

CURRICULUM VITAE

Zoltan Nemeth, PhD

Contact information

University of Mississippi Medical Center
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Education and training

2002-2007: University of Pecs, Faculty of Science. Master's degree program in Biology, University of Pecs, Faculty of Science.

Principal subjects: anatomy, biochemistry, genetics, physiology

2011-2015: University of Pecs, Medical School, Department of Pathophysiology and Gerontology, full-time PhD student

2016 – 2017: Department of Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine, Boston University Medical Campus, Post-doctoral associate.

2018: Introduction to laboratory Animal Science, and Species-specific Mouse and Rats courses (Leiden University Medical Center).

Professional experience

2008 - 2010 University of Pecs, Medical School, Department of Anatomy – assistant lecturer

2011- 2015 University of Pecs, Medical School, Department of Pathophysiology and Gerontology – PhD student

2016 – 2017 Department of Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine, Boston University Medical Campus – postdoctoral research associate

2017 – 2018 Department of Nephrology, Leiden University Medical Center – postdoctoral researcher

2018 – Department of Morphology and Physiology, Faculty of Health Sciences, Semmelweis University – research fellow

2019 – Department of Physiology and Biophysics, University of Mississippi Medical Center - postdoctoral research fellow

Teaching activities

Practical course in Hungarian and English: Anatomy, histology, embryology (University of Pecs, Medical School, Department of Anatomy I-II. years. 2008-2010).

Seminars in Hungarian and English: Pathophysiology (University of Pecs, Medical School, Department of Pathophysiology and Gerontology III. year 2011-2015).

Contribution to curriculum development

Writing of chapters of an edited textbook for universities (Developmental Biology). (Kronosz – University of Pecs, Faculty of Science – University of Pecs, Medical School 2014).

Supervising

Student researchers

Research topics

Biochemical and functional investigation of human pericardial fluid.

Effects of cognitive training on cerebral blood flow.

Effects of preeclampsia on myogenic reactivity of cerebral vessels.

Knowledge of techniques

Biochemistry techniques (enzyme assays, column chromatography), microbiological and molecular biological techniques (DNA and RNA extraction from animal tissues, PCR, mutagenesis PCR, RT-qPCR, plasmid preparation, ligation, bacterial transformation, electroporation, gel electrophoresis, Western Blot), in vitro techniques (cell - and tissues cultures, passaging cells, transfection), mouse embryonic stem cell culture, ex vivo techniques (surgical techniques in rat model, wire myograph and pressure-flow myograph systems).

Two-Photon Microscopy (Mes and MATLAB programs). In vivo procedures (cranial window surgery in mouse model, measurement of invasive blood pressure in rat).

Certificates

FELASA Certificate with reference to article 5 and the annex 6 of the Ministerial Ruling on Animal Experiments 2014

FELASA Certificate with reference to the Ministerial Decree on Recognition of Courses and Certificates relating to Laboratory Animals

Language

Hungarian: Native

English: Conversational, Intermediate (B2) Combined (C)

German: Medical, Basic (B1) Combined (C)

Portuguese: Conversational, Beginner's level courses

Peer-reviewed publications

Tímea Tégla; **Zoltan Nemeth**; Akos Koller; Eddy A. Van der Zee; Paul G.M. Luiten; Csaba Nyakas. (2019). Effects of Long-Term Moderate Intensity Exercise on Cognitive Behaviors and Cholinergic Forebrain in the Aging Rat.

Neuroscience 2019 May 28;411:65-75. doi: 10.1016/j.neuroscience.2019.05.037. (2019).

Istvan Seffer, **Zoltan Nemeth** (2017). Recovery from Bell palsy after transplantation of peripheral blood mononuclear cells and platelet rich plasma.

PRS GLOBAL OPEN Case report 5:(6) - p e1376.

Nemeth Z, Cziraki A, Szabados S, Biri B, Keki S, Koller A. (2015). Elevated Levels of Asymmetric Dimethylarginine (ADMA) in the Pericardial Fluid of Cardiac Patients Correlate with Cardiac Hypertrophy.

PLOS ONE 10:(8) Paper e0135498. 19 p. (2015).

Nemeth Zoltan, Cziraki Attila, Szabados Sandor, Horvath Ivan, Koller Akos. (2015). Pericardial fluid of cardiac patients elicits arterial constriction: role of endothelin-1. *CANADIAN JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY* 93:(9) pp. 779785. (2015).

Seffer Istvan, **Nemeth Zoltan**, Hoffmann Gyula, Matics Robert, Seffer Andras Gergely, Koller Akos. Unexplored Potentials of Epigenetic Mechanisms of Plants and Animals Theoretical Considerations. (2013). *GENETICS AND EPIGENETICS* 5: pp. 2341.

Manuscript in preparation

Zoltan Nemeth, Timea Teglas, Gabriella Dornyei, Csaba Nyakas, Mark Szanto, Attila Nagy, Attila Cziraki, Akos Koller (2019). Pericardial fluid homocysteine levels may contribute to ischemia-induced cardiac remodeling in humans.

Abstracts in peer-reviewed journals

Changes in skin microcirculation in response to ischemia and heat in trained and untrained individuals. Anna Pato, **Zoltan Nemeth**, Csaba Nyakas, Akos Koller. 3rd ESM-EVBO Congress. *J VASC RES* (2019).

Human pericardial fluid derived endothelin elicits arterial constriction.

Zoltan Nemeth, Attila Cziraki, Sandor Szabados, Ivan Horvath, Akos Koller
FASEB JOURNAL 30:(1 Suppl.) p. 952.1. (2016)

Asymmetric dimethylarginine (ADMA) in the pericardial fluid may contribute to the development of cardiac hypertrophy.

Koller A, **Nemeth Z**, Szabados S, Biri B, Keki S, Cziraki A
EUROPEAN HEART JOURNAL 36:(Suppl. 1) p. 1008. (2015)

Potential Role of Endothelin1 in Pericardial Fluid of Cardiac Patients in Eliciting Arterial Constriction.

Zoltan Nemeth, Attila Cziraki, Sandor Szabados, Ivan Horvath, Akos Koller
JOURNAL OF VASCULAR RESEARCH 52:(Suppl. 1) p. 64. (2015)

Investigation of asymmetric dimethylarginine in patients with coronary artery disease.

Adam Nemeth, Zeno Ajtay, Robert Husznai, **Zoltan Nemeth**, Ivan Horvath, Istvan Szokodi, Sandor Szabados, Akos Koller, Stefanie M Bode Boger, Attila Cziraki
CARDIOLOGIA CROATICA 956) p. 256. (2014)

ADMA in pericardial fluid of patients may be a biomarker of cardiac hypertrophy.

Z Nemeth, A Cziraki, S Szabados, F Springman, B Biri, S Keki, A Koller
CARDIOVASCULAR RESEARCH 103:(Suppl 1) p. S1160. (2014)

Investigation of asymmetric dimethylarginine in patients with coronary artery disease.

Cziraki A, Ajtay Z, Sulyok E, Horvath I, Nemeth A, Lenkey Z, **Nemeth Z**, Szabados S, Koller A, Bode Boger SM
EUROPEAN HEART JOURNAL 34:(Suppl.) p. 563. (2013)

L-arginine and Asymmetric Dimethylarginine (ADMA) levels in pericardial fluid in patients undergoing open heart surgery.

Nemeth Z, Cziraki A, Szabados S, Biri B, Keki S, Seffer I, Koller A
CARDIOLOGIA HUNGARICA 43:(Suppl.) Paper G21. (2013)

L-arginine and asymmetric dimethyl arginine (ADMA) levels in human pericardial fluid in patients with open cardiac surgery.

Nemeth Zoltan, Cziraki Attila, Keki Sandor, Biri Bernadett, Szabados Sandor, Horváth Ivan, Parniczky Andrea, Seffer Istvan, Miseta Attila, Koller Akos
International Union of Physiological Sciences (IUPS). Birmingham, United Kingdom England, 21/07/2013-26/07/2013.p. x.

Tooth development in mice deficient in pituitary adenylate cyclase activating polypeptide (PACAP).

Haris M, **Nemeth Z**, Kormos V, Kiss P, Wlasitsch M, Lubics A, Tamas A, Hashimoto H, Baba A, Helyes Zs, Reglodi D
The 7th Joint Meeting of the European Neuropeptide Club and the American Summer Neuropeptide Conference. Pécs, Hungary, 21/06/2010-24/06/2010.p. 541.

Role of amino acids Ser29 and Ser133 of cAMP-response-element-binding protein (CREB) in the proliferation of PC12 cells.

Balogh A, Pap M, **Németh Z**, Stark B, Harci A, Szeberényi J
7TH Hungarian Genetic Congress, Balatonfüred, Hungary (2007)

Regeneration and peptide profile changes in the central nervous system of *Eisenia fetida* (Annelida, Oligochaeta).

Várhalmi E, Herbert Zs, Pollak E, Kiszler G, **Nemeth Z**, Molnar L
XI. MITT Konferencia. Szeged, Hungary, 24/01/2007-27/01/2007.p. x.

Reorganization of GABA immunoreactive neural system in brain extirpated earthworms.

Zoltan Nemeth, Edit Pollak, Laszlo Molnar
International Brain Research Organization (IBRO) Symposium. Budapest, Hungary, 25/01/2006-28/01/2006.p. x.

June 28, 2019