Two PhD positions
in RNA transport and extracellular vesicle biology

How is RNA transported between cells and can the knowledge be used for targeted RNA delivery?

Marie Curie Training Network

The **Feldbrügge Lab at Heinrich Heine University Düsseldorf** is recruiting **two PhD researchers** within the international doctoral network **nEXt-RNA**.

Our lab pioneered the study of vesicle-coupled mRNA transport in infectious hyphae of the corn smut fungus *Ustilago maydis*. This work revealed fundamental principles of intracellular RNA transport that are conserved from fungi to human neurons (Vázquez-Carrada et al., 2026). We are now investigating how fungal mRNAs enter extracellular vesicles and whether they mediate communication with host cells during infection (Sankaranarayanan et al., 2023).

We offer two closely connected PhD projects:

PhD position 1 - Live-cell imaging of RNA transfer and function: The first project (DC1) will visualize RNA transport and transfer in living cells and investigate the functional consequences of RNA delivery.

PhD position 2 - Mechanisms and applications of RNA delivery: The second project (DC10) will decipher the molecular mechanisms underlying RNA transfer and explore their potential for targeted delivery into cells.

The projects combine **RNA biology, fungal cell biology, advanced live-cell imaging, membrane trafficking and extracellular-vesicle research**. Both doctoral researchers will join the interdisciplinary and international training environment of nEXt-RNA.

Explore the nEXt-RNA doctoral network

For scientific enquiries, please contact Prof. Michael Feldbrügge.

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