

## PRECONFERENCE INTENSIVE SHORT SOIL MICROMORPHOLOGY COURSE

16<sup>th</sup> 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

**Number of students:** max. 20

**Full cost:** 220 EURO including field trip, coffee breaks, and lunches

**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](mailto:jcloaiza@unal.edu.co)

**Polish coordinator:** Dr. hab. Wojciech Szymański, email: [w.szymanski@uj.edu.pl](mailto:w.szymanski@uj.edu.pl)

Course offered by:

Soil Science Society of Poland, Jagiellonian University in Krakow, University of Agriculture in Krakow

**Introduction:** Despite being a relatively recent technique, 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 Naples 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.

## PROGRAM OF THE COURSE

Day	Session	Theme	Professor	
August 25 (Tuesday)	9:00-10:00	Reception and inscription		
	10:00-11:00	Soil-forming processes	Juan C. Loaiza-Usuga	
	11:00-12:00	Introduction to soil micromorphology		
	<b>Lunch</b>			
	14:00-16:45	Optical mineralogy	Bartłomiej Kajdas	
	<b>Coffee break</b>			
	17:00-19:00	Techniques of thin section preparation - visit in a lab	Wojciech Szymański	
August 26 (Wednesday)	9:00. A field trip. Soil description and classification in the field. Techniques of taking soil samples for micromorphological studies. Genesis of fragipan in Retisols (Alfisols) of the Carpathian Foothills (southern Poland)			
August 27 (Thursday)	9:00 – 9:45	Fabric concepts - Microstructure and porosity	Georges Stoops	
	9:45 – 10:30	Groundmass: c/f concepts		
	<b>Coffee break</b>			
	10:45 – 12:00	Coarse components	Georges Stoops	
	<b>Lunch</b>			
	14:00 – 15:00	Organic components	Georges Stoops	
	15:00 – 16:00	Micromass		
	<b>Coffee break</b>			
	16:15 – 17:00	Pedofeatures	Juan C. Loaiza-Usuga	
17:00 – 18:30	Systematics of description of thin sections			
August 28 (Friday)	9:00 – 9:45	Introduction and questions about the Guidelines	Georges Stoops	
	9:45 – 10:45	Mineral and rock weathering		
	<b>Coffee break</b>			
	11:00 – 12:00	Micromorphology of loess soils	Wojciech Szymański	
	12:00 – 13:00	Loess soils - work with thin sections		
	<b>Lunch</b>			
	15:00 – 16:00	Micromorphology of frost-affected soils	Wojciech Szymański	
16:00 – 17:00	Frost-affected soils - work with thin sections			
August 29 (Saturday)	9:00 – 9:45	Micromorphology of Petroplinthite (laterite, bauxite) - work with thin sections	Georges Stoops	
	9:45 – 10:45	Micromorphology of acid sulphate soils - work with thin sections	Rosa M. Poch	
	<b>Coffee break</b>			
	11:00 – 12:00	Micromorphology of soils with gypsum and salts - work with thin sections	Rosa M. Poch	
	<b>Lunch</b>			
	14:00 – 16:00	Micromorphology of soils with carbonates - work with thin sections	Rosa M. Poch	
	<b>Coffee break</b>			
	16:15 – 18:00	Micromorphology of soils on volcanic ash (Andosols), anthropogenic soils - work with thin sections	Juan C. Loaiza-Usuga	
August 30 (Sunday)	9:00-11:00	Image analysis and soil micromorphometry	Fabio Terribile	
	<b>Coffee break</b>			
	11:15-13:00	Micromorphology of contaminated sites	Fabio Terribile	
	<b>Lunch</b>			
	15:00-17:00	Summary of the course	All teachers	