Announcement of a topic for:

Seminar Research	**X**	
Seminar Methods	**X**	
Master Theses	**X**	(please mark one or more)

Topic	Analysis of HALO wind lidar measurements at LIM
Release Date	15 July 2024
Supervisor (contact)	Matthias Tesche Institut für Meteorologie, Universität Leipzig Stephanstrasse 3, 04103 Leipzig Tel: 0341/97-36660 matthias.tesche@uni-leipzig.de
Additional Contact	Moritz Lochmann, moritz.lochmann@uni-leipzig.de
Second Reviewer	Heike Kalesse-Los, heike.kalesse-los@uni-leipzig.de
Description:	Vertical wind is an important parameter for cloud-droplet activation and boundary-layer development. It can be measured with vertically-pointing wind lidar in the presence of aerosol particles. Measurements with a HALO Streamline Doppler wind lidar have been performed at LIM since July 2022. The aim of this work is to perform a statistical analysis of vertical wind and boundary-layer structure at LIM for at least one year of observations. This will be done by implementing a set of corrections to the measurements (Manninen et al., 2016; Vakkari et al., 2019) and by applying available methods for PBL characterization (Manninen et al., 2018).
Literature:	Manninen, A. J., O'Connor, E. J., Vakkari, V., and Petäjä, T.: A generalised background correction algorithm for a Halo Doppler lidar and its application to data from Finland, Atmos. Meas. Tech., 9, https://doi.org/10.5194/amt-9-817-2016, 2016. Manninen, A. J., Marke, T., Tuononen, M., and O'Connor, E. J.: Atmospheric Boundary Layer Classification with Doppler Lidar, J. Geophys. Res.-Atmos., 123, https://doi.org/10.1029/2017JD028169, 2018. Vakkari, V., Manninen, A. J., O'Connor, E. J., Schween, J. H., van Zyl, P. G., and Marinou, E.: A novel post-processing algorithm for Halo Doppler lidars, Atmos. Meas. Tech., 12, https://doi.org/10.5194/amt-12-839-2019, 2019.