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# Laboratory of Reproductive Medicine

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## Offer

- *In vitro* oocyte maturation (IVM), *in vitro* fertilization (IVF) and embryo culture (IVC)
- Flow cytometry and sorting of sperm (FACSAria, FACSVerse, BD Bioscience)
- Intracytoplasmic sperm injection (ICSI)
- Immunocytochemistry of oocytes and embryo
- Epi-fluorescent and confocal laser-scanning microscopy, live cell imaging (Olympus, IX83, Tokai Hit)
- Western Blotting (Biorad)

## Expertise

Laboratory of Reproductive medicine is focused on:

- spermatogenesis,
- oocyte maturation,
- mechanisms of fertilization,
- pre-implanted embryonic development *in vitro*.

In addition to *in vitro* experiments, mouse model offers *in vivo* testing of selected environmental pollutants.

## Members

- Jan Nevorál, Ph.D., M.Sc.
- M.V.D. Olga García Álvarez, Ph.D.
- Miriam Štjavnická, M.Sc.
- Hedvika Řimnáčová, M.Sc.
- Tereza Fenclová, M.Sc.
- Václav Růčka, M.Sc.
- Prof. Milena Králíčková, M.D., Ph.D.

## Selected Publications

- del Barco-Trillo J, García-Álvarez O, Soler AJ, Tourmente M et al.: *A cost for high levels of sperm competition in rodents: increased sperm DNA fragmentation*. Proceedings B. 2016. DOI:10.1098/rspb.2015.2708
- García-Álvarez O, Maroto-Morales A, Jiménez-Rabadán P, Ramón M et al.: *Effect of different media additives on capacitation of frozen-thawed ram spermatozoa as a potential replacement for estrous sheep serum*. Theriogenology 2015, 84: 948–955. DOI:10.1016/j.theriogenology.2015.05.032
- García-Álvarez O, Maroto-Morales A, Ramón M, del Olmo E et al.: *Dynamic of sperm subpopulations based on motility and membrane status in thawed ram spermatozoa incubated under conditions that support *in vitro* capacitation and fertilization*. Reproduction, Fertility and Development 2014, 26: 725–732. DOI:10.1071/RD13034
- Nevorál J, Petr J, Gelaude A, Bodart JF et al.: *Dual Effects of Hydrogen Sulfide Donor on Meiosis and Cumulus Expansion of Porcine Cumulus-Oocyte Complexes*. PLOS ONE 07/2014; 9 (7): e99613. DOI:10.1371/journal.pone.0099613
- Nevorál J, Sutovsky P: *Involvement of epigenetic changes and ubiquitin-dependent proteolysis in the pronuclear development of mammalian zygote*. In: Heide Schatten (ed.): *Animal Models and Human Reproduction*. New York: John Wiley & Sons, 2016. In Press
- Nevorál J, Zalmanova T, Bodart JF, Petr J et al.: *Endogenously produced hydrogen sulfide is involved in porcine oocyte maturation *in vitro**. Nitric Oxide: Biology and Chemistry 12/2015, 51 (12). DOI: 10.1016/j.niox.2015.09.007

## Are you interested in this expertise?

Please contact CPPT UK

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## **Experts and their Department**

**Jan Nevoral, Ph.D., M.Sc.**

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