

Open Position for a MSc Research Internship

Did you ever wonder what it's like to build a molecule that could help unlock new ways to fight cancer?

In this **project**, you'll take on the challenge of **synthesizing new compounds** designed to target LRH-1, a protein acting inside our cells as a key regulator of metabolism, gene expression, cell growth and development, and inflammation. Right now, the synthesis of these compounds is largely unexplored. That's where you come in. Your work will help to **develop a synthetic route from scratch, turning ideas on paper into real molecules in the lab.**

The goal? Make the new compounds accessible, characterize them thoroughly from a chemistry perspective, and therefore help unlock how the compounds work and what biological relevance they might have.

Why does this matter? LRH-1 (see right side) is like a control hub for important processes in the liver, pancreas, and gut. When it goes off balance, it's linked to diseases like breast and pancreatic cancer. Finding molecules that can "switch" it on or off is a big deal, but right now, the toolbox is almost empty. **By building the new compounds, you're not just doing pure organic synthesis, you're helping open the door to explore the biological potential of LRH-1 inhibition.**

In short: make something new, develop and learn new synthetic chemistry, and contribute to science.

What we are looking for

We are seeking motivated candidates who hold a Bachelor's university degree in chemistry, technical chemistry, biochemistry, or a closely related field. Prior experience in working in a chemistry lab is required. Applicants should have solid foundation in organic synthesis and common characterization techniques such as NMR spectroscopy and HPLC. Proficiency in English as well as the ability to work effectively in an interdisciplinary and international team environment are essential.

What we offer

We offer one MSc internship in organic chemistry within a dynamic, international research group focused on developing sustainable routes to advanced materials and small molecules. The internship provides hands-on experience within modern synthetic methods and advanced characterization techniques, alongside opportunities to present and discuss your results in a collaborative setting. In addition to technical training, we support your professional development through mentorship and soft skill training, helping you grow both scientifically and personally. **The minimum duration of the internship is four weeks. The project is perfectly suited to be followed by a MSc Thesis.**

Related publications:

[1] C. Benod, J. Carlsson, R. Uthayaruban, P. Hwang, J. J. Irwin, A. K. Doak, B. K. Shoichet, E. P. Sablin, R. J. Fletterick, *J. Biol. Chem.* **2013**, *288*, 19830-19844.

[2] R. Lambrecht, M. E. Delgado, V. Gloe, K. Schuetz, A. P. Plazzo, B. Franke, T. S. Phan, J. Fleming, O. Mayans, T. Brunner: "Liver receptor homolog-1 (NR5A2) orchestrates hepatic inflammation and TNF-induced cell death", *Cell Rep.* **2023**, *42*, 113513.

Prof. Dr. Miriam M. Unterlass

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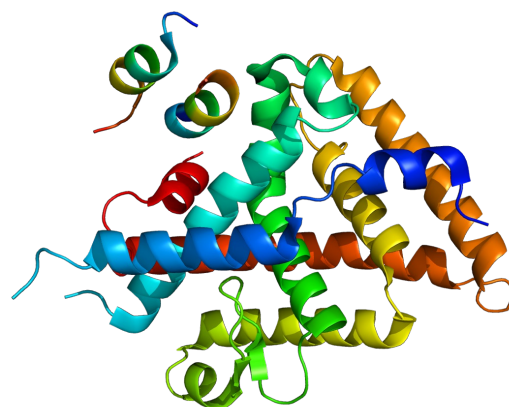


Figure: Liver Receptor Homolog-1 (LRH-1)

Basic data

- Submission deadline: **May 10, 2026**
- Starting date: **ASAP** (Flexible)
- Location: Facilities at Röntgenring 11, 97070 Würzburg, Chair of Chemical Technology of Materials Synthesis

How to apply

- Send your application addressed to Prof. Unterlass in English via email to **l-matsyn@uni-wuerzburg.de**
- Submit one pdf document with the format:
LRH_surname_givenname.pdf

Application Content

- Curriculum vitae with transcript of records of your Bachelor studies
- Title and a short summary of the Bachelor thesis (one page maximum)

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