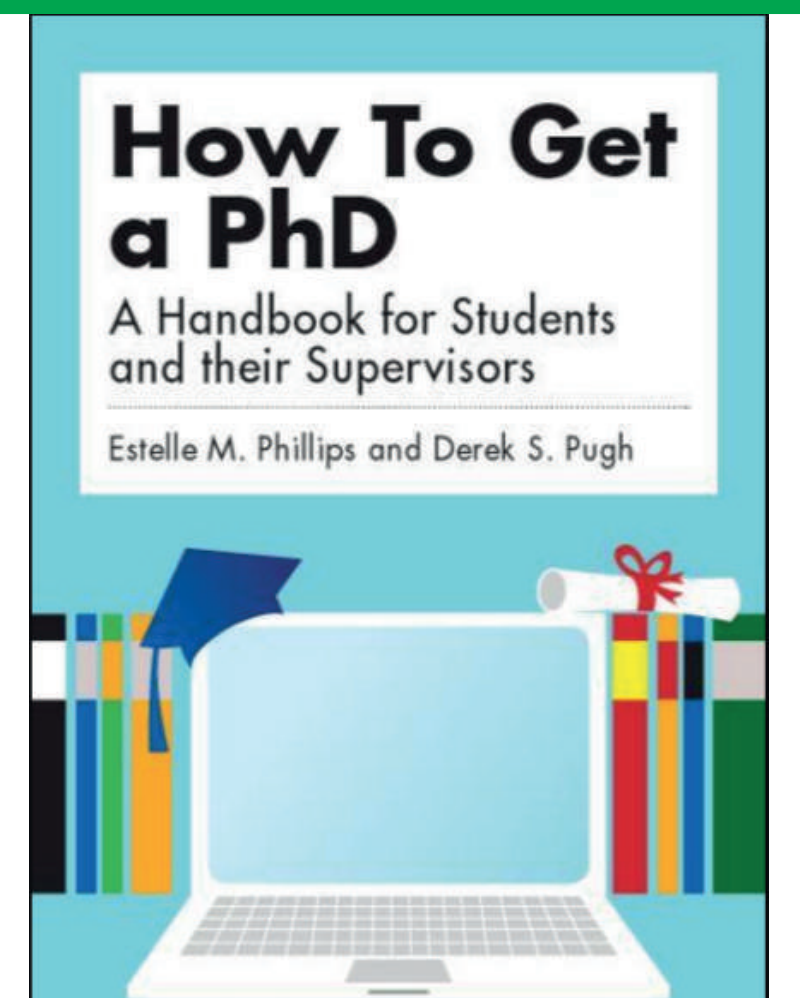




Changing Seas in Central Europe: a PhD project focused on geochronology and paleogeography

Karin Sant, Wout Krijgsman, Oleg Mandic, Klaudia Kuiper, Nevena Andric, and many others.

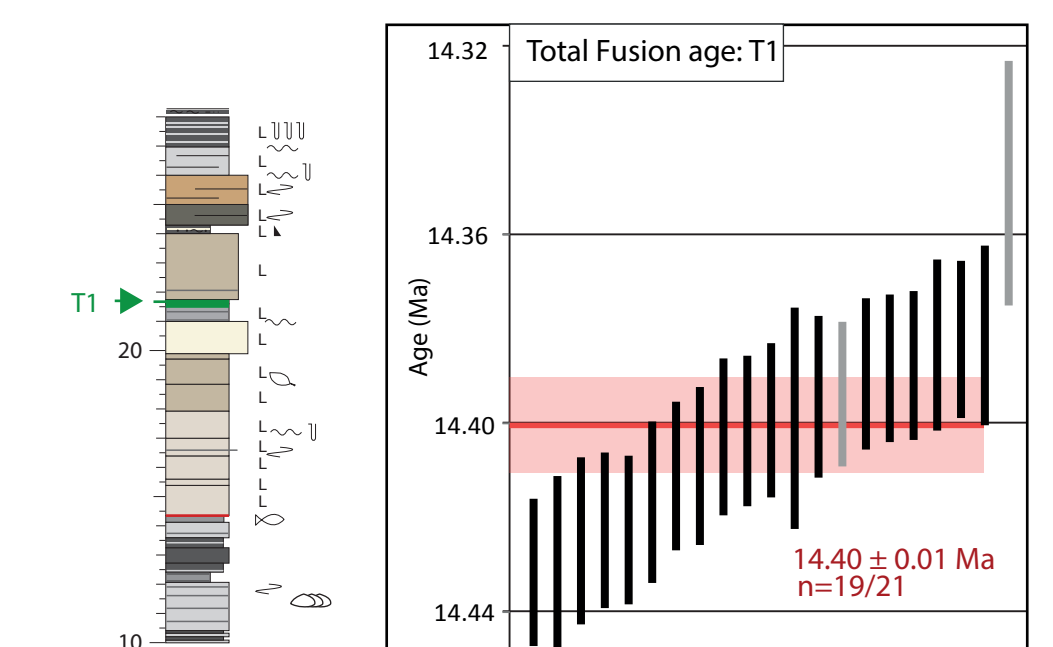
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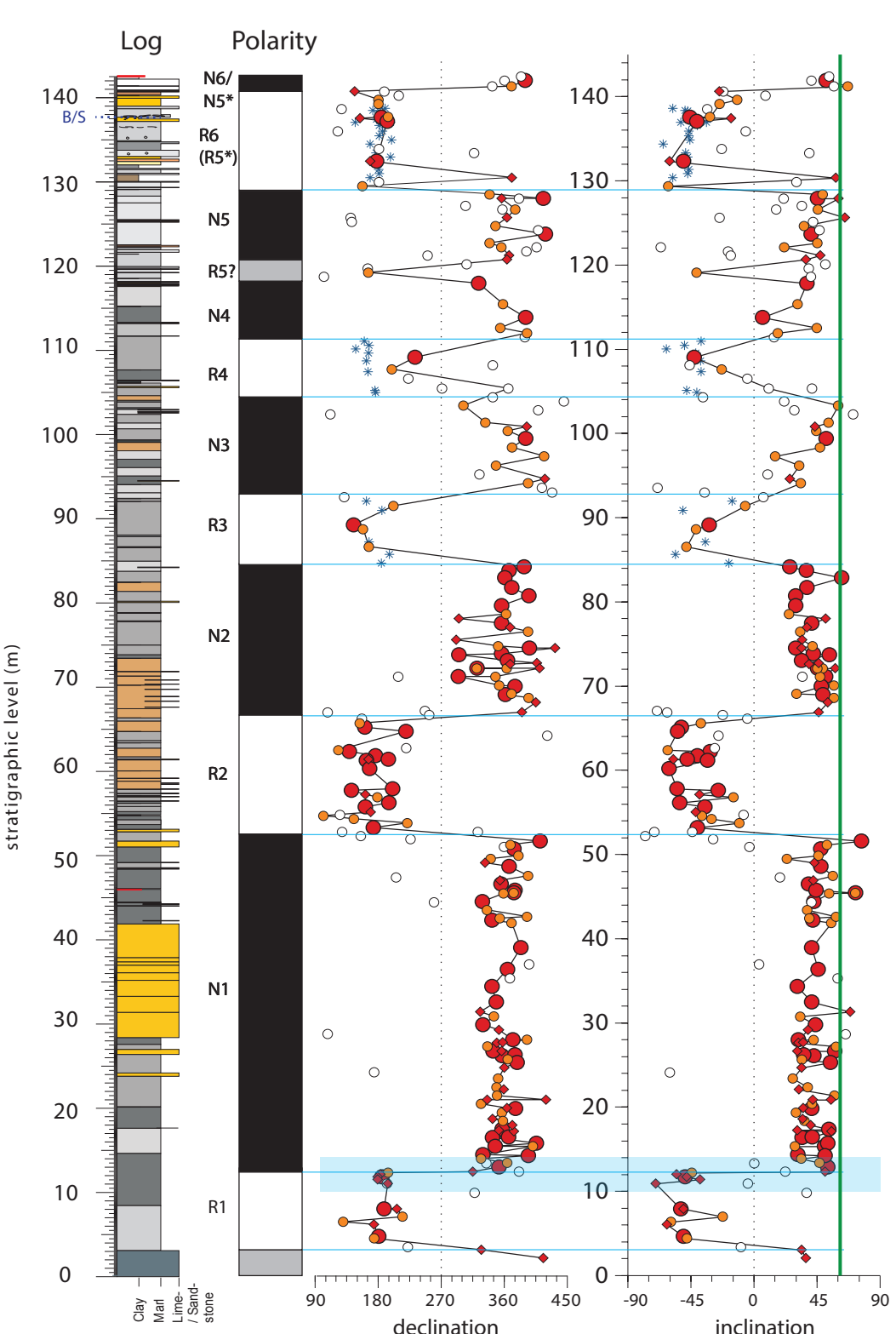
Labwork



Data



Stratigraphy & $^{40}\text{Ar}/^{39}\text{Ar}$ result



Magnetostatigraphic pattern from a marine flooding dated ~14.2 Ma. Black (white) = normal (reversed) polarity

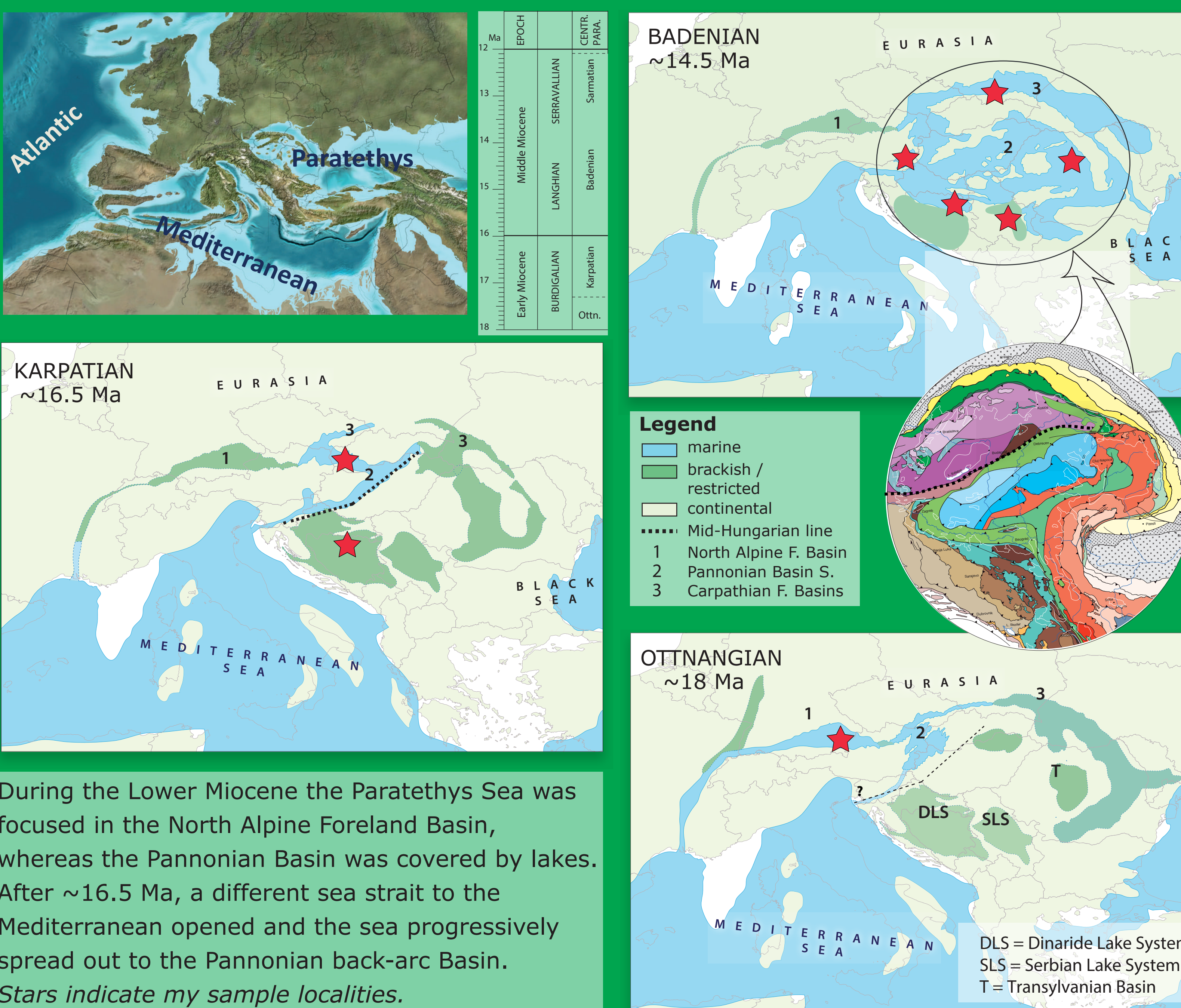
Project summary

Reliable **age data** are of key importance for paleogeographic reconstructions, because they allow us to compare and connect events in different regions with each other. In my PhD research I aim to get a better understanding of paleogeographic changes that occurred in the **West and Central Paratethys** seas and surrounding lake basins during the Miocene. To do so, I am integrating **magnetostratigraphic and radioisotopic** results with data from other disciplines, such as biostratigraphy, sedimentology, geochemistry and structural geology.

Methodologies

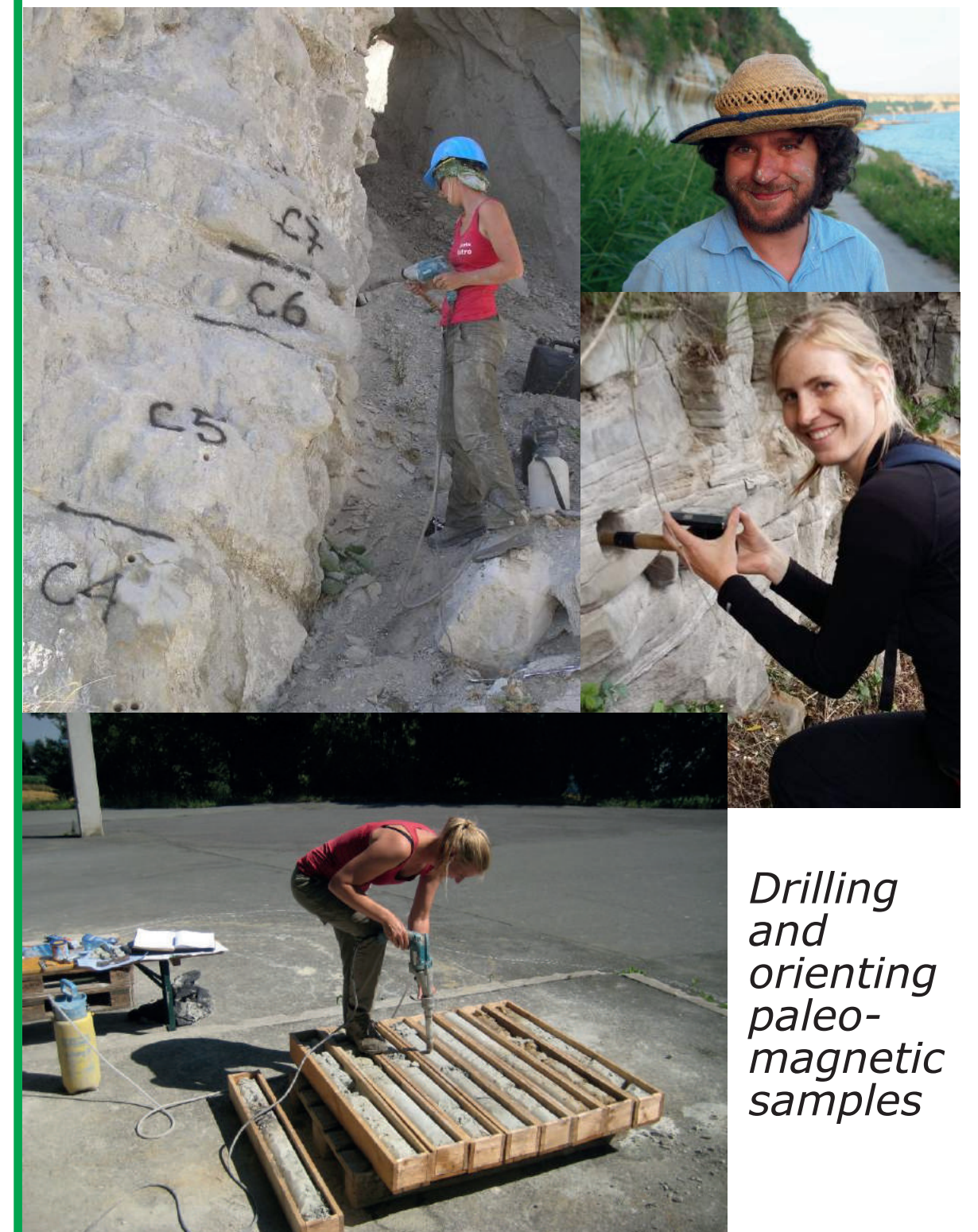
For the magnetostratigraphy we search for continuous, fine-grained successions covering important paleoenvironmental changes. We **drill** samples, process them in the **lab** in Utrecht, and try to **correlate** the resulting magnetostratigraphic pattern to the Global Time Scale. Additionally, we take **tuff** layers, isolate feldspars and biotites the VU lab, and perform $^{40}\text{Ar}/^{39}\text{Ar}$ dating on these.

Major paleogeographic changes in tectonic-controlled basins in Central Europe



During the Lower Miocene the Paratethys Sea was focused in the North Alpine Foreland Basin, whereas the Pannonian Basin was covered by lakes. After ~16.5 Ma, a different sea strait to the Mediterranean opened and the sea progressively spread out to the Pannonian back-arc Basin. Stars indicate my sample localities.

Fieldwork



after one hour of digging..



Fieldwork region

My study area stretches from southern Germany to western Romania and the Balkan. We always collaborate with local geologists, so besides interesting geology I also get to know different people and their culture.



curious children in Transylvania

Teaching & Training



Teaching 1st-year's fieldwork

What I've learned

- Scientific writing, presenting, critical data analysis, digital mapping and design.
- Teaching, guiding students.
- Team leadership, project management, international communication, and ...to improvise.



Conference excursion Croatia

A PhD is more than collecting data!

My PhD project also involves teaching (~10%), guiding students, conference visits, following PhD courses, lab meetings, Geo PhD Council membership, and organizing weekly seminars. The variety makes my job interesting.



Peaceful Bosnian countryside

Recommendations

Check before starting: a PhD is a 4-year project, make a rough planning for the full four years. What do YOU want to learn during your PhD? Be critical, realistic and curious. Make sure you have a good connection with your supervisor(s).

Atmosphere: choosing a nice research group, regularly joining PhD activities, or organizing them yourself will keep you out of isolation.

No Stress: keep track of your time and mark your boundaries; you are an employee, not a student! Quality still goes over quantity. You may even choose for a 36 hrs contract.

Future

Thesis deadline: 15 April 2018

