
Early Career Researcher Support Programme

Basic Skills and Methods Course

An Introduction to MATLAB

Dr. Alice Lefebvre

MARUM – Center for Marine Environmental Sciences, University of Bremen

29, 30, 31 August and 5 September 2022

09.00 – 12.30 hrs.

Objectives

MATLAB is a flexible and easy programming language, which is widely used to process numerical data. MATLAB is comparatively well documented and supported by a large group of users. Although MATLAB itself is not free, it shares the syntax with some other languages, e.g., Octave, which is free to use.

The aim of this course is to provide basic knowledge of programming with MATLAB. Experience with other programming languages is not required. By the end of the course, you will be able to import and process data, and to produce individual plots from your results.

Topics

Programming: syntax, variables, data types, scripts, functions

Data: import, storage, export

Plotting: object hierarchy, handles, 3D, export

Help: help pages, books

Application: the course will have a strong focus on geoscientific data, with topics such as statistics, interpolation and time series analysis. However, we will not discuss data interpretation, only the technical steps towards data analysis and plotting.

Course structure: the course will take place over 4 mornings. During the first three consecutive mornings, you will learn the basics of MATLAB with lectures, demonstrations and tutorials using data that will be provided. One week later, we will meet again for the fourth morning. Then, you are welcome to bring your own data that we can look at together.

Methods

The course will consist of lectures and demonstrations, but will also be very practical with exercises and small problems for the participants to solve.

Target group

Beginners with **no prior experience** in using MATLAB

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Tools needed

Participants will need a computer with the MATLAB software installed and running on it.

If you cannot use your current computer for it, you may borrow one from GLOMAR. Please indicate this need in the registration form. *Please note that we can make this offer to members of MARUM and GLOMAR only.*

Format and Schedule

Day 1	29 August 2022	MARUM I, room 2070	09.00 – 12.30 hrs.
Day 2	30 August 2022	MARUM I, room 2070	09.00 – 12.30 hrs.
Day 3	31 August 2022	MARUM I, room 2070	09.00 – 12.30 hrs.
Day 4	5 September 2022	MARUM I, room 2060	09.00 – 12.30 hrs.

Registration

To register for this course, please visit the course webpage:
<https://www.marum.de/en/education-career/2022-08-29.html>

Please note that your registration will be binding.

The registration deadline for this course is **25 August 2022**.

Any enquiries regarding the course should be addressed to early-career@marum.de.