

INEZ BOSNYÁK



National Academy of Scientist Education, Ph.D. 2nd year

University of Pécs
 Doctoral School of Theoretical Medicine
 Ph.D. 2nd year

YEAR OF BIRTH

1999

FORMER SZENT-GYÖRGYI PUPIL

yes

RESEARCH UNIT

University of Pécs

SZENT-GYÖRGYI MENTOR

Dóra Reglódi

JUNIOR MENTOR

Alexandra Atlaszné Váczy

SPECIALIZATION

ophthalmology,
 neuroendocrinology,
 neuroscience

SECONDARY SCHOOL

Nagy Lajos Grammar School
 of the Cistercian Order

NAME OF TEACHER

Éva Mostbacher,
 Éva Csikyné Radnai,
 Zsolt Nyisztor

LANGUAGES

English/intermediate
 German/intermediate

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

The retina has very high oxygen consumption, so lack of oxygen supply can cause visual impairment. Hypoxia plays a key role in the pathogenesis of the most common vision-threatening diseases. Appropriate, side-effect free therapeutic options are not available to treat these conditions. Hypoxic animal model is created by common carotid artery occlusion. Then we perform optical coherence tomography, electroretinography and molecular measurements. Our aim is to find the most sensitive cell types and to understand the pathogenesis of ischemic retinopathy in time-dependent manner. Afterwards we would like to investigate the role of endogenous pituitary adenylate cyclase activating polypeptide (PACAP), which is a retinoprotective neuropeptide. In summary, our aim is to understand the pathogenesis of ischemic retinopathy and to find new potential therapeutic targets.

AMBITIONS AND CAREER GOALS

Our research group aims to understand the pathogenesis of various common retinal diseases and to find new potential therapeutic targets. In addition, we would like to investigate the role and protective effects of PACAP in these diseases.

HONORS AND PRIZES

- 2025 SZOFIKON - Szentágotthai Higher Education Interdisciplinary Conference 1st place
- 2025 III. Romhányi György conference 1st place
- 2025 Pro Scientia Gold Medal
- 2025 XXIX. International Symposium on Morphological Sciences (Lisbon) 2nd place
- 2024 II. Romhányi György conference 1st place
- 2024 XXVIII. Korányi Frigyes Scientific Forum 1st place
- 2024 National Kálmán Sántha Scientific Roundtable Conference 2nd place
- 2024 Mestyán Gyula Award
- 2024 Szent-Györgyi Student of Excellence

PUBLICATIONS

Bosnyak, I., Farkas, N., Molitor, D., Meresz, B., Patko, E., Atlasz, T., Váczy, A., Reglodi, D. (2024) Optimization of an Ischemic Retinopathy Mouse Model and the Consequences of Hypoxia in a Time-Dependent Manner. *Int J Mol Sci* **25**: 8008.

Bosnyak, I., Nagy, A., Molitor, D., Meresz, B., Szabo, E., Reglodi, D., Atlasz, T., & Váczy, A. (2025) Retinoprotective Effects of Abscisic Acid in Ischemic Retinopathy Mouse Model. *Antioxidants* **14**: 1133.

Reglodi, D., Tamas, A., **Bosnyak, I.,** Atlasz, T., Szabo, E., Li, L., Horvath, G., Opper, B., Kiss, P., Lucas, L., Maugeri, G., D'Amico, A., D'Agata, V., Fabian, E., Reman, Gy., Váczy, A. (2025) Protective Effects of PACAP in Diabetic Complications: Retinopathy, Nephropathy and Neuropathy. *Int J Mol Sci* **26**: 9650.