

## BENEDEK SZATHMÁRI



National Academy of Scientist Education, Ph.D. 1<sup>st</sup> year

University of Szeged,  
Faculty of Science and Informatics, Biology, Ph.D. 1<sup>st</sup> 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 Árokszállás Zoltán Biology Competition 5<sup>th</sup>; 7<sup>th</sup>; 4<sup>th</sup>  
2020 Biology OKTV 37<sup>th</sup>  
2020 Chemistry OKTV 17<sup>th</sup>  
2020; 2019 Latin OKTV 9<sup>th</sup>; 2<sup>nd</sup>  
2020; 2019 'Eminence of Debrecen' Award  
2020 Most Successful Student of Tóth Árpád Secondary Grammar School  
2019 Albert Szent-Györgyi Competition 1<sup>st</sup>  
2019; 2017 Horváth István Károly Latin Competition 3<sup>rd</sup>; 1<sup>st</sup>

### 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.