



Post-doc position is available in NCN funded project OPUS:

Functional genomic analysis of *Staphylococcus aureus* Kayvirus genus phages in a search for molecular basis of wide host-range and the strategies of survival with a host population

Staphylococcus aureus is a leading cause of nosocomial and community acquired infections due to the fast adaptation to antibacterials. Staphylococcal bacteriophages of *Kayvirus* genus are effective in the treatment of infections by antibiotic-resistant *S. aureus* strains. They have large genomes, are able to lyse the majority of clinical *S. aureus* strains and destruct staphylococcal biofilms. However, functions of over half of their genes are unknown. The goal of this project is to analyze uncharacterized gene products of kayviruses, to find out which of them determine strain range and therapeutic efficacy of kayviruses *in vivo* and to verify whether any of them influence the fitness of *S. aureus*. Experiments will be performed in parallel on bacterial and phage strains and their mutants and on phage genes cloned in plasmids. Methodology will include advanced microbiology, molecular biology, microscopy, genome sequencing, sequence assembly and bioinformatic analysis techniques. Phage therapeutic efficacy will be evaluated in the invertebrate *S. aureus* infection model. Selected Ref.: Adv. Virus Res. 2012, 83: 143-216; Front. Microbiol. 2019, 9: 3227; Viruses. 2020, 12 (3) 292; WO 2014/012872. More: <https://projekty.ncn.gov.pl/opisy/445642-en.pdf>

Parts of biofilm concerning project tasks will be implemented in collaboration with prof. Joana Azeredo team (<https://www.ceb.uminho.pt/People/Details/6008668a-8f77-4d3d-9a98-1c0f7161ad2d>)

Requirements:

Candidates should hold a PhD in biology, biochemistry, molecular biology, biotechnology or related fields and are expected to have a documented experience in microbiology, molecular biology and bioinformatic sequence analysis, including publications in international journals or patents. Experience in work with bacteriophages and in the implementation of grant projects will be preferred. Candidates should also be fluent in written and spoken English, be highly motivated to do research, flexible and able to work independently as well as a part of team.

Funding and contract:

- Full time employment contract for 3 years, starting from December 01, 2020
- Gross salary of about 7000 PLN/month
- Focus on research with possibilities to participate in the co-supervision of Ph.D. students

How to apply:

Applications in English or in Polish should be sent to prof. dr. hab. Małgorzata Łobocka (lobocka@ibb.waw.pl). They should contain CV, a copy of Ph.D. diploma, publication or patent record, motivation letter and two reference letters with contact information to two referees.

Closing date: October 31. 2020

The competition may be extended until the finding of suitable candidate.