

Univ. Prof. Mag. Dr. Harald E. Rieder

Vienna, 24.04.2021

Subject: Letter of Recommendation – Dr. Stefanie Falk

Dear members of the selection committee,

It is my pleasure to write a letter of support for the application of Dr. Stefanie Falk for a FWF Lise-Meitner Fellowship. Dr. Falk is an emerging leader in the field of coupled climate modeling and has contributed substantially to the development and coupling of widely used community models such as CESM and CLM. She collaborates successfully with leading international research groups, takes leadership in the development of coupled models and their application, and reports regularly on her research in peer-review journals and at international meetings.

While her fundamental research has been originally routed in atmospheric chemistry – with widely recognized contributions to our understanding of ozone chemistry in the stratosphere and troposphere – Dr. Falk expanded her focus during recent years towards the coupling of the atmosphere with the biosphere, particularly the role of ozone dry deposition. While widely recognized as important sink for tropospheric ozone, and deteriorating for plant health, to-date online-coupled biosphere feedback on dry deposition is not included in most current-generation earth system models. This missing representation of an important sink term causes substantial uncertainties in the future evolution of surface ozone concentrations and thus changing health burdens, particularly as precursor emissions are expected to substantially change over coming decades.

Within the proposed project “Ozone Damage Interference on Nutrient Allocation (ODINA)” Dr. Falk aims to study the effect of dry deposition on the local and regional ozone burden for the recent past and for the future, following different climate scenarios over the 21st century. Besides the change in atmospheric ozone abundance emphasis will be given to the ozone damage potential for different plant family types. To this end she will close the architectural model gap in the community earth-system model CESM by introducing an innovative online-coupled biosphere feedback on dry deposition scheme. Dr. Falk’s research interests are fully in-line with those of my group, and collaboration within the framework of ODINA will allow my research team to strengthen its international reputation in the field of chemistry-climate modeling and the air quality-climate-health nexus. My team and I will provide dedicated scientific and technical support to Dr. Falk throughout ODINA, and I will be honored to provide mentoring and guidance to Dr. Falk while she prepares for an independent career in academia ahead.

If funded by FWF, the fellowship will support the career development of a rising star in global coupled climate modeling, substantially enhance open-source community modeling tools, and provide new expertise and novel tools to our group and the wider research community at the University of Natural Resources and Life Sciences, Vienna, and beyond.

Sincerely,



Harald E. Rieder
Professor of Meteorology and Climatology
Head, Institute of Meteorology and Climatology