

BALÁZS ENYEDI

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OCCUPATION

Semmelweis University / Hungarian Academy of Sciences / HCEMM

Assistant Professor

Budapest, Hungary

2018-current

EDUCATION

Semmelweis University

Ph.D. in Cellular and Molecular Physiology, *Summa cum laude*

Budapest, Hungary

2006-2011

Semmelweis University

M.D. *Summa cum laude*

Budapest, Hungary

2000-2006

PREVIOUS RESEARCH AND WORK EXPERIENCE

Semmelweis University, Heart and Vascular Center

Cardiology Fellow

Budapest, Hungary

2016-2017

Memorial Sloan Kettering Cancer Center

Postdoctoral Fellow, Department of Cell Biology

Advisor: Dr. Philipp Niethammer

Topic: Studying inflammatory responses coupled to tissue injury in zebrafish

New York, NY, USA

2011-2016

Semmelweis University

Assistant lecturer, Department of Physiology

Graduate Student, Department of Physiology

Advisor: Miklós Geiszt, M.D., PhD

Thesis: Novel methods for studying hydrogen peroxide-producing mechanisms in mammalian cells

Budapest, Hungary

2009-2015

2006-2011

Université de Genève

EMBO Short term fellow, Department of Cell Physiology and Metabolism

Advisor: Prof. Pierre Maechler, PhD

Topic: Measurement and manipulation of hydrogen peroxide levels in pancreatic beta-cells

Geneva, Switzerland

Summer 2010

Semmelweis University

Undergraduate student, Department of Physiology

Advisor: Miklós Geiszt, M.D., PhD

Topic: Role and source of mitochondrial and endoplasmic reticular hydrogen peroxide production

Budapest, Hungary

2004-2006

Semmelweis University

Undergraduate student, Institute of Medical Chemistry

Mentor: Prof. Laszlo Buday, M.D. PhD DSc

Topic: Role of cortactin in mediating actin polymerization

Budapest, Hungary

2002-2004

National Institutes of Health

Summer student, National Institute of Allergy and Infectious Diseases (NIAID)

Mentor: Steven M. Holland, M.D.

Topic: Interferon-gamma receptor 1 promoter polymorphisms

Bethesda, MD, USA

Summer 2002

RESEARCH FELLOWSHIPS AND SCHOLARSHIPS

Lucille Castori postdoctoral fellowship	2013-2015
EMBO Short term fellowship	2010
National Scholarship of the Hungarian Republic (awarded to top 5 percent of students)	2004-2006
Erasmus Scholarship - Charité, Berlin, Germany	2005

GRANTS WON AS RESEARCH GROUP LEADER

Seeding grant of the Hungarian Centre of Excellence for Molecular Medicine (~450.000 USD)	2019-2024
The Hungarian Academy of Sciences, 'Momentum' grant (~900.000 USD)	2018-2023
Semmelweis University Core Grant (~60.000 USD)	2017
Semmelweis University R&D Grant (~40.000 USD)	2017
The Hungarian Academy of Sciences, Premium Post Doctorate Research Program (~100.000 USD)	2017-2018
Semmelweis University Startup Grant (~80.000 USD)	2016

SCIENTIFIC PRIZES AND AWARDS

Burgen Scholarship Award from the Academia Europaea	2017
Junior Prima Prize - Prima Foundation (Hungary, 10 scientists per year below 33 from all fields of science)	2014
Talented Student Researcher Prize	2006
1 st prize at the Hungarian National Research Students' Conference (OTDK)	2005
2 nd prizes in the Physiology and Pathophysiology competitions at the Semmelweis University	2002
1 st prizes in the Biochemistry, Biophysics, Anatomy competitions at the Semmelweis University	2001
12 th prize in the National Physics Competition for High School Students (OKTV)	2000
7 th prize in the National Biology Competition for High School (OKTV)	2000

PUBLICATIONS

1. Jelcic M, Enyedi B, Niethammer P.: "Quantitative Imaging of Endogenous and Exogenous H₂O₂ Gradients in Live Zebrafish Larvae.", *Methods Mol Biol.* 2019;1982:283-299. **IF: 0.38**
2. Enyedi B, Geiszt M.: "Imaging Intracellular H₂O₂ with the Genetically Encoded PerFRET and OxyFRET Probes.", *Methods Mol Biol.* 2019;1982:275-282. **IF: 0.38**
3. Stoddard M, Huang C, Enyedi B, Niethammer P.: "Live imaging of leukocyte recruitment in a zebrafish model of chemical liver injury.", *Sci Rep.* 2019 Jan 10;9(1):28. **IF: 4.122**
4. Sirokmány G, Kovács HA, Lázár E, Kónya K, Donkó Á, **Enyedi B**, Grasberger H, Geiszt M. „Peroxidasin-mediated crosslinking of collagen IV is independent of NADPH oxidases." *Redox Biol.* 2018 Jun;16:314-321. **IF:5.736**
5. Zana M, Péterfi Z, Kovács HA, Tóth ZE, **Enyedi B**, Morel F, Paclet MH, Donkó Á, Morand S, Leto TL, Geiszt M. "Interaction between p22phox and Nox4 in the endoplasmic reticulum suggests a unique mechanism of NADPH oxidase complex formation.", *Free Radic Biol Med.* 2017 Dec 23. pii: S0891-5849(17)31284-4. **IF:5.606**
6. **Enyedi B**, Niethammer P.: "Nuclear membrane stretch and its role in mechanotransduction." *Nucleus.* 2017 Jan 23;1-6. **IF: 2.446**
7. Jelcic M*, **Enyedi B***, Xavier J., Niethammer P., "Image-Based Measurement of H₂O₂ Reaction Diffusion in Wounded Zebrafish Larvae.", *Biophys J.* 2017 May 9;112(9):2011-2018. * Equal contribution **IF: 3.632**
8. Booth DM, **Enyedi B**, Geiszt M, Várnai P, Hajnóczky G.: "Redox Nanodomains Are Induced by and Control Calcium Signaling at the ER-Mitochondrial Interface." *Mol Cell.* 2016 Jul 21;63(2):240-8. **IF: 14.714**
9. **Enyedi B**, Niethammer P.: "A Case for the Nuclear Membrane as a Mechanotransducer" *Cell Mol Bioeng.* 2016 Jun;9(2):247-251. **IF: 2.535**
10. **Enyedi B**, Jelcic M, Niethammer P.: "The cell nucleus serves as a mechanotransducer of tissue damage-induced inflammation." *Cell.* 2016 May 19;165(5):1160-70 **IF: 30.41**

11. **Enyedi B**, Niethammer P.: "Mechanisms of epithelial wound detection." *Trends Cell Biol.* 2015 Jul;25(7):398-407. **IF: 11.532**
12. Margittai É, **Enyedi B**, Csala M, Geiszt M, Bánhegyi G: Composition of the redox environment of the endoplasmic reticulum and sources of hydrogen peroxide. *Free Radic Biol Med.* 2015 Jun;83:331-40. **IF:5.736**
13. Roxbury D, Jena PV, Williams RM, **Enyedi B**, Niethammer P, Marcet S, Verhaegen M, Blais-Ouellette S, Heller DA.: "Hyperspectral Microscopy of Near-Infrared Fluorescence Enables 17-Chirality Carbon Nanotube Imaging." *Sci Rep.* 2015 Sep 21;5:14167 **IF: 5.228**
14. Gault WJ, **Enyedi B**, Niethammer P.: Osmotic surveillance mediates rapid wound closure through nucleotide release. *J. Cell Biol.* 2014 Dec 22;207(6):767-82. **IF: 9.834**
15. **Enyedi B**, Kala S, Nikolich-Zugich T, Niethammer P.: Tissue damage detection by osmotic surveillance. *Nat Cell Biol.* 2013 Sep;15(9):1123–1130. **IF: 20.058**
16. **Enyedi B**, Niethammer P.: H₂O₂:A chemoattractant? *Methods Enzymol.* 2013;528:237-55 **IF: 2.194**
17. **Enyedi B**, Melinda Z, Donkó A, Geiszt M.: Spatial and temporal analysis of NADPH oxidase-generated hydrogen peroxide signals by novel fluorescent reporter proteins. *Antioxid Redox Signal.* 2013 Aug 20;19(6):523-34. **IF: 7.667, Cover Story**
18. Fülöp L, Szanda G, **Enyedi B**, Várnai P, Spät A.: The effect of OPA1 on mitochondrial Ca²⁺ signaling. *PLoS One.* 2011;6(9):e25199. **IF: 4.092**
19. Donkó A, Ruisanchez E, Orient A, **Enyedi B**, Kapui R, Péterfi Z, de Deken X, Benyó Z, Geiszt M. : Urothelial cells produce hydrogen peroxide through the activation of Duox1. *Free Radic Biol Med.* 2010 Dec 15;49(12):2040-8. **IF: 5,707**
20. **Enyedi B**, Varnai P, Geiszt M.: Redox state of the endoplasmic reticulum is controlled by Ero11-alpha and intraluminal calcium. *Antioxid Redox Signal.* 2010 Sep 15;13(6):721-9 **IF: 8,209, Cover Story**
21. Tőke, J.; Czirják, G.; Patócs, A.; **Enyedi, B.**; Gergics, P.; Csákváry, V.; Enyedi, P.; Tóth, M.: Neonatal severe hyperparathyroidism associated with a novel de novo heterozygous R551K inactivating mutation and a heterozygous A986S polymorphism of the calcium-sensing receptor gene. *Clin Endocrinol (Oxf).* 2007 Sep;67(3):385-92. **IF: 3.370**
22. Illes, A., **B. Enyedi**, P. Tamas, A. Balazs, G. Bogel, Melinda, Lukacs, and L. Buday. : "Cortactin is required for integrin-mediated cell spreading." *Immunol Lett.* 2006 Apr 15;104(1-2):124-30. **IF: 2.352**
23. Illes A, **Enyedi B**, Tamas P, Balazs A, Bogel G, Buday L. : "Inducible phosphorylation of cortactin is not necessary for cortactin-mediated actin polymerisation." *Cell Signal.* 2006 Jun;18(6):830-40. **IF: 4.887**
24. Rosenzweig, S. D., Schaffer, A. A., Ding, L., Sullivan, R., **Enyedi, B.**, Yim, J. J., Cook, J. L., Musser, J. M., Holland, S. M. : "Interferon-gamma receptor 1 promoter polymorphisms: population distribution and functional implications." *Clin Immunol.* 2004 Jul;112(1):113-9. **IF: 3.034**

Scientometrics - Impact factor: 163, Citations: ~520, H-index: 13

TALKS AND PRESENTATIONS

Semmelweis University – Research Salon	2018
<i>invited speaker</i>	
IST Vienna, Life Sciences Seminar	2017
<i>invited speaker</i>	
Mechanobiology Session of the Biophysical Society Meeting, Los Angeles, USA	2016
<i>selected talk</i>	
Keystone Symposium on Molecular Cell Biology of Macrophages in Human Diseases, Santa Fe, New Mexico	2014
<i>selected talk</i>	

Gordon Research Conference on Tissue Regeneration & Repair, New London, NH <i>selected talk</i>	2013
IUBMB, Cell Signaling Networks, Mérida, Mexico <i>poster presentation: ASBMB award</i>	2011
Gordon Research Conference on the NOX Family NADPH Oxidases, Les Diablerets, Switzerland <i>selected talk</i>	2010
IUBMB, Shanghai, China <i>poster presentation</i>	2009
Gordon Research Conference on the NOX Family NADPH Oxidases, Colby-Sawyer College, New London, NH <i>poster presentation</i>	2009
FEBS Athens, Greece <i>poster presentation, selected for Young Scientists' Forum</i>	2008
Annual Conference of the Hungarian Signal Transduction Society, Hőgyész, Hungary <i>selected talk</i>	2003

TEACHING EXPERIENCE

Semmelweis University undergraduate program Supervisor of several undergraduate students	2017-
Semmelweis University – Medical Physiology course Lecturer and instructor (in German and Hungarian)	2017-
Memorial Sloan Kettering Cancer Center Supervised an MD, PhD student and 4 PhD rotation students	2011-2016
Semmelweis University undergraduate program Supervisor of 4 undergraduate students	2006-2011
Semmelweis University – Medical Physiology course Instructor (in German and Hungarian)	2005-2011
Semmelweis University – Medical Physiology course Teaching Assistant (in German and Hungarian)	2004-2005

ROLE IN SCIENTIFIC COMMUNITY

Secretary of the Youth Division of the Hungarian Physiological Society	2018-
Member of the Hungarian Genetics Society	2017-
Member of the Biophysical Society	2016-
Member of the Hungarian Biochemical Society	2008-
Member of the Hungarian Physiological Society	2007-

PERSONAL

Languages: Fluent in Hungarian (mother tongue), English and German, working knowledge of French
 Programming languages: Intermediate in Python, beginner in Matlab
 Interests: Squash, rock climbing, sailing and skiing

Balázs Enyedi

July 29, 2019