Embedding of the new professorship (and research group) „Climate Change and Societal Impacts"

In 2019, the University of Graz established its first (initially just two) Fields of Excellence. The **Field of Excellence** in which this chair is embedded and benefits from is ***Climate Change and Societal Transformation***. As anthropogenic climate change has emerged as one of the main societal challenges in the 21st century ("Grand Challenges"), this Field of Excellence attempts to obtain a better understanding of climate change uncertainties, risks and opportunities. We investigate strategies for the transition towards a low-carbon and climate-robust economy and society, which are linked to a fundamental transformation of various economic, social, political and legal processes. The main focus is on four central research questions: a) What are, from the point of view of the disciplines in the Field of Excellence, scientifically sound, efficient and ethically defensible strategies for a transition towards a low-carbon and climate-robust economy and society and how can the necessary qualitative transformation politically and legally be implemented and legitimized?

This requires research on mitigation and adaptation as well as loss and damages. In this regard, various Uni Graz research areas have added significant value to an already existing outstanding research infrastructure, which gives us the opportunity to focus on the further three research questions: b) How should we deal with uncertainties and risks related to hydro-meteorological changes, in particular extreme events, and their associated consequences? c) Which impacts on ecosystems and evolution have been and will be connected to climate change, how does biological adaptation occur in a changing environment and what are the economic and social consequences thereof? d) How can industrial processes, in particular chemical ones, be adapted, improved or substituted by new sustainable ones that are resource-efficient and reduce the ecological footprint?

Answers to these questions are challenging as they have to bridge multiple disciplines, stakeholders and spatio-temporal scales. The interdisciplinary approach across schools at the Uni Graz is reflected not only by the different disciplines involved (principal investigators and their respective research groups)—normative theory (Lukas Meyer, Harald Stelzer), environmental law and institutions (Eva Schulev-Steindl, Richard Sturn), innovation and sustainability research (Rupert Baumgartner, Alfred Posch), climate and environmental economics (Birgit Bednar-Friedl, Michael Finus, Karl Steininger), biology (Kristina Sefc, Christian Sturmbauer), organic and bioorganic chemistry (Oliver Kappe), meteorology and geosciences (Ulrich Foelsche, Steffen Birk), geography (Wolfgang Schöner), and physical climate science (Gottfried Kirchengast, Douglas Maraun, Andrea Steiner)—but also by the extensive interdisciplinary research experience of the faculty members in international networks. The potential of scientific innovation and originality lies not only in the disciplinary research but is also realized by interdisciplinary co-operations related to the above-mentioned research questions.

The **Wegener Center for Climate and Global Change** of the University of Graz integrates climate, environmental, and socio-economic research. We contribute to the understanding of climate variability and change, from global to regional to local scales, as well as of social and economic drivers and impacts of climate and global change. We monitor, analyze and model the physical climate system as well as socio-economic processes. In promoting young scientists and in teaching, we strengthen the environmental system sciences and related fields like physics and economics. Founded in 2005 and advanced 2013 to permanent University institute status, in 2018 the Wegener Center integrates one full professorship and three associate/assistant professorships and the respective research groups in Atmospheric Remote Sensing and Climate System, Regional Climate Science, and in Economics of Climate and Environmental Change. In 2019/20, two additional and

endowed full professorships will be established at the Wegener Center, one in Climate Economics and the one to which this Call relates.

The teaching programmes to which the Field of Excellence *Climate Change and Societal Transformation* contributes include Environmental Systems Sciences–Geography, Environmental Systems Sciences–Business Administration, Environmental Systems Sciences–Sustainable Management, Environmental Systems Sciences–Economics, Environmental Systems Sciences–Natural Sciences and Engineering, Environmental Systems Sciences–Climate Change and Environmental Technology, Ecology and Evolutionary Biology, Political, Economic and Legal Philosophy (PELP), Sustainable City Planning and Regional Development, International Master Programme in Industrial Ecology (MIND), Global Studies, Joint International Master Programme in Sustainable Development. Students, particularly at the Master and PhD level, are recruited from around the world (see, e.g., Doctoral Programme Climate Change).