EN

Title of the project:

Effect of omega-3 fatty acids on the ovary and the implantation of conceptuses in the pig

NCN call: OPUS 30

PI: Agnieszka Blitek, Prof.

Description of the project

Aim of the project:

The main goal of the project is to determine whether omega-3 fatty acids may influence ovarian cell function, endometrial receptivity, and conceptus implantation in the pig. This goal will be achieved by a series of *in vitro* and *in vivo* experiments dedicated to: (1) identification of processes and mechanisms engaged in omega-3 fatty acid action in ovarian granulosa cells; (2) studying the importance of omega-3 fatty acids in the corpus luteum development and function; (3) determination of the role of omega-3 fatty acids in luminal epithelial cells of the endometrium and on endometrial epithelial – conceptus trophoblast interactions; and (4) evaluation whether dietary omega-3 fatty acids supplementation affects endometrial receptivity, corpus luteum quality, and conceptus implantation. The obtained results may provide a new knowledge how specific nutrients target specific processes that determine the pregnancy success and the quality of the offspring.

The candidate will participate in the following tasks:

1. Planning and conducting *in vitro* experiments using ovarian and endometrial cells, conceptus trophoblast cells, and slices of the corpus luteum;
2. Participation in the collection, storage, and analyses of samples from gilts fed with a standard diet or a diet enriched with omega-3 fatty acids (*in vivo* model);
3. Laboratory analyzes, including Real-Time PCR, Western blot, immunostaining (IHC/IF), ELISA, colorimetric/fluorimetric techniques;
4. Participation in RNA-Seq and LS-MS data analyses;
5. Data collection, statistical analyses and interpretation of the obtained results as well as clear documentation of the project results;
6. Dissemination of the research results through writing conference abstracts and scientific manuscripts, participation in scientific conferences and activities popularizing science.

Requirements:

1. Completed a single master's degree or a second master's degree in biology, biotechnology, animal husbandry, or other related to the discipline of animal science (master's degree obtained before October 1st, 2026);
2. Knowledge in the field of biology and animal physiology;
3. Basic knowledge in molecular biology techniques (e.g. Real-Time PCR, Western blot) and cell culture methods;
4. Motivation for scientific work, ability to think analytically, accuracy, both individual- and team-work skills;
5. Availability, good organization of the work, ability to solve problems independently and to cope with stress;
6. Fluency in English, both spoken and written;
7. Additional skills: experience in statistical methods; scientific activity during university studies, confirmed internships in scientific units, results presentation during conferences.

Selection process

- Applications will be assessed in accordance with the criteria set out in the regulations for awarding research scholarships in research projects financed by the National Science Centre;
- Only on-line applications will be considered;
- Candidates evaluated with the highest score will be invited to an actual interview, which will take place face-to-face or online;
- During the interview, the candidate will be asked to deliver a 10-minute speech presenting his/her Master thesis and research interests;
- Final results of the recruitment will be published on InLife webpage within 10 days after final decision.

Important information:

- **Application deadline:** 20 July 2026 (until 23:59 CEST)
- **Application method:** application form (below)
- **Interviews:** July 24-31, 2026
- **Location:** Olsztyn, Poland
- **Duration of the scholarship:** 48 months
- **Date of position opening:** October 1st, 2026
- **Number of positions:** 1