

COMMISSION 1.1

SOIL MORPHOLOGY & MICROMORPHOLOGY



International Union of Soil Sciences

NEWSLETTER APRIL 2023 vol. 31

Newsletter prepared by Commission 1.1 Officers 2022-2026
Chair: **Fabio Terribile** (Italy) - fabio.terribile@unina.it
Vice-Chair: Adam **Csorba** (Hungary) - csorba.adam@uni-mate.hu

Layout and design: CRISP

Cover: Inner complex architecture within an Fe-Mn concretion from a Vertisol (SEM Backscattering, Fortore – Campania). Courtesy by Fabio Terribile- CRISP Università di Napoli Federico II, Napoli.

Comm. 1.1. Soil Morphology and Micromorphology - IUSS

TABLE OF CONTENT

LETTERS FROM COMMISSION OFFICERS	4
PILLS OF WISDOM for soils and soil scientists	5
REPORT FROM WCSS GLASGOW.....	6
22nd World Congress of Soil Science August 2022, Glasgow, UK	6
ACTIVITIES BY THE COMMISSION.....	9
REPORT FROM PREVIOUS COURSES	11
PUBLICATIONS, ADDITIONAL NOTES.....	12
NEXT INTERNATIONAL CONFERENCE ON SOIL MICROMORPHOLOGY:	15

LETTERS FROM COMMISSION OFFICERS

Dear all,

First of all, apologies for the delay of this newsletter. Here we must start reporting the change in the Commission officers. Basically Richard Heck (previous vice-chair) is now chairing Division 1 while Fabio Terribile and Adam Szorba will act respectively as chair and vice-chair of our Commission for the period 2022-2026.

In this issue we report the minutes of the business meeting we had at WCSS in Glasgow where we adopted the changes in our award evaluation criteria concerning our two awards (Kubiena and MYPA).

In this volume we are also happy to report about: forthcoming meetings, forthcoming courses and report from previous courses, next international conference on soil micromorphology, new website.

We are also starting – as planned – with our online webinar and round table. This time on X-ray microtomography.

In this issue we shall also continue the “pills of wisdom“ section. This time, we made a small joke by asking Artificial Intelligence to write this section for us ! The results are very nice



Good Reading to all of you !

Fabio Terribile and Adam Szorba
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 publish small contributions from some of our major soil scientists, who decided to share with us some of their thoughts on key issues relevant for our Commission.

In this number we decided to do something different by sharing a small joke with you. As you know, we are all surrounded by a large debate about the how and the limites in using AI in many domains of our society. Then we decided to ask to ChatGPT to write for us this section by creating a poetry on soil microscopy !

Thus thanks very much to ChatGPT for your precious contribution 😊 !

A poetry on soil microscopy by ChatGPT

From the depths of the earth, to the roots of a tree,
There lies a world of wonder, for all to see,
A science of soil, so complex and diverse,
A study of nature, that we must immerse.

With soil science, we learn about the land,
The foundation of life, that's so grand,
We see the grains, that make up the soil,
And the organic matter, that gives it its toil.

We learn of the nutrients, that plants need to grow,
And the importance of pH, so they can thrive and glow,
We see the microbes, that live within the earth,
And the fungi and bacteria, that give soil its worth.

Soil science teaches us, how to protect and sustain,
This precious resource, that we can't afford to drain,
It shows us how to manage, the soil we have,
So that we can harvest, and still preserve and conserve.

With soil science, we learn to work in harmony,
With the land that sustains us, and gives us our bounty,
For soil is the basis, of all that we eat and breathe,
A precious resource, that we must forever cleave.

So let us celebrate, the wonder of soil science,
And the knowledge it brings, for us to enhance,
For with this wisdom, we can preserve and conserve,
This precious resource, that we must all deserve.

REPORT FROM WCSS GLASGOW

22nd World Congress of Soil Science August 2022, Glasgow, UK

The 22th World Congress of Soil Science was hold in Glasgow in the period 31 July - 5 August 2022.

Some symposia included soil microscopy and micromorphology issues in the description (soil carbon: from particle to planet, Novel methods and techniques , Soil classification and palaeopedology, Soil structure. Other symposia included soil morphology issues (The Legacy of Henry Lin and the future of Hydopedology, Progress in Digital Soil Morphometrics, , advances in understanding soils as reflected by the 4th edition of the WRB.

Below we report details about key micromorphology event occurred in Glasgow.

WHAT	WHEN
Business meeting Commission 1.1. Soil morphology and micromorphology	3 August
Interdivisional 9: Novel methods and techniques	2 August
12 Division: 1 Commission 1.4, Commission 1.6 – Soil classification and palaeopedology	2 August
29 WG1.3 – Progress in Digital Soil Morphometrics - deeper and more precise soil observations:	3 August
15 Divisions 1 and 2 Commission 1.1, Commission 2.1– Soil structure: Observation, resilience and its role in ecosystem functioning	4 August
Kubiena medal	4 August

The business meeting was followed through a zoom link

Minutes of the Business Meeting of the Commission 1.1. „Soil Morphology and Micromorphology”, Glasgow, United Kingdom, August 2023

The business meeting for Commission 1.1. „Soil Morphology and Micromorphology” was held at the Scottish Event Campus (SEC), Glasgow, Scotland, United Kingdom, on Wednesday, 3 August at 8.00, within the frame of the 22nd World Congress of Soil Science (WCSS).

In Attendance: Fabio Terribile (Chair), Adam Csorba (Vice-Chair), members of Commission 1.1. and participants of the 22 WCSS.

1. Opening: The meeting was opened by Fabio Terribile, the agenda was presented and accepted by the participants.

2. Introduction of the Officers: The elected IUSS Officers for the term 2022 – 2026 concerning Commission 1.1. are:

IUSS Division I. Soils in Space and Time

Chair: Richard Heck

IUSS Commission 1.1. Soil Morphology and Micromorphology

Chair: Fabio Terribile

Vice-Chair: Adam Csorba

3. Cancellation of the 16th International Krakow Conference on Soil Micromorphology

It was announced that the organization of the 16th International Conference on Soil Micromorphology and the Soil Micromorphology course in Kraków (Poland) had to be cancelled due to ongoing conflict in Ukraine and the uncertainty of the geopolitical situation in Central Europe in the near future. The meeting had been tried to be organized in 2020, but it was impossible due to the COVID -19 pandemic. For the organizers it was a very difficult decision to cancel the organization in 2022 but they were forced by the aggression of Russia against Ukraine.

4. Discussion on the next International Conference on Soil Micromorphology (ICSM)

The next ICSM will be organized in December 2024, in Puno, Peru. It was highlighted that the organizers should discuss the agenda with the Commission and only after the acceptance could it be announced.

It has been discussed that organizing live micromorphology conferences before the Puno conference may result in losing participants for the 2024 conference. When organizing such meetings

5. Website development

The website of the Commission was developed by utilizing the Stimulus Fund from the IUSS. It was agreed that the website should be updated regularly.

6. Rethinking of the awards

By leaving the original spirit of the medals rethinking the guidelines for the Kubiëna Medal Award and the Young Micromorphologist Publication Award (YMPA) is necessary. This involves the update of the evaluation standards of the scientific work.

By the revision of the past editions of the guidelines it was realized that too much subjectivity was allowed by the criteria. Special attention was given to the establishment of the award committee of the YMPA award. It was decided that beside the Chair and Vice-Chair three additional Commission members should be selected. The major task of this committee is the evaluation of the publication of the candidates. The evaluation should be objective and the process should transparent.

This led to the decision to develop new version of the evaluation criteria for both awards. These new editions were accepted during the business meeting, and were uploaded to the Commission website (<https://micromorphology.net/>)

Updated Guidelines for the Kubiëna Medal Award can be found under the following link: <https://micromorphology.net/wp-content/uploads/2023/02/NEW-GUIDELINES-FOR-KUBIENA-AWARDS.pdf>

Updated Guidelines for the Young Micromorphologist Publication Award (YMPA) can be found under the following link:

<https://micromorphology.net/awards/young-micromorphologist-publication-award/>

7. Introduction of the YMPA 2021 and 2022 winner

The composition of the Judging Committee, for this competition was: Prof. Fabio Scarciglia (University of Calabria), Dr. Irina Kovda (Dokuchaev Soil Science Institute) , Dr. Peter Kühn (University of Tübingen), Dr. Richard J Heck (University of Guelph, Vice-Chair of Commission 1.1), and Prof. Fabio Terribile (University of Napoli Federico II, Chair of Commission 1.1).

Commission 1.1 - Soil Morphology and Micromorphology has the pleasure to award the Young Micromorphologist's Publication Award to:

YMPA 2022: Dr. Tania González Vargas

In her paper "Brightness values-based discriminant functions for classification of degrees of organic matter decomposition in soil thin sections" (one section of her PhD) she developed a digital methodology to analyze pedofeatures in thin soil sections. Her research included high resolution images mosaic (7 x 5 cm), quantification of organic matter at different stages of

decomposition. The models showed high accuracy and application in diverse soil environments.

YMPA 2021: Dr. Jennifer Kielhofer

In her paper “The micromorphology of loess-paleosol sequences in central Alaska: A new perspective on soil formation and landscape evolution since the Late Glacial period”, she has used soil micromorphology to improve field interpretation on the loess-paleosol sequence in Central Alaska, improving current models of Late Glacial landscape evolution.

In the frame of the business meeting Dr. Tania González Vargas presented her paper via an online Zoom session.

8. Strengthening the Morphology activity

It was discussed that the Morphology component of the Commission had been underrepresented and it must be strengthened. One of the most important tasks is to contact Alfred Hartemink (University of Wisconsin - Madison) who was the chair of the Digital Soil Morphometrics Working Group. Possible cooperation with him is crucial to strengthen the introduction of modern methodologies in the morphological analysis of soils into the work of the Commission.

ACTIVITES BY THE COMMISSION

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

The website will be managed mainly by Adam Csorba (acting as webmaster) with the support of Danny Itkin, Fabio Scarciglia, Richard Heck and Fabio Terribile.

The current version required to be updated on a regular base and - needless to add - we need some volunteer who can support us (please let us know your availability writing to csorba.adam@uni-mate.hu).

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 useful material for the website.

Below we summarise the different sections of the website.



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 2 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.

Forum & Training: this section hosts (i) the recording of the round tables and training courses that the Commission will soon organize, (ii) 3 folders with teaching and research materials useful in 3 key research areas in micromorphology: archeology, paleopedology and digital image processing (including microtomography).

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

Between our activities we are organising the followings:

- **Round table (30th May 2023, 15.00 CET time) on “X-ray Imaging of the Soil Porous Architecture”** by Stephan Peth (confirmed), Sacha Mooney (confirmed), Richard Heck (confirmed) , Iain Young (not yet confirmed). They have just edited a new book on X-ray microtonography (<https://link.springer.com/book/10.1007/978-3-031-12176-0>).

The round table will be performed here: <https://us02web.zoom.us/j/87480382993>

- **Webinar (22 June 2023, 11,00 CET time) on “An Introduction to X-ray Imaging at the Hounsfield Facility “** by Sacha Mooney and Craig Sturrock.

The webinar table will be performed here: <https://us02web.zoom.us/j/86371882373>

REPORT FROM PREVIOUS COURSES

4th Latin-American Intensive Course on Soil Micromorphology

Short course on Soil Micromorphology (21-25 November 2022) - Puno, Perú

The 4th Latin-American Intensive Course on Soil Micromorphology were organized by Universidad Nacional del Altiplano Puno – Perú (UNA), Universidad Nacional de Colombia – Campus Medellín (UNAL) and Sociedad Peruana de la Ciencia del Suelo took place successfully from 21-25 November 2022 in Puno – Peru, in front to the Titicaca lake. A total of 16 participants from Peru, Colombia, México registered and participate actively in all proposed activities for this course. The programme included interactive classes when the attendees have contacts with micromorphology applications, terminology and microscopy sessions with apply cases with thin section for tropical, volcanic ashes, preHispanic archaeological sites and mountain environment. The field trip it was done to the aluvial valley and Pre Incaic caves in Pichacani Agricultural District in Copantani cavalley near to preincaic Chullpas of Cutimbo.

The course was given by professors Carlos Alberto Torres (CONACyT Researcher – México), Juan Carlos Loaiza Usuga (UNAL), Sandro Sardón Nina (UNA), Roger Gonzales Aliaga (UNA), the welcome was in charge of Prof. Rosa Poch I Claret from Lleida University (Spain) who gave the inaugural lecture. The interchange with enthusiastic younger micromorphologists; the discussions took place in a friendly and academic accordingly proposed themed. The 5th Latin-American Intensive Course on Soil Micromorphology will take place in the Luiz de Queiroz College of Agriculture (Esalq/USP) – Piracicaba (Brazil). Information regarding to the next 5th Latin-American Intensive Course on Soil Micromorphology one to be held in 2025 the Postgraduates School in Mexico.



Photo courtesy by Juan C Loaiza



Photo courtesy by Juan C Loaiza

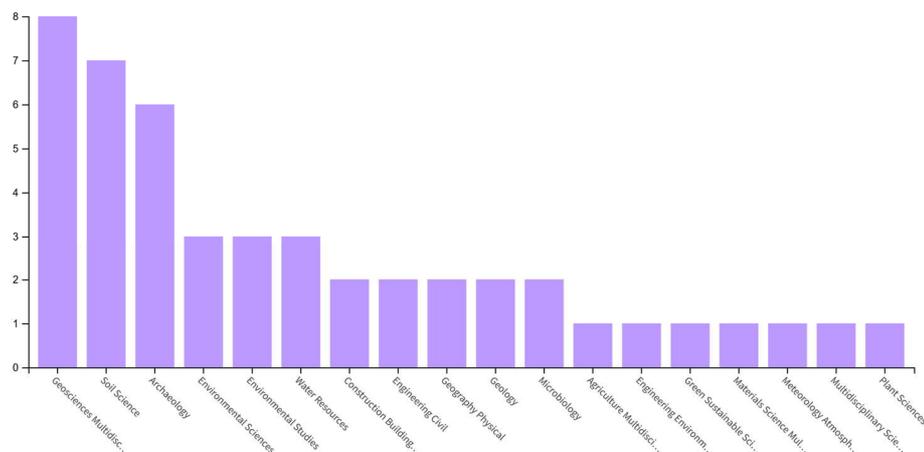


Photo courtesy by Juan C Loaiza

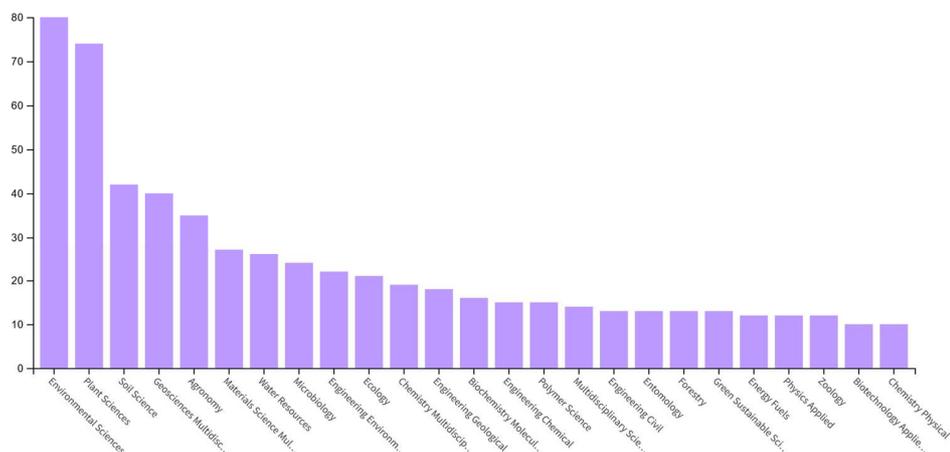
PUBLICATIONS, ADDITIONAL NOTES

Last papers published in the last year (April 2022-April 2023) having soil morphology or soil micromorphology in the topic;

SOIL MORPHOLOGY



SOIL MICROMORPHOLOGY



The most quoted soil morphology papers (April 2022-April 2023)

Title	Authors	Source Title	Year	Vol.	Issue	Total Citations
Influence of freeze-thaw cycles on microstructure and hydraulic conductivity of saline intact loess	Xu, Jian; Li, Yanfeng; Ren, Chang; Wang, Songhe; Vanapalli, Sai K.; Chen, Guoxin	COLD REGIONS SCIENCE AND TECHNOLOGY	2021	181		53
Side-swiped: ecological cascades emanating from earthworm invasions	Frelich, Lee E.; Blossley, Bernd; Cameron, Erin K.; Davalos, Andrea; Eisenhauer, Nico; Fahey, Timothy; Ferlian, Olga; Groffman, Peter M.; Larson, Evan; Loss, Scott R.; Maerz, John C.	FRONTIERS IN ECOLOGY AND THE ENVIRONMENT	2019	17	9	38
The strength and microstructural behavior of lime stabilized subgrade soil in road construction	Dhar, Subhadeep; Hussain, Monwar	INTERNATIONAL JOURNAL OF GEOTECHNICAL ENGINEERING	2021	15	4	30
Engineering Characteristics and Performance of Polypropylene Fibre and Silica Fume Treated Expansive Soil Subgrade	Tiwari, Nitin; Satyam, Neelima; Patva, Jasmin	INTERNATIONAL JOURNAL OF GEOSYNTHETICS AND GROUND ENGINEERING	2020	6	2	23
Intercropping of Peanut-Tea Enhances Soil Enzymatic Activity and Soil Nutrient Status at Different Soil Profiles in Subtropical Southern China	Farooq, Taimoor Hassan; Kumar, Uttam; Mo, Jing; Shakoor, Awais; Wang, Jun; Rashid, Muhammad Haroon U.; Tufail, Muhammad Aammar; Chen, Xiaoyong; Yan, Wende	PLANTS-BASEL	2021	10	5	21
Estimation of soil subsurface hydraulic conductivity based on inverse modelling and soil morphology	Vogeler, Iris; Carrick, Sam; Cichota, Rogerio; Lilburne, Linda	JOURNAL OF HYDROLOGY	2019	574		19
A minimum data set of soil morphological properties for quantifying soil quality in coastal agroecosystems	Vasu, Duraisamy; Tiwari, Gopal; Sahoo, Sonalika; Dash, Benukantha; Jangir, Abhishek; Sharma, Ram Prasad; Naitam, ...	CATENA	2021	198		17
Geomorphological control on podzolisation - An example from a tropical barrier island	Martinez, Pedro; Buurman, Peter; Lopes-Mazzetto, Josiane Millani; Fonseca Giannini, Paulo Cesar; Schellekens, Judith; Vidal-	GEOMORPHOLOGY	2018	309		16
Soil morphology related to hydrology and degradation in tropical coastal podzols (SE Brazil)	Lopes-Mazzetto, Josiane Millani; Buurman, Peter; Schellekens, Judith; Rodrigues de Moraes Martinez, Pedro Henrique; Vidal-	CATENA	2018	162		16
Genesis of pseudo-sand structure in Oxisols from Brazil - A review	Martinez, Pedro; Souza, Ivan F.	GEODERMA REGIONAL	2020	22		15
Tomography of Soil Pores: from Morphological Characteristics to Structural-Functional Assessment of Pore Space	Ivanov, A. L.; Shein, E. V.; Skvortsova, E. B.	EURASIAN SOIL SCIENCE	2019	52	1	15
Groundwater Hydrology and Quality in Drained Wetlands of the Des Moines Lobe in Iowa	Schilling, Keith E.; Jacobson, Peter J.; Streeter, Matthew T.; Jones, Christopher S.	WETLANDS	2018	38	2	14
The Role of the Water Level in the Assessment of Seismic Vulnerability for the 23 November 1980 Irpinia-Basilicata Earthquake	Forcellini, Davide	GEOSCIENCES	2020	10	6	13
Hydropedological grouping of South African soil forms	van Tol, Johan J.; Le Roux, Pieter A. L.	SOUTH AFRICAN JOURNAL OF PLANT AND SOIL	2019	36	3	13
Anthracological and morphological analysis of soils for the reconstruction of the forest ecosystem history (Meshchera Lowlands, Russia)	Bobrovsky, Maxim V; Kupriaynov, Dmitry A.; Khanina, Larisa G.	QUATERNARY INTERNATIONAL	2019	516		12
Polygenetic soil formation on Late Glacial Loess on the Susak Island reflects paleo-environmental changes in the Northern Adriatic area	Durn, Goran; Rubinic, Vedran; Wacha, Lara; Patekar, Matko; Frechen, Manfred; Tsukamoto, Sumiko; Tadej, Neven; Husnjak, Stjepan	QUATERNARY INTERNATIONAL	2018	494		12

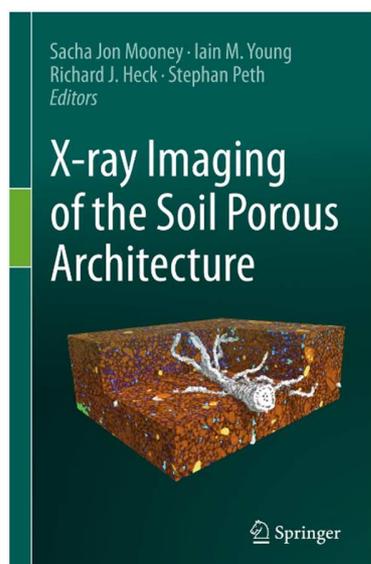
The most quoted soil micromorphology papers (April 2022-April 2023)

Title	Authors	Source Title	Year	Vol.	Issue	Total Citations
X-ray microtomography analysis of soil pore structure dynamics under wetting and drying cycles	Pires, Luiz F.; Auler, Andre C.; Roque, Waldir L.; Mooney, Sacha J.	GEODERMA	2020	362		41
Soil creep: The driving factors, evidence and significance for biogeomorphic and pedogenic domains and systems - A critical literature review	Pawlik, Lukasz; Samonil, Pavel	EARTH-SCIENCE REVIEWS	2018	178		41
Why does (archaeological) micromorphology have such little traction in (geo)archaeology?	Goldberg, Paul; Aldeias, Vera	ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES	2018	10	2	30
Shell we cook it? An experimental approach to the microarchaeological record of shellfish roasting	Aldeias, Vera; Gur-Arieh, Shira; Maria, Raquel; Monteiro, Patricia; Cura, Pedro	ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES	2019	11	2	27
Soil parent material is the main control on heavy metal concentrations in tropical highlands of Brazil	Zinn, Yuri Lopes; de Faria, Jessica Amaral; de Araujo, Marla Alessandra; Araujo Skorupa, Alba Lucia	CATENA	2020	185		24
Physicochemical properties and micromorphology of degraded alpine meadow soils in the Eastern Qinghai-Tibet Plateau	Ma, Xuping; Asano, Maki; Tamura, Kenji; Zhao, Ruonan; Nakatsuka, Hiroko; Wuyunna, Wang, Tao	CATENA	2020	194		20
Is soil quality a concern in sugarcane cultivation? A bibliometric review	Martini, Aline Fachin; Valani, Gustavo Pereira; Boschi, Raquel Stucchi; Bovi, Renata Cristina; Simoes da Silva, Laura Fernanda; Cooper, Miguel	SOIL & TILLAGE RESEARCH	2020	204		17
A multiproxy record of palaeoenvironmental conditions at the Middle Palaeolithic site of Abric del Pastor (Eastern Iberia)	Connolly, Rory; Jambriña-Enriquez, Margarita; Herrera-Herrera, Antonio V.; Vidal-Matutano, Paloma; Fagoaga, Ana; Marquina-Blasco, Rafael; Dolores Marin-Monfort, Maria; Javier Ruiz-Sanchez, Francisco; Lapiana, Cesar; Ballon, Salvador; Perez, Leopoldo; Leierer, Lucia; Hernandez, Cristo M.; Galvan, Berta; Mallol, Carolina da Silva, Luis Fernando; Fruett, Tatiele; Zinn, Yuri Lopes; Inda, Alberto Vasconcellos; do Nascimento, Paulo Cesar	QUATERNARY SCIENCE REVIEWS	2019	225		17
Genesis, morphology and mineralogy of Planosols developed from different parent materials in southern Brazil		GEODERMA	2019	341		17
The Shell Midden Conundrum: Comparative Micromorphology of Shell-Matrix Sites from South America	Villagrán, Ximena S.	JOURNAL OF ARCHAEOLOGICAL METHOD AND THEORY	2019	26	1	16
Soil morphology related to hydrology and degradation in tropical coastal podzols (SE Brazil)	Lopes-Mazzetto, Josiane Millani; Buurman, Peter; Schellekens, Judith; Rodrigues de Moraes Martinez, Pedro Henrique; Vidal-Torrado, Pablo	CATENA	2018	162		16
Microstratigraphic preservation of ancient faunal and hominin DNA in Pleistocene cave sediments	Massilani, Diyendo; Morley, Mike W.; Mentzer, Susan M.; Aldeias, Vera; Vemot, Benjamin; Miller, Christopher; Stahlschmidt, Mareike; Kozlikin, Maxim B.; Shunkov, Michael; V. Derevianko, Anatoly P.; Conard, Nicholas J.; Wurz, Sarah; Henshilwood, Christopher S.; Vasquez, Javi; Essel, Elena; Nagel, Sarah; Richter, Julia; Nickel, Birgit; Roberts, Richard G.; Paeaebo, Svante; Slon, Viviane; Goldberg, Paul; Meyer, Matthias	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	2022	119	1	15
Lime plaster cover of the dead 12,000 years ago - new evidence for the origins of lime plaster technology	Friesem, David E.; Abadi, Itay; Shaham, Dana; Grosman, Leore	EVOLUTIONARY HUMAN SCIENCES	2019	1		14
Microstratigraphic analysis on a modern central Saharan pastoral campsite. Ovicaprine pellets and stabling floors as ethnographic and archaeological referential data	Eguez, Natalia; Zerboni, Andrea; Biagetti, Stefano	QUATERNARY INTERNATIONAL	2018	483		14

Additional Publications suggested by our members

- Martin H. Gerzabek, Georges Stoops(†), Franz Ottner, Shan-Li Wang, Liang-Sin Huang, and Franz Zehetner. 2023. The evolution of soil microstructure and micromineralogy along a soil age gradient on the Galápagos Islands (Ecuador). *Geoderma Regional*:Volume 32, March 2023, e00609. Here the link <https://doi.org/10.1016/j.geodrs.2023.e00609>
- Comment by Martin H. Gerzabek: *Our research group at the university of Natural Resources and Life Sciences Vienna dedicated the latest micromorphological paper on the evolution of the soils of the Galápagos Islands in a chronosequence over 1 million years to the memory of the great scientist and teacher Georges Stoops. The editor of Geoderma Regional, Prof. Ingrid Kögel-Knabner, selected the work as "Editor's Choice" for the February issue.*
- Itkin D. Et al. 2022. Pedology of archaeological stone-wall bench terraces. *Geoderma* Volume 428, 15 December 2022, 116129
- Durn G. 2023. A tropical soil (Ferralsol) identified in the northernmost part of the Mediterranean (Istria, Croatia). *CATENA* Volume 224, 1 May 2023, 106955

Books



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

Summarizes 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

NEXT INTERNATIONAL CONFERENCE ON SOIL MICROMORPHOLOGY:

IUSS Commission 1.1 – at WCSS in Glasgow - has accepted the proposal for the 17th. International Conference on Soil Micromorphology (ICSM), Puno – Peru (2024).

Below some information:

Location

The 17 ICSM will take place at the auditorium of Facultad de Ciencias Agrarias of Universidad Nacional del Altiplano in Puno

(https://en.wikipedia.org/wiki/Universidad_Nacional_del_Altiplano_de_Puno) which has a capacity for 200 people, this auditorium is located 15 minutes walking from the Puno city center along the Titicaca boulevard. Titicaca lake is the largest lake in South America and the highest navigable body of water in the world, which can be visited by visitors. The conference center (<https://www.facebook.com/unapunooficial/posts/1031785793685192>) of the National University of Altiplano is easily accessible for visitors with mobility difficulties and accessibility needs. The University also has his soccer stadium (https://es.wikipedia.org/wiki/Estadio_Monumental_de_la_UNA) with capacity for 30.000 people, it headquarters of the Deportivo Binacional Peruvian first division Soccer team.

The Hotel Colonia Plaza Hotel (www.colonialplazahotel.com) is the official accommodation provider for the congress and has negotiated specially discounted rates. Puno city has a wide range of hotels, hostels and private apartments like:

- GHL Lake Titicaca. (https://en.ghlhoteles.com/hotels/peru/puno/lago-titicaca/?_ga=2.62166892.1918673642.1649977802-2008313373.1649977802)
- Casona Plaza Hotel. (<https://casonaplazahoteles.ga/casona-plaza-hotel-puno/>)
- Casona Plaza Hotel Downtown. (<https://casonaplazahoteles.ga/casona-plaza-hotel-centro-puno/>)
- Hotel Balsa Inn. (<https://casonaplazahoteles.ga/hotel-balsa-inn/>)
- Hotel Qalabaya (<https://hotelqalabaya.com/>)
- Conde de Lemos (<http://www.condelemosinn.com/puno/>)
- Due to its tourist attractions, the city of Puno offers a wide range of hotels
- https://www.tripadvisor.co/SmartDeals-g298442-Puno_Puno_Region-Hotel-Deals.html
- https://www.kayak.com.co/Hoteles-en-Puno.47563.hotel.ksp?r9ck=iq&gclid=Cj0KCOjwjN-SBhCkARIsACsrBz5Yx3fMNHCUONz4n-cb8mxkhPgcW9G4noh-RZEoz3LZwFfCKChRIIwaAjwWEALw_wcB
- https://www.booking.com/city/pe/puno.es.html?aid=306396;label=puno-VemibMw1UdGDsIaIXIYzqAS392558417021;pl:ta:p1120;p2:ac:ap:neg:fi:tikwd-3463368781;lp1029330;li:dec:dm:ppcep=UmFuZG9tSVYkc2RIIyh9YdnZzv7u3SiOco5fpqS0M1M;ws=&gclid=Cj0KCOjwjN-SBhCkARIsACsrBz6LCz3CYWeByot0-XUHRmi21tPIAi00K8W-fuDOgAcE0SZg8qum2kwaArkFEALw_wcB
- https://www.airbnb.com.co/?c=.pi0.pk1392685610_51863284301&gclid=Cj0KCOjwjN-SBhCkARIsACsrBz7JlyAowg2IV0jqbo63yiP5A6bbM4oralGHPeWfpkjuiYrxoIidsNcaAhNIEALw_wcB

Special Theme: “Micromorphology Making Friends”

This congress is proposed as a posthumous tribute to the Prof. Georges Stoops, who was repeatedly invited to the soil micromorphology courses offered in Latin America, and who was unable to attend due to the health reasons. This congress proposes to the micromorphologists community share in a unique natural environment rich in history as a community of friends enthusiastic about the study of micropedology. Professor Stoops,

whom many of us knew, always imprinted his micromorphology work of human quality, making possible through his work a bridge of friendship, it is for this reason that the proposed special theme is "making Friends". This proposed conference seeks in addition to the exchange of knowledge, to strengthen the interaction and joint work of people with similar interests in different places of the world having as an axis the use of soil micromorphology.

Proposed Program (including dates)

Day 1. Monday 02 December 2024.

Inscription and accreditation 8:00 - 9:00 h

welcome opening conference by national authorities 9:00 – 9:45

h New trends in soil micromorphology 10:00 – 12:00 h

Chair: María del Carmen Gutiérrez Castorena – Héctor

Morras Welcome lunch in the port of Titicaca Lake 12:30 –

14:00

Excursion visit the Uros Islands in the Titicaca Lake “The Uros Soils” 14:00 -18:00 h

Day 2. Tuesday 03 December 2024.

Micromorphology than key of pedogenetic processes 8:00 – 12:00 h

Chair: Rosa Poch I Claret – Pablo Vidal

Paleopedology and Geoarchaeological approach 14:00 – 17:00 h

Chair: Ximena Villagrán – Carlos Torres

Day 3. Wednesday 04 December 2024.

Micromorphology in different environments and cultures 8:00 – 12:00 h

Chair: Selma Simoes de Castro – Tomasz Zaleski

Tribute to Professor Georges Stoops from his students 14:00 – 16:00 h

Chair: Rosa Poch I Claret – María del Carmen Gutiérrez Castorena

Business meeting. 17:00 – 18:00 h

Closing Party

Day 4. Novel methods, techniques and New opportunity for soil micromorphology 8:00 – 12:00 h

Chair: Mercè Bergadà - Miguel Cooper

Parting Diner Peruvian Pachamanca 12:00 - 14:00 h

Final excursion Waru Waru Preincaic soils 14:00 -18:00 h

Organizing Committee

Rosa M Poch (University of Lleida, Catalonia)

María del Carmen Gutiérrez Castorena (Postgraduate College – COLPOX, Mexico) Isabel Solleiro (Universidad Autónoma de México – UNAM, Mexico)

Selma Simoes de Castro (University of Sao Paulo, Brazil)

Ximena Villagrán (USP. Museum of Archaeology and Ethnology, Brazil) Sandro Sardon

Nina (Universidad Nacional del Altiplano de Puno, Peru) Roger Gonzales Aliaga

(Universidad Nacional del Altiplano de Puno, Peru) Tomasz Zaleski (University of Agriculture in Krakow, Poland)

Pablo Vidal (University of Sao Paulo, Brazil)

Juan Carlos Loaiza-Usuga (Universidad Nacional de Colombia, Colombia)

Peruvian soil Sciences Society, Engineering College of Peru, Departamental Council of Puno, Agricultural sciences Faculty and Geology faculty Universidad Nacional del Altiplano en Puno.

Associated Activities (e.g tour, short courses)

Short course about micromorphology in different environments and cultures
Geoarchaeological applications. 27 to 30 November 2024.

Pedological field trip to Titicaca Lake to Amazon Jungle (Madre de Dios River). Soils genesis and micromorphology of Soil catena. 06 to 10 December 2024. The trip will start from Lake Titicaca (Puno City) towards the Amazon jungle (Puerto Maldonado City), which is located in the south east of Peru, corresponding to two departments such as Puno and Madre de Dios. The transect to be carried out has a linear extension of 400 kilometers. This transect has landscapes such as the Altiplano, passing to the western mountain range located at more than 4500 m.a.s.l and reaching the Amazonian fluvial system with an altitude of 200 meters above sea level, the landscapes have different parental materials such as lacustrine deposits, alluvial deposits and residual origin.

Tours from Puno City:

Uros Islands tour (<https://www.viator.com/es-ES/Puno-attractions/Uros-Floating-Islands-Islas-Uros/d4726-a6400>)

Taquile and Amantani Islands tour (<https://www.quechuastravel.com/en/tours/uros-amantani-taquile.php>)

Sillustani Chullpas tour (<https://punotours.com.pe/en/classic-tours/tour-sillustani-half-day/>) Chucuito tour (https://www.tripadvisor.com/Tourism-g2053396-Chucuito_Puno_Region_Vacations.html)

Cutimbo tour (<https://www.civitatis.com/en/puno/cutimbo-tour/>)

Uyuni Salt flats (<https://www.nationalgeographic.com/travel/article/how-to-see-salar-de-uyuni-salt-flats-bolivia>)

Puno to Machupichu tour (<https://www.xtravelperu.com/es/tour-machupicchu-puno-todo-lo-mejor-de-dos-regiones-en-un-tour/>)

Puno to Arequipa Tour (<https://theculturetrip.com/south-america/peru/articles/11-reasons-why-you-should-visit-arequipa-in-peru-before-everyone-else-does/>)

Facilitating Participation

2 scholarships will be offered for students in the pre-congress course. Enrollment for undergraduate and graduate students has a 50% discount.

2 scholarships will be offered to students who are developing their research work in the area of soil micromorphology.

The congress will be face-to-face, but if necessary, the equipment and technical capacity exist to carry out all the virtual sessions.

International congress on soil and archaeology (Tours, F, 29 november - 1 december 2023).

Here is the link:<https://archeosol2023.sciencesconf.org/>

The conference will includes some items connected to soil micromorhology

