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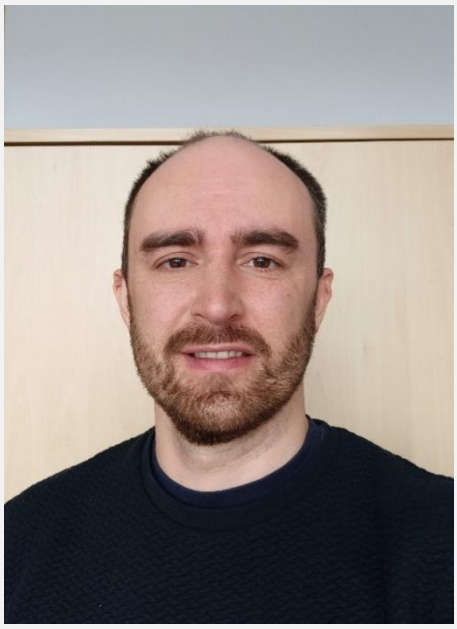
A star with stripes: Zebrafish as a Model to study Human Disease



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Abstract

Zebrafish are small, tropical freshwater fish making a big career as a model organism in biomedical research. Ease of breeding, a short generation time, a fully sequenced genome, optical transparency as well as the wide range of mutants and transgenic lines have made zebrafish the second most popular organism in biomedical research. The zebrafish model has been successfully used, among other fields, in developmental biology, genetics, cardiovascular, pharmaceutical, toxicological and immunological studies. For a few years, research using zebrafish is also conducted at the Department of Evolutionary Immunology of the Institute of Zoology and Biomedical Research of the Jagiellonian University. We studied innate immune response during viral and bacterial infection.

SHORT BIOGRAPHY

I completed my PhD in 2010 at the University of Sheffield (UK) where I used zebrafish to establish a novel model of *Staphylococcus aureus* infection. I continued working with zebrafish throughout my postdoctoral training in Sheffield and also my Marie Curie Fellowship in Leiden (NL) where I become interested in autophagic response to bacterial intracellular pathogens within professional phagocytes. In 2020, I returned to Poland (as a beneficiary of the NAWA Polish Returns programme) and was awarded a SONATA BIS grant to establish my new research team. To this end, I joined the Department of Evolutionary Immunology to use zebrafish to study reactive oxygen species and autophagy in response to bacteria but also to propagate zebrafish as an alternative animal model in general.