

## MÁRTON HORVÁTH



National Scientists Academy, 5<sup>th</sup> year

University of Szeged,  
Faculty of Science and Informatics,  
Molecular Bionics Engineer, MSc 1<sup>st</sup> year

#### YEAR OF BIRTH:

1998

#### FORMER SZENT-GYÖRGYI PUPIL:

no

#### SZENT-GYÖRGYI MENTOR:

Attila Gácsér

#### JUNIOR MENTOR:

Renáta Tóth

#### SPECIALIZATION:

microbiology

#### SECONDARY SCHOOL:

Bilingual Secondary  
Grammar School of  
Balatonalmádi

#### NAME OF TEACHER:

Anna Várkuti

#### LANGUAGES:

English/advanced  
German/intermediate  
Italian/intermediate

#### IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

Throughout the last few decades, invasive fungal infection has been posing a growing threat to patients with a suppressed immune status in hospital environments. Species from the genus *Candida* are frequently isolated from such infections, and among them it is *Candida parapsilosis* that threatens neonates most and is thus in the centre of our attention. In our research we aim to better understand the interaction between fungal cells and the host by investigating immune responses. We intend to examine pathogen recognition and potentially activated signal transduction pathways in a healthy mucosal environment during *C. parapsilosis* interaction by using various approaches. These include the investigation of the role of pattern recognition receptors (PRRs) in the immunological recognition of *C. parapsilosis* as well as the activated signal transduction pathways, which lead to the development of immunological tolerance. Our further ambitions include finding yet undiscovered mechanism involved in the discrimination between elimination and tolerogenic responses induced by fungal species as we hypothesize that these mechanisms might contribute to the progression of other, non-microbial diseases as well.

#### AMBITIONS AND CAREER GOALS

During my scientific career I aspire to acquire a deeper insight into immunology in order to fully understand the bases of fundamental immune responses, for which the understanding of host-pathogen interactions is absolutely necessary. As a member of the *Candida* research group, my long-term goal is to contribute to the expansion of our current knowledge on commensal and pathogen microbe-induced immune responses.

#### HONORS AND PRIZES

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#### PUBLICATIONS

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