

Name and surname:	Wojciech Niżański
Academic Degree	prof. dr hab. (Prof.)
Institute/Department	Department of Reproduction and Clinic of Farm Animals
e-mail address:	wojciech.nizanski@upwr.edu.pl
ORCID:	0000-0003-1056-0784
UPWr Base of Knowledge - link	https://bazawiedzy.upwr.edu.pl/info/seam?id=UPWr13e4e9dc71204461b94356a482f67e9c&affil=8&lang=pl
Researchgate:	https://www.researchgate.net/profile/Wojciech-Nizanski
Personal website / Working group website:	https://upwr.edu.pl/badania/wiodace-zespoly-badawcze/innowacyjna-diagnostyka-i-terapia-weterynaryjna-inno-wet
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>NAWA - International multicentric platform as a key element for the effective scientific research. PPI/APM/2019/1/00044/U/00001. 2020-2022. coordination UPWr PI W. Niżański NCN/NCBR</p> <ol style="list-style-type: none"> 1. Mechanisms of semiochemical communication in canidae in the context of sexual behaviour: study with the use of domestic dog (<i>Canis familiaris</i>) as model animal. NCN 2015/17/B/NZ8/02411. 2016 – 2020. PI NCBR 2. Implementation of innovation and effectivity of programs of rescue of genetic resources in wild felidae by establishment of cell bank and implementation of in vitro embryo production into practice. NCBIR NR PBS3/B8/16/2015. 2014 – 2017 PI, coordinator and Consortium Leader 3. The development of prototypes of medical devices based on resources obtained from antler-derived multipotent stem cells; NCBIR UODDEM-1-351/001. 2014-2016. Tasks 7, 8, 11, PI of three tasks <p>Contracted with other external partners</p> <ol style="list-style-type: none"> 4. Prospective study in the tolerance of a combination of Milbemycine Oxime and Praziquantel in Breeding, Lactating Bitches and in newborn puppies. Pharmaceutical activity project ordered by Virbac Company. 2015- 2016 Head of the project 5. „Complex project of european bison protection by Lasy Panstwowe - Mulivariate Monitoring of bison population" -Research Task „Gen Bank in Bison" - Project financed from "Fundusz Leśny" Ministerstwo Ochrony Środowiska pt.UMOWA NR OR.271. 3.10.2017, from 07.08.2017 to 2020 – Head of scientific task
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:	Alain Fontbonne
Academic Degree	prof. dr hab. (Prof.)
Faculty, Institute/Department	Ecole Nationale Veterinaire d'Alfort
e-mail address:	alain.fontbonne@vet-alfort.fr
ORCID:	0000-0003-0862-6596
UPWr Base of Knowledge - link or most important publications from last 3 years (JCR) / patents from last 3 years (maximum 5):	<ol style="list-style-type: none"> 1. Furthner E, Roos J, Niewiadomska Z, Maenhoudt C, Fontbonne A.: Contraceptive implants used by cat breeders in France: a study of 140 purebred cats. <i>J Feline Med Surg.</i> 2020 Feb 21:1098612X19901023. doi: 10.1177/1098612X19901023 2. Santos NRD, Beck A, Fontbonne A.: The View of the French Dog Breeders in Relation to Female Reproduction, Maternal Care and Stress during the Peripartum Period. <i>Animals (Basel).</i> 2020 Jan 17;10(1). 3. Santos NR, Beck A, Blondel T, Maenhoudt C, Fontbonne A.: Influence of dog-appeasing pheromone on canine maternal behaviour during the peripartum and neonatal periods. <i>Vet Rec.</i> 2019 Dec 26. pii: vetrec-2019-105603. doi: 10.1136/vr.105603. 4. Maenhoudt C, Santos NR, Fontbonne A.: Manipulation of the oestrous cycle of the bitch-what works... for now. <i>Reprod Domest Anim.</i> 2018 Nov;53, 3:44-52. 5. Roos J, Maenhoudt C, Zilberstein L, Mir F, Borges P, Furthner E, Niewiadomska Z, Nudelmann N, Fontbonne A.: Neonatal puppy survival after planned caesarean section in the bitch using aglepristone as a primer: A retrospective study on 74 cases. <i>Reprod Domest Anim.</i> 2018 Nov;53, 3:85-95.
Researchgate:	
Personal website / Working group website:	
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>PI</p> <p>Study of seroprevalence of Canine Herpesvirus infection in France, 2016-2017 Merial</p> <p>Profile of canine semen quality under treatment of osaterone acetate (Ypozane), 2017-2018 Virbac</p> <p>Evaluation of a new automated method for rapid measurement of blood progesterone concentration in bitches, 2018-2019 FujiFilm</p> <p>Triplex doppler ultrasonography in pregnant and non-pregnant bitches of different sizes to describe the uterine arteries after breeding, Interne study</p> <p>Infertility in pure-bred queens, 2019-2021 Royal Canin</p>
Research topic and funding	
1) PhD topic:	Mechanisms of reproductive aging - studies on domestic dog (<i>Canis familiaris</i>) as model animal
2) Research discipline in Doctoral School	Veterinary Science
3) Short description of the research problem to be solved in the PhD:	<p>In human medicine a great debate is conducted concerning "Advanced Paternal Age" (AAP) where men's fertility declines and chances for birth defects occurrence rise. The risk of birth defects related to AAP was proven to be much greater than previously expected. These changes negatively affect fertility and reproductive outcomes, Assisted Reproduction Technologies success, increase the risk of preterm parturition and spontaneous abortions in older couples. These also are factors contributing to the higher incidence of congenital birth defects and fetal deaths. Increasing male age has been shown to be associated with numerous disorders like achondroplasia, autism, schizophrenia and bipolar disorders and other diseases exhibited in children of aged parents. Moreover there were performed some studies on the age-related changes in sperm cell structure and its function in human. In veterinary medicine this topic have been very poorly explored. Majority of studies performed on animals confirmed only the gradual decrease of reproductive potential in aged males, without any further and advanced attempt to elucidate the character and mechanism of age-related changes, or to find a link between sperm cells impairment of function and possibility of higher risk of progeny malformations. This is completely neglected field. The lack of the studies on reproductive aging in animal males is a paradox. Because of the fact that some species of companion animals e.g. dogs appear almost as an ideal biomedical model species for such research. Kennel clubs register litters born from old dogs with no paternal age limits due to the high demand for maximal reproductive use of genetically valuable stud dogs. Therefore the problem of aging in dogs is worth intensive clinical studies. Dogs appear to be a very good biomedical model from many points of view - an easy access to semen samples, possibility to compare these results with biological tests in a form of artificial insemination trials, possibility to check the functional sperm fertilizing ability by embryological tests which may be extremely difficult or simply impossible to perform in human, create uniform groups of males divided based on their age, and to exclude individuals with health disorders to avoid inconclusive results. It may be hypothesized that aging mechanisms of human and animals are similar. We hope to answer the question: what is the degree of influence of the male age on semen features, its fertilizing ability, litter sizes originating from particular male and progeny health status. The aim of the study is to describe the mechanism of sperm cell aging by analysis the results of assessment of the changes in sperm characteristics and its fertilizing potential in domestic dog depending of the age of animal, by means of evaluation of quantity and quality of sperm cell production, motility characteristics, assessment of oxidative stress and apoptosis, evaluation genetic components of sperm cells, assessment of in vitro and in vivo sperm fertilizing capacity. This general aim will be accomplished by detailed assessment of sperm cell characteristics in healthy dog of different ages and assessment of in vitro fertilizing ability of sperm cells using functional sperm-oocyte interaction tests. The proposed experiments will have valuable intellectual impact and will address the knowledge gap in the field of reproductive age-related changes of reproductive function. Moreover, it will allow evaluating a variety of elementary and basic questions, which enable a detailed identification of gamete aging mechanisms and its influence on the male's reproductive potential, as well as the possible health risk for older males' offspring. On the basis of such studies the procedures helping to obtain healthy progeny may be developed in humans and animals. On the basis of such studies more comprehensive methods of overcoming or reducing the age-dependent infertility/subfertility may be proposed in males. Furthermore, the in depth study of this matter in the dog as a biomedical model may become useful for extrapolation of that knowledge in human medicine.</p>
4) Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques):	<p>A prospective candidates should be a graduate of veterinary, medical or biological studies. Candidates should be specialized in reproductive medicine, veterinary and in reproductive biology.</p> <p>High fluency in English is demanded. High, positive motivation to execute the reserach in the field of advanced methods of assisted reproductive technologies is expected.</p> <p>Ability to perform clinical and laboratory part of the reserach. The candidates may be of Polish or foreign nationality (European or from other countries). Techniques demanded: semen collection and assessment-CASA system, flow cytometry. Basic knowledge in applied embryology.</p>
5) Details of the project to support PhD research	
a) Project title:	APM NAWA: International multicentric platform as a key element for the effective scientific research Science Net
b) Agreement number:	PPI/APM/2019/1/00044/U/00001
c) Number of months in the project to support PhD (in months; starting from 1st of October 2021):	12

6) Project webside:

<http://nawa.upwr.edu.pl/index.php?go=2&lang=1>