

**Research title**  
**Insights and challenges into canine and feline parturition**

**Approfondimenti e sfide sul parto del cane e del gatto**

**Tutor**  
Prof. Alessandro Pecile

**Contact details**  
Università degli Studi di Milano  
Dipartimento di Medicina Veterinaria  
E-mail: [alessandro.pecile@unimi.it](mailto:alessandro.pecile@unimi.it)  
ORCID: 0000-0001-7326-7046  
<http://www.dimevet.unimi.it/ecm/home/ricerca>

**State of the art and aims of the project**

The parturition is an amazing and emotional event which involves multiple medicine skills. Many aspects are still little known in canine and feline species. In the last decades an increasing trend of Caesarean-section rates was observed in women. With the growing of companion animals' population, is also increased the demand for specialized expertise in the gynaecological, obstetric and neonatal veterinary fields. However, unnecessary elective Caesarean-section can potentially expose both mother and offspring to anaesthetic, surgical and post-operative risks. The purposes of this project are to investigate processes involved in the control of parturition in the canine and feline species, such as the triggering mechanism for parturition, the best time to perform elective Caesarean-section, the anaesthetic and surgical optimal protocols as well as the factors impairing the physiological delivery. Insights into hormonal, ultrasound, anaesthetic, surgical, and nutritional aspects will be studied together with its impact on foetal and neonatal viability.

**Recent publications of the tutor in the field**

1. Maternal and neonatal wellbeing during elective C-section induced with a combination of propofol and dexmedetomidine: How effective is the placental barrier in dogs? Groppetti D, Di Cesare F, Pecile A, Cagnardi P, Merlanti R, D'Urso ES, Gioeni D, Boracchi P, Ravasio G. *Theriogenology* 2019;129:90-98.
2. Prognostic potential of amniotic fluid analysis at birth on canine neonatal outcomes. Groppetti D, Martino PA, Ravasio G, Bronzo V, Pecile A. *Vet J.* 2015;206(3):423-5.
3. The role of birth weight on litter size and mortality within 24h of life in purebred dogs: What aspects are involved? Groppetti D, Ravasio G, Bronzo V, Pecile A. *Anim Reprod Sci* 2015;163:112-9.
4. Breed-specific fetal biometry and factors affecting the prediction of whelping date in the German shepherd dog. Groppetti D, Vegetti F, Bronzo V, Pecile A. *Anim Reprod Sci* 2015;152:117-22.
5. Evaluation of newborn canine viability by means of umbilical vein lactate measurement, apgar score and uterine tocodynamometry. Groppetti D, Pecile A, Del Carro AP, Copley K, Minero M, Cremonesi F. *Theriogenology* 2010;74(7):1187-96.