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UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info/author/UPWrrecff532cc7154463a83db98b8ca2d16c/Agnieszka+%25C5%259Amieszek?tab=main&conversationPropagation=join&sort=&lang=pl&cid=2690
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Personal website / Working group website:	https://bazawiedzy.upwr.edu.pl/info/team/UPWR397ae95471674c5d8ddc4560ea9ea12c?r=activity&ps=20&title=Profil%2Bzespo%25C5%2582u%2B%25E2%2580%2593%2BZespo%25C5%2582y%2B%2528badawcze%252C%2Beksperc%252C%2Bko%25C5%2582a%2B%2528badawcze%252C%2Binne%2529%2B%25E2%2580%2593%2BUniwersytet%2BPrzyrodniczy%2Bwe%2BWroc%25C5%2582awiu+title&lang=pl&pn=1
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	(1)N090/0003/21 – internal founding „Mistrz”; Principal investigator: BAM15, as a factor improving metabolism, mitochondrial dynamics and decidualisation of endometrial progenitor cells in mares with obesity.” (2)2021/43/B/ST5/02960 Principal investigator at UPWr: Biocompatible materials with theranostics’ properties for precision medical application; consortium with ILT&SR PAS Wrocław - Poland, Project leader: prof. Rafał J. Wiglusz; (3)2019/ABM/01/00016-00 Principal investigator at UPWr: Optimisation of the procedure and of therapy of minor patients with histiocyte cell growths - the first Polish non-commercial clinical trial POL HISTIO". Project financed by Medical Research Agency (Agencja Badań Medycznych, ABM). Project leader: prof. Anna Raciborska;
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Second supervisor (from other discipline, Polish or international research unit)
Name and surname:	Gary J. Gorbisky
Academic Degree:	Dr.
Faculty, Institute/Department:	Professor and Chair, Oklahoma Medical Research Foundation/Cell Cycle & Cancer Biology Research Program
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UPWr Base of Knowledge - link or most important publications from last 3 year (JCR) / patents from last 3 years (maximum 5):	Meyer R.E., A.R. Tipton, R. LaVictoire, G.J. Gorbisky, D.S. Dawson (2021) Mps1 promotes poleward chromosome movements in meiotic prometaphase. Mol Biol Cell. mbcE20080525T. doi: 10.1091/mbc. Laine L.J., J.H.E. Mäki-Jouppila, E. Kutvonen, P. Tiikkainen, T.K.M. Nyholm, J.F. Tien, N.T. Umbreit, V. Härmä, L. Kallio, T.N. Davis, C.L. Asbury, A. Poso, G.J. Gorbisky, M.J. Kallio (2021) VTT-006, an anti-mitotic compound, binds to the Ndc80 complex and suppresses cancer cell growth in vitro. Oncoscience 8:134-153. doi: 10.18632/oncoscience.549 *Tipton, A.R. and G.J. Gorbisky (2022) More than two populations of microtubules comprise the dynamic mitotic spindle. J Cell Sci. Feb 1;135(3):jcs258745. doi: 10.1242/jcs.258745. *Highlighted in Journal of Cell Science “Research Highlights.” Dubose, C.O., C. Sansam, G.J. Gorbisky (2022) Dynamic features of chromosomal instability during culture of induced pluripotent stem cells. Genes (Basel). Jun 27;13(7):1157. doi: 10.3390/genes13071157. Gorbisky, G.J., J.R. Daum, H. Sapkota, K. Summala, H. Yoshida, C. Georgescu, J.D. Wren, L. Peshkin, M.E. Horb (2022) Developing immortal cell lines from Xenopus embryos, four novel cell lines derived from Xenopus tropicalis. Open Biol. 2022 Jul;12(7):220089. doi: 10.1098/rsob.220089. Epub 2022 Jul 6. PMID: 35857907
Researchgate:	https://www.researchgate.net/profile/Gary-Gorbisky

Personal website / Working group website:	https://gorbsky.omrf.org/
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>IOS-1645105Gorbsky (PI)07/15/2017 – 06/30/2021National Science Foundation“IOS EDGE: Rapid and Efficient Gene Editing of Amphibians Through Nuclear Transfer from Engineered Cell Lines”</p> <p>R35GM126980Gorbsky (PI)07/15/2018 – 06/30/2023National Institutes of Health “Understanding Cell Division”</p> <p>Research Grant Gorbsky (PI)07/01/2022 – 06/30/2023 Oklahoma Center for Adult Stem Cell Research “Mechanisms of Aneuploidy Surge in Induced Pluripotent Stem Cells”</p> <p>4431-08-02-0 Gorbsky (PI)12/01/2022 – 11/30/2023 Presbyterian Health Foundation Collaborative Research Grant “Tracking chromosome Loci in living cells with fluorescent dCAS9 probes”</p>
PhD topic:	Advancing equine endometrial health: exploring BAM-15's role in mitochondrial dynamics, epigenetics, and exosome function within a 3R-guided framework study
Research discipline in Doctoral School:	Veterinary Science
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	<p>The Ph.D. candidate will take part in the multifaceted research project aimed at exploring the therapeutic potential of BAM-15, a mitochondrial uncoupler, in the context of equine endometrial health. This project aims to comprehensively understand the multifarious effects of BAM-15 on equine endometrial progenitor cells, focusing on its influence on metabolic activity, mitochondrial dynamics, cell division, and epigenetic regulation. This research could pave the way for novel treatments for metabolic disorders affecting the endometrium, leveraging the unique properties of BAM-15. Specifically, the focus would be on the role of BAM-15 in modulating the release of pro-regenerative factors, transferred in exosomes influencing the local cellular environment of endometrium. We will also explore the potential role of BAM-15 in facilitating mitochondrial transfer between cells to reveal new therapeutic strategies for addressing mitochondrial dysfunction in the endometrium. The project will also delve into the epigenetic modifications induced by BAM-15, particularly focusing on microRNA (miRNA) profiles and DNA methylation patterns. Another crucial aim would be to study how BAM-15 impacts the regulation of cell division in equine endometrial progenitor cells. This could involve examining the effects of BAM-15 on the cell cycle, proliferation rates, and potentially the differentiation of cells. Data obtained during the PhD project will allow us to describe how BAM-15 might contribute to tissue regeneration or modulate disease progression in the endometrium. The project will be structured around the principles of the 3R strategy (Replacement, Reduction, and Refinement) to ensure ethical and efficient research practices. We will utilize computational methods to analyze the properties and potential impacts of BAM-15. This approach helps in predicting outcomes, understanding molecular interactions, and guiding subsequent experimental designs while adhering to the Replacement aspect of the 3R strategy. In vitro studies performed on cell and tissue cultures (3D and organoids) will provide detailed insights into the cellular and molecular mechanisms influenced by BAM-15 in a controlled environment, aligning with the Reduction and Refinement principles by minimizing the use of live animal models. The development of endometrium organoids in this project, which will mimic the structure and function of actual tissue is essential. It will provide a more physiologically relevant to the broader field of drug discovery and development.</p>

Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	Qualifications & Skills: • Master's degree in biology or similar; • fluency in spoken and written English; • experience in working with cell/tissue cultures and biomaterials testing; • at least basic knowledge regarding molecular-based techniques; • experience with animals; handling and in vivo studies will be much appreciated; • knowledge of general basic statistical programs and methods; • good general IT skills (e.g. MS Office: Excel, MS Word, or similar); Core Competencies: • commitment and availability in research work; • communication skills; • ability to work in a team; • the ability to organize work and the desire for continuous scientific development; • pro-active attitude, flexible, professional.
a) Project title:	None
b) Agreement number:	Not applied
c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):	0
Project website:	