

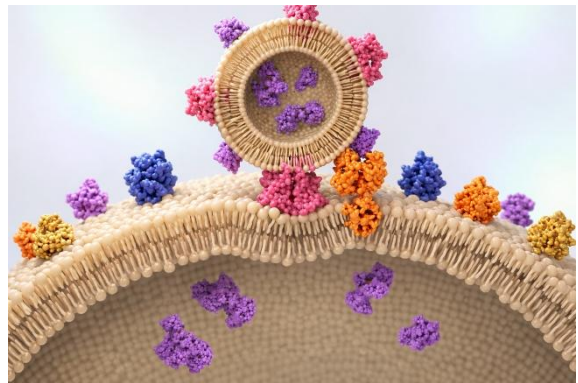
Lab of Nanovesicle Engineering

BIOCEV, Charles University

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<https://biocev.lf1.cuni.cz/galisova-lab>



We are seeking a highly motivated **PhD candidate** with a background in molecular imaging, molecular biology, nanotechnology, or related disciplines to join our freshly established lab of Nanovesicle Engineering at the Charles University in Prague,

The project will focus on the development of genetically engineered extracellular vesicles (EVs) designed for **image-guided targeted drug delivery**. The project has two components: 1) genetic engineering of EVs to endow them with enhanced targeting and other desirable properties and 2) label and visualizing EVs *in vivo* using multimodal chelates, polymers and nanoparticles synthesized by excellent collaborators. The efficiency of such drug delivery systems will be assessed by cutting-edge **heteronuclear MRI or optical imaging** in animal models or various pathologies (cancer, neurodegeneration etc.).

Responsibilities:

- To engineer nanovesicles using cutting-edge molecular biology methods
- To develop loading strategies for nanovesicles
- To image the engineered EVs *in vivo* using MRI and optical imaging of animal models
- To work in a highly interdisciplinary environment combining biology, chemistry, and imaging technologies

Requirements:

- MSc degree in biochemistry, nanotechnology, molecular imaging, or a related field
- Experience with nanoparticle/vesicle biology, chemistry and/or imaging
- Curiosity, motivation and goal-driven attitude
- Willingness to learn new techniques and a collaborative spirit

We offer a well-equipped lab funded by an ERC Starting Grant with robust infrastructure (protein, cytometry and microscopy unit, 7T MR scanner, optical imager), a highly collaborative atmosphere and a motivating space for innovative ideas. This is an exciting opportunity to contribute to the development of next-generation diagnostic and therapeutic tools.

Sounds interesting? Apply to andrea.galisova@lf1.cuni.cz or get in touch via email or in person at EMIM 2026!