COMMISSION 1.1

SOIL MORPHOLOGY & MICROMORPHOLOGY

International Union of Soil Sciences

NEWSLETTER
DECEMBER 2019,
Vol. 25.

Newsletter prepared by Commission 1.1 Officers 2018-2022
Chair**: Fabio Terribile** (Italy) - fabio.terribile@unina.it
Vice-Chair: **Richard J. Heck** (Canada) - rheck@uoguelph.ca

Layout and design: CRISP (cover page. processed micromorphological image after the June 2019 Bulletin

Comm. 1.1. Soil Morphology and Micromorphology - IUSS

TABLE OF CONTENT

LETTERS FROM COMMISSION OFFICERS

Dear all,

In this issue we just wish to send our Best Wishes to all of you. Then Merry Christmas and Happy New year to all our scientific community.

As small reminder from previous news we have organised with Alfred Hartemink (Chair of the Working Group on Digital Soil Morphometric http://digitalsoilmorphometrics.org/) a joint symposia during the next EGU 2020. Please consider your participation (deadline abstract submission is 15th January) At the same time the organization of the next ICSM 2020 at Krakow is proceeding.

Fabio Terribile & Richard Heck
IUSS Commission Soil Morphology and Micromorphology

.

FORTHCOMING MEETINGS

EGU 2020 VIENNA | AUSTRIA | 3–8 MAY 2020

We shall chair the following session at next EGU 2020 (SSS11.1)

Multiscale Digital Soil Morphometrics – From Soil Profile to Soil Micromorphology

https://meetingorganizer.copernicus.org/EGU2020/session/35109

Convener: Alfred Hartemink, Co-conveners:Fabio Terribile, Richard Heck

Abstract submission (deadline: 15 January 2020, 13:00 CET)

Early registration (deadline: 31 March 2020)

16TH INTERNATIONAL CONFERENCE ON SOIL MICROMORPHOLOGY, KRAKÓW, POLAND – 30 AUGUST- 3 SEPTEMBER 2020

On behalf of the Organizing Committee, I would like to invite to the 16th International Conference on Soil Micromorphology, which will be held in Kraków, Poland from August 30th to September 3rd , 2020. The venue of the conference is the Jagiellonian University in Kraków, Poland, 3rd Campus, Gronostajowa Str. All necessary information about the conference is available at http://www.icosm2020.sggw.pl/

You can download the second circular at http://www.icosm2020.sggw.pl/wp-content/uploads/2019/10/2nd_Circular_ICoSM_2020_Krakow.pdf

The optional micromorphological course is to take place on August 25–30, 2020. All necessary information is available at http://www.icosm2020.sggw.pl/course/

The optional post-conference trip is to take place on September 4–6, 2020. The detailed information about the trip is available at http://www.icosm2020.sggw.pl/

We look forward to welcoming you in Kraków.

Yours sincerely,

Lukasz Uzarowicz

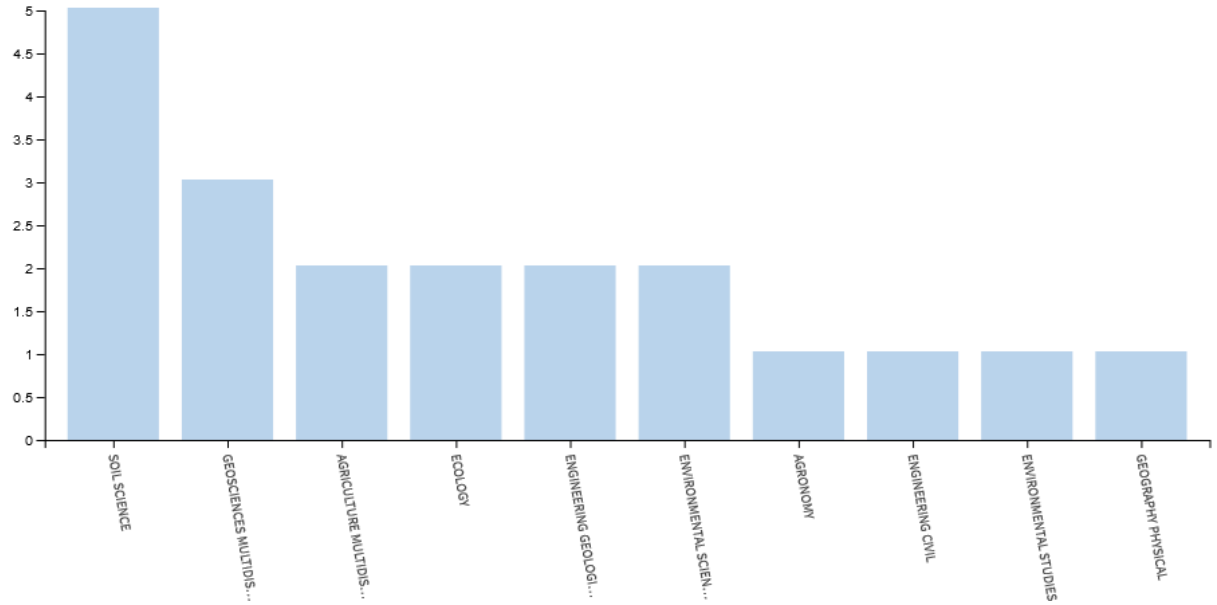
Head of the Organizing Committee

A GRAPHICAL OVERVIEW OF OUR RESEARCH PAPERS

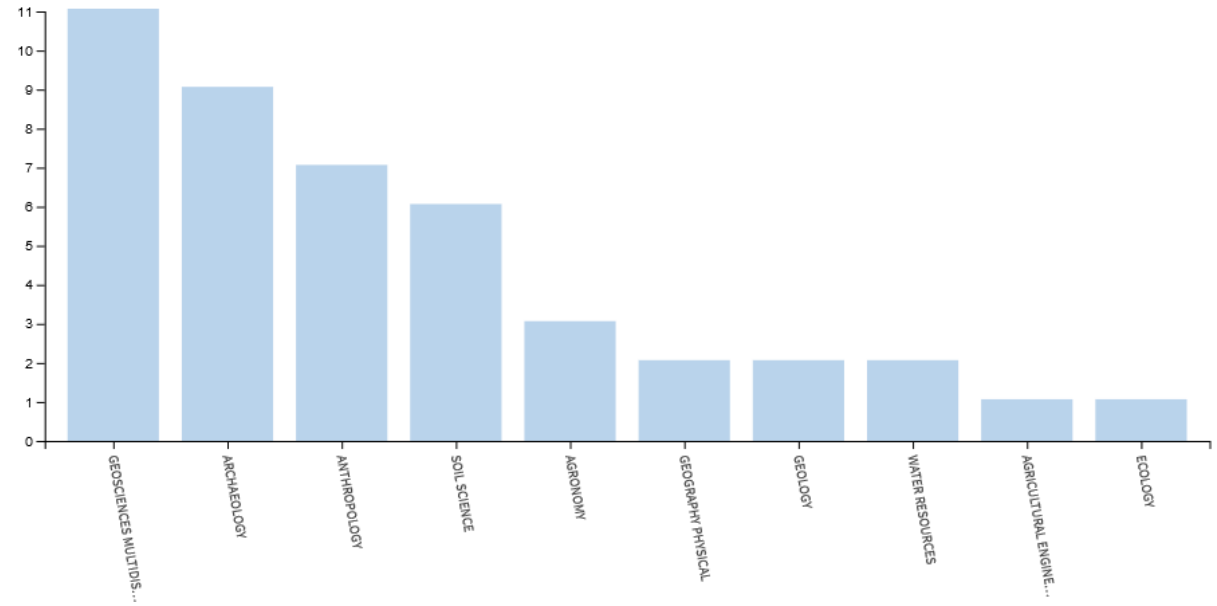
Following the previous issue, here we report an enlarged graphical overview (after WoS) about the occurrence of papers (22/12/2018-22/12/2019) – ranked for subject science category - having “soil micromorphology” and “soil morphology” as topic. Of course each paper can be ascribed to more than one science category.

The overall picture provides a rapid view about the strength of both soil micromorphology and soil morphology as linkage between different disciplines.

“Soil Morphology” (16 papers)



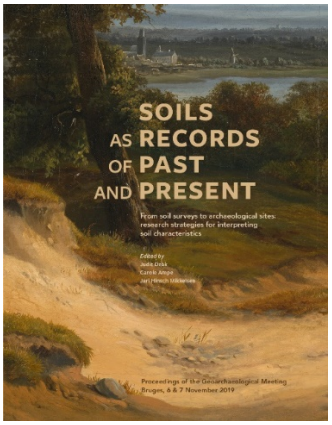
“Soil Micromorphology” (25 papers)



RESEARCH NOTES, BOOKS AND PUBLICATIONS

SOILS AS RECORDS OF PAST AND PRESENT. FROM SOIL SURVEYS TO ARCHAEOLOGICAL SITES: RESEARCH STRATEGIES FOR INTERPRETING SOIL CHARACTERISTICS

Judit Deák, Carole Ampe, Jari Hinsch Mikkelsen
320 pages



Editors: Judit Deák, Carole Ampe and Jari Hinsch Mikkelsen
Technical editor: Mariebelle Deceuninck
English language reviewer: Caroline Landsheere
Graphic design: Frederick Moyaert
Printing & binding: Die Keure, Bruges
Publisher: Raakvlak, Archaeology, Monuments and Landscapes of Bruges and Hinterland, Belgium, www.raakvlak.be
ISBN 978 90 76297 811

This book is available as:

- a printed book for the price of 55 euros + shipping (5 Euros in BeNeLux, 10 Euros in Europe and 15 Euros outside of Europe). If you are interested in purchasing a copy please contact info@raakvlak.be
- an open access online document (http://doi.org/10.5281/zenodo.3417724 will be available starting from 01.03.2020)

The table of contents can be consulted on the website of the meeting: http://www.4terres.ch/gamb19 Each individual paper is already accessible as an open access online document and the authors keep the copyright of their work.

Short summary: This book was edited on the occasion of the meeting '**Soils as records of Past and Present: the geoarchaeological approach. Focus on: is there time for fieldwork today?'** that was held on the 6th and 7th of November 2019 in Bruges (Belgium). With this book, we would like to pay honour to all the scientific contributions of Roger Langohr, who manages to fascinate, motivate and promote scientists that are active in various research fields and come from all parts of the world.

In the past few decades, soil science has contributed greatly to the discussions on past and present environmental changes, as well as to the understanding of various topics of human impact on landscapes and the environment. This book aims to address these complex issues and demonstrates how they are approached and unravelled through past and current interdisciplinary research. The twenty-one papers that compose this book focus on a broad range of subjects and cover a wide geographical scope with soils and related questions presented from Belgium, France, Hungary, Luxembourg, Spain, and Switzerland. The peer-reviewed papers are grouped in five main chapters: Present and past soilscapes and land use (1), Natural and anthropogenic soil forming factors and processes (2), Archaeology and soil science, unravelling the complexity (3), Past climates and environments (4), and Present and future use of soil data (5). These contributions testify that an interdisciplinary approach, which has long been advocated by Roger Langohr, works well and proves it to be a successful tactic.

By Judit Deák, Carole Ampe, Jari Hinsch Mikkelsen, Mariebelle Deceuninck

OTHER AND PUBLICATIONS SUGGESTED BY OUR COMMUNITY

Was the Little Ice Age the coolest Holocene climatic period in the Italian central Alps?
Andrea Zerboni, Guido S Mariani, Lanfredo Castelletti, Elena S Ferrari, Marco Tremari, Franz Livio, Rivka Amit. 2019 Progress in Physical Geography (in press) . DOI: 10.1177/0309133319881105

Hominin and animal activities in the microstratigraphic record from Denisova Cave (Altai Mountains, Russia)
Mike W. Morley, Paul Goldberg, Vladimir A. Uliyanov, Maxim B. Kozlikin, Michael V. Shunkov, Anatoly P . Derevianko, Zenobia Jacobs & Richard G. Roberts. 2019 Denisova. In Scientific Reports | (2019) 9:13785 | https://doi.org/10.1038/s41598-019-49930-3

Paul Quantin contributed to this bulletin by making available to those of you interested his scientific papers concerning (i) Genesis of petroduric and petrocalcic horizons in Latinamerica volcanic soils and (ii) Genesis and main features of indurated volcanic soils in latinamerica (mexico, ecuador and nicaragua). Please write to fabio.terribile@unina.it those who are interested in acquiring this scientific documentation.

FORTHCOMING COURSES AND OPPORTUNITIES

PRECONFERENCE INTENSIVE SHORT SOIL MICROMORPHOLOGY COURSE connected to 16th International Conference on Soil Micromorphology 2020, Kraków, Poland Web site: http://www.icosm2020.sggw.pl/

Venue and Date: Kraków, August 25–30, 2020
Pre-registration period: from October 1, 2019 to February 1, 2020
Registration period: from February 2, 2020 to May 31, 2020
How to register: Please register to the course using the link http://www.icosm2020.sggw.pl/course/. The form should be sent to Dr. Hab. Wojciech Szymański, e-mail: w.szymanski@uj.edu.pl
Number of students: max. 20
Full cost: 220 EURO including field trip
Site of course: Department of Pedology and Soil Geography of Institute of Geography and Spatial Management at the Jagiellonian University in Krakow. Gronostajowa Str. 7, 30-387 Kraków, Poland.

Head of the course: Prof. Juan C. Loaiza-Usuga, email: jcloaiza@unal.edu.co **Polish coordinator:** Dr. hab. Wojciech Szymański, email: w.szymanski@uj.edu.pl Course offered by:
Soil Science Society of Poland, Jagiellonian University in Krakow, University of Agriculture in Krakow

Introduction: Soil micromorphology is a tool that allows understanding the mechanisms of soil interaction with the natural environment in relation to soil functions, formation and evolution. It is possible to describe and identify different soil components and their distribution as well as interaction in the space. This technique is particularly important in studies of porous systems, archeology, earth sciences, soil contamination and problems associated with soil degradation in relation to land use and management in actual and historical contexts. The program of this course is focused on the use of this technique in fields related to the soil genesis, land management, tropical soils, loess soils, frost-affected soils, and weathering in soil environment. The participants of the course can bring their own thin sections but it is also possible to participate in the practical exercises using thin sections provided by the lecturers.

Subjects: Introduction, sampling techniques, introduction to soil micromorphology, mineral identification in thin sections, mineral weathering description, microstructure and porosity description, systematic description of thin section, micromorphometry, pedofeatures in different environments and soils, carbonates and gypsum in Mediterranean soils, micromorphology of loess soils, micromorphology of frost-affected soils, tropical soils.

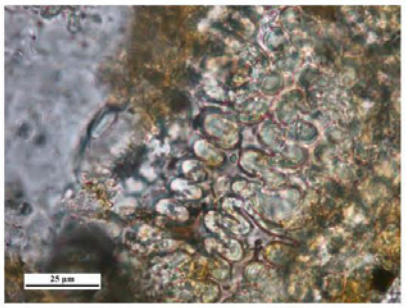
Laboratory work: During the course, the thin section preparation laboratory as well as the microscopy laboratory of the Department of Pedology and Soil Geography of the Institute of Geography and Spatial Management at the Jagiellonian University in Kraków will be visited.
The thin section preparation laboratory is located in the building of Institute of Geography and Spatial
Management at the Jagiellonian University in Krakow (Gronostajowa Str. 7,
30-387 Krakow).

Areas of interest: This course is oriented to bachelor, graduate and postgraduate students and researchers in the fields of soil sciences, earth sciences, and geoarchaeology, such as geology, soil science, environmental sciences, geography, archaeology, agronomy, and forestry.

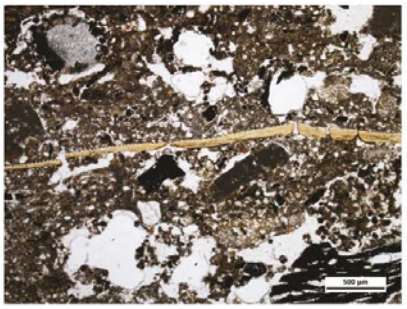
Professorate: Georges Stoops (Ghent University, Belgium), Rosa M. Poch (Universitat de Lleida, Spain), Fabio Terribile (University of Napoli Federico II, Italy), Wojciech Szymański (Jagiellonian University in Kraków, Poland), Bartłomiej Kajdas (University of Agriculture in Kraków, Poland), Juan C. Loaiza-Usuga (Universidad Nacional de Colombia, Colombia).

Course text: Stoops, G. 2019 (in preparation). Guidelines for Analysis and Description of Soil and Regolith Thin Sections. Second Edition. Soil Sci. Soc. Am., Madison, WI.

INTERNATIONAL WORKSHOP ON ARCHAEOLOGICAL SOIL MICROSCOPY AND PHYTOLITHS ANALYSIS - WASM – PARIS 2020 JULY 8-10



First announcement



WASM Paris 2020

International Workshop on Archaeological Soil Microscopy and Phytoliths Analysis

WASM – Paris 2020
July 8-10

Dear colleagues,

Next year, the international workshop of the Working Group on Archaeological Soil Micromorphology will be held in Paris, from **Wednesday 8th to Friday 10th July 2020.** Save the date!

The workshop will follow the traditional conduct with informal microscopy sessions in order to share ideas and experience. Two rooms and c. 40 polarizing microscopes will be available, in the city-centre of Paris. A special place will be given to phytolith analysis. Participants are invited to bring their own thin sections.
One session will be devoted to short oral presentations related to participants' thin sections which are to be explained and discussed during the workshop.
Further information regarding the venue, the program, abstract and poster submission, publication of the proceedings and accommodation will be given next autumn.

Looking forward to meet you in Paris next year,

The organising committee,

Quentin Borderie, Aline Garnier, Laurent Emmanuel, Christophe Petit, Alexandra Pineau

quentinborderie@yahoo.fr
aline.garnier@u-pec.fr

REPORT ON PREVIOUS MEETINGS

SOILS AS RECORDS OF PAST AND PRESENT: THE GEOARCHAEOLOGICAL APPROACH. FOCUS ON: IS THERE TIME FOR FIELDWORK TODAY?

The international meeting “Soils as records of Past and Present” was held on the 6th and 7th of November 2019, in Bruges (Belgium). The purpose of the meeting was to bring together scientists working in Pedology or other fields of Earth Sciences and Archaeology in order to share knowledge and research strategies concerning the topic of “Soils as records of Past and Present”. During this meeting, several relevant questions concerning the current state of the research, valorisation of soil data gathered in the past, archaeological issues, potentials of interdisciplinary work, significance of fieldwork, and future challenges were addressed by speakers and participants. In an effort to find answers to these questions, participants had the opportunity to attend the field excursion on the 6th of November and the scientific meeting on the 7th of November.

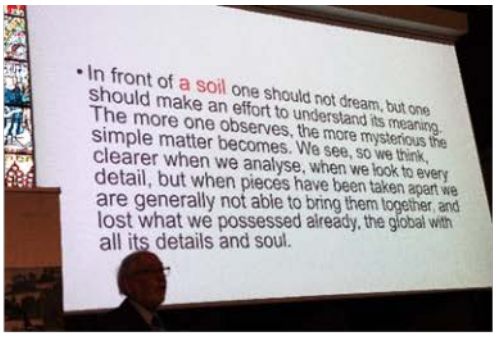
The excursion, with 50 participants, was organised in the region of Bruges. The UNESCO world heritage site Bruges, situated close to the Belgian coast, developed on the verge of cover sands with the tidal landscapes to the north. This landscape position was an advantage in many aspects, but a challenge for trade, as the famous medieval town of Bruges was accessible only through a highly dynamic system of tidal gullies. Export and import occurred through a system of trade hubs along the tidal gullies. During the excursion, the importance and wealth of this extended harbour system was highlighted and the locations of several of these trade hubs were visited. The four observation and discussion points (city of Damme, Zeevaartstraat in Zeebrugge, Heistlaan in Ramskapelle, and Sincfala, the Museum of the Zwin area) allowed for an overall view on the complex sedimentary history, geomorphology, and soilscape of the region. Moreover, the various aspects of interaction between populations and the natural resources available since roman times were unravelled through interesting presentations and soil profiles. All these aspects are thoroughly documented in a well-illustrated excursion guide book.

The scientific meeting was held at the beautiful Groeningemuseum in the heart of the historic UNESCO heritage city of Bruges. 11 scientific talks and 17 posters made certain that more than 100 participants were able to learn and talk about original research strategies and interdisciplinary collaboration results concerning the topic of "Soils as records of Past and Present".

The publication produced after this meeting is **Soils as records of Past and Present. From soil surveys to archaeological sites: research strategies for interpreting soil characteristics** Judit Deák, Carole Ampe, Jari Hinsch Mikkelsen 320 pages
This publication is available:

- As a printed book for the price of 55 euros + shipping (5 Euros in BeNeLux, 10 Euros in Europe and 15 Euros outside of Europe). If you are interested in purchasing a copy please contact: info@raakvlak.be
- Open access online document (http://doi.org/10.5281/zenodo.3417724 will be available starting from 01.03.2020)
- Each individual paper is accessible as an open access online document and the authors keep the copyright of their work (see book presentation or on the website of the meeting: www.4terres.ch/gamb19)

The abstract book of the meeting is also available online and open access available: http://doi.org/10.5281/zenodo.3527265.



A book composed of 21 peer-reviewed scientific articles was published for this meeting:

7th INTENSIVE TRAINING COURSE ON SOIL MICROMORPHOLOGY

Tremp, 30 september – 11 october 2019

The 7th Intensive Training Course on Soil Micromorphology was organized by the Dept. of Environment and Soil Sciences and the Institute of Continuing Education of the U. of Lleida. It was possible thanks to the collaboration of the Centre de Suport Territorial de Tremp of the Institut Cartogràfic i Geològic de Catalunya; and to the partial funding by the University of Lleida. The teaching staff was composed by Profs. Cristina Villanova and Àngels Canals (Dept. Of Crystallography, Mineralogy and Mineral Deposits of the U. of Barcelona). Prof. Georges Stoops and Dr. Vera Marcelino (University of Ghent, Belgium), Prof. Rosa M Poch and MSc. José Manuel Plata (Dept. Environment and Soil Sciences, U. Lleida), Dr. Michele Francis (U. Stellenbosch) and Dr. Carolina Mallol (Archaeological Micromorphology and Biomarker Research Lab, U. La Laguna, Tenerife).

It was attended by 26 enthusiastic participants from sixteen countries (Russia, Brazil, Germany, Argentina, Costa Rica, Indonesia, Italy, Japan, Luxemburg, Pakistan, Portugal, Puerto Rico, UK, Sri Lanka, Trinidad y Tobago, Catalonia), with diverse backgrounds as agronomy, geology, biology, geography, soil science, geomorphology and archaeology.

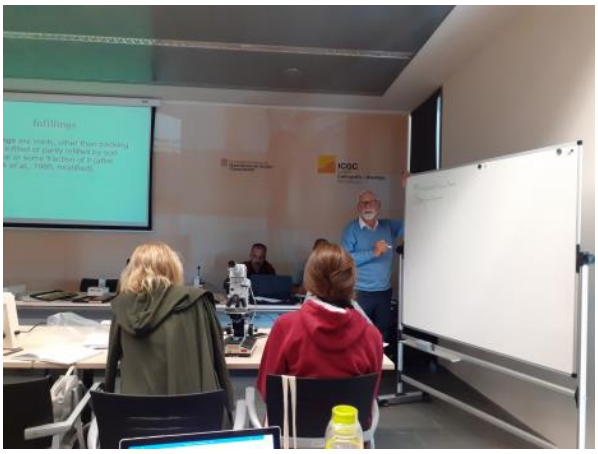
The lectures covered a broad spectrum of subjects, from basic principles of optical mineralogy to micromorphology of specific soil materials and applications to geology and geoarchaeology. Practical sessions included demonstrations of soil sampling in the field, visits to labs for preparation of thin sections and microscopy sessions.

On Saturday a field excursion was offered, lead by Emili Ascaso, Laura Serra (ICGC-UdL) and Rosa M Poch (UdL). Several soils from the Conca de Tremp were visited and discussed in the frame of the particular geological frame of the Pre-Pyrenees.

The group showed great interest in the course, especially for the chance to ask about their research, to work with the different lecturers, and to share their experiences with their colleagues. They were eager to learn and worked hard with the microscopes, either with their own material or with sets of thin sections provided by the course. The course was a success in the sense that the participants learned the basic tools for the study of soil features and for the comprehension of processes at a microscopical scale. Due to the positive experience this second course at the ICGC, it will continue offering regularly such course in Tremp, that could take place every two years.

Rosa M Poch

Departament de Medi Ambient i Ciències del Sòl – UdL



Prof. Stoops lecturing and assisting the students with the microscopes

View of the Tremp Basin during the mid-course excursion

Course participants