https://micromorphology.net/

COMMISSION 1.1

SOIL MORPHOLOGY & MICROMORPHOLOGY

International Union of Soil Sciences

NEWSLETTER MARCH 2024 vol. 32

Newsletter prepared by Commission 1.1 Officers 2022-2026
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Layout and design: CRISP
Cover: Layout of the website of the Commission Soil Morphology and Micromorphology

Comm. 1.1. Soil Morphology and Micromorphology - IUSS

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LETTERS FROM COMMISSION OFFICERS

Dear all,

It has been almost one year since the last newsletter.

In this volume, we are also happy to report about our website. Our plan is to report most of our activities through the website. In fact, most of the items reported in this newsletter are already present on the website. Please navigate it and let us know what you think. The idea is to keep our newsletter running but rely on the website for updates.

Unfortunately, when you Google “soil micromorphology”, the website does not come up as the first choice. We have been assured that this will slowly ameliorate (...please go from time to time to https://micromorphology.net/) since we have optimised the search engine.

As usual, here you will find news on forthcoming meetings, forthcoming courses and reports from previous courses, the next international conference on soil micromorphology, a new website...and of course, the pills of wisdom (this time a quote from Aristotle).

Most importantly, please take note of our 17th International Conference on Soil Micromorphology. Complete information about the event is provided on the website:

www.micromorphology.puno2024.com.
Take note of the following deadlines:
March 1, 2024: Early registration opens, call for abstracts
June 30, 2024: Deadline for abstract submission
July 31, 2024: Deadline for Early-bird registration
July – September 2024: Acceptance of abstracts

We are also planning a new online webinar and round table.

Good Reading to all of you!

Fabio Terribile and Adam Csorba
IUSS Commission Soil Morphology and Micromorphology

PILLS OF WISDOM FOR SOILS AND SOIL SCIENTISTS

Dear reader, as you know, this section of our newsletter is usually devoted to publishing small contributions from some of our foremost soil scientists, who decided to share with us some of their thoughts on key issues relevant to our Commission.

In this number, we decided to do something different from the previous newsletter by inserting some quotes from Aristotle, which seem to me (Fabio) extremely relevant when approaching soils under the microscope.

Aristotle asserted that knowledge arises from wonder, the astonishment at how things are. This curiosity and wonder are within the reach of all experts in soil, but - in my opinion - especially those who work and study soil micromorphology. Under the microscope, each of us has experienced the encounter with something strange, unexpected, or new that suddenly evokes surprise, wonder, doubts, admiration, therefore questioning what appears unknown to us, and finally, the conclusive and gratifying act of knowledge.

Everyone has their his/her own wonders; for instance, I still remember the thrill of finding fragments of volcanic glass in soils where it shouldn't have been, about 400 kilometers away from the volcano that generated them... or discovering silt coatings of clearly periglacial naure in soils that theoretically should never have experienced glaciations. Or marveling at the hidden mechanisms by which stones generate new interconnected porosity (following cycles of wetting and drying) and therefore new fertility, or still being amazed that soil, treated as waste container and contaminated with industrial Cr rich sludges (microareas containing up to 27,000 ppm of Cr) in reality showed no redistribution of this heavy metal to the surrounding soil materials or water bodies. All the Cr was simply tightly adsorbed by the soil matrix (of course all connected with the specific Cr ionic potential).

I believe that each of us experiences a mixture of vertigo and wonder in the journey of discovery in the soil every time we observe it under the microscope. Marvelling at the beauty and complexity of the soil is part of our daily job. What a beautiful job we have 😊

Sklovskij reminded us that wonder is an antidote against the blindness and deafness of habitual life...then I may add that to this respect soil micromorphology has a special role for all of us!

Let's now recall the well-known passage from Aristotle's Metaphysics:"

"Indeed, men began to philosophize, in the beginning and now, out of wonder; at first, they were perplexed about the simplest things, but as they progressed gradually and made their way to more difficult questions, for instance, concerning the phenomena of the moon and

those of the sun and the stars, or about the origin of the whole universe. Now, he who is puzzled and wonders [thaumazon] acknowledges his ignorance; hence even the lover of myths is in a sense a philosopher: myths consist of wonders. Therefore, if men philosophized in order to escape ignorance, it is clear that they pursued knowledge for the sake of knowing, and not for any practical utility."

Fabio Terribile

ACTIVITIES BY THE COMMISSION

Here, we aim to update you about our new website at https://micromorphology.net/.

The website will be managed mainly by the Commission.

The current version requires updating on a regular basis, and - needless to add - we need some volunteers who can support us (please let us know your availability by writing to us).

We recall that the website must be empowered by all of us friends and members of the commission 1.1. Please be proactive by providing helpful material for the website.

Below we summarise the different sections of the website (there are some changes from the previous version).

About us: this section lists active Chair and Vice-Chair but it also includes all officers who have served on the Commission in past years.

Award: this section describes the rules of the two commission 1.1 awards (Kubiena, YMPA)

News and Events: here you can find all Commission newsletters, the meetings and webinars that the Commission will gradually organize in the next future.

Webinar and Roundtables: this section hosts the recording of the round tables and webinar

Forum & Training: here you will find the training courses that the Commission members are organising and three folders with forum, teaching, and research materials beneficial in 3 key research areas in micromorphology: archaeology (led by Luca Trombino with the support of Selim Kapor), paleopedology (Fabio Scarciglia), and digital image processing (including microtomography) (temporarily led by Fabio Terribile…soon this will change).

Resources & Links section contains some results of survey campaigns produced by the work of the Commission. These include (i) a survey on thin section collection, (ii) a survey on thin section preparation, (iii) a document archive, (iv) videos, and (v) another helpful link.

NEW COURSES

V. Latin-American Intensive Course On Soil Micromorphology

Instituto de Geología Universidad Nacional del Altiplano – Puno, Perú. 27-30 November 2024 (in Spanish).

This edition of the intensive course will be done in the Escuela Profesional de Ingeniería Geológica - Universidad Nacional del Altiplano – Puno, Perú. This course is the only course in Spanish in Latin America, technically sponsored by the International Union of Soil Sciences (IUSS) Comision 1.1. Morphology and Soil micromorphology, which will be taught before the 17th International Congress on micromorphology which will be held in Puno Perú, congress link: https://micromorphology.puno2024.com

This course is oriented to researchers on paleoenvironmental areas, soil contamination, soil genesis and classification, degraded soil restauration, geo-archaeology, and anthropology, as well as to agricultural engineers, forestry engineers, environmental engineers, geologists, and other professionals who work in soil sciences.

This edition of the course schedule will focus on the correct description and characterization of pedofeatures and materials in the soil. As with other opportunities, the first day will end with a scientific substantiation of the most important criteria to correctly describe a soil thin section. The second day will be centred on working on thin soil sections with an approach to soil genesis studies as well as the practical applications to paleoenvironmental, biological, ecological, and agricultural sciences. The third day the soil thin sections description will be centered on paleoclimatical, paleoenvironmental, anthropocenic and geoarchaeological applications. The fourth day will be spent on the field trip, a visit to the soil catena from the Ilpa hills to the Titicaca Lake, where the fieldwork on soil micromorphology will be realised. To end the intensive course a Peruvian fiambrada (picnic) will be realised with high plateau peruvian typical products.

12 horas teóricas y 22 horas prácticas.

Practical work: A maximum of 2 students per microscope. The students can use the microscope all the time needed to observe the sections and additionally can bring their own thin section to work together with the professors. 12 theoretical hours and 22 hours of practical work in thin section description.

Professors: Carlos Alberto Torres Guerrero (Universidad de Vic - España), Carmen Castorena (Colegio de Postgraduados – México), Isabel Solleiro (Universidad Autónoma de México – México) Juan Carlos Loaiza Usuga (Universidad Nacional de Colombia - Colombia), Sergei Sedov (Universidad Autónoma de México – México).

The course cost 140 (Dólars), including the book of the course and trip. Maximum 16 students.

Organisers: International Union of Soil Sciences, Commission 1.1, Soil Morphology and Micromorphology, Universidad Nacional del Altiplano Puno – Perú, Universidad Nacional de Colombia – Sede Medellín

More information: micromorphology.puno2024@gmail.com

9th Intensive Soil Micromorphology Course

Tremp (Catalonia), 23 September - 4 October 2024.

Organized by Universitat de Lleida and Institut Cartogràfic i Geològic de Catalunya
We will try to keep the registration fee the same as the past courses (450€), including lectures, coffee breaks and Stoops' guidelines. Accomodation and meals have to be arranged by each participant.
The pre-registration link is the followings: https://www.formaciocontinua.udl.cat/ca/programes-formatius/cursos/4179
For any problems, you can also write to Rosa M Poch <rosa.poch@udl.cat>

Course on Soil Mineralogy and Micromorphology

Escuela para Graduados, Facultad de Agronomía, Universidad de Buenos Aires. 29 th April to 10 May 2024, Buenos Aires (Argentina) -Online course, given in Spanish

The 21th edition of the ¨Course on Soil Mineralogy and Micromorphology¨ organized by the Post Graduate School ¨Alberto Soriano¨ of the Faculty of Agronomy of the University of Buenos Aires (FAUBA), in collaboration with the Soils Institute of the INTA (Instituto Nacional de Tecnología Agropecuaria), will take virtually in Spanish, from 29 April to 10 May 2024.

EPG | FAUBA

This two-week intensive course has been taught every two years since 1986 under the direction of Prof. Dr. Héctor J. M. Morrás (USal-INTA). As in the last courses, Dr. F. Behrends (FAUBA-CONICET), Dr. L. Moretti (INTA), Dr. E. Favret (INTA-CONICET), Dr. E. Bressan (INTA) and Dr. M. Castiglioni (FAUBA) will also participate as guest co-lecturers.

The first week of the course is devoted to the study of inorganic fractions of soils, focused on clay mineralogy and concepts on processes of mineral weathering, soil formation and soil organization, including an introduction to analytical techniques particularly X-ray diffractometry. The second week is centered on soil micromorphology including the descriptive system and the principles and techniques of optical and electronic microscopy. During the course numerous examples of application of mineralogy and micromorphology to different fields of research, particularly to soil genesis, soil physics and soil management are exposed and discussed.

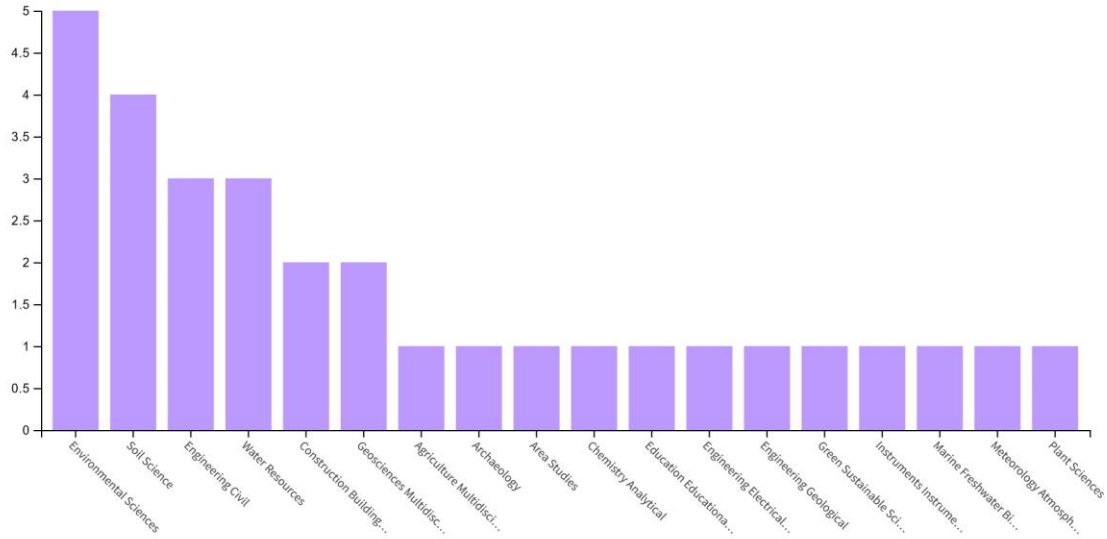
Course participants will have the possibility of carrying out a short training stay in different analytical techniques in the Mineralogy and Micromorphology Laboratory of the INTA Soils Institute, for a duration and on dates to be agreed.

For more information, those interested in the course may contact Prof. Morrás to hector.morras@usal.edu.ar, or the Post Graduate School to epg@agro.uba.ar. through the site http://epg.agro.uba.ar or through Mineralogía y micromorfología | EPG (uba.ar)

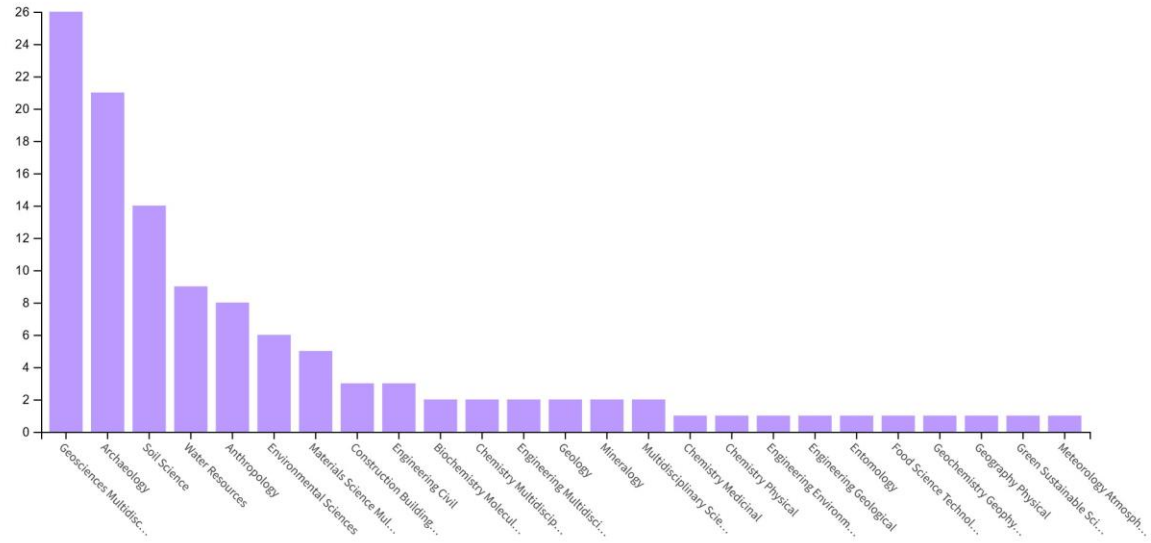
PUBLICATIONS, ADDITIONAL NOTES

The last papers published in the previous year (April 2023-March 2024) had soil morphology or soil micromorphology in the topic;)

SOIL MORPHOLOGY



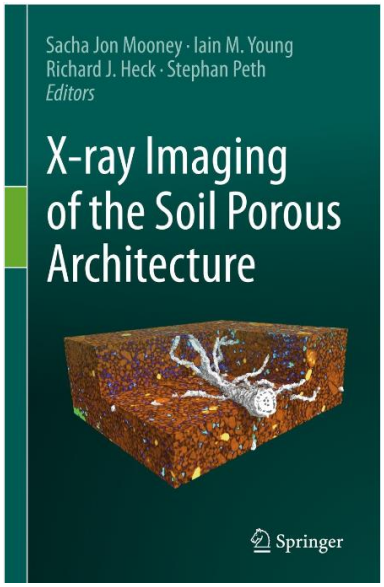
SOIL MICROMORPHOLOGY



The most quoted soil micromorphology papers (April 2023-March 2024)

Title	Authors	Source Title	Publication Year	Volume	DOI	Total Citations
Microstratigraphic preservation of ancient faunal and hominin DNA in Pleistocene cave sediments	Massilani, Diyendo; et al.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	2022	119	10.1073/pnas.2113666118	26
Multiproxy approach to the reconstruction of soil denudation events and the disappearance of Luvisols in the loess landscape of south-western Poland	Loba, Aleksandra; et al.	CATENA	2023	220	10.1016/j.catena.2022.106724	7
Revealing the invisible dead: integrated bio-geoarchaeological profiling exposes human and animal remains in a seemingly 'empty' Viking-Age burial	Sulas, Federica; et al.	JOURNAL OF ARCHAEOLOGICAL SCIENCE	2022	141	10.1016/j.jas.2022.105589	7
Fuel sources, natural vegetation and subsistence at a high-altitude aboriginal settlement in Tenerife, Canary Islands: Microcontextual geoarchaeological data from Rogues de Garcia Rockshelter	Tome, Laura; et al.	ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES	2022	14	10.1007/s12520-022-01661-9	6
Compositional, micromorphological and geotechnical characterization of Holocene Tiber floodplain deposits (Rome, Italy) and sequence stratigraphic implications	Tentori, Daniel; et al.	SEDIMENTOLOGY	2022	69	10.1111/sed.12969	6
Effects of long-term sewage sludge application to a calcareous soil structure	Simoes-Mota, Ana; Virto, Inigo; Maria Poch, Rosa	SOIL USE AND MANAGEMENT	2022	38	10.1111/sum.12838	4
Late Pleistocene shell midden microstratigraphy indicates a complex history of human-environment interactions in the uplands of North Vietnam	McAdams, Conor et al.	PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES	2022	377	10.1098/rstb.2020.0493	4
Mithraism under the microscope: new revelations about rituals through micromorphology, histotaphonomy and zooarchaeology	Lo Russo, Sarah; Bronnimann, David; Deschler-Erb, Sabine; Ebnother, Christa; Rentzel, Philippe	ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES	2022	14	10.1007/s12520-022-01505-6	4
Early pedogenesis of anthropogenic soils produced by the world's largest mining disaster, the Funda tilde o dam collapse, in southeast Brazil	Queiroz, Hermano Melo; et al.	CATENA	2022	219	10.1016/j.catena.2022.106625	3
Identification, characterization, and paleoclimatic implication of Early Cretaceous (Aptian-Albian) paleosol succession in Zhangye Danxia National Geopark, northwestern China	Mao, Xuegang; Retallack, Gregory; Liu, Xiuming	PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY	2022	601	10.1016/j.palaeo.2022.111128	3
The identification of dwellings and site formation processes at archaeological settlements in the tropics: A micro-geoarchaeological case study from neolithic Loc Giang, southern Vietnam	Grono, Elle; Piper, Philip J.; Nguyen, Khanh Trung Kien; Ngoc Kinh Dang; Denham, Tim; Friesem, David E.	QUATERNARY SCIENCE REVIEWS	2022	291	10.1016/j.quascirev.2022.107654	3
Evidence of prehistoric and early medieval agriculture and its impact on soil and land relief transformation in the Bialowieza natural forest (NE Poland)	Krupski, Mateusz;et al.	GEODERMA	2022	410	10.1016/j.geoderma.2021.115668	3
Magnetic and geochemical record of soil impacted by 300 years of Early medieval settlement	Grison, Hana et al.	CATENA	2023	231	10.1016/j.catena.2023.107368	2
Black soils in the Araripe basin, Northeast Brazil: Organic and inorganic carbon accumulation in a Chernozem-Kastanozem-Phaeozem sequence	Pinheiro Junior, et al.	JOURNAL OF SOUTH AMERICAN EARTH SCIENCES	2022	116	10.1016/j.jsames.2022.103789	2
Understanding the formation of buried urban Anthrosols and Technosols: An integrated soil micromorphological and phytolith study of the Dark Earth on the Mundaneum site (Mons, Belgium)	Collette, Olivier; Hermans, Rosalie; Loicq, Sophie	CATENA	2022	215	10.1016/j.catena.2022.106322	2
Early Stages of the Evolution of Chernozems under Forest Vegetation (Belgorod Oblast)	Chendev, Yu G.; et al.	EURASIAN SOIL SCIENCE	2022	55	10.1134/S1064229322040068	2
Development of an argillic horizon in polygenetic paleosols in the Marilia Formation (Maastrichtian), Brazil: Precautions for paleoenvironmental interpretation	Alves, Diego Sullivann de Jesus; Ladeira, Francisco Sergio Bernardes; Batezelli, Alessandro	CATENA	2022	210	10.1016/j.catena.2021.105896	2

Books



Editors: Sacha Jon Mooney, Iain M. Young, Richard J. Heck, Stephan Peth

Summarises almost 40 years of research in the area of X-ray CT imaging of soils. Introduces best practices for both image acquisition and analysis. Includes detailed examinations of different software packages for X-ray CT analysis

THE 17TH INTERNATIONAL CONGRESS ON SOIL MICROMORPHOLOGY (ICSM 2024)

"Micromorfología Amigonak Jikxataña"
(Micromorphology Making Friends)

City of Puno, Peru December 2 to 5, 2024.

This year, this international conference whose special theme is "Micromorphology Making Friends" will be held in the auditorium of the Faculty of Agrarian Sciences of the National University of the Altiplano in Puno - Peru. This congress is proposed as a posthumous tribute to Prof. Georges Stoops, who thanks to his work trained generations of micromorphologists not only in Latin America but also throughout the world. The proposal for this exchange event seeks knowledge, research results, and advances in soil micromorphology and complementary techniques. At the same time, the main objective is articulating regional and international knowledge networks in different associated areas. A total of 5 sessions are included:

Session 1. Micromorphology is a key technique to decipher pedogenetic processes.
Session 2. Paleopedology and Geoarchaeology.
Session 3. Micromorphology in different environments and cultures.
Session 4. Tribute to Professor Georges Stoops from his former students.
Session 5. Novel methods, techniques and new opportunities for soil micromorphology.

Participants in the congress will have the opportunity to visit the Uros Islands in the Titicaca Lake on the opening excursion; and learn about "The Uros Soils" (islands of anthropic origin in the middle of the lake).

During the first day of Welcome the official dinner "Peruvian Typical food" will be in the harbor of Titicaca Lake, enlivened by traditional Aymara dance groups from Puno region.

On the last day of the congress, the Waru Waru Pre-Incaic soils will be visited, ending with Lunch Peruvian Pachamanca. All these activities are included in the fees.

Associated Activity
As a complementary activity from December 6 to 10, a field trip will be carried out which includes the high Andean mountain area, paramo areas to the Peruvian Amazon jungle on the border with Brazil in the vicinity of the Madre de Dios River in the city of Puerto Maldonado, Peru. The routes, costs and other information associated with this post-congress activity can be consulted on the event website.

Complete information about the event on the website:
www.micromorphology.puno2024.com

Any additional information regarding how to get there, costs, conference content, accommodation, tours can be consulted in the official conference email:

micromorphology.puno2024@gmail.com

FAQ

1. Will transportation between an airport (in Peru) and Puno be provided?

From the Jorge Chávez International Airport (LIM) in Lima – Peru you can take a flight to the Inca Manco Cápac International Airport (JUL) in the city of Juliaca.

2. Will transportation be provided from the hotels and the venue, during the days of conference?

From the Inca Manco Cápac airport (Juliaca city), you can take a tourist or collective transportation at the airport exit to the city of Puno

If you prefer, you will inform the organizers by email about the day of your arrival to Juliaca and They can coordinate your transportation Juliaca – Puno

3. Will hotels be included on the excursion following the meeting?

Yes, Hotels, transportation and Food are included.

4. ¿Where will the excursion end?

The excursion ends in Puno, we go Puno – Puerto Maldonado – Puno

5. ¿Transportation back to the airport?

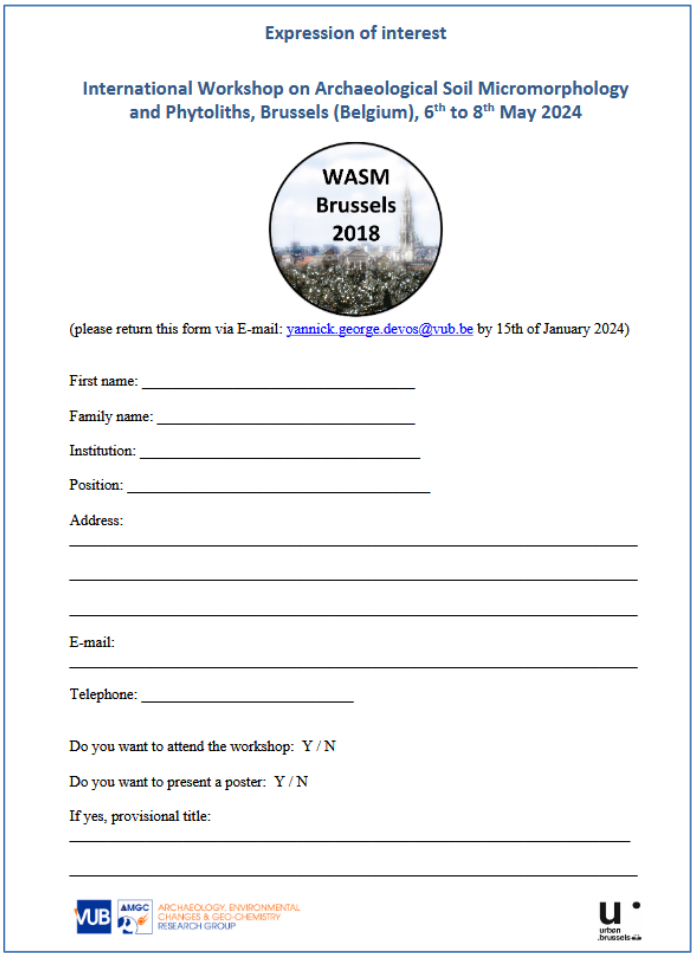
No, the excursion arrives at 7:00 pm and the last night is in Puno. You will give a tourist or collective transportation to the city of Puno at the airport exit from your hotel.

Fifth Virtual Micromorphology Meeting (ViMi5) (24th and 25th of April, 2024)

To register, simply follow this Zoom link (https://univienna.zoom.us/meeting/register/u5Uucu2pqj8rHdwB9tAWS7W-MXvqkHIw8k_n#/registration) and fill out the form.
ViMi5 will have a mix of sessions running in parallel: break-out rooms, live microscopy and methodological presentations and it will include the ViMi Student Prize for best microphotograph.

International Workshop on Archaeological Soil Micromorphology and Phytoliths, Brussels (Belgium), 6th to 8th May 2024

The next annual International Workshop on Archaeological Soil Micromorphology will be held at the Vrije Universiteit Brussel from the 6th to the 8th May 2024.



Expression of interest

International Workshop on Archaeological Soil Micromorphology and Phytoliths, Brussels (Belgium), 6th to 8th May 2024

WASM Brussels 2018

(please return this form via E-mail: yannick.george.devos@vub.be by 15th of January 2024)

First name: _____

Family name: _____

Institution: _____

Position: _____

Address:

_____

_____

_____

E-mail:

_____

Telephone: _____

Do you want to attend the workshop: Y / N

Do you want to present a poster: Y / N

If yes, provisional title:

_____

_____

VUB AMGC ARCHAEOLOGY, ENVIRONMENTAL CHANGES & GEO-CHEMISTRY RESEARCH GROUP

urban .brussels

The workshop is organised by the geoarchaeological team of the Archaeology, Environmental Changes & Geo-Chemistry Research Group (AMGC-VUB), with support from the Brussels Capital Region (Urban.Brussels).
The workshop will follow the tradition of the previous workshops: an informal meeting where participants are invited to bring their thin sections and where microscopy time and the exchange of ideas and experience prevail. 15 petrographic microscopes, two of which are equipped with fluorescence will be available. To assure sufficient microscopy time, there will be no oral presentation sessions, except for one or two key-note speeches. Instead, we will organise a poster session.
Registration and Expression of Interest: If you are interested in attending the workshop, we kindly ask you to submit an expression of interest using the attached form.
If you have any specific questions, do not hesitate to contact yannick.george.devos@vub.be
The organising committee,
Yannick Devos, Luc Vrydaghs, Mónica Alonso-Eguiluz, Meihui Li & Axel Cerón González