**Institut für Ökologie, Evolution und Diversität**

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

# EINLADUNG

**Kolloquium**
**Wintersemerster 2021 / 2022**

## Ass.-Prof. Dr. Silvia Matesanz

Universidad Rey Juan Carlos
Madrid, Spanien

hält am Dienstag, den **14.12.2021**, um 16:15 Uhr, digital via Zoom, einen Vortrag über

## „Genetic variation and phenotypic plasticity in gypsum specialists and their role in climate change responses“

Understanding how plant populations will respond to climate change is one of the greatest challenges of our time. A potential mechanism to escape from climate change is migration to more favorable habitats. However, migration may be limited in plant species with specific edaphic requirements, such as plants that only grow on gypsum (gypsophiles). Dispersion in these species may be limited by the non-continuous distribution of gypsum soils, which present both natural and anthropogenic fragmentation, and by their generally-poor dispersal ability. It is thus likely that other microevolutionary processes such as phenotypic plasticity and natural selection will be particularly important for gypsophiles populations to face the novel selection pressures imposed by climate change. Despite the extensive knowledge on several aspects of plant life on gypsum soils, we are currently lacking experimental evidence on the evolutionary ecology of these species. The main goals of my research include the assessment of the importance of neutral and adaptive processes in phenotypic differentiation of populations along climatic gradients, and the evaluation of plasticity patterns across populations. Through a multidisciplinary approach combining field, common garden experiments, and molecular analyses, we are gaining understanding on how adaptive evolution and phenotypic plasticity can mitigate the effects of climate change on gypsophile populations. Preliminary results show that populations of these gypsum plants show substantial genetic variation for growth, morphology and physiological traits, and that these traits are plastic. We discuss the potential role of these aspects of variation in population responses to climate change and how other drivers of global change such as habitat fragmentation may interact to compromise future adaptation.

Einladender: Prof. Dr. J. F. Niek Scheepens

**Dieser Vortrag findet lediglich in Digitaler Form statt.** Über diesen Link kommen Sie zu der entsprechenden Veranstaltung:

https://uni-frankfurt.zoom.us/j/99304717279?pwd=d25vTXFqSVFjTUhIMGoyWkZTbHA2UT09