



Commission 1.1 Soil Morphology & Micromorphology Newsletter
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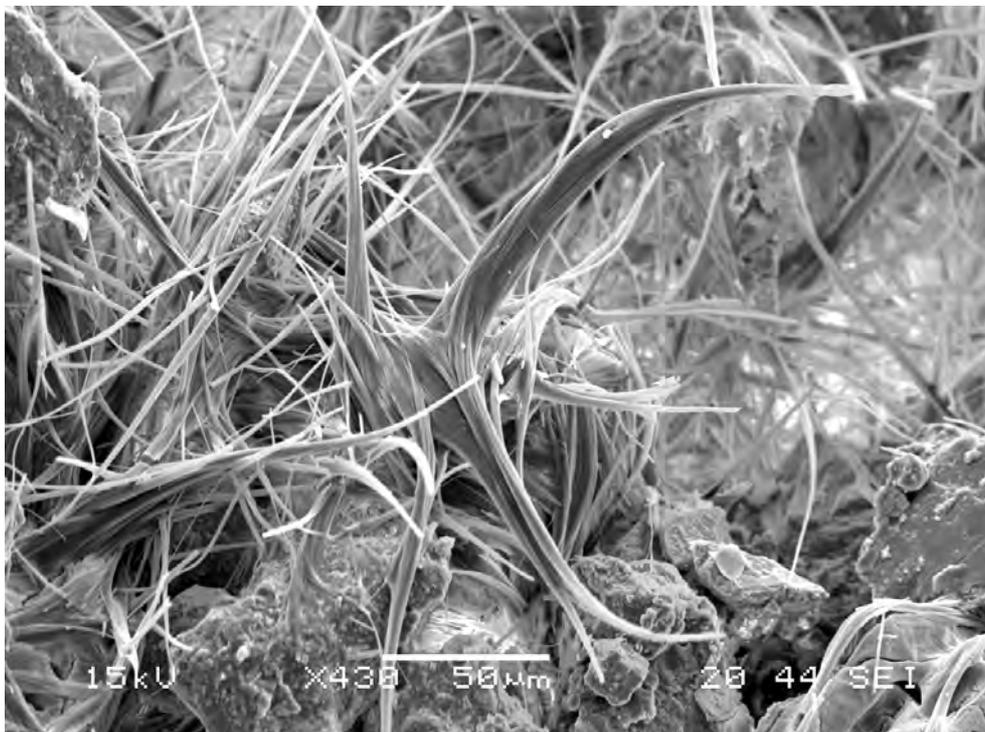
Dear Members,

Welcome! In this newsletter we have the following:

- **Announcement & Congratulations to the 2010 Kubiěna Medal Awardee: Dr. Nicolas Fedoroff**
- **Call for Nominations for the 2010 Young Micromorphology Publication Award**
- **The 19th World Congress in Brisbane, Australia, 2010, Submissions DUE**
- **Report on Microscopy of Soils in Tropical Regions, Ghent University**
- **The International Conference on Soil Geography in Mexico**

More information on these and other activities are enclosed. Please send any new information to me, Brenda J. Buck (buckb@unlv.nevada.edu) or Vice Chair, Rosa Poch (rosa.poch@macs.udl.es).

Sincerely
Brenda J. Buck
Chair, Commission 1.1
Dept. Geoscience, University of Nevada Las Vegas
4505 Maryland Parkway
Las Vegas NV 89154
<http://www.loess.umcs.lublin.pl/micro.htm>



SEM image of a Halotrichite Group (Al-SO₄) mineral from soil salt crust, Cartegena Spain



Kubiëna Medal 2010

Nicolas Fedoroff

The Kubiëna Medal is given for outstanding and sustained contribution in the discipline of soil micromorphology. It was introduced by Subcommittee B - Soil Micromorphology of the ISSS to commemorate the memory of Walter L Kubiëna for his distinguished contribution to soil micromorphology. The 2010 recipient of the Kubiëna Medal is Nicolas Fedoroff.

Nicolas Fedoroff will be receiving the Kubiëna award at the 19th International World Congress of Soil Science next August in Brisbane for granting his achievements in Soil Micromorphology. Forty years of a dynamic engagement for promoting the discipline finds his roots in the childhood of Nicolas Fedoroff. During and after World War II, Nicolas was lucky to share the excitement of his aunt, Vera Malychev, a famous Russian Quaternary geologist, discovering the loess sections around Paris. No doubt that Vera, still fully impregnated by the Russian spirit of Soil Science, generated the curiosity of Nicolas for Soil History that is still fully alive sixty five years later.

Conciliating the taste for research given by his aunt and the sense of reason ordered by his father he combined a background in Earth Sciences and Soil Science, and remained intimately convinced that the two disciplines should have never diverged. From the beginning of his career in the 1960s Nicolas initiated a pioneering research for integrating micromorphology to understand soil forming processes and history of Quaternary paleosols. Nick Fedoroff was a co-founder in 1969 of the International Working Group of Soil Micromorphology which provided an international standard for soil thin description. The efforts of this Working Group culminated in 1985 with the publication of the "Handbook for Soil Thin Description," (Bullock et al, 1985) Nick being one of the principal authors. He also contributed for Soil Micromorphology chapters (e.g. Fedoroff and Courty, 1982) in soil science textbooks. The handbook not only promoted the systematic examination and interpretation of thin sections, but also succeeded to simplify the jargon of the discipline. Since that time Nick has been an active member of the International Working Group, including being one of the organizers of the very successful Working Meeting in Paris, in 1985, as well as a co-editor of the resulting proceedings (Fedoroff et al., 1987).

His achievements in the field were prolific. He has given numerous guest lectures on Soil Micromorphology and Quaternary soils and landscapes throughout his career, including those at international conferences on the subject (Fedoroff, 1991). He has guided a large number of students from all over the globe, from tropics (e.g. Achyuthan and Fedoroff, 2008) to arctic (Bunting and Fedoroff, 1974), prairie to woodland, and arable to man-made soils. He has a large number of publications, many of which demonstrate the broad application of Soil Micromorphology to Pedology (e.g. Fedoroff and Eswaran, 1985) and paleopedology (e.g. Goldberg and Fedoroff, 1982), human impacts on soils, and archaeology (Courty and Fedoroff, 1982). Nick Fedoroff has investigated more particularly the linkage between illuviation processes, iron oxides and calcite accretion and climate factors (Fedoroff, 1997; Fedoroff et al., 1994; Fedoroff, 2003). Simply, the breadth and depth of his knowledge and approach in all aspects of the Earth sciences is unique and remarkable. The group developing soil micromorphology for archaeological soil and sediments has greatly benefitted from Nick's stimulation and his fully open mind for accepting to view soil entities as highly sensitive reactors to climate and cultural factors.

Nick Fedoroff has substantially contributed to the theoretical aspects of Paleopedology by promoting the *hierarchy concept* of pedo-sedimentary features from which derives his concepts of pedological phase and cycle as well the concept of pedo-sedimentary sequence of events (Fedoroff et al., 2009). The importance of this last concept lies in the identification and reconstruction of successive pedo-sedimentary processes that affected a paleosol and more broadly all terrestrial sediments affected by pedogenesis. Because paleosols are usually complex and difficult to be dated, the hierarchy concept became a powerful tool in paleo-environmental reconstruction using the seriation of pedo-sedimentary features to establishing a high resolution chronological frame. From this sense, he has significantly lightened the studies of a wide range of terrestrial paleoclimate records including paleosols (Fedoroff et al., 1990). One of the most important contributions of Nick Fedoroff is his studies on the loess-paleosols sequences in Europe (Fedoroff and Goldberg, 1982) and in China (e.g. Guo et al., 1996).

Nick Fedoroff played a pioneering role for identifying abrupt climate events in paleosols on the basis of micro-pedofeatures. This innovative effort was initiated in the early 1980s (Fedoroff and Goldberg, 1982), and has been systematically developed since then, as outlined in Fedoroff et al. (2009).

We are numerous to be proud of having benefitted from his rich input, having more particularly appreciated his sense of logic, his humility for elucidating the unknown and his insatiable curiosity. We still have so much to learn from Nick Fedoroff for training the raising new generation of soil micromorphologists. So we deeply congratulate Nick for receiving the Kubierna award and we wish him to keep a fresh enthusiasm on the road of Soil History.

- M. Courty



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**Call for Nominations:
2008 Young Micromorphology Publication Awards**

DUE March 31, 2010

Commission 1.1: Soil Morphology will award the Young Micromorphologist's Publication Award every 2 years: at each International Working Meeting on Micromorphology, and at each World Congress of Soil Science.

The purpose of this award is to encourage and promote the use of soil micromorphology by young scientists. The Award will be given to one or more young scientist who has published research in the preceeding 4 years, that is an outstanding contribution to the principles, methodology, or application of micromorphology. The author must be less than 35 years old at the time of acceptance of the publication, and he/she must be the first author. The paper must be published in an international journal with wide distribution, but not necessarily a scientific journal. The award is not restricted to papers published in the English language only.

The selection of the awardees will be the responsibility of the Kubiena Award Committee. Applicants should submit the following: (1) a pdf file of the paper(s) to be considered for the award, (2) proof of age for eligibility (ex: photocopy of ID or other document with birthdate), and (3) a cover letter explaining why they should be considered for this award. Letters of support from senior micromorphologists, outlining the qualities of the publication(s) are also welcome.

Applications are due March 31, 2010.

Send to:

Dr. Brenda J. Buck
Department of Geoscience
University of Nevada Las Vegas
4505 Maryland Parkway
Las Vegas NV 89154-4010
buckb@unlv.nevada.edu



Symposia for 19th World Congress of Soil Science, Brisbane, 2010

In addition to numerous other fantastic symposia, there are two symposia hosted by Commission 1.1:

(1) Changes in Soil Morphology in Response to Global Climate Change,

Soils are expected to change under a warmer Earth but the types of modification and the rate of change are difficult to predict since it is not only temperature but also the amount and distribution of rainfall. This symposium will explore what soil parameters (i.e. organic matter content, salinity, erosion, mineral alteration, crusting) are likely to change at local and regional scales. Soil morphology and micromorphology can be used to measure these changes. By studying a suite of soil conditions from natural, little disturbed sites to sites of recent recovery we are able to glean a picture of what is likely to happen. This symposium will provide a basis for updating earlier viewpoints as expressed in books such as Scharpenseel et al (1990) and Bouwman (1990), which will be 20 years old at the time of the congress.

(2) Soil Morphology and Micromorphology to Predict and Manage Environmental Hazards,

Many environmental and geologic hazards (landslides, earthquakes, floods, surface heave/collapse, pollution/contamination of water resources) can be identified and mitigated through the use of soil morphology and/or micromorphology. This symposium will explore the soil morphologic indicators that can be used to identify soil processes that either cause or exacerbate environmental hazards.

Paper Submission for the 19th World Congress of Soil Science

Information for authors: click link below

[SUBMISSION DUE OCT 31, 2009](#)



Brisbane, Australia

Microscopy of Soils and Regoliths in Tropical and Subtropical Regions

*Short Intensive Course
Ghent, 31/08 – 11/09/2009*



Students, organiser and teaching staff in front of the Geology Building

The *International Training Centre for Post-Graduate Soil Scientists* (Director Prof. Dr. Eric Van Ranst) of the Faculty of Sciences of the Ghent University organised this short training course, based on a long tradition of micromorphological research and teaching. Scholarships for students of developing countries were provided by the University Development Cooperation Section of the Flemish Interuniversity Council (VIIR-UOS). 24 students, selected from a large number of candidates, representing 15 different countries (11 being situated in Africa and Asia) participated in this course. The teaching staff consisted of em. Prof. Dr. Georges Stoops (Ghent University), Dr. Vera Marcelino (Ghent University) and Dr. Florias Mees (Royal Museum of Central Africa and Ghent University).

During the first week students were introduced in the techniques, concepts, and terminology of thin section analysis and descriptions, including lectures on optical and electron microscopy, and quantification. The second week was devoted to the study of micromorphological characteristics of different types of soil materials and diagnostic horizons, and applications to the studies of soil management and degradation, the latter subject being taught by Dr. Marcello Pagliai, Director of the 'Centro di ricerca per l'agrobiologia e la pedologia' in Firenze, Italy). About half of the time was devoted to

microscope exercises. During the last two practical exercises students had the occasion to discuss their own thin sections with the teaching staff.

The course ended with a short ceremony during which participation attests were handed over to the students by Prof. Dr. Eric Van Ranst. The high number of candidates and especially the fact that many students brought thin sections with them, but missed a basic training clearly show that there is a need for such training programmes.

- G. Stoops



Students at work in the microscope room

International Conference on Soil Geography: New Horizons

The International Conference, Soil Geography: New Horizons will be held in Huatulco Santa Cruz, Oaxaca, Mexico, 16-19 November, 2009.

<http://www.soilgeography09.fciencias.unam.mx/>



SYMPOSIA:

- THE THEORY AND METHODS OF SOIL GEOGRAPHY

AHMET MERMUT AND ADALBERTO BENAVIDES MENDOZA

- LANDSCAPE DYNAMICS, SOIL GEOMORPHOLOGY, AND HYDROPEDOLOGY

REINHOLD JAHN AND JOSÉ RAMÓN HERNÁNDEZ

-PEDODIVERSITY AND SOIL GEOGRAPHY

JUAN JOSÉ IBÁÑEZ AND PAVEL KRASILNIKOV

-SOIL CLASSIFICATION AND SOIL MAPPING UNITS: THEORY AND APPLICATION

ROBERT AHRENS AND CARMEN GUTIÉRREZ CASTORENA

-PALEOSOLS IN THE PRESENT AND PAST SOILSCAPES

EDOARDO COSTANTINI AND SERGEY SEDOV

-PEDOMETRICS, DIGITAL SOIL MAPPING, AND SOIL GEOGRAPHY

ALEX MCBRATNEY AND CHRISTINA SIEBE

-DRIVING FORCES OF SOIL DIVERSITY: LITHOGENIC VERSUS CLIMATIC FACTORS

VIKTOR TARGULIAN AND TERESA REYNA TRUJILLO

-MOUNTAINOUS TROPICAL SOILSCAPES

NORMA E. GARCÍA CALDERÓN AND CARLOS E. SCHAEFER

FIELD TOURS:

PRE-CONFERENCE MERIDIAN FIELD TOUR, MID-CONFERENCE AND POST-CONFERENCE

Contacts: <http://www.soilgeography09.fciencias.unam.mx/>
soilgeography09@gmail.com

