JAGIELLONIAN UNIVERSITY IN KRAKÓW

evolutionary physiology team

The Evolutionary Physiology Team of the Institute of Environmental Sciences

offers a PhD-student position and stipend

We are seeking for a highly motivated PhD student for a project entitled:

Experimental model of holobiont evolution: gut bacterial symbionts in bank voles selected for increased herbivorous capability

(a part of NCN OPUS project *Experimental evolution of physiological and behavioral adaptations in the bank vole: molecular background and alimentary system bacterial symbionts*).

Requirements

1. MSc in life science (biology, ecology, evolution, zoology or related);
2. interest in ecological physiology or microbiology and evolutionary biology;
3. an experience in working with terrestrial vertebrate animals (preferably rodents);
4. an experience in molecular or biochemical laboratory;
5. analytical thinking, creativity and high motivation in learning new methods;
6. good communication skills,
7. good level of spoken and written English,
8. admission in a PhD study program at the Institute of Environmental Sciences JU.

Task description

Symbiotic evolution played an important role at all stages of evolution of diverse life strategies. According to the "hologenome" concept, natural selection acts on the holobiont (host and associated microbes) rather than on animals alone. A unique opportunity to test the concept is offered by our artificial selection experiment on bank voles (*Myodes glareolus*). We observed that voles from lines selected for improved "herbivorous capability" had an altered composition of gut bacterial symbionts, even if the particular individuals had no contact with the special diet. We ask whether a) the difference in gut bacteria composition occurred in response to the short change of diet in parents, and was merely transmitted to offspring or b) the selected voles evolved genetically-based modifications allowing preferable hosting a modified bacterial community. The project consists of two main stages: 1) experiments on the voles (manipulation of diet, cross-fostering, measuring physiological traits and the size of internal organs, and collecting gut contents samples), and 2) molecular analyses of bacterial DNA in the samples, leading to description of the bacterial community and statistical analyses of its composition.

Deadline for application 31 August 2017, by e-mail

Conditions of employment: A scholarship for 36 months of 3000 PLN / month funded by the National Science Centre (additional scholarships can be obtained within the JU PhD programs).

Evolutionary Physiology Team
Institute of Environmental Sciences, Jagiellonian University
ul. Gronostajowa 7, 30-387 Kraków, Poland

Phone:
(+48) 12 664 52 09
(+48) 12 664 52 10

E-Mail:
pawel.koteja@uj.edu.pl
edyta.sadowska@uj.edu.pl

The recruitment and enrollment consists of three steps:

1) The applicant should send CV (academic achievements included, 2 page maximum) and a cover letter in English (deadline: 31 August 2017). The letter should
   a) explain the applicant's interest in the topic,
   b) provide the names and email addresses of two people with first-hand knowledge of the applicants skills and past research experience,
   c) contain the following statement: "I hereby give consent for my personal data included in my offer to be processed for the purposes of recruitment, in accordance with the Personal Data Protection Act dated August, 29,1997 (uniform text: Journal of Laws of the Republic of Poland 2014 item 1182 with further amendments)".

Send the complete application in a single pdf file to the principal investigator, Paweł Koteja: pawel.koteja@uj.edu.pl.

2) Enrollment for one of the PhD programs at the Institute of Environmental Sciences at Jagiellonian University:

   - preferred: PhD Program in Biology in English (http://www.binoz.uj.edu.pl/studia/phd_biology/about-the-studies; registration: https://www.erk.uj.edu.pl/studia/karta/studia_id/4097/tryb_ubiegania/s/nr_naboru/1)

   - acceptable: a standard PhD program (http://www.binoz.uj.edu.pl/dydaktyka/studia-doktoranckie-biologia/o-studiach; registration: https://www.erk.uj.edu.pl/studia/3787/1/s).

   The registration through the OAS system ends at 6th September 2017 and the entrance exam will be between 13 and 20 September 2017.

3) From among the candidates accepted as PhD students at Institute of Environmental Sciences JU, the beneficiary will be chosen based on regulations about scientific scholarships for young researchers in research projects financed by the National Science Centre, Poland (https://www.ncn.gov.pl/finansowanie-nauki/koszty-w-projektach/stypendia-naukowe/zasady-przyznawania-wyplaty-stypendiow-1).

Contact person: Paweł Koteja (pawel.koteja@uj.edu.pl) Evolutionary Physiology Team

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