

BENEDEK SZATHMÁRI



National Academy of Scientist Education, Ph.D. 1st year

University of Szeged,
Faculty of Science and Informatics, Biology, Ph.D. 1st year

YEAR OF BIRTH

2001

FORMER SZENT-GYÖRGYI PUPIL

yes

RESEARCH UNIT

HUN-REN Biological
Research Centre

SZENT-GYÖRGYI MENTOR

László Nagy

JUNIOR MENTOR

Árpád Csernetics

SPECIALIZATION

fungal genomics

SECONDARY SCHOOL

Tóth Árpád Secondary
Grammar School, Debrecen

NAME OF TEACHER

József Gőz

LANGUAGES

English/advanced
Latin/advanced

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

Fungal evolution, the investigation of which is challenging but also interesting due to great amount of convergence, is still burdened by countless unanswered questions. Our research group investigates the evolutionary biology and developmental genetics of fungi, focusing on the origin of complex multicellularity that, in contrast with other branches of the tree of life, appeared eight times independently in this clade. One of my projects is connected to the mentioned topic: I knock out genes responsible for basidium and fruiting body formation. Our aim here is to understand the origin of other fruiting body cells present around basidia better. There were also lots of simplifications in the course of fungal evolution. The group of unicellular yeasts with a reduced morphology provided some 'workstocks' for the industry, however, we know unworthily little about their evolution. I hope that with my other project, during which I investigate the density-dependent behaviour (quorum sensing) of spores of a mould species, I can also contribute to the creation of a gap-filling evolutionary concept regarding yeasts.

AMBITIONS AND CAREER GOALS

'*Nothing in biology makes sense except in the light of evolution*' I cannot agree more with this statement of Theodosius Dobzhansky, and my aim is to understand this overall concept. I think achieving this goal does not only require studying, but also the investigation of important problems and interesting phenomena, as well, during which one can pose, and even answer questions no one has before. Creating a complex scientific world-view built upon scepticism is crucial for me. I would like to become a broad-minded researcher with creative thoughts.

HONORS AND PRIZES

2020/21; 2019/20 Richter Gedeon Talentum Scholarship
2020; 2019; 2018 Árokszállásy Zoltán Biology Competition 5th; 7th; 4th
2020 Biology OKTV 37th
2020 Chemistry OKTV 17th
2020; 2019 Latin OKTV 9th; 2nd
2020; 2019 'Eminence of Debrecen' Award
2020 Most Successful Student of Tóth Árpád Secondary Grammar School
2019 Albert Szent-Györgyi Competition 1st
2019; 2017 Horváth István Károly Latin Competition 3rd; 1st

PUBLICATIONS

Nagy, L., G., Vonk, R., J., Künzler, M., Földi, Cs., Virágh, M., Ohm, R., A., Hennicke, F., Bálint, B., Csernetics, Á., Hegedüs, B., Hou, Z., Liu, X., Nan, S., Pareek, M., Sahu, N., Szathmári, B., Varga, T., Wu, H., Yang, X., Merényi, Z. (2022) Lessons on fruiting body morphogenesis from genomes and transcriptomes of Agaricomycetes. **Studies in Mycology** 104(1): 1-85.