

## Regular Wednesday IMG seminar



**Karel Fusek, M.Sc.**

**Laboratory of Mouse Molecular Genetics**

### **“Mismatch repair genes: Function in reproductive Isolation between species”**

While the role of mismatch repair (MMR) genes in replication is well understood, their function during mitosis or meiosis remains largely unexplored. In interspecific yeast hybrids, MMR genes have been found to restore meiotic recombination and the formation of viable spores, thus "breaking a species barrier by enabling hybrid recombination" (Bozdag Curr Biol 2021). We aim to unravel the role of the highly conserved Msh2 and Msh6 genes in a model of mouse hybrid sterility based on two genetically distant inbred strains, PWD/Ph and C57BL/6, representing the subspecies *Mus musculus musculus* and *Mus musculus domesticus*, respectively. The results will mainly concern the construction of mouse strains with Msh2 and Msh6 null alleles and their use in genetic crosses aimed at "breaking a species barrier" in the mouse model of hybrid sterility. If confirmed, the MMR machinery could be considered a general mechanism supporting reproductive isolation between species.

**The seminar will be held**

**on Wednesday 17<sup>th</sup> May 2023 at 15:00**

**in the Milan Hašek Auditorium at IMG**

(Institute of Molecular Genetics of the Czech Academy of Sciences, Vídeňská 1083, Prague 4)