



**12th International Meeting
for Phytolith Research**



Kiel, 25.11.2020

Dear colleague,

in this document you find information about the next IMPR, which will take place on 8-11 September 2021 in Kiel (Germany). The conference will be carried out in the frame of the 27th annual meeting of the European Association of Archaeologists (EAA, <https://www.e-a-a.org//eaa2021>). Several IMPR-sessions will cover the topics related to phytolith research: you are very welcome to send your abstract for oral or poster contribution!

This document includes:

1. General update (2nd circular)
2. Session list and abstracts
3. Registration policy according to EAA and IPS agreement.

For updates, check the International Phytolith Society website (<https://phytoliths.org/>) and the 12th IMPR website (https://www.12impr.uni-kiel.de/en?set_language=en). For questions, you find us at 12impr@email.uni-kiel.de.

Looking forward to meeting you at the conference!

Best wishes, stay healthy,

The 12th IMPR organizing committee





1. General update (2nd circular)

2nd Circular

Towards positive synergies and wider horizons – A joint meeting of the International Phytolith Society and the European Association of Archaeologists in Kiel, September 2021

Kiel, 11.11.2020

Dear colleagues,

We hope this email finds you well, despite the challenging conditions the world is facing in the ongoing pandemic.

We would like to update you about the 12th International Meeting of Phytolith Research. We are thankful for your patience and understanding for the silence in the last months, during which we were re-arranging the meeting after cancellation.

The 12th IMPR will be hosted on **8–11 September 2021** (Wednesday–Saturday) by the Institute of Prehistoric and Protohistoric Archaeology of Kiel University in Kiel, Germany. In addition, for those who are interested, scientific excursions will take place on 7 and 12 September 2021 (Tuesday and Sunday).

The IMPR is for now planned as a **hybrid meeting**, allowing both **in-person and remote participation**. Updates on the possibility of a live event will follow in early 2021, as corona regulations and travel restrictions in Germany and elsewhere are updated.

News | This year, the IMPR will be exceptionally integrated within the **27th Annual Meeting of the European Association of Archaeologists (EAA)**. This year's EAA meeting, titled "**Widening horizons**", was scheduled at Kiel University (<https://www.e-a-a.org//eaa2021>). Every year the EAA meeting attracts over thousands of scientists dealing with different aspects of archaeology and related fields of study of the human past, building a very broad and diverse platform for scientific discussion. In this frame, the organizers and EAA board are welcoming the phytolith community for an integrated 2021 event. As the organizing committee of the 12th IMPR, together with the IPS board, we consider this a chance for growth, visibility and exchange for the phytolith community.

Sessions | Following a bottom-up approach, the participants of EAA meetings can submit session proposals. In order to follow the IMPR tradition, we already submitted the sessions covering the topics previously announced on the 12th IMPR website. The sessions, labelled "*IMPR-session title*", are listed below. In principle, the IMPR-sessions will not overlap with each other. The whole committee of 12th IMPR should be considered session organizer.

IMPR-Sessions:

- IMPR - Phytolith identification, classification and morphometry
- IMPR - Phytoliths as a proxy for palaeoenvironmental reconstruction
- IMPR - Phytoliths in integrated archaeobotanical and ethnoarchaeological studies
- IMPR - Phytoliths in geoarchaeology and micromorphology
- IMPR – Phytoliths biogeochemistry - From phytoliths formation and role in modern plants to new proxies for archaeology and palaeoecology
- IMPR - Microscopy session: Phytoliths in soil thin sections

Registration and memberships | The logistics of the event will follow the procedures of the EAA annual meeting as explained on the website: https://www.e-a-a.org/EAA2021/General_Info.

Important: A major change consists in the necessity to create an **EAA account** to register in order to submit abstracts for contributions and to participate. For the EAA account, the payment of the EAA annual membership is required (<https://www.e-a-a.org/EAA2021/membership>). However, in exceptional circumstances, this is not mandatory if one participates in IMPR-sessions only. **If you are interested in presenting only in IMPR-sessions**, and therefore wish to be exempted from the payment of EAA membership, it is necessary to send an email to 12impr@email.uni-kiel.de with subject "EAA membership exemption", specifying your name, affiliation and EAA membership ID number in the message. To obtain an EAA ID number, you will have to create an account, without proceeding to payment, and to log in and out at <https://eaa.klinkhamergroup.com/eaa2021/>. We will need this information for the EAA Office which will validate your EAA user account and allow you to register to the Annual Meeting. For participants interested in further EAA sessions in addition to IMPR-sessions, EAA membership should be valid or updated.

Note that to present a contribution at IMPR-sessions, **IPS membership is required**. To find out your benefits as a member and how to register, check the IPS website at the page: <https://phytoliths.org/become-a-member/>

Deadlines | The registration for the EAA annual meeting is now open. For an overview on deadlines see: <https://www.e-a-a.org/EAA2021/Deadlines>

The following dates are particularly important:

- The call for papers/posters opens on **16 December 2020** and closes on **11 February 2021**.
- The call for travel grants applications opens on **29 March 2021** (<https://www.e-a-a.org/EAA2021/grants>).
- The deadline for early bird EAA membership fee is **31 March 2021**.
- The deadline for early bird Annual Meeting registration fee is **6 April 2021**.

We hope that this unique format for the 12th IMPR will lead to a fruitful exchange beyond the respective discipline boundaries, while maintaining the possibilities for expert discussion among specialists, and *widening our horizons*.

We look forward to receiving your contributions and meeting you, both virtually and hopefully also in person!

Best wishes, and stay healthy!

For the 12th IMPR organizing committee Marta Dal Corso, Ákos Pető, Welmoed Out, Luc Vrydaghs, Ana Polo-Díaz, Wiebke Kirleis, Svetlana Khamnueva-Wendt, Stefan Dreibrodt, Alexandre Chevalier

2. Sessions

List of sessions

IMPR-sessions:

- #246 - Phytoliths in integrated archaeobotanical and ethnoarchaeological studies
- #251 - Phytolith identification, classification and morphometry
- #256 - Phytoliths biogeochemistry - From phytoliths formation and role in modern plants to new proxies for archaeology and palaeoecology
- #319 - Phytoliths in geoarchaeology and micromorphology
- #340 - Phytoliths as a proxy for palaeoenvironmental reconstruction

IMPR-microscopy session:

- #342 - Phytoliths in soil thin sections

General EAA-session:

- #326 - Everything you always wanted to know about phytoliths (but were afraid to ask): Their contribution to the modelling of past human behavior

Note for the submission of papers

To submit an abstract within IMPR-sessions, you have to be a member of the International Phytolith Society. See how to become a member at <https://phytoliths.org/become-a-member/>

In addition, if you wish to participate to EAA-sessions, you should have as well the EAA membership for 2021 (https://www.e-a-a.org/EAA2021/General_Info).

EAA membership is usually mandatory to participate to EAA annual meetings, but if you wish to attend and present exclusively at IMPR-sessions, you can avoid the payment of the EAA membership. See how in the registration policy hereafter.

The memberships to IPS and EAA have additional advantages and do not include the conference fee. See all costs in the registration policy hereafter.

Abstracts of the sessions

Session #246 (IMPR-session)

IMPR – PHYTOLITHS IN INTEGRATED ARCHAEOBOTANICAL AND ETHNOARCHAEOLOGICAL STUDIES

Organized for the 12th IMPR committee by Marta Dal Corso (Germany) - Kiel University; Welmoed Out (Denmark) - Moesgaard Museum

Keywords: phytoliths, crop-processing, fodder, non-food plant uses, ethnobotany, ethnoarchaeology

The session "Phytoliths in integrated archaeobotanical and ethnoarchaeological studies" is dedicated to the wide range of applications of phytoliths in archaeology, paleoanthropology and palaeoethnobotany. The identification of plant remains at an archaeological site can be indicative of the resources and environments exploited by peoples, their subsistence strategy and further economic and cultural practices.

Research questions that can be addressed concern agronomy, economy and diet in the past, i.e. how phytoliths can be used to reconstruct the cultivation, processing and use of plants for food and animal fodder. In addition, phytoliths can help to disentangle plant uses for non-food purposes as well. In this case, information can be gained about, for instance, architecture, medicinal uses, textiles and other aspects of domestic, economic and ritual spheres.

In this session, studies of modern ethnographic contexts are also welcome, that offer insights into traditional plant uses and that can be used to calibrate the interpretation of the phytolith fossil assemblage from comparable archaeological contexts. Through this comparison, deposition processes, traditions and cultural choices behind human behaviour in the past can be better identified and understood. Presentations can focus on the investigation of phytoliths from specific objects or from different contexts from one or multiple sites. Contributions that show a comparison of the phytolith record with other kinds of archaeobotanical records (macro-remains, wood/charcoal, starch, pollen and NPPs, plant biomarkers), as well as with other proxies (stable isotopes of osteological records or seeds, faunal assemblages, etc.) are particularly welcome. Case studies and reviews may concern different periods and geographical regions.

This session is part of the 12th International Meeting for Phytolith Research, or IMPR, the official scientific conference of the International Phytolith Society.

Session #251 (IMPR-session)

IMPR – PHYTOLITH IDENTIFICATION, CLASSIFICATION AND MORPHOMETRY

Organized for the 12th IMPR committee by Welmoed Out (Denmark) - Moesgaard Museum; Luc Vrydaghs (Belgium) - Maritime Cultures Research Institute (MARI) – VUB

Keywords: Phytolith taxonomy, identification, classification, morphology, morphometry

Phytolith analysis is an established field of research that is applied worldwide to a broad range of research areas, including archaeobotany and palaeo-ecology, amongst others. On the one hand, classification of a large number of common phytolith morphotypes is very well established. As a result, it is well possible to identify phytoliths on (sub)family, genus and sometimes species level, and/or to assign them to plant parts. On the other hand, when considering all plants of the world, it is only partly known which plants produce phytoliths, what type of phytoliths they produce, and whether and how these phytoliths can be distinguished from those of other taxa and plant parts. Another challenge is the description of phytolith in a uniform way, so that outcomes of different studies can be easily understood and compared. While the publication of the

International Code on Phytolith Nomenclature versions 1.0 and 2.0 were important milestones, improvement of phytolith taxonomy, which, by definition, includes description, identification, nomenclature and classification of phytoliths, continues to be an ongoing important line of research.

The session "Phytolith identification, classification, and morphometry" aims to discuss the above-raised topics and welcomes all types of contributions about phytolith taxonomy and classification, for example, but not limited to, the application of the International Code for Phytolith Nomenclature 2.0, studies concerning the development of new identification criteria based on morphology, and studies presenting or applying identification criteria based on phytolith morphometry. These studies can relate to both archaeological and modern plant material.

This session is part of the 12th International Meeting for Phytolith Research, or IMPR, the official scientific conference of the International Phytolith Society.

Session #256 (IMPR-session)

IMPR – PHYTOLITHS BIOGEOCHEMISTRY - FROM PHYTOLITHS FORMATION AND ROLE IN MODERN PLANTS TO NEW PROXIES FOR ARCHAEOLOGY AND PALAEOECOLOGY

Organized for the 12th IMPR committee by Stefan Dreibrodt (Germany) - Kiel University; Marta Dal Corso (Italy) - Kiel University; Alexandre Chevalier (Belgium) - Royal Institute of Natural Sciences

Keywords: phytolith formation, biochemistry, isotopes, radiocarbon dating

Biosilicification in plants is a complex process under genetic and environmental control. Suggested functions of phytoliths are structural support, protection against grazing and pathogens, and regulation and storage of minerals and heavy metals. For phytoliths to be deposited, plants need to take up silicon from their environment. Some plants produce many phytoliths, while others produce hardly any. Also the degree of taxonomic identification of phytoliths to plant groups, or even plant parts, is diverse. Concerning phytolith formation, there are still questions to answer, for example, the variation of phytolith formation within individual species, quantitative aspects and chemical aspects. An additional challenge is how we can turn aspects of phytolith biogeochemistry into proxies to use in environmental and archaeological research, e.g. by using chemical elements within phytolith structure (e.g. Carbon, Calcium, Aluminium, Nitrogen) for isotope analyses or for radiocarbon dating. Furthermore, this session also deals with those chemical aspects of both phytoliths and pedological processes that affect phytolith preservation and distribution. Proper understanding of taphonomy is key to the interpretation of the original plant assemblages.

This session aims to discuss new methodological developments in phytolith formation and quantification while studying phytoliths in the fields of plant systematics, evolution, physiology and biochemistry. The session welcomes contributions that address questions such as, but not limited to: where in the plants are phytoliths formed? What types of cells or other structures silicify, and how does phytolith formation vary within plants and within species? Can we increase the use of chemical aspects of phytoliths as a proxy in archaeological studies, including dating Carbon in phytoliths? How can isotope studies be applied to phytolith records? Which compounds and elements other than silica are included in phytoliths?

This session is part of the 12th International Meeting for Phytolith Research, the official conference of the International Phytolith Society.

Session #319 (IMPR-session)

IMPR – PHYTOLITHS IN GEOARCHAEOLOGY AND MICROMORPHOLOGY

Organized for the 12th IMPR committee by Luc Vrydaghs (Belgium) - MARI – VUB; Ana Polo-Diaz (United Kingdom) - Department of Archaeology, University of Sheffield

Keywords: phytolith, micromorphology, geoarchaeology, bulk sample, thin sections

Phytolith studies are an essential aspect of modern geoarchaeological research. Phytoliths are indeed observed on samples provening from diverse geographical locations, environments and time periods. Present session intends to bring together geoarchaeologists/micromorphologists and phytolith specialists working on archaeological deposits.

Traditionally, both specialists work on different mediums: the phytolith specialist analyses bulk samples, while the geoarchaeologist/micromorphologist studies thin sections of sediment/soil blocks preserving the original stratigraphy of the deposits. Consequently, both approaches document different aspects of the phytolith record. Thin sections inform about the spatial context and formative processes. The analysis of bulk samples details the morphological diversity of the assemblages and relative concentrations. Integrating both methods has thus potential to considerably boost their respective analytical capacities and to fuel discussion in both research fields. Of major relevance are issues relating to morphological diversity, the (post)depositional histories and the discrimination of phytoliths sharing (or not) a common botanical origin.

One is forced to note that indeed few phytoliths specialists attend micromorphological workshops. Likewise, few micromorphologists attend IMPR. The purpose of present session is to initiate such meetings aiming at bridging both research fields. As a first step, micromorphologists are invited to report on their phytolith observations regarding the questions above highlighted, and to discuss them with the broader phytolith community. A microscopic session will follow these presentations. Its purpose is to raise awareness among specialists of both fields on the potential of phytolith analysis of thin sections.

Session #340 (IMPR-session)

IMPR – PHYTOLITHS AS A PROXY FOR PALAEOENVIRONMENTAL RECONSTRUCTION

Organized for the 12th IMPR committee by Ákos Peto (Hungary) - Hungarian University of Agricultural and Life Sciences; Wiebke Kirleis (Germany) - Kiel University, Institute of Prehistoric and Protohistoric Archaeology

Keywords: palaeoecology, phytolith analysis, palaeoenvironmental reconstruction, soils and sediments

Worldwide, phytoliths are used as a proxy to identify changes in vegetation and environments through time. These changes may reflect ecological processes, climatic shifts and/or anthropogenic activities useful to understand the past of human societies and landscapes. Thanks to their resistance to degradation, phytoliths usually preserve well also where other kinds of organic remains are lacking. They can be found in very old deposits (up to 60 million of years), but also have been used to characterize modern ecosystems. Often phytolith studies are carried out in multiproxy palaeo-environmental investigations. For instance, being well representative of grassland ecosystems, they are complementary proxies to charcoal and pollen analyses, and are useful for the reconstruction of forest history.

The session "Phytoliths as a proxy for palaeoenvironmental reconstruction" invites contributions that use phytoliths for paleoecology, paleoclimatology, and paleobiogeography. According to different sets of archives, e.g. from lake sediments to soil sequences, phytolith studies that are carried out in natural settings and/or in relation with archaeological sites or cultural developments are welcome without any chronological

and geographical restriction. Studies where the phytolith record is associated and compared to other palaeo-environmental proxies are also very welcome.

This session is part of the 12th International Meeting for Phytolith Research, or IMPR, the official scientific conference of the International Phytolith Society.

Session #342 (IMPR-microscopy session)

IMPR – MICROSCOPY SESSION: PHYTOLITHS IN SOIL THIN SECTIONS.

Organized for the 12th IMPR committee by Ana Polo-Diaz (United Kingdom) - Department of Archaeology, University of Sheffield; Yannick Devos (Belgium) - Maritime Cultures Research Institute (MARI) - Department of Art Studies and Archaeology, Vrije Universiteit Brussels; Svetlana Khamnueva-Wendt (Germany) - Institute for Ecosystem Research Kiel University

Keywords: Phytoliths, Micromorphology, Microscopy, Context

The present session is structured as a microscopy workshop in relation to the study of phytoliths in archaeological soil and sediment thin sections. As such, the workshop is related to the session “Phytoliths in geoarchaeology and micromorphology”. We aim to an informal meeting with a focus on the exchange of ideas and experiences in this arena in a practical way. Hands-on microscope work will provide an opportunity for participants to discuss relevant questions regarding methodological approaches, analytical tools and interpretation of results. The overall goals of the workshop are: to raise awareness among phytolith specialists and micromorphologists / geoarchaeologists on the potential of applying phytolith analysis to archaeological thin sections and promote its practical integration to address archaeological questions. Participants are welcome to bring their own research materials. Additionally, thin sections related to the presentations of the session “Phytoliths in geoarchaeology and micromorphology” will be made available during the workshop.

This session is part of the 12th International Meeting for Phytolith Research, or IMPR, the official scientific conference of the International Phytolith Society.

Session #326 (EAA-session)

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT PHYTOLITHS (BUT WERE AFRAID TO ASK): THEIR CONTRIBUTION TO THE MODELING OF PAST HUMAN BEHAVIOR

Organized by Alexandre Chevalier (Belgium) - Royal Institute of Natural Sciences; Rosa María Albert (Spain) - University of Barcelona

Keywords: phytolith, archaeology, theory of archaeology, past human behavior

This session aims at analyzing and shedding light on the role played by phytoliths studies for the understanding of past human behavior in relation to environment and plant uses both local and non-local, and therefore on their impact on theoretical models shaping our current understanding of human interactions with each other and with nature.

For 50 years, phytoliths have been used in archaeology to bring answers to human behavior related to territory exploitation, impact of human activities on natural vegetations, foodways, trade, transmission of cultural traits, and translocation of plants due colonization.

Phytoliths have been applied to a vast array of supports, primarily on sediments, but also to material culture, such as ceramics, metallic pots or lithic industry, and more recently to human remains, specifically on dental calculus. But, did they succeed in bringing relevant answers to the archaeologist's questions?

Have phytolith studies been able to change our views on past human life, more than just providing anecdotal, one-time information? Did they contribute to change theoretical models regarding past human life and societies activities?

This session doesn't aim only at phytoliths specialists working in archaeology, but also at archaeologists or other specialists who use phytoliths in their own research as many other lines of evidence.

Hence, this session calls for communications that show evidence of such impacts of phytolith studies on our understanding of past human behavior, actions and interactions. Key questions are: What are the strengths and weaknesses of phytoliths? What is exactly their potential? How are they changing our views on the past? To which new analytical approaches do they contribute? What are our expectations about their future potential?

The session is sponsored by the Society for Phytolith Research and is organized in parallel to the IMPR, but it is not formally part of it.

3. Registration policy

27th EAA Registration policy

The 27th EAA Annual Meeting is conceived as a **hybrid event, allowing both in-person and remote participation**; the complete academic program will be available online.

Flat registration fees (see below) apply to both in-person and remote participation. Registration fees may be reviewed if onsite participation becomes impossible due to EU- / state- / institutionally imposed restrictions and/or the 27th EAA Annual Meeting is held in online format only. Any individual cancellation must follow the cancellation policy (see below).

Please note that **all Annual Meeting participants have to be current (2021) EAA members and have to register (pay Annual Meeting registration fee) for the Annual Meeting**. If you are not a current EAA member, you will be asked to choose from membership categories first and your membership fee will be placed into your cart (you can pay both registration fee and membership fee in a single transaction).

If you want to present a contribution (talk/poster) **to IMPR-Sessions, you need to be IPS member**. If you will participate **exclusively to IMPR-Sessions, you can be exempted from payment of the EAA membership**. In any case, you need to create an account as EAA member. Below you find further information on these topics.



For more information about EAA membership, please go to www.eaa.org

Should you have any questions, do not hesitate to contact the EAA Office at helpdesk@eaa.org



Categories of EAA membership & Annual Meeting registration

(based on the place where you work, study or reside, rather than your nationality):

A: Andorra, Aruba, Australia, Austria, Belgium, Bermuda, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Denmark, Finland, France, Germany, Hong Kong SAR (China), Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Korea Rep., Kuwait, Liechtenstein, Luxembourg, Macao SAR (China), Monaco, Netherlands, New Caledonia, New Zealand, Norway, Puerto Rico, Qatar, Singapore, Saint-Maarten (Dutch part), Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom, United States, Vatican City.

B: any other country not listed in A category



EAA Membership fees

EAA Membership Type - A / B Category (according to country of residence)

Full: 95 / 60 EUR

Student: 65 / 50 EUR (undergraduate, graduate and PhD students)

Retired: 70 / 50 EUR (incl. retirement for medical reasons)

Family: 120 / 70 EUR (partners who share 1 printed copy of the EJA)

Life: 900 EUR

Corporate: 1600 / 700 EUR (institutions)

Early bird fee until 31 March - 5 EUR discount.

To create your EAA account go to: <https://www.e-a-a.org/EAA2021/membership>



IMPR Sessions

IPS Membership



To present a contribution (talk/poster) to IMPR-Sessions, you need to be a member of the International Phytolith Society (IPS).

You can find subscription form and payment details at <https://phytoliths.org/become-a-member/>

Regular: \$35 until December 31, 2020

Student/Low income country: \$20 until December 31, 2020

If you will participate exclusively to IMPR-Sessions, send an email to 12impr@email.uni-kiel.de with subject "EAA membership exemption". In the message please specify your name, affiliation and EAA membership ID number. You will obtain your EAA ID after the creation of an EAA account (see above), do not proceed to payment, and validate your EAA account by logging in and out at <https://eaa.klinkhamergroup.com/ea2021/>



Annual Meeting registration fees before / after 6 April

For everybody

Flat registration **fees apply to both in-person and remote Annual Meeting participation** because of their respective costs. Please make sure to **update your preference for onsite / online participation by 12 April** in the event registration system - it will help us in planning the event.

Full (A country): 180 / 210 EUR

Full (B country): 120 / 150 EUR

Student / Retired (A country): 120 / 150 EUR
Student / Retired (B country): 100 / 130 EUR
Onsite accompanying person (guest): 100 EUR

Social events fees

Opening Ceremony and Welcome Reception: free for registered delegates and guests
Annual Party: free for registered delegates and guests
Annual Membership Business Meeting: free for EAA members
Annual Dinner: price to be specified
MERC Party: price to be specified



Cancellation**

Cancellations received by 23 April 2021: full refund
Cancellations between 24 April - 13 July 2021: full refund less € 30 handling fee
Deadline for last cancellation: no refund from 14 July 2021
Deadline for last cancellation of excursions: to be specified

In case of cancellation of both onsite and online Annual Meeting, registration fees less € 30 handling fee will be refunded.

The EAA Secretariat must be notified about the cancellation of the registration in writing at helpdesk@e-a-a.org.

** Applies to the Annual Meeting registration. Cancellation of EAA membership is not possible. It is also not possible to transfer the Annual Meeting registration to another person