

Commission 1.1 Soil Morphology & Micromorphology Newsletter October 2014, vol. 15, p. 1- 31

Dear Colleague,

Here you have the –thick- October Soil Micromorphology Newsletter. Many thanks to all the contributors that participated on it.

We start with very sad news for our community: Prof. Gerhard Reuter, MSc Susana Pazos and Prof. Krystyna Konecka-Betley passed away recently. I want to thank Prof. G. Stoops, Prof. Perla Amanda Imbellone and Dr. Lukasz Uzarowicz who sent some words for these three great micromorphologists and soil scientists.

You will also find a report on the micromorphology sessions of past congresses and micromorphology courses; besides information about the Archaeological Micromorphology working group, and other news.

Your opinion is important: we need your feedback for the new edition of the blue book! (pages 27 and 30)

Enjoy it! Best regards,

Rosa M Poch (Chair) and Richard Heck (Vice-Chair)
Comm. 1.1. Soil Morphology and Micromorphology - IUSS

rosa.poch@macs.udl.cat
<http://loess.umcs.lublin.pl/micro.htm>

CONTENTS

IN MEMORIAM.....	2
PAST MEETINGS	5
KUBIĚNA MEDAL 2014	6
PAST COURSES	8
FORTHCOMING MEETINGS AND COURSES.....	21
PUBLICATIONS AND RESEARCH NOTES	25
NEW BOOKS	27
SHORT NEWS.....	28
FELLOWSHIP OFFERS.....	29
ARCHAEOLOGICAL SOIL MICROMORPHOLOGY WORKING GROUP.....	30
THE LAST PAGE.....	31

IN MEMORIAM



On June 26th 2014, **Prof. Em. Dr. Gerhard Reuter** passed away in Rostock (Germany). He was born on June 9th, 1921 in Deuben (Saxony, Germany). After his military service and his studies of Agriculture and Agricultural Pedagogics at the Martin-Luther University in Halle (1942-49), he became scientific assistant at the same university, where he obtained in 1951 his PhD degree. From 1952 on he started his career at the university of Rostock where he obtained the Dr. Agr. Habil. degree in 1958, was promoted to associate professor in 1959 and full professor in 1969. In 1986 he became emeritus professor, but was still many years actively teaching.

He participated actively in the international working meetings on soil micromorphology in the nineteen fifties en sixties, as well as the meeting in Adana in 2004. Comparing semi-quantitatively the degree of orientation and birefringence (so called %D) of many European “lessivé”-soils, he contributed to a large extend to a better understanding of the genesis, distribution and chronology of this important soil type.

G. Stoops

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The Argentinian Association of Soil Science wishes to inform all colleagues, with great sadness, that **Mabel Susana Pazos** passed away on July the 29th 2014 in Azul, Buenos Aires, at 66 years of age. Soil science, and soil micromorphology in particular, loses a figure of great intellectual stature, and those who knew her from long or came close to her at some point in their life, lost a colleague and close friend. Her entire professional life was dedicated to Soil Genesis and Classification either as a teacher or researcher. She enjoyed an easy smile and word as well as a strong character and irreproachable conduct.



She was born in Bahía Blanca. She graduated as an agronomist at the Universidad Nacional del Sur in 1972. She conducted her graduate studies at the Universiteit Gent (Belgium), where she obtained a MSc degree in Soil Science, Genesis and Classification in 1981.

She taught at the Faculty of Agricultural Sciences, National University of Mar del Plata (at Balcarce), where she served in 1977 as Assistant Professor of Agricultural Soil Science. After her return to Belgium she was Associate Professor of Soil Genesis and Classification until 1990 at the same university. Later on her restless spirit led her to other university settings. She retired with Exclusive Dedication as Professor of Agricultural Soil Science at the Faculty of Agronomy of the National Central University of Buenos Aires Province based in Azul, where she taught for over 20 years, from March 1992 until her retirement in 2012. She gave numerous courses on Soil Classification

and on dissemination of the WRB, either in his own University or in other academic areas as the University of Buenos Aires where he was responsible for several courses in the Master of Soil Science at the Graduate School Alberto Soriano (EPG) of the Faculty of Agriculture. In the decade of 80' she conducted research on soil micromorphology applied to soil genesis. Her excellent skills in this discipline allowed her to deal with solvency issues on Soil Classification at national and international level. She deeply knew the secrets of soil classification in the days when Soil Taxonomy seemed difficult to understand. It was one of the people of Argentina who best knew, taught and applied both Soil Classification systems: Soil Taxonomy and WRB (Word Reference Base for Soil Resources) in its different versions.

She was recognized in international forums for her expertise in those topics to the point that, her recently proposed amendments to Udolls with petrocalcic horizon were accepted and incorporated into the 12th edition of the Keys to Soil Taxonomy (2014). She also made the Spanish translation of the 2007 version of the WRB system.

She had a broad participation in numerous international soil forums and events. Notably, in her later years she assisted young researchers to applied aspects of soil science, such as Geochemistry and Soil Pollution.

When she retired, and away from the pedological interest of his research synthesized in an excellent chapter entitled "Calcium Carbonate Accumulations in Soils of Central SE Buenos Aires" of the recent book "Soils with calcareous and gypsum accumulations of Argentina".

Susana was always linked in the various activities of our Association, either as lecturer in courses and congresses, in field trips to foreign guests, or as disseminator of Soil Science. She created and designed the website of our Association, and she was successfully in charge of it for several years.

Let these simple words be the recognition of his colleagues and students and affectionate remembrance of who knew her adventures as companion and friend.

Perla Amanda Imbellone
Profesora Extraordinaria
National University of La Plata, Argentina

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In memory of Professor Krystyna Konecka-Betley (1922–2014)

The members of the Polish Soil Science Society regret to inform, that on September 9, 2014 in Warsaw, Poland, Professor Krystyna Konecka-Betley passed away. Her entire professional life was linked with the Warsaw University of Life Sciences – SGGW (Warsaw, Poland), where she began her work in 1947. In 1960, she obtained the degree of PhD of agro-forestry, and in 1967 she became the assistant professor in the field of soil science. In 1978, she received the degree and position of associate professor, and in 1989 – a title of full professor.



The main research interests of Prof. Konecka-Betley were fossil and relic soils as the basis for the reconstruction of the natural environment of the Pleistocene and Holocene in middle Europe. She studied, for instance, Pleistocene fossil soils preserved in sandy dunes and loesses using micromorphological methods. She made a proposition to use paleosols as units of Quaternary stratigraphy. Moreover, she examined relic weathering materials of terra rosa type developed from limestones of the Świętokrzyskie mountains with the use of micromorphology. Another area of interest of Prof. Konecka-Betley were: soil genesis, their typology and soil-forming processes studied e.g. with the use of soil micromorphology. For example, in the beginning of the 60., she gave some preliminary criteria to recognise the „lessive” soils. She also studied clay mineral formation in soils developed from loesses, as well as examined the genesis of soils developed of silty cover sediments in Poland.

Professor Krystyna Konecka-Betley left a rich scientific output. She was the author or co-author of about 170 scientific works (some of them are listed below). She was, for instance, the co-author of the chapter in the book “Weathering: its Products and Deposits” (1989), as well as she was the editor, author, and/or co-author in the book “Paleopedology problems in Poland” (2002). Many of her articles were published in the Roczniki Gleboznawcze – Soil Science Annual journal, and can be found at the website <http://ssa.ptg.sggw.pl/en>.

The late Professor Krystyna Konecka-Betley was a person who knew how to commit numerous research teams to her various research projects. She collaborated not only with soil scientists, but also with geologists, botanists, ecologists, plants physiologists, foresters, phytosociologists, physicists, etc. Thanks to this cooperation she was able to use in her work a variety of advanced and innovative methods, such as: soil micromorphology, palynology, electron microscopy, ¹⁴C and thermoluminescent dating, statistical methods, etc.

She was a member of the Polish Society of Soil Science (PTG), the International Union of Soil Sciences (IUSS), and the Committee for Quaternary Research of Polish Academy of Sciences, Commission of Paleopedology of INQUA. For many years she was a member of the Scientific Council of the Kampinoski National Park (Poland).

Professor Krystyna Konecka-Betley was very active in her scientific works till the end of her days. She was a noble and friendly man, direct and honest in dealing with people. The optimism of life and creative passion spread to other people who worked with her. The Polish Society of Soil Science lost one of the greatest pedologists in its history.

Members of the Polish Society of Soil Science

PAST MEETINGS



<http://www.20wcss.org/>

The 20th WCSS was a fantastic meeting, greatly organised by the Korean Soil Science Society.

Fifty-eight abstracts were received in the two sessions organized by Commission 1.1. and in the session organized jointly with the Paleopedology Commission (1.5). The Oral and Poster Sessions were very active and followed by interesting discussions:

Session C1.1-2 Interactions between Soil Structure, Living Organism and Organic Matter.

Convener: Farhad Khormali

5 oral / 13 posters

Session C1.1-1 The Role of Environment on Soil formation: Morphological Indicators

Convener: Daniela Sauer

5 oral / 20 posters

Session DS1 Micromorphological Answers to Palaeopedological and Polypedogenetic Questions.
(Intercommission session)

Convener: Rosa Maria Poch

5 oral / 10 posters

KUBIËNA MEDAL 2014

During the Business Meeting of Commission 1.1., the Kubiëna Medal 2014 was conferred to Dr. Rienk Miedema. We congratulate him for this prestigious award!







„Interrelation between Paleosols & Paleolithic Sites (IPPAS)“

Krems, Austria (June 27th & 28th, 2014)

The international Workshop IPPAS (Interrelation between Paleosols and Paleolithic Sites) took place in Krems (Lower Austria) on the 27th and 28th of June 2014. Christine Neugebauer-Maresch (ÖAW, Austrian Academy of Science) and Birgit Terhorst (Institute for Geography and Geology, University of Würzburg) were responsible for the management and organization of the well-attended conference. The program consisted of one half-day excursion to the excavation site “Krems-Wachtberg” and a visit to the loess paleosol sequences of the locality “Krems-Schießstätte”. The field trip was followed by international presentations on luminescence datings in Austria and Russia (Christine Thiel; Manfred Frechen), the classification of Austrian loess profiles using quantitative color measurements (Tobias Sprafke; Robert Peticzka), periglacial coverbeds and their meaning for landscape development (Susanne Döhler; Bodo Damm; et al.), and the paleosol formation in the late MIS 3. Christine Neugebauer-Maresch and her team presented the results of the excavation at “Krems-Wachtberg”, showing the most important finds, Simon Meyer-Heintze and co-authors reported on the pedochemistry and granulometry of a new Wachtberg profile, for which Elizabeth Solleiro presented micromorphological analyses. Aleksey Rusakov and other Russian colleagues presented MIS 3 paleosols in NE-Europe, Alexander Makeev et al. talked about pedosedimentary stratigraphies in Saalian moraine landscapes in the north of Moscow.

The focus of the second day was exchanging and discussing the results of the famous “Krems-Wachtberg” archeological site, which were gathered throughout long-term excavations. The questions and discussions on future plans and projects went on until evening. The conference was finished by a dinner at a typical Lower Austrian restaurant.

Altogether, the event’s program was diverse and its auditorium came from varying scientific disciplines and countries such as Russia, Mexico, Austria, Slovakia and Germany. Besides the support of the organizing institution the event was funded by DFG (German Research Foundation), DAAD (German International Exchange Office) and DBG (German Soil Science Union). Further information is available on the website of B. Terhorst, University of Würzburg.

Birgit Terhorst (Würzburg/Germany) & Christine Neugebauer-Maresch (Vienna/Austria)

PAST COURSES

Course on Soil Mineralogy and Micromorphology

Post Graduate School "Alberto Soriano", Faculty of Agronomy, University of Buenos Aires (Argentina)

15th Edition

31st June – 11th July 2014, Buenos Aires

The 15th edition of the course on Soil Mineralogy and Micromorphology, given every two years since 1985 by Prof. Dr. Héctor Morrás at the Postgraduate School of the Faculty of Agronomy of the University of Buenos Aires in cooperation with the National Institute of Agricultural Technology (INTA), took place last July.

This course is taken by students enrolled in the Master's degree and PhD programs of the Faculty of Agronomy of the University of Buenos Aires, as well as by researchers and postgraduate students of other universities of the country. Eight students with different professional training participated on this occasion: seven of them were agronomists (one of them coming from Nicaragua) and one was an archeologist.

The lectures took place at the Postgraduate School of the Faculty of Agronomy, whereas the practical classes took place in the Soils Institute of INTA located in Castelar (Buenos Aires metropolitan area). Dr. Lucas Moretti, Dr. Eduardo Favret, MS Filipe Behrends and MS Emiliano Bressan -researchers from INTA- and Mario Castiglioni -Professor of the Faculty of Agronomy- collaborated during the development of the course by lecturing on various applications of mineralogical and micromorphological techniques to the study of soils. Mr. Javier Delgado from INTA also collaborated by explaining the procedure to prepare soil thin sections.

The course provides the basis for a more detailed knowledge of the inorganic fractions and the processes of formation and organization of the soils. The first part was an introduction to rocks, minerals and factors of soil formation, and in particular concepts of weathering and pedogenetic processes. The course then focused on the crystallochemistry, properties, genesis and evolution of clays and iron minerals in relation to environmental conditions, their role in the physical and chemical behavior of soils and various analytical techniques.

The second part of the course was devoted to the micromorphology of soils, including concepts, terminology and various chapters of the descriptive system, and the theoretical principles both of optical and electronic microscopy. The course also included applications and examples of use of qualitative and quantitative micromorphological procedures for the study of the genesis of soils and paleosols, as well as for the study of the structure and porosity and its application to problems of biology, physics and soil management.

During the practical part of the course developed at the Soils Institute of INTA, participants had an introduction to the procedures of mineralogical analysis using X-ray diffractometry, procedures of electron microscopy, and the analysis of the magnetic susceptibility of soils. Students also visited the laboratory of preparation of thin soil sections and devoted some time to micromorphological analysis including recognition of some distinctive pedological features and a description of thin sections. Finally, a typical Pampean soil profile in the INTA's experimental fields was described and discussed.

Similarly to other occasions, the course was intense and there was an interested and enthusiastic participation of students. Although the variety of issues addressed in this two-week course prevents studying the contents in more depth, the participants can acquire a brief knowledge of the concepts, methodologies and applications of Soil Mineralogy and Micromorphology, which awakens their interest and offers them tools to be used in their own research projects.

Prof. Dr. Héctor J. M. Morrás
INTA-CIRN, Instituto de Suelos
Castelar, Argentina



Some of participants and lecturers at the Soils Institute - INTA



Description of micromorphological features at the Soils Institute-INTA



Recognition of a soil profile (Argiudoll) in the experimental fields of INTA

II Latin-American course of Soil Micromorphology and Complementary techniques

Universidad Nacional de Colombia, Departamento de Geografía

Bogotá (Colombia)

July 28 -August 02- 2014

During six days the National University of Colombia in Bogotá city was the host of Second Latin-American course of soil micromorphology, which developed between July 28 and August 02 of this year. Eighteen professionals of agronomy, geology, archaeology and biology coming from Mexico, Argentina, and several places of Colombia with special interest in soil genesis and human land use, were trained in micromorphological methods.

The course was organized by William Posada from the Department of Geography and Juan Carlos Loaiza from Faculty of Mines, with support from Geosciences Department, Continued Education Office, the Agustín Codazzi Geographical Institute (IGAC), the University of Lleida, the University of La Laguna, the Colombian Soil Science Society and the International Union of Soil Science, Commission 1.1. Soil Morphology and Micromorphology.



The first course day Professor Jorge Sánchez and Professor Kim Robertson introduced the soil formation factors and processes, with special reference to weathering processes and physiographic conditions as relevant aspects in the recognition of tropical soil variability.

At the second day, the students learned about petrographic microscopy and mineral identification through optical and physical properties, during a conceptual and practical session carried out by Professor Dr. Marion Weber.

The third day, Dr. Rosa Poch and Dr. Juan Carlos Loaiza explained the conceptual framework for soil micromorphology systematics, including key concepts as microstructure, groundmass and pedofeature. The collecting methods for micromorphology samples also were described with an overview of thin section preparation.

During fourth and fifth days, Dr. Carolina Mallol and Dr. Rosa Poch gave several examples about soil micromorphology research, especially those related with land use. Dr. Mallol exposed the relevance of this topic in archaeology and introduced the geoarchaeological principles in the study of soil-human relationships. A brief tour was taken in the thin section laboratory, X-Ray diffraction room and monolith museum of the Agustín Codazzi Geographical Institute (IGAC), guided by professor Jorge Sánchez and the agrologist Mary Ardila.

Finally, the last day was developed in Guasca municipality around 45 km to northeast of Bogotá, where a one day fieldwork was made to discuss pedologic processes involved in the Inceptisol, Alfisol and Andisol genesis, taking into account the altitudinal differences in the same basin.



The main goal of the whole meeting was to extend the knowledge of micromorphological discipline to more researchers in Latin-America, just like it was thought from its first edition in 2011, looking to exchange experiences about soil processes and strengthening an academic community on spanish language.

We want to thank all students and teachers for enable this course with your participation and interest, especially to those who came from Spain, Mexico and Argentina. The enthusiasm showed by everyone stimulates the scientific cooperation and ensures the continuity of this program.

William A. Posada Restrepo
Department of Geography, National University of Colombia



**Intensive Training Course
on Soil Micromorphology
Trempt, 22 september –
3 october 2014**



The 5th Intensive Training Course on Soil Micromorphology took place from the 22nd September to the 3rd October. It 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 Trempt* of the *Institut Cartogràfic i Geològic de Catalunya*. The teaching staff was composed by Profs. Àngels Canals and Esperança Tauler (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 (Dept. Environment and Soil Sciences, U. Lleida), Prof. Mercè Bergadà and MSc. Marta Mateu (Dept. Archaeology, U. Barcelona); and Dr. Albert Solé-Benet (Estación Experimental de Zonas Áridas, CSIC, Almería).

It was attended by 21 young enthusiastic participants from eight countries (France, Italy, Poland, Brazil, Germany, Croatia, Greece and Spain), with diverse backgrounds as agronomy, geology, 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. 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 (ICGC-UdL) and Prof. J. Carles Balasch (UdL). Several soils from the Conca de Trempt were visited and discussed in the frame of the particular geological frame of the Pre-Pyrenees. We had also the opportunity to enjoy a visit to a wine cellar of the region and taste some of its wines.

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 the ICGC will consider to offer regularly such course in Trempt, that could take place every two years.

Rosa M Poch
Departament de Medi Ambient i Ciències del Sòl - UdL



Group photo



Micromorphology is easy !



Trying to understand the landscape,...



... the soils, ...



... the land management, ...



... and the wines!



International Course on Paleosols and Paleoenvironment

**Alexander Makeev, Moscow State University, Institute of Ecological Soil Science
Birgit Terhorst, University of Würzburg, Germany
Elizabeth Solleiro Rebolledo, UNAM, Mexico City
Tobias Sprafke, University of Würzburg, Germany**

19th to 22nd, June 2014 in Würzburg/Germany

An international course for “paleosols and paleoenvironment” took place at the Institute for Geography and Geology of the University of Würzburg between the 19th and 22nd of June 2014. The event was conducted by Dr. Alexander Makeev, who is well known as long-time scientific secretary of the international commission on paleosols. Elizabeth Solleiro (Mexico City), Birgit Terhorst, and Tobias Sprafke (both Würzburg/Germany) were co-lecturers. 21 people, mostly associated with German universities and facilities participated in the course. Besides that Russian, Brazilian, Serbian and Iranian scientists attended the course. It consisted of a theoretical lecture on the basics of paleosols, one practical micromorphology lesson as well as an excursion to Frankonian (northern Bavarian) paleosols. The main focus were Quaternary paleosols and pedosediments with methodical approaches and concepts from long-time research history. Selected case studies gave an insight into innovative research methods and were debated lively.

The topic of the excursion were Pleistocene loess paleosols as well as Holocene fossil soil formations. In this context, the excavations in the Keuper gypsum of the German Triassic near Marktbergel are especially worth mentioning. Martin Nadler and Rita Beigel (Bayerisches Landesamt für Denkmalpflege) impressively explained the archeological finds in a filled karstic doline. Further courses are planned for the future – depending on demand. For further information contact Tobias Sprafke (tobias.sprafke@uni-wuerzburg.de).

Alexander Makeev (Moscow), Elizabeth Solleiro (Mexico City), Birgit Terhorst & Tobias Sprafke (Würzburg)



workshop on the
**„Interrelation between
Paleosols & Paleolithic Sites (IPPAS)“**
Krems, Austria (June 27th & 28th, 2014)



Foto: H. Kels

FORTHCOMING MEETINGS AND COURSES

International course on „Micromorphology of deformation structures in Quaternary sediments“

Prof. Dr. Menzies (Brock University, Canada), Birgit Terhorst, and Daniel Jäger (both University of Würzburg, Germany) conducted the international course with 12 participants from Germany, Mexico, Poland, and Austria at the University of Würzburg between the 6th and 8th of June, 2014. A short theoretical introduction was followed by applied lessons on the microscope, which were the main focus of the event. The thin section were described after international methods and systematics. While the analysis of glacial sediments is very well established, the use of micromorphology for landslide masses is relatively new and can be the basis of innovative future approaches. For further courses please contact Daniel Jäger (daniel.jaeger@uni-wuerzburg.de).

John Menzies (Canada), Birgit Terhorst & Daniel Jäger (Würzburg/Germany)

ISMOM 2015

5 - 10 JULY 2015
MCGILL UNIVERSITY
MONTREAL, QUEBEC, CANADA

**SOIL INTERFACES
FOR SUSTAINABLE DEVELOPMENT**

7TH INTERNATIONAL SYMPOSIUM OF INTERACTIONS OF SOIL
MINERALS WITH ORGANIC COMPONENTS AND MICRO-ORGANISMS
COMMISSION 2.5 – INTERNATIONAL UNION OF SOIL SCIENCES
- SOIL CHEMICAL, PHYSICAL AND BIOLOGICAL INTERFACIAL REACTIONS

JOINT MEETING OF

International Union of Soil Sciences
Le Sol - Fondement de la Vie
Soil - Foundation of Life
AOSSS

SCIENTIFIC AREAS

1. MACRO AND MICRONUTRIENTS DYNAMICS IN SOIL
2. DYNAMICS OF POLLUTANTS IN SOIL
3. SOIL MICROBIOLOGY
4. ORGANO-MINERAL INTERACTIONS IN SOIL
5. ANALYTICAL AND METHODOLOGICAL ADVANCES IN SOIL

Website: ismom2015.conference.mcgill.ca Contact: joann.whalen@mcgill.ca

1st announcement:
**Archaeological Soil Micromorphology Workshop August 2015 at Peking University,
Beijing, China**

Organisers: Dr. Yijie Zhuang (University College London; y.zhuang@ucl.ac.uk),
Dr. Hai Zhang (Peking University)
Dr. Richard I Macphail (UCL)



Approximately 24 places; 12-14 attendees (including 4 invited participants) will receive free accommodation and subsistence for the five day meeting (4 nights).

Format will follow standard periods of microscope time, introductions, short presentations and posters. Exact dates in August will be announced in a follow up circular.



**European Geosciences Union
General Assembly 2015
Vienna, Austria, 12-17 April 2015**

Session SSS3.2

**New advances on micromorphology of soils, sediments, anthropogenic deposits:
coupling optical and electronical images with spectroscopies or tomography**

Convener: Luca Trombino

Co-Convener: Martine Gérard

Micromorphology is the study of undisturbed soil, sediments and anthropogenic deposits with microscopic and ultramicroscopic techniques. It achieves a key role by unravelling complex features, properties and processes associated with the development and the evolution of many terrestrial landscapes or ecosystems. However, unlocking such features requires an integrated approach based on micro- and nano-morphological observations, coupled with spatially resolved chemical, isotopic and mineralogical analyses, as well as spectrographic or tomographic approaches.

The aim of this session is to promote such multi-disciplinary and multi-scale researches on soils, sediments and anthropogenic deposits, both in natural and man-influenced ecosystem, in modern and ancient times. Contributions are solicited from soil scientists, sedimentologist, geochemists, mineralogists, biomineralogists and ge archaeologists focused on chronological, (palaeo)environmental, archaeological and ecological researches on soil and sediments, including the practical and applicative aspect.

15 INTERNATIONAL CONFERENCE ON SOIL MICROMORPHOLOGY
Universidad Nacional Autónoma de México (UNAM),
MEXICO CITY, NOVEMBER - DECEMBER 2016

Preliminary information:

- Proposed dates: 25 of November – 5 of December, 2016
- Venue: Institute of Geology, Universidad Nacional Autónoma de México (UNAM), Mexico City.

Outline of the Congress program:

- We propose to extend the excursion program of the Conference, so that the participants could observe and discuss the extraordinary variety of soils, paleosols and landscapes of Central Mexico, both natural and transformed by humans at different periods. These sites are well documented micromorphologically and provide opportunity for discussing various problems of identifying pedogenic processes, environmental changes and anthropogenic impact. The following plan is proposed:

- 2 day pre-conference excursion
- 4 days of scientific sessions, interrupted by 1 day mid-conference tour
- 4 day post-conference excursion

After the main program we would offer for a limited number of enthusiasts the post-post conference tours to Yucatan and Sonora.

- The international intensive course on soil micromorphology will be linked to the Conference, before the main program starts.
- We plan activities for young scientists:
 - Competition of thin section description and interpretation
 - Award for the best poster.

Both activities will be evaluated by the committees of renowned researchers.

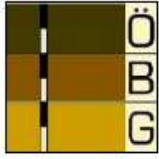
- The Conference gives a rare possibility for the researchers from different countries for joint microscopic observations, discussions and consultations with experienced colleagues. Microscopic facilities will be provided and some time will be reserved for this activity.

The initiative group of the National Organising Committee consists of the following members:

Sergey Sedov, Elizabeth Solleiro, Jaime Díaz, Berenice Solís (UNAM)
Héctor Cabadas (Universidad Estado de México)
Carmen Gutiérrez (Colegio de Posgraduados)

The Congress homepage and the I announcement will be issued in the beginning of 2015. We expect the feedback from the Micromorphology community. Please send your comments by e-mail to the conference address: **Microsoil2016@gmail.com**

We also invite the Community members to join the **Google Group Micromorphology16** which we opened to promote discussion of all issues, related to the Congress, especially the proposal for the Scientific Program, published in the April 2014 Commission Newsletter



FIRST CIRCULAR
THE DAN H. YAALON SYMPOSIUM,
VIENNA & UHERSKE HRADISTE, 8-11/4/2015

Dear Colleagues,

Prof. Dan H. Yaalon, one of the world's most outstanding pedologists and Earth scientists passed away on January 24, 2014, when he was nearly 90 years of age. Throughout the six decades of his exceptional research career, he made an outstanding contribution to science. Topics such as aeolian dust, paleopedology, soil geomorphology, environmental reconstruction, the history of soil science, and the anthropogenic effect on soils, were all fields in which he had contributed in major ways.

We will honor Prof. Yaalon's memory and life's work with a special IUSS Symposium that will be held in Vienna and Uherske Hradiste* on the **8-11/4/2015** (*Dan's hometown in the Czech Republic, 2.5 hrs. drive from Vienna). For your convenience, the Symposium will take place only a few days ahead of the 2015 EGU meeting. Please inform us soon if you would like to contribute to this event: yaalonsymp2015@gmail.com. If yes, please provide the title of your abstract, and mention if you wish to contribute with a poster or an oral presentation.

Please note that the 1/12/2014 will be the last date for abstract submission. The technical and schedule details will be sent in the second circular. You are most welcome to pass on this announcement to anyone who wishes to participate in this special event!

Sincerely yours,

Karl Stahr, University of Hohenheim, Stuttgart

Franz Ottner, University of Natural Resources and Life Sciences, Vienna

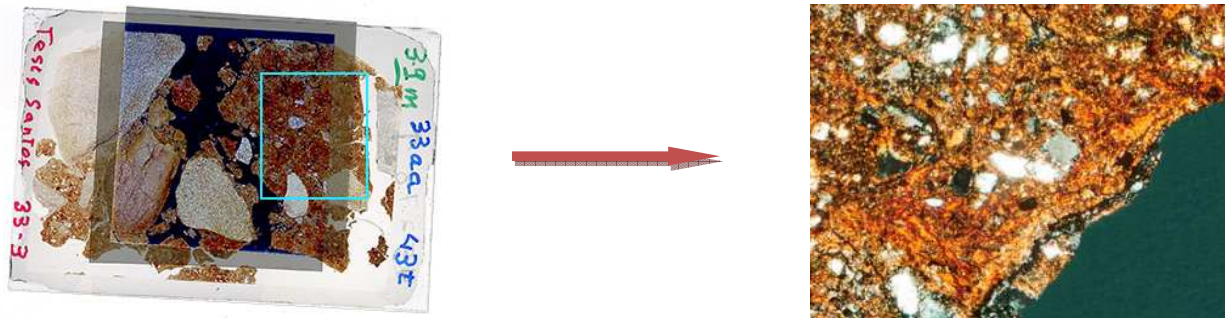
Daniela Sauer, University of Technology, Dresden

Daniel deB Richter, Duke University, Durham

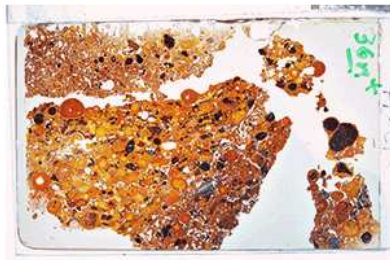
Danny Itkin, Ben-Gurion University of the Negev, Beer Sheva

PUBLICATIONS AND RESEARCH NOTES

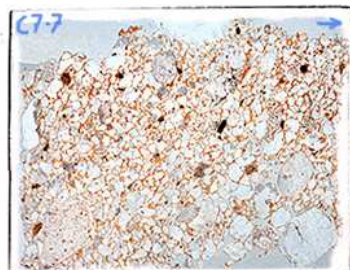
Prof. Carlos Dorronsoro, from the U. Granada, is updating his virtual course on Soil Micromorphology (available at http://www.edafologia.net/micropano/index_en.html) with “giga-images” of soil thin sections that can be observed at different magnifications in PPL and XPL and where you can navigate.



Up to now he has scanned and uploaded eleven thin sections, dealing mainly with clay and carbonate accumulation. These pages exist also in spanish and are extremely useful for lecturing.



Ccs Horizon
Fe concentric nodules
Low/medium magnifications



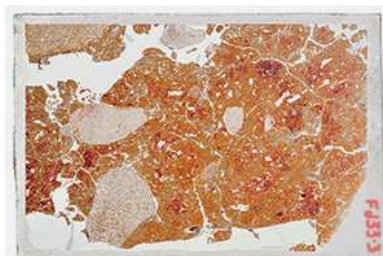
CBt Horizon
Clay illuviation in sandy hor.
Low/medium magnifications



Btk Horizon
Extreme illuviation in sandy hor.
Low/medium magnifications



Bt Horizon
Illuviation in clayey hor.
Low/medium magnifications



Bt Horizon
Illuviation in very clayey hor.
Medium/high magnifications



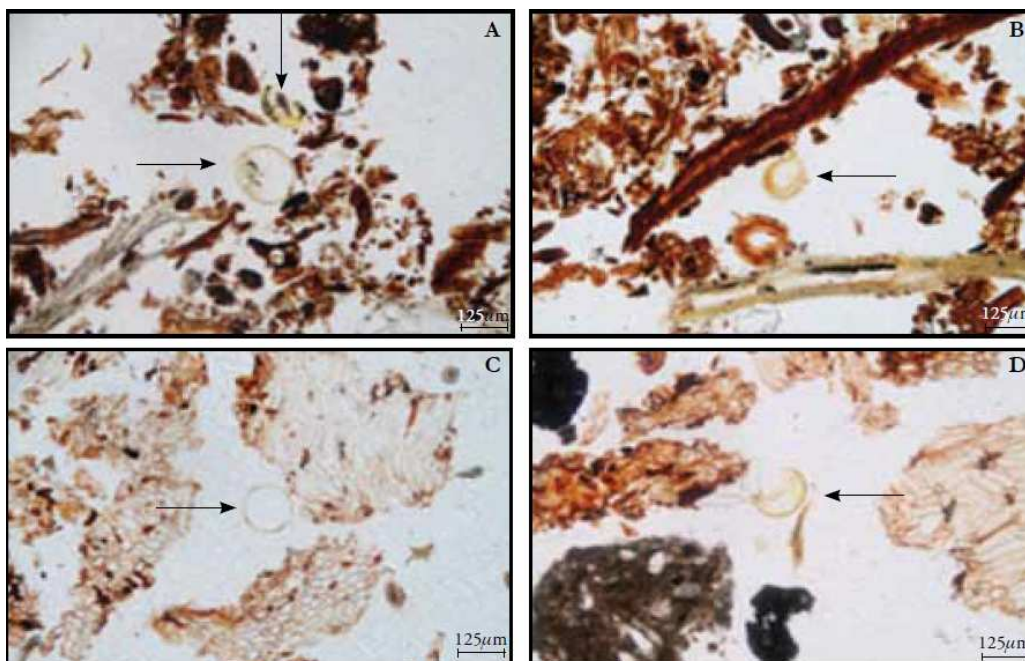
Bt Horizon
Illuviation in very clayey hor.
Low/medium magnifications

Recent paper:

Producción de inóculo micorrízico de *Gigaspora gigantea* en mezclas de sustratos con diferente tamaño de partícula - Mycorrhizal inoculum production of *Gigaspora gigantea* in growing media and particle size.

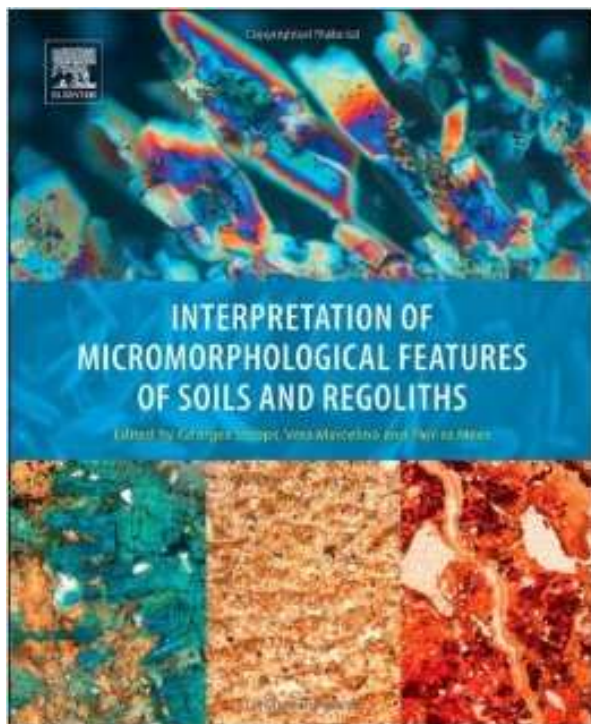
Arturo Jiménez-Martínez, M. Carmen A. González-Chávez, M. Carmen Gutiérrez-Castorena, M. Encarnación Lara-Hernández, J. Luis García-Cue
Agrociencia 48: 239-254. 2014

There is little information about the influence of particle size and the physical and chemical properties of the growing media used for mycorrhizal inoculum production. The objective of this study was to evaluate the number of spores, root colonization, aerial and root dry biomass, and root volume produced by lettuce plants inoculated with *Gigaspora gigantea* in 12 substrates made with different size particles. Growing media were prepared with two types of coconut coir (*Cocos nucifera*): granular (Gc) and fibrous (Fc) mixed with pumice (P) and volcanic scoria (locally called tezontle T), with three granulometries (<0.6 mm, 0.6-1 mm, 1-2 mm) in a ratio 3:1 v/v, except Gc:P:T (1-2 mm) in a ratio 6:1:1 v/v. The control treatment consisted of a mixture of peat:agrolite:vermiculite (Pe:A:V) in bulk material with a 2:1:1 v/v ratio. *Lactuca sativa* var. King Henry was used as host plant. The experiment was evaluated 75 d after sowing with an analysis of variance and comparison of means (Tukey \leq 0.05). The micromorphological study and image analysis determined the interaction of growing media-rootspores. The highest mycorrhizal colonization ($p\leq$ 0.05) occurred in Pe:A:V in bulk materials, Gc:P:T 1-2 mm and with granulometry of 0.6-1 mm. The highest number of spores (20 spores g⁻¹ dry growing medium) was obtained in Pe:A:V in bulk ($p\leq$ 0.05). Growing media with particle size <0.6 mm and 0.6-1 mm positively favored the response variables of the host plant ($p\leq$ 0.05). The micromorphological study showed that the spores are related to the components Gc:P:T and reside in the rough surface of the fractured vesicles of tezontle (volcanic residue). Growing medium of Gc:T:P (1-2 mm) is recommended as a substitute of Pe:A:V in bulk materials for the production of *Gi gigantea*.



Spores of *Gigaspora gigantea* in Pe:A:V in bulk related to particles of the growing media (A), and roots in Pe:A:V (B), among particles of coir in Gc:P:T 1-2 mm (C), and inorganic particles in Gc:P:T 1-2 mm (D).

NEW BOOKS



YOUR OPINION IS IMPORTANT!

The book '**Interpretation of Micromorphological Features of Soils and Regoliths**', edited by G. Stoops, V. Marcelino and F. Mees, published by Elsevier in 2010, has been a considerable success and appears to be widely used. In answer to an invitation by the publisher, the editors agreed to prepare second edition. Apart from the addition of some new items (e.g. parent material, groundmass composition), all chapters will be updated, and information contained in publications that were overlooked while preparing the first edition will be incorporated.

The editors have always strived to make the book as useful and user-friendly as possible. Looking for

ways to improve the quality of the book, we invite all members of the micromorphological community to send us their comments. We welcome all suggestions regarding content and organisation, both for the book as a whole and for individual chapters. One specific question is whether you, or your students, make use of the keys for fabrics and features presented in Chapter 2 of the first edition.

Please send your comments and materials to the editors, who will take all suggestions into serious consideration, and who will seek compromise solutions in case of contrasting received recommendations.

The editors

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SHORT NEWS

Soil Mineralogy Section of the Hungarian Soil Science Society - New leadership

The Soil Mineralogy Section of the Hungarian Soil Science Society is proud to announce the election of its new leadership. After the expeditious period of the past five years, new leadership was elected on the 10th of June, 2014. The election was part of the meeting which included a presentation (Dr. Gabriella Kovács: *Archaeological thin section soil micromorphology and its most recent results at Százhalombatta-Földvár Bronze Age tell settlement, Hungary*), the summing-up of the past five years (achievements between 2009-2014, presented by Dr. Géza Szendrei former secretary of the Section) and the election as the closing event of the programme.

The leaders of the Soil Mineralogical Section:

President: **Dr. László Gerei** (retired)

Secretary: **Dr. Géza Szendrei** (retired)

Members of the Council:

Dr. András Bidló (University of West Hungary, Institute of Environmental and Earth Sciences, Faculty of Forestry)

Dr. Zsuzsanna Hartyáni (University of Veszprém, Institute of Environmental Sciences)

Dr. Gabriella Kovács („Matrica” Museum)

Dr. Tibor Németh (Institute for Geological and Geochemical Research, Research Centre for Astronomy and Earth Sciences, Hungarian Academy of Sciences)

The new leaderships is looking forward to the next 4-year period, hoping to be very successful.

FELLOWSHIP OFFERS

The Malcolm H. Wiener Laboratory for Archaeological Science Announces New Funding Opportunities

The Malcolm H. Wiener Laboratory for Archaeological Science of the American School for Classical Studies in Athens has recently made significant changes to its fellowship program. Three different types of Fellowship funding are offered Post-Doctoral (3 year), Pre-Doctoral (2 year term), and Senior (5-10 months), as well as shorter duration, more focused Research Associate positions. Applicants are welcome from any college or university worldwide.

Priority will be given to question-driven research projects that address substantive problems through the application of interdisciplinary methods in the archaeological sciences. Laboratory facilities are especially well equipped to support the study of human skeletal biology, archaeobiological remains (faunal and botanical), environmental studies, and geoarchaeology (particularly studies in human-landscape interactions and the study of site formation processes). Research projects utilizing other archaeological scientific approaches are also eligible for consideration, depending on the strength of the questions asked and the suitability of the plan for access to other equipment or resources not available on site.

Post-Doctoral Fellowship

- * Next competition announced fall of 2016 for the 2017-2018 academic year
- * Three (3) year term
- * Eligibility limited to individuals who have received their PhD within the last seven (7) years.
- * Stipend: \$35,000 per annum

Pre-Doctoral Fellowship

- * Current competition begins in fall of 2014 for the 2015-2016 academic year (January 15 deadline for applications)
- * Two (2) year term
- * Eligibility limited to individuals actively enrolled in a graduate program who have passed all qualifying exams and have an approved PhD proposal.
- * Stipend: \$20,000 per annum

Senior Fellowship

- * Current competition begins in fall of 2014 for the 2015-2016 academic year (January 15 deadline for applications)
- * 5 to 10 month terms
- * Eligibility limited to individuals who received their PhDs at least five (5) years previous to application
- * Stipend: \$15,000 for a 5 month term, \$30,000 for a 10 month term

Research Associate

- * Current competition begins in fall of 2014 for the 2015-2016 academic year (January 15 deadline for applications)
- * Term variable, up to 9 months

For more information and instructions on how to apply:

<http://www.ascsa.edu.gr/index.php/wiener-laboratory/wlfellowships>

ARCHAEOLOGICAL SOIL MICROMORPHOLOGY WORKING GROUP

- ❖ The '**Archaeological Materials**' Chapter is being revised this autumn. Please let Richard/Paul know if there are any specific examples/materials the working group members would like us to add/improve. Members can always send us new articles/pdfs which we may have missed (r.macphail@ucl.ac.uk; paulberg@bu.edu).

Many thanks,

Richard and Paul

Macphail, R. I., and Goldberg, P., 2010, Archaeological materials, in Stoops, G., Marcelino, V., and Mees, F., eds., Interpretation of Micromorphological Features of Soils and Regoliths: Amsterdam, Elsevier, p. 589-622.

- ❖ **Archaeological Soil Micromorphology Training**

3-7 November 2014, Room 412 IoA, UCL, London, UK.

Fee is 60 Euros per day – 300 Euros for the week 3rd-7th Nov; contact r.macphail@ucl.ac.uk

Follow up days/week (10th-14th Nov) – personal practice with reference thin sections and/or your own material – 30 Euros per day.

THE LAST PAGE

The most recent theory on the origin of the continental drift:

<https://www.youtube.com/watch?v=zocutif0cQY>

