
Early Career Researcher Support Programme

Basic Knowledge Course

Age Models and Geochronology: An Introduction to Different Age-depth Modelling Approaches

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18 – 19 May 2021

09.00 – 12.30

live online via Zoom

Objectives and Topics

In an era of science that uses numerical models to better understand physical processes occurring on Earth, there is an increasing demand for robust empirical datasets to constrain these simulations. Generating robust datasets, especially data sets that express stratigraphic positions of sedimentary deposits as ages, often involves the use of multiple, independent geochronological techniques (e.g. different kinds of radioisotopic dating, magneto-, bio-, cyclostratigraphy and sedimentologic relationships along the succession). The integration of these different kinds of geochronological information often poses challenges.

Age-depth models are the ultimate result of the integration of different geochronological techniques, and range from linear interpolation to more complex Bayesian techniques. We will introduce several modelling concepts and their application in a range of paleoenvironmental and paleoclimatic records. This course will introduce the field of (Bayesian) age-depth models and will highlight the assumptions, benefits and limitations of different model approaches. It will prepare participants for independent application of suitable age-depth models to their data.

Methods

The course will consist of lectures and practical exercises.

The practical exercises will be organized in breakout rooms, and participants can choose whether they solve an age-depth modelling problem by means of computing in R, whether they use Excel, or whether they prefer a critical reading exercise. Participants are free to choose, depending on their needs and previous experiences.

Target Group

Early Career Researchers who work with age models.

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Format and schedule

Live online via Zoom (the link will be provided before the course)

Time: 09.00 – 12.30 (incl. short break)

Please note that in our online courses, we expect people to turn on their cameras. This is a matter of respect towards the lecturer/s and makes any kind of interaction much easier.

Registration

To register for this course, please visit the course webpage:
<https://www.marum.de/en/education-career/2021-05-18.html>

Please note that your registration will be binding.

The registration deadline for this course is **23 April 2021**.

Prior to the course,

the organizers would like to know what kind of age-depth problems instigated participation in this course. Hence, the organizers would like to ask all participants to write 0.5 – 1 A4 page of text, describing a real-life situation in which they were confronted with a geo-archive with a challenging depth-to-time conversion. These testimonials can be anecdotal, or can be accompanied with the specific data to make things even more concrete. These real-life examples will be integrated in the theoretic and/or practical part of the course.

Please send the description of your problem as a pdf and accompanying data as an Excel file. to early-career@marum.de

Contact

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