

**Master position available in
Structural Biology of Autophagosome Formation
Julien Orts' group "BioNMR and Drug Discovery by Advanced NMR Methods"
University of Vienna**

We seek a dynamic and enthusiastic student to join the group "BioNMR and Drug Discovery by Advanced NMR Methods" at the Department of Pharmaceutical Sciences. You will have the unique opportunity to conduct your research both at the Department of Pharmaceutical Sciences and the Max Perutz Labs (MPL), collaborating with the group of Sascha Martens. This will provide you with exposure to a wider range of research techniques and environments, as well as the chance to enlarge your network by collaborating with leading researchers in the field.

As an intern, you will have the opportunity to use modern Nuclear Magnetic Resonance (NMR) methods to analyze the molecular functions of proteins during autophagosome formation, which is a fascinating process involving over a dozen proteins with very diverse properties. Despite its importance, little is known about the molecular mechanism by which autophagosomes are formed. This work will shed new light on the enigmatic process.

The techniques that you will learn to express and purify different proteins involved in autophagosome formation, and state-of-the-art NMR methods, which you will employ to study protein interactions *in vitro*. The results you obtain will be cross-validated by other biophysical methods you will also get the chance to grasp, such as ITC or microscopy-based protein/protein interaction assays (in collaboration with the group of Sascha Martens and the Perutz labs). We offer extensive training in Structural Biology, Molecular Biology, Biochemistry, and Cell Biology, a highly collaborative research environment, and the possibility to conduct cutting edge research.

You should be curious about learning and understanding Biophysical and spectroscopic techniques applied to biological problems. No previous experience is needed, only the basic work you performed during your Praktikum, since we will provide all the needed training. This project is planned to be completed in a 6 month period.

If you are interested in this position, please send your CV and motivation letter:

Nicolas Coudevylle

Department of Pharmaceutical Chemistry

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References:

Mechanism of Atg9 recruitment by Atg11 in the cytoplasm-to-vacuole targeting pathway.
Coudevylle N *et al.* J Biol Chem. **2022** Feb;298(2):101573.

Reconstitution of autophagosome nucleation defines Atg9 vesicles as seeds for membrane formation.
Sawa-Makarska J, Baumann V, Coudevylle N *et al.* Nat Commun. **2020** Sep 4;369(6508).

Website of the group:

<https://bionmr.univie.ac.at>