

PaleoSynthesis

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 @PaleoSynth

Content

...what's been going on?	1
Further Team Members	1
Open Research Challenge	2
Workshops in 2021	2
APW 2021	3
Big Questions - we proceed	3
APP development	3

...what's been going on?

We are happy to present you our 2nd PaleoSynthesis newsletter updating you on what we've been doing and achieving over the past 3 months. To sum it up briefly: We have received and reviewed applications for the planned workshops, we are participating in the 3rd Open Research Challenge of the FAU, Wolfgang Kiessling is involved in the planning for the Analytical Paleobiology Workshop 2021, and development of the Fossil Discovery App is progressing. So we are busy and are getting prepared for an exciting year 2021.

We hope that you stay tuned and consider participating in our "Big Questions" project!

Three more team members

In our first newsletter we have introduced the two "main managers" of the project Barbara (coordination and general questions) and Jansen (scientific part of the project) as well as the Scientific Advisory Board. Now we also want to briefly introduce you to three more project team members: *Cristina* Krause (App development), *Vanessa* Roden (Paläontologische Gesellschaft), and *Sebastian* Teichert (FAU science communication).

[Cristina](#) has a master degree in linguistic informatics. She has numerous tasks at the institute such as server administration, database development/maintenance, and webmaster of the Palaeoenvironment-GZN homepage. Also she is responsible for the development of the mobile phone application „[Fossil Discovery](#)“ in cooperation with IT-expert Michael Burger, Erlangen.



[Vanessa](#) is the PR representative for the Paläontologische Gesellschaft -- the paleo-society in Germany. She is responsible for communication between the Paleosynthesis project and the society, which represents paleontologists in German-speaking countries and also includes international members (@_palges.de).

Vanessa is currently working at the Bavarian Natural History Collections (SNSB) in Munich as Coordinator for Collections Assessment. Her PhD at FAU Erlangen focused on beta diversity in fossil and modern reef basin assemblages. Further interests are ecology and conservation paleobiology.

[Sebastian](#) is doing his habilitation at our institute. His research focus is on coralline algae, especially in the recent Arctic, but also globally and in the fossil record. He aims at a better understanding of their role as ecosystem engineers and how they are threatened by global change. Thereby, Sebastian includes classic parameters like temperature changes and ocean acidification in his analyses, but also special aspects like microplastic contamination.



Sebastian looking for coralline algae at the Arctic ocean floor. Photo by Jürgen Schauer.

However, doing research and teaching is only half of

Sebastian’s professional life. He is also working as a central research communicator for the FAU here in Erlangen. Being experienced in getting science across to the public over all disciplines, he supports Paleosynthesis in

its public visibility.

When not working, you can find Sebastian mostly outdoors, either hiking in the forests of the Franconian Alb or mountaineering in the alps.

3rd Open Research Challenge of the FAU

The Friedrich-Alexander University Erlangen-Nuremberg is organizing a challenge and this year we are taking part. Wolfgang Kiessling and Nussaibah Raja Schoob, one of our PhD students, came up with an exciting idea based on common errors in the PBDB we all face when performing statistical analyses with its data. Thus, we would all benefit from a tool that checks data for reliability and indicates potential errors in the datasets. We are therefore seeking motivated students that want to help us here.

The challenge is: *Develop a data cleaning framework for occurrence data archived in the Paleobiology Database.* Of course the winning team will be awarded 😊 So check it out on the [webpage of the ORC](#).

Don’t miss the deadline! >>January 31st, 2021.

We are also excited to be cooperating and have support from the PBDB team. The NSF has provided funding for a software specialist to reshape the design and make data



entry easier and more flexible. Additionally, the PBDB team is exactly seeking for a tool that will help researchers to find errors in the datasets they download!

So if you are eager to help or know a bright-minded individual that might be interested in creating such tool.... spread the word!

Scientific Workshops 2021



The deadline for submitting workshop proposals has passed (October 15, 2020) and after careful review of the applications by the PI’s and the advisory board a decision has been made.

We are proud and happy that many strong applications containing exciting suggestions were submitted! However, we had to decide on a single scientific workshop and, together with the scientific board, we have reached a consensus. We have selected the **BioDeep-TIME** proposal by Drs. Pincelli Hull and Marina Costa Rillo, which will create an exciting new data compilation that will benefit all paleontologists.



[Pincelli M. Hull](#)
Yale University, USA



[Marina Costa Rillo](#)
ICBM U Oldenburg, D.

In their application the PI’s stated: *“In a rapidly changing world, there is an urgent need to understand how com-*

munities respond to environmental perturbations of varying magnitudes and rates.... (we) propose a working group to synthesize ecological and paleontological timeseries spanning from days to millions of years to assess the scaling of community turnover with surface temperature change.... to identify those climate change scenarios where community turnover scales in step, catastrophically shifts, or remains relatively stable.... one of the most enduring contributions of our working group will be the data compilation – a compilation that will allow us to add ‘deep time’ to the hundreds of ecological time series of BioTIME – that is, BioDeepTIME.“

In addition to the scientific workshop, we have decided to offer two further applicants support for their workshop idea, which tackles an important topic:

DDCP: Diversity Dynamics and Crises in Palaeontology

The proposal was submitted by PhD student [Nussaibah B. Raja-Schoob](#)



(FAU) and PostDoc researcher [Emma Dunn](#) (University of Birmingham) and they sum up their aim as follows:



“This workshop aims to bring together palaeontologists from various cultural, racial, socio-economic and research backgrounds with specialists in the field of Justice, Equality, Diversity and Inclusion (JEDI) to tackle a selected number of identified issues within palaeontology and to: (1) identify and quantify the nature and scale of the diversity crisis in palaeontology, and how it affects our research outputs; and (2)

report on the current state of palaeontology in a manner that accessible to various stakeholders to lay out steps that need to be taken to dismantle identified barriers to resources and opportunities in palaeontology.”

With their submission the applicants address major concerns of PaleoSynthesis. PostDoc Jansen will also strongly support this ongoing workshop / project.

Analytical Paleobiology Workshop 2021

aka Scientific Summer School



Initially, the APW 2020 was planned to take place at Berkeley, USA and the APW 2021 at our university in our learning lab. APW 2020 had to be cancelled unfortunately due to the pandemic. However, APW is planned to be held virtually at Berkeley in 2021.

If you are interested, you can follow updates on the APW here: [APW2021](#).

In addition, the call will be posted on our [homepage](#) and we will tweet (@PaleoSynth) and use Facebook (@Palaeobiology) to keep you updated.

APP development

Within the PaleoSynthesis project a new mobile application is being developed that will allow users to upload their fossil images and data. The application will also help users determine the taxonomy of fossils they were not able to identify on their own. Two existing apps (RockD and FossilFinder) will be combined and the new app will draw on the advantages of both. Support for app development is provided by the FAU's Pattern Recognition Lab.

Work on the app started before the official kick-off of PaleoSynthesis. We would like to briefly update you on our progress... and hopefully also make you curious. The app will soon be moving forward to testing by a broader

Big Questions - we proceed

Following the first solicitation for Big Questions in Paleontology, we are moving to the next steps of the project. These will include forming working groups to refine the questions that have been submitted, solicitation of additional Big Questions from the community, and generation of a manuscript that reflects a community-defined research direction in Paleontology.

If you are interested in participating, please contact Jansen (jansen.smith@fau.de) and be on the lookout for the next call for Big Questions. We are interested in hearing from all voices in our community, so feel free to have a chat with your colleagues to find out if they might also have Big Questions to be included.

We greatly appreciate your motivation to work with us!

community; however, before this can happen a few modifications are still necessary. Currently, the user management of the web backend is in progress, which will allow users to login with their own unique IDs and to interact with other users. To enable this, the initial system of user registration will be exchanged for the widely used content management system 'wordpress'. As the app is intended to be user friendly, the option to use different languages is also being implemented.

Our ultimate goal is to produce an application that will be used and enjoyed by everyone, whether they are professional or hobby paleontologist.



Herewith we say goodbye for 2020 and look forward to 2021 with new tasks, exciting ideas and a good cooperation!

 Merry Christmas  &  Happy New Year !

 Stay safe 