



sica.2022@agr.unipi.it



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5 -7 September 2022 Pisa (PI), Italy sica.2022@agr.unipi.it









# Welcome to the XL SICA Congress

On behalf of the Italian Society of Agricultural Chemistry (SICA) we are delighted to invite you to the XL annual meeting, entitled Conciliating sUstaiNability, resillence, and Food qualitY: new challenges for a 2030 agriculture (UNIFY).

The meeting will be held on the 5-7 September 2022 at the Department of Agriculture, Food and Environment (University of Pisa)

The meeting offers the unique opportunity to reconcile basic and applied research in the fields of plant biochemistry, soil and environmental sciences with a wide-spectrum approach of integration and collaboration to propose new solutions to the problems raised by modern agriculture.

The scientific programme is structured in three sessions that cover the issues related to the soil/plant/environment system following a transversal, multidisciplinary and integrative approach, with the point of view and heritage of senior keynote speakers who have contributed to the scientific and cultural development of our society. Younger researchers will bring their contribution aimed at constructively feeding the scientific debate to propose real solutions to concrete problems.

With these aims, "UNIFY" proposes to amalgamate the three main research fields that have distinguished our Society through a generational harmonization, both essential aspects of a modern research in agriculture.

The intense scientific programme does not preclude the possibility to enjoy the artistic, landscape and historical heritage of the monumental city of Pisa, with its leaning tower known all over the world and the medieval wall walk, a journey through the history and a vantage point for spectacular views across the city.

The organizing committee
The Agricultural Chemistry Group





















# **Programme**

#### Monday 05 September, 10:00 - 18:15

10:00 – 13:00

Registration

Cultural activities \*

14:30 - 15:00

Institutional greetings

tolerance of plants



15:00 - 15:45

Session 1

Chairs: Dr. Concetta Eliana Gattullo and Prof. Youry Pii

# Facing the climate change: effects and challenges on natural and agroforestry systems

**Keynote lecture** - **Prof. Marco Trevisan** (Univ. Cattolica del Sacro Cuore, Piacenza) Adaption to challenging environment: biochemical processes involved in abiotic stresses

15:45 – 16:00	B. Giannetta, C. Plaza, M. Cassetta, G. Mariotto, I. Benavente-Ferraces, M. Panettieri, J.C. García-Gil, C. Zaccone Response of soil organic matter fractions to biochar application and climate change in a Mediterranean agroecosystem	
16:00 – 16:15	<ul><li>D. Savy, M. Verrillo, S. Cangemi, A. Piccolo, V. Cozzolino</li><li>Novel nanomaterials humic substances from green composts</li></ul>	
16:15 – 16:30	S. Celletti, R. Fedeli, M. Ghorbani, S. Loppi Basil as a model plant species for assessing the sustainability of bioplastic use in agriculture	
Coffee break and poster viewing		
17:30 – 17:45	M. Grigatti, C. Ciavatta Study of fertiliser efficiency and main soil effects following the use of compost in open field on cereals crops	
17:45 – 18:00	G. Di Rauso Simeone, C. Amalfitano, M. Caputo, F. Vairo, G. Sequino, F. Scognamiglio, M. Zaccardelli, F. De Filippis, M.A. Rao Properties of solid digestate after thermal treatment and N enrichment and derived vermicompost	
18:00 – 18:15	V. Zuffi, F. Puliga, L. Trincone, A. Zambonelli, O. Francioso Fungi and anaerobic digestate: a promising relationship	
18:15 – 18:30	C. Porfido, K. Köpke, I. Allegretta, S. Cesco, T. Mimmo, S. von Bargen, M. Bandte, M. Rybak, G. Falkenberg, C. Büttner, R. Terzano K and Ca concentrations in leaves correlate with ASaV infection in climate change trees (Fraxinus ornus) of Hamburg	
18:30 – 18:45	S. Blasioli, P. Mattarelli, L. Cavani, E. Buscaroli, M. Brecchia, I. Braschi Effect of Fenton-like treatment to reduce the persistence of veterinary antibiotics and antimicrobial resistance in pig manure	



















# Programme

#### <u>Tuesday 06 September, 08:30 – 17:30</u>

**08:30 – 09:30** Registration



Session 2

Chairs: Dr. Begoña Miras-Moreno and Dr. Fabrizio Araniti

#### Advances in plant responses to environmental change and food quality improvement

09:00 - 09:45	Keynote lecture - Prof. Roberto Pinton (Università degli Studi di Udine) Challenges in plant nutrition research for food quality and security	
09:45 – 10:00	P. Ganugi, A. Fiorini, F. Ardenti, T. Caffi, P. Bonini, E. Taskin, E. Puglisi, V. Tabaglio, M. Trevisan, L. Lucini Nitrogen use efficiency, rhizosphere bacterial community, and root metabolome reprogramming due to maize seed treatment with microbial biostimulants	
10:00 – 10:15	M. Alzate, S. Monterisi, Y. Rouphael, G. Colla, L. Lucini, S. Cesco, Y. Pii Plant-derived biostimulants differentially mitigate salinity stress in lettuce and tomato plants	
10:15 – 10:30	F. Fragalà, I. Puglisi, E. La Bella, E. Padoan, E. Montoneri, A. Baglieri Biobased biopolimers derived from municipal biowaste: agricultural applications	
Coffee break and poster viewing		

Coffee break and	
11:30 – 11:45	M. Brecchia, E. Buscaroli, I. Braschi Effect of seasonality, mycorrhization and clinoptilolite applications on Trace Elements (TE) uptake by melon plants  L. B. Ebinezer, I. Battisti, N. Sharma, L. Ravazzolo, L. Ravi, A. R. Trentin, G. Barion, A.
	Panozzo, S. Dall'Acqua, T. Vamerali, S. Quaggiotti, G. Arrigoni, A. Masi
12:00 – 12:15	<u>C. Muratore</u> , F. Araniti, L. Espen, B. Prinsi Comparison of physiological, biochemical and proteomic responses to nitrate or amino acids availability in maize
	grown maize plants  C. Muratore, F. Araniti, L. Espen, B. Prinsi Comparison of physiological, biochemical and proteomic responses to nitrate or amino acids availability in maize  I. Allegretta, G. Squeo, C.E. Gattullo, C. Porfido, F. Caponio, S. Cesco, C. Nicoletto, R.Terzano  TXRF spectral information enhanced by multivariate analysis: a new strategy for food and seed traceability
12:30 – 12:45	L. Ruggiero, C. Amalfitano, N. Dalal, E. Guerrera, P. Adamo  Non-destructive determination of quality properties of "Pomodorino del Piennolo del Vesuvio PDO" tomato using Near Infrared Spectroscopy combined with chemometrics

#### Lunch break

14:30 - 15:00 Award ceremony for the best Ph.D. theses and publications 15:00 - 17:00 SICA Plenary session

17:00 - 19:30 Cultural activities \*

> 20:30 Social dinner

\* You can refer to the activities suggested in the dedicated web page.



















# **Programme**

#### Wednesday 07 September, 08:30 – 15:30

08:30 - 09:30

Registration



09:00 - 09:45

Session 3

Chairs: Prof. Daniela Pezzolla and Prof. Vito Armando Laudicina

# Strategies for improving soil management and quality in sustainable agriculture

**Keynote lecture** - **Prof. Maria Antonietta Rao** – (Università degli Studi di Napoli) Agricultural soil management: the delicate balance between sustainable practices and food security

09:45 – 10:00	L. Maretto, S. Deb, S. Ravi, M. C. Della Lucia, G. Campagna, A. Squartini, S. Nardi, G. Concheri, P. Stevanato  Microbiome profiling of soils under long-term conventional and organic management	
10:00 – 10:15	S. Paliaga, V.A. Laudicina, L. Badalucco  A high CO2 pressure-based method for soil microbial cells disruption	
10:15 – 10:30	A. Ciurli, G. Di Biase, S. Rapisarda, C. Ciavatta & L. Cavani Evaluation of agronomic quality and impact on soil fertility of fertilizers from beef slaughterhouse biogas digested sludge	
Coffee break and poster viewing		
11:30 – 11:45	S. Martinengo, M. Schiavon, V. Santoro, D. Said-Pullicino, L. Celi, M. Martin Soil-plant interactions governing phosphorus availability in paddy soils	
11:45 – 12:00	G. Galluzzi, C. Plaza, B. Giannetta, S. Priori, C. Zaccone Soil organic carbon sequestration and dynamics along two climo-chronosequences	
12:00– 12:15	M. Mazzon, P. Gioacchini, D. Montecchio, C. Ciavatta, C. Marzadori Shift from perennial to annual crops: the fate of the sequestered soil carbon in a long-term field experiment	
12:15 – 12:30	A. Giordano, E. Padoan, F. Ajmone Marsan, M. Malandrino Geochemical patterns and contamination aspects of rare earth elements (REEs) in soils of Northwestern Italy	
12:30– 12:45	M. Verrillo, G. Rossi, S. Cangemi, F. Scognamiglio, R. Spaccini Methods of Soil Organic Matter analysis in forest soils: LIMCHEME project	

#### Lunch break

**14:30 – 15:00** Award for the best poster and oral presentations

**15:00 – 15:30** Closing workshop



















# Registration

To participate in the SICA 2022 meeting attendees will be required to register and activate their personal account through the online platform available on the website **https://sica2022.azuleon.org**. Using the provided credentials, participants can access the reserved area, where they can register for the meeting and submit their abstracts.

Through the reserved personal area on the website, participants will also be able to:

- submit and edit their abstract(s) at any time (until the submission deadline)
- download the Certificate of Attendance
- download the Book of Abstracts

#### Registration fees

	Standard fee (deadline: 26 August)
SICA members	400 €
Non SICA members	450 €
Students*	250 €
Accompanying persons **	250 €
Agronomists ***	100 € ***

<sup>\*</sup> Bachelor's, Master's, and Ph.D. students, as well as post-doc and research fellows. Their supervisors must confirm their student status as indicated in the reserved area during registration.

The registration fee includes the access to the 3-days congress, the participant kit, meals and coffee breaks at the Congress venue, and the social dinner.



<sup>\*\*</sup> The accompanying person should not register through the website, but they should contact the organizers (sica.2022@agr.unipi.it) and the secretary (stefania.lazzeri@unipi.it) for instructions.

<sup>\*\*\*</sup>Agronomists are warmly welcome! Therefore, we have foreseen a 100 euros registration fee per day (social dinner excluded) for those who want to participate in the congress to get formative credits. The day(s) they intend to attend the congress must be communicated to the organizers via email after registration.





















# **Payment**

Early and standard fees can be paid exclusively through one of the following two methods:



#### For public entities

Employees of public bodies can <u>only</u> register by sending an order form to

scienteagrarie@pec.unipi.it, and payment must be made ON RECEIPT of the electronic invoice.

The bank details will be visible in the mySICA reserved area.



# For private entities and persons (not employees of public entities)

Payment must be made via PagoPA system (the participant must request the payment notice from <a href="mailto:stefania.lazzeri@unipi.it">stefania.lazzeri@unipi.it</a>). In the email, please indicate:

- Name e Surname
- Date and place of birth, or Organisation
- Fiscal code
- Address
- · Email address

#### **Beneficiary**

Dipartimento di Scienze Agrarie, Alimentari e Agro-Ambientali Ente 601 Via del Borghetto n. 81 56126 Pisa Codice Fiscale 80003670504 Partita IVA 00286820501 Codice IPA Ufficio JJUBC8





















# Poster preparation

The posters should be prepared according to the dimensions below.

Feel free to contact the organizers through the email address **sica.2022@agr.unipi.it** for further information.

# A1 format 594 mm 841 mm



Posters dimensions





















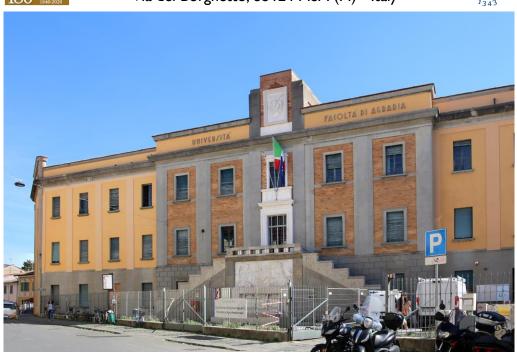
# **Congress Venue**

The XL Sica Congress will be held at the

#### Department of Agriculture, Food and Environment **UNIVERSITY OF PISA**

https://www.agr.unipi.it/

Via del Borghetto, 55124 PISA (PI) - Italy

















5 -7 September 2022 Pisa (PI), Italy sica.2022@agr.unipi.it









### Accomodation - Hotels



#### **PISA TOWER PLAZA**



Via Caduti del Lavoro 46, 56122 Pisa info@pisatowerplaza.com

#### **HOTEL REPUBBLICA MARINARA**



discount for conference participants!

Via Matteucci 81, 56124 Pisa info@hotelrm.it





#### **HOTEL NH PISA**



Piazza Stazione 2, 56125 Pisa <a href="mailto:nhpisa@nh-hotels.com">nhpisa@nh-hotels.com</a>

#### **HOTEL ALESSANDRO DELLA SPINA**



Via A. Della Spina 2, 56125 Pisa info@hoteldellaspina.it





#### **HOTEL NOVECENTO**



Via Roma 37 56126, Pisa info@hotelnovecento.pisa.it

discount for conference participants!



















## Accomodation - B&B



#### **B&B DI CAMILLA**

Via S. Francesco 45, 56127 Pisa info@bbdicamilla.it

#### **RINASCIMENTO BED & BREAKFAST**

discount for conference participants!

Piazza Donati 13, 56126 Pisa info@rinascimentopisa.it





#### **FIVE ROSES BED & BREAKFAST**

Corso Italia 156, 56125 Pisa info@fiveroses.it

#### **RELAIS DEI MERCANTI B&B AND SUITES**

Piazza Sant'omobono 16, 56126 Pisa relaisdeimercanti@gmail.com

discount for conference participants!





















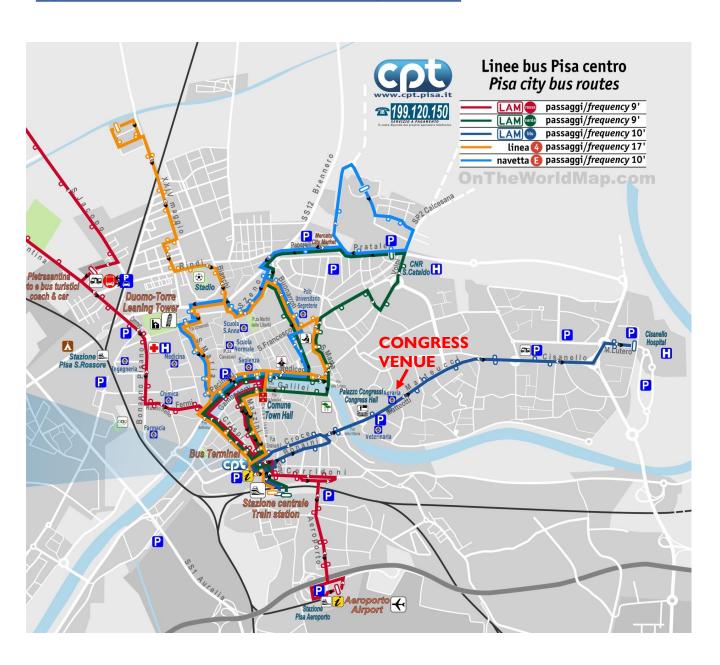




# **Urban transports**

Please take care of your accommodation as early as possible (end of the holiday season!). Consider the transport possibilities from your hotel to the congress venue! You can find the routes and timetables at the following link:

https://www.at-bus.it/it/orari.html#modTimetables\_collapseUrbanLine

























## **Cultural activities**

Famed for a leaning tower, the Tuscan city of Pisa is one of Italy's most visited cities. Be inspired by our proposals to discover what the city on the river Arno has to offer!

More info on the Congress webpage.



The botanic garden



The "Palazzo Blu" Museum



The exhibition of "Le Navi Antiche di Pisa", in the Medicean Arsenals



The National Museum of San Matteo

#### And don't miss the tour on Pisa's Medieval Walls!

The walkway of the Pisa's Walls, with its 11 meters high, gives to the public the possibility to observe the city from an original perspective. A pleasant walk to admire from above the typical Pisan overview, from Piazza dei Miracoli to Piazzetta Del Rosso.

























## Social dinner

The Social Dinner will take place on **Tuesday September 6<sup>th</sup> at 20:30** in the hystorical restaurant **Le Arcate**, inside the prestigious location of **Villa Poschi**.

The organizing committee will provide the buses for the transport of the participants to the location! Further details will be given during the congress.





Via Statale Abetone, 212, 56017, San Giuliano Terme, PISA (PI), Italy

https://www.relaisvillaposchi.it/

The restaurant Le Arcate is located in the beautiful countryside that separates Lucca from Pisa towards the Serchio river. Here you can taste the typical Tuscan dishes, surrounded by the frescoed walls of the enchanting Villa Poschi.

























## **ORGANIZING COMMITTEE**



Roberto Cardelli Antonella Castagna Lucia Guidi Marco Landi Beatrice Pezzarossa Mike Frank Quartacci Annamaria Ranieri Michelangelo Becagli Costanza Ceccanti Giulia Lauria Alessia Mannucci Maria Calogera Sciampagna



## SCIENTIFIC COMMITTEE

Marco Santin

Fabrizio Araniti Roberto Cardelli Antonella Castagna Luisella Celi Stefano Cesco Concetta Eliana Gattullo Giovanni Gigliotti Lucia Guidi Marco Landi Vito Armando Laudicina Begoña Miras-Moreno Beatrice Pezzarossa

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