Hello $[UD:FIRST_NAME|]$

EDITORIAL BY ISABELLE GATTIN, CHAIR HOLDER

Soil Science: From a Scientific Discipline to a Global Issue



As **World Soil Day** approaches, this newsletter takes a look back at the knowledge, innovations, and initiatives that help us better understand, assess, and preserve this resource, which is essential to the functioning of ecosystems and human societies.

Long viewed primarily through the lens of their ability to produce agricultural resources, soils are now recognized as major components of the planet's functioning. This shift is the result of more than a century of scientific progress that has gradually revealed the complexity of soils' structure, diversity, and functions.

While human societies have long observed the links between soil fertility and agricultural production, pedology did not emerge as a scientific discipline until the late 19th century. In 1883, the Russian scientist Vassili Dokuchaev laid the foundations of modern soil science by demonstrating that soil is a natural entity in its own right, resulting from the combined action of climate, living organisms, bedrock, topography, and time.

Throughout the 20th century, research led to a better understanding of the mechanisms of soil formation and evolution, the functioning of biogeochemical cycles, the transfer of water and nutrients, and the interactions between mineral, organic, and biological components. Soil classification has gradually become more refined to better reflect soil diversity. While the first classification proposed by Dokuchaev distinguished 13 major soil types, the World Reference Base for Soil Resources (WRB) now recognizes 32 reference groups.

Beginning in the 1970s, growing awareness of erosion, contamination, land development, and the loss of organic matter led to a broader view of soils that went beyond their productive function. Advances in ecology and microbiology then highlighted the crucial role of soil organisms in recycling organic matter, making nutrients available, regulating water, and maintaining biodiversity.

The concept of "living soil" is gradually gaining acceptance in scientific and technical communities.

This trend found significant momentum with the Millennium Ecosystem Assessment, published in 2005. The concept of ecosystem services places soils back at the center of environmental issues by highlighting their contribution to food production, water quality, carbon sequestration, climate regulation, and the maintenance of biodiversity.

The adoption of the Sustainable Development Goals (SDGs) by the United Nations in 2015 confirms this recognition. Although soils are not a specific goal, their condition directly or indirectly influences all major contemporary challenges: food security, water management, ecosystem health, adaptation to climate change, biodiversity conservation, and territorial resilience.

The history of soil science thus illustrates a profound evolution in our understanding: from a means of production, soil has become a central subject of scientific inquiry and, subsequently, a strategic element of sustainable development. This trajectory reminds us that understanding soils is an essential prerequisite for their preservation and management.

It is with great pleasure that we will welcome delegations from all partners of the **UNESCO Chair "Soil, Biodiversity, and Future Generations"** on the occasion of **World Soil Day**, which we will celebrate one day early! **December 4** will indeed mark an important milestone with the official inauguration of the Chair and the launch of its scientific, educational, and partnership initiatives. This gathering will provide an opportunity to share our vision, our ambitions, and the initial actions we have undertaken to address issues related to the preservation of soils and their biodiversity.

We hope to see many of you there to celebrate this launch together and contribute to this collective effort for the benefit of future generations (*see the registration link in the following section*).

- Isabelle Gattin

HIGHLIGHT

Launch of the UNESCO Chair on the occasion of World Soil Day

We are pleased to invite you on December 4, 2026, to the UniLaSalle Mont-Saint-Aignan campus to participate in the official launch of the UNESCO Chair "Soils, Biodiversity, and Future Generations" in celebration of World Soil Day.

This event will give us the opportunity to host our international partners for an entire week to address global issues related to soil health from a multidisciplinary perspective.

For those who are unable to join us in person, here is the link to follow the event online:

Online event



Mandatory Registration Form

WEBINAR: PLASTICS AND AGRICULTURAL SOILS

The Chair was pleased to host its third webinar on the topic: **"Plastics in Agricultural Soils: Uses, Detection, Impacts, and Solutions"** on October 29, 2026, from 11:00 a.m. to 12:00 p.m. (UTC+1).

UniLaSalle Rouen, **France**, and the Chair engaged in a discussion with their partner at LaSalle University in Manila, **Philippines**.

Guests:

- **Edgar A. Vallar**, Lecturer and Researcher, LaSalle University Manila (**Philippines**). *What if LIDAR could see what we cannot? Detection and characterization of the surface of plasma-treated plastics using a compact 405-nm laser diode Mie LIDAR system.*

- **Jules Bellon**, Research Engineer, UniLaSalle Rouen (**France**). *From evidence of compostability to operational decisions: a framework for evaluating biodegradable plastics in composting and anaerobic digestion.*

Webinar language: **English**

Replay webinar

180 SECONDS TO PRESENT SOIL RESEARCH ON THE INTERNATIONAL STAGE!



To welcome its international partners, the UNESCO Chair is organizing a special session dedicated to doctoral students from all of its partner campuses. The challenge: to allow one doctoral student from each campus to present their dissertation research in just **180 seconds**!

This is a stimulating exercise to develop scientific communication skills, as well as a great opportunity to discover the diversity of expertise and research on soils across the network's various countries.

Join us online on **Thursday, December 3, from 2:30 p.m. to 4:00 p.m (UTC+1)**. The session will be conducted in **English**.

Suscribe

INTERNATIONAL MASTERCLASS "FOOD SECURITY"

Organized by UniLaSalle with support from Erasmus+, the **"Food Security: From Soil to Plate"** masterclass took the form of a **Blended Intensive Program (BIP)**. It took place on the Rouen campus from November 2 to 6, 2026, and brought together 54 students from Spain, Belgium, Romania, Italy, and Latvia, as well as our students from the Farm for the Future and Sustainable Management and International Trade programs. The program followed a three-part structure—production, distribution, and food—covering issues ranging from the local to the international level, and combining multidisciplinary lectures, workshops, and field trips. The involvement of two UNESCO Chairs (the World Food Chair from the Institut Sup'Agro in Montpellier was present) as well as the City of Rouen's international relations department enabled us to offer a very rich program. This latest edition confirms the Chair's ability to bring together a European network focused on food security, from farm to table.



CONFERENCES

Intersoil 2026



Elsa Edynak opened the Intersoil 2026 conference in Barcelona during the session dedicated to the regulatory framework and soil risk assessment. Her presentation, "From Soil Monitoring to Remediation," analyzed the benefits and limitations of the new European directive on soil monitoring. According to her, this text is primarily a "knowledge-based" directive, which requires measuring soil health but does not yet mandate protecting or restoring soils. She also emphasized that the directive identifies awareness-raising and training as key drivers of its effectiveness, and that the UNESCO Chair in "Soils, Biodiversity, and Future Generations" plays a vital role in fostering this culture of soil stewardship, from schools all the way to policymakers.

The Soil: A Vital Common Good That Is Sometimes Overlooked



In celebration of World Soil Day, the UNESCO Chair "Soils, Biodiversity, and Future Generations" and La Salle University (**Colombia**) invite you to an international webinar dedicated to the essential role of soils in our societies. Through an academic and multidisciplinary exploration, discover why soils are indispensable to biodiversity, food security, and the well-being of present and future generations. This event offers an opportunity to better understand the challenges of soil conservation and to share the perspectives and experiences of various international stakeholders.

Join us on **Saturday, December 5, 2026, from 8:00 a.m. to 12:45 p.m. (UTC-5, Colombia)**

Suscribe

Soils at the Heart of the Transition of Agri-Food Systems



On November 5, 2026, the UNESCO Chair at UniLaSalle, in partnership with the universities of the **La Salle network** in Colombia and Mexico, organized an international webinar focused on the role of soils in the sustainability of agri-food systems. Through presentations by researchers from **Colombia, Mexico**, and **France**, the discussions highlighted the importance of preserving soil health to ensure food security, territorial resilience, and the transition to more sustainable agricultural practices. This event also illustrated the international dimension of research and academic cooperation on issues related to soil and agroecology.

Measuring Soil Health Using Microbial Communities



On November 12, 2026, as part of World Soil Day, Professor Rosalina González Forero (**La Salle University, Bogotá**) spoke at a symposium organized by the National **Autonomous University of Querétaro (Mexico)**, accompanied by her student Santiago Coronado. Their presentation, titled "**Analysis of Soil Microbial Communities Using Ecoplates: An Opportunity to Measure Soil Health,**" highlighted innovative approaches for assessing soil microbial activity, a key indicator of soil health and sustainability. This participation illustrates the dynamism of international academic collaborations focused on preserving soil health and developing sustainable agroecological practices.

ARTICLES TO EXPLORE



Mycorrhizae challenge our understanding of life

Did you know that some fungi live in symbiosis with plant roots, forming underground networks that can harbor thousands of genetically distinct nuclei? As true partners to plants, they facilitate nutrient absorption, contribute to soil fertility, and strengthen plants' resistance to environmental stress. Still shrouded in mystery, these organisms could open up new possibilities for more sustainable agriculture. Dive into the fascinating world of these invisible allies of life!

Read the article



In agriculture, can copper be used without harming soil life?

Used for over a century as a fungicide, particularly in organic farming, copper can accumulate in the soil over the long term and affect certain living organisms. But what are its actual effects on underground biodiversity? Researchers at UniLaSalle are analyzing its impact on microorganisms and soil fauna, and demonstrating why its toxicity also depends on soil characteristics. Find out how to balance crop protection with the preservation of soil life!

Read the article

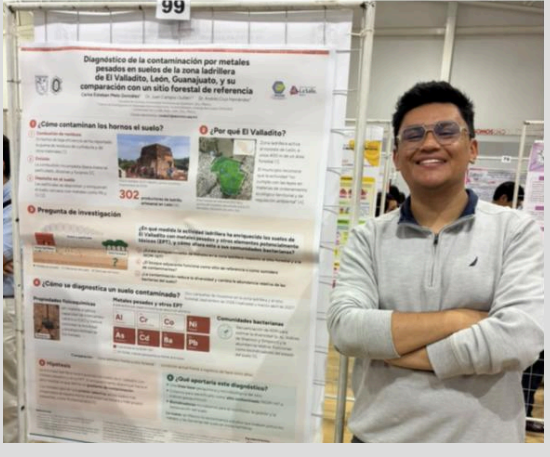
CURRENT PROJECTS

From Research to the Field: A Partnership to Preserve Soils in Bogotá

Research on Heavy Metal Contamination of Soil in Mexico



Accompanied by students from the environmental and sanitary engineering program, who specialize in the prevention and control of soil degradation, LaSalle **Bogotá** participated in a visit to the city's National Police community garden on November 5. This visit provided an opportunity to support the project, collect soil samples, and pave the way for future projects carried out directly in the field. A French engineering student from **UniLaSalle** also took part in the visit.



Esteban Melo, a master's student in Environmental Sciences at the Autonomous **University of Querétaro** (who completed an internship at UniLaSalle last year), presented his research on heavy metal soil contamination in the brick-producing area of El Valladito, in **León** (Guanajuato). Co-supervised by Dr. Andrés Cruz Hernández of **Universidad La Salle Bajío**, his project compares contamination levels at the site with those of a reference forest area. This presentation was part of the Faculty of Chemistry's Cultural and Scientific Week.

Strengthening Institutional Partnerships for Environmental Transition in Guanajuato, Mexico

The UNESCO Chair continues its dialogue with institutional stakeholders in the State of **Guanajuato**, notably the **Institute for Innovation, Science, and Entrepreneurship** (IDEA GTO) and the **Secretariat of Water and the Environment** (SAMA). These meetings aim to present the Chair's objectives and integrate its initiatives into local strategies for innovation and environmental protection. An upcoming meeting, scheduled for late November, will bring together stakeholders from the brick-making industry to discuss environmental challenges facing the sector, particularly soil remediation.

NEWS

Fêno 2026



UniLaSalle participated in the 7th annual FÊNO (Festival of Norman Excellence), which took place this year from October 16 to 18 in Caen, thanks to our colleagues Eva GAUBERT (Project Manager at the UNESCO Chair in "Soils, Biodiversity, and Future Generations") and Quentin BORDIER (Science Communicator), among others. The event provided an opportunity not only to present the UNESCO Chair's project but also to share with visitors concepts related to agroecology—a key research focus of the AGHYLE unit, which centers its research on the biological condition of soils in relation to the health and growth of cultivated plants. The festival welcomed 62,000 visitors over the three days.

NATURELLEMENT ROUEN - 20 to 22 of NOVEMBER 2026

The UNESCO Chair will participate in the 5th edition of the "Naturellement" event in Rouen: **"Biodiversity: Our Future,"** taking place November 20–22, 2026. This event, aimed at the general public, will introduce the concept of biological diversity by exploring its evolution and the threats it faces, as well as its connections to our own existence. Open to everyone, the event will feature science cafés, city walks, lectures, roundtable discussions, film screenings followed by discussions, workshops for young audiences, booths, and photo exhibitions…



Infos on the event

CALL FOR PAPERS

Special Issue – "Biodegradable Polymers and Biocomposites in Compost and Soil" for February 2027.
A call for papers is currently open for the special issue "Biodegradable Polymers and Biocomposites in Compost and Soil" of the journal "Polymers". This special issue welcomes research on the biodegradation of polymers and biocomposites in compost and soil, under aerobic or anaerobic conditions, as well as on their formulation, processing, and characterization. The call is open to the entire scientific community. The promotional flyer may also be shared with researchers who may be interested.

Infos and submissions

Contact us : eva.gaubert@unilasalle.fr

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