

---

## Professional Development Programme

---

### Expert Course

## Climate Time-Series Analysis in the Frequency Domain

Prof. Dr. Michael Schulz  
*MARUM – Center for Marine Environmental Sciences, University of Bremen*

**7-9 March 2023**  
09.00 – 13.00 hrs.

### Objectives

An introduction to the basics of time-series analysis methods, with a focus on application in paleoclimate research.

### Topics

- Spectral analysis of single time series
- Statistical significance of spectral peaks
- Cross-spectral analysis
- Time-frequency analysis (incl. wavelet analysis)

### Tools

In practice, there is a very large number of programs, for the analysis of time series and the use always depends very much on personal preferences. Against this background, the course teaches basic concepts using MATLAB. The acquired knowledge can easily be transferred to other environments (Octave, Python, etc.) and existing software packages.

**Participants will need to bring a laptop with MATLAB installed and running.** The lecturer will work with version **R2020b**.

If you don't have access to a laptop, you can borrow one from the MARUM ECR support. Please indicate your need for a laptop in the registration form.

### Prerequisite

For the exercises, very basic MATLAB (or Octave) knowledge on its usage will be assumed.

### Target Group

Anyone who is interested in the topic.

### Venue

MARUM, University of Bremen, Leobener Str. 8, 28359 Bremen, Germany  
MARUM I (main) building, room 2060

---

## Professional Development Programme

---

### Registration

To register for this course, please visit the course web page:

<https://www.marum.de/en/education-career/professional-development/2023/2023-03-07.html>

*Please note that your registration will be binding.*

The registration deadline for this course is **20 February 2023**.

Any enquiries regarding this event can be addressed to [early-career@marum.de](mailto:early-career@marum.de).