of Iowa Internal Medicine Research Day Award for Best Basic Science Research, and Travel Award.

2001, University of Iowa College of Medicine Research Week Award, First Prize.
1999, Society of General Physiologists Travel Award.

1999, University of Iowa College of Medicine Research Week Award, Second Prize.

1995, University of York, K.M. Stott Prize in Biology for graduate research.

PEER-REVIEWED PUBLICATIONS

(Previous name: Olena Yermolaieva, also spelled Elena Ermolayeva)

E. Petroff, V. Snitsarev, H. Gong, and F.M. Abboud. Acid Sensing Ion Channels Regulate Neuronal Excitability by Inhibiting BK Potassium Channels. *Biochemical Biolpysical Research Communications*. (2012) **426**: 511-515.

K.J.D.A. Excoffon, A.O. Kolawole, N. Kusama, N.D. Gansemer, P. Sharma, A.M. Hruska-Hageman, **E. Petroff**, and C.J. Benson. Coxsackievirus and adenovirus receptor (CAR) mediates trafficking of acid sensing ion channel 3 (ASIC3) via PSD-95. *Biochemical Biophysical Research Communication*s (2012) **425** (1): 13-18.

E. Yermolaieva Petroff, M.P. Price, V. Snitsarev, H. Gong, V. Korovkina, F.M. Abboud, and M.J. Welsh. Acid sensing ion channels interact with and inhibit BK K^+ channels. *Proceedings of the National Academy of Sciences of the USA* (2008) **105** (8): 3140 - 3144.

C.S. Rogers, Y. Hao, T. Rokhlina, M. Samuel, D.A. Stoltz, Y. Li, **E. Petroff**, D.W. Vermeer, A.C. Kabel, Z. Yan, L. Spate, D. Wax, C.N. Murphy, A. Rieke, K. Whitworth, M.L. Linville, S.W. Korte, J.F. Engelhardt, M.J. Welsh, and R.S. Prather. Production of CFTR null and ΔF508 heterozygous pigs by AAV-mediated gene targeting and somatic cell nuclear transfer. *Journal of Clinical Investigation* (2008) **118** (4): 1571 - 1577.

O. Yermolaieva, A.S. Leonard, M.K. Schnizler, F.M. Abboud, and M.J. Welsh. Extracellular acidosis increases neuronal cell calcium by activating acid-sensing ion channel 1a. *Proceedings of the National Academy of Sciences of the USA* (2004) **101**

(17): 6752-6757.

O. Yermolaieva, R. Xu, C. Schinstock, N. Brot, H. Weissbach, S.H. Heinemann, and T. Hoshi. Methionine sulfoxide reductase A protects neuronal cells against brief hypoxia/reoxygenation. *Proceedings of the National Academy of Sciences of the USA* (2004) **101** (5): 1159-1164.

A.S. Leonard, **O. Yermolaieva**, A. Hruska-Hageman, C.C. Askwith, M.P. Price, J.A. Wemmie, and M.J. Welsh. cAMP-dependent protein kinase phosphorylation of the acid-sensing ion channel-1 regulates its binding to the protein interacting with C-kinase-1. *Proceedings of the National Academy of Sciences of the* (2003) **100** (4): 2029-2034.

L. Liu, **O. Yermolaieva**, W.A. Johnson, F.M. Abboud, and M.J. Welsh. Identification and function of thermosensory neurons in *Drosophila* larvae. *Nature Neuroscience* (2003) **6** (3): 267-273.

O. Yermolaieva, J. Chen, P. Couceyro, and T.Hoshi. Cocaine- and amphetamine-regulated transcript peptide modulation of voltage-gated Ca^{2+} signaling in hippocampal neurons. *Journal of Neuroscience* (2001) **21** (19): 7474-7480.

O. Yermolaieva, N. Brot, H. Weissbach, S.H. Heinemann, and T. Hoshi. Reactive oxygen species and nitric oxide mediate plasticity of neuronal calcium signaling. *Proceedings of the National Academy of Sciences of the USA* (2000) **97** (1): 448-453.

E. Ermolayeva, E. Johannes, and D. Sanders. Ionic mechanism and role of phytochrome-mediated membrane depolarization in caulonemal side branch initial formation in the moss *Physcomitrella patens. Planta* (1997) **201**: 109 - 118.

E. Johannes, **E. Ermolayeva**, and D. Sanders. Red light-induced membrane-potential transients in the moss *Physcomitrella patens*: ion channel interaction in phytochrome signaling. *Journal of Experimental Botany* (1997), **48**: 599 – 608.

E. Ermolayeva, H. Hohmeyer, E. Johannes, and D. Sanders. Red light-induced rapid membrane depolarization in the moss Physcomitrella *patens*. *Planta* (1996) **199**: 352 - 358.

E. Ermolayeva and D. Sanders. Mechanism of pyrithione-induced membrane depolarization in *Neurospora crassa*. *Applied and Environmental Microbiology* (1995) **61**: 3385 – 3390.