

# Master's Student Opportunity: Lung Regeneration Research

Are you passionate about advancing scientific knowledge and making an impact on human lung health? We are seeking highly motivated M.Sc. students who join our highly motivated team.

**Two open positions:** Our laboratory explores the molecular mechanisms that abrogate epithelial repair and regeneration in chronic lung disease: (i) Chronic Obstructive Pulmonary Disease relentlessly proceeds to respiratory failure and premature mortality despite treatment, making it the 3<sup>rd</sup>-leading cause of death worldwide. (ii) Idiopathic Pulmonary Fibrosis is even more aggressive with a mean survival of only 3-5 years. The two approved drugs, Pirfenidone and Nintedanib, may delay disease progression but do not heal it. To find novel therapeutic strategies, we study how hydrolysis of cellular lipid stores fuels lung epithelial repair. As part of this endeavor, we are seeking two master's students.

## What you can expect:

- Hands-on laboratory experience in genetically modified mouse model research, lung organoid culture, RNA sequencing, flow cytometry, and confocal laser scanning microscopy.
- Mentorship from leading experts in molecular lung research, cell biology, and molecular pathology.
- A highly collaborative work environment in a passionate team of researchers and clinicians.
- A strong opportunity for publishing research findings in high-impact journals and conferences.
- Real-world impact in the field of lung regenerative research.
- A great start into your scientific career, adequately preparing you for your Ph.D. studies.

## What we expect:

- Strong academic background in life sciences including molecular biology and biotechnology.
- Basic laboratory courses in molecular biology are mandatory. Experience in animal research, cell culture, protein-, RNA- and DNA- analysis methods and scientific data analysis are desirable.
- Strong problem-solving skills, attention to detail, ability to work both independently and collaboratively and a genuine scientific interest in our research questions.

## Your Application:

Take the next step in your academic journey and help to shape a better future for patients suffering chronic lung disease! Please send your CV, and a letter of motivation, to [paul.vesely@medunigraz.at](mailto:paul.vesely@medunigraz.at).

Application deadline: January 31<sup>st</sup> 2025. We are looking forward to hearing from you!

Dr. Paul Vesely

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## Literature:

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- Al-Zoughbi W, . . . Vesely PW and Hoefler G. Loss of adipose triglyceride lipase is associated with human cancer and induces mouse pulmonary neoplasia. Oncotarget. 2016.
- Basil MC, Alysandratos KD, Kotton DN, Morrissey EE. Lung repair and regeneration: Advanced models and insights into human disease. Cell Stem Cell. 2024.
- Lipolysis: cellular mechanisms for lipid mobilization from fat stores. Grabner GF, Xie H, Schweiger M, Zechner R. Nat Metab. 2021.