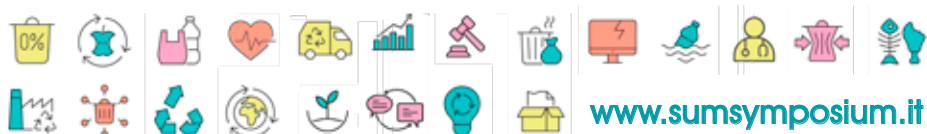


# SYMPOSIUM GUIDEBOOK

## GUIDA DEL SIMPOSIO



[www.sumsymposium.it](http://www.sumsymposium.it)

*We extend our heartfelt thanks to the Municipality of Procida,  
and in particular to the Mayor Raimondo Ambrosino  
and his outstanding team, Giuditta Lubrano Lavadera- vice-mayor,  
Leonardo Costagliola - Councillor for Tourism and Salvatore Scotto di Rinaldi,  
for the warm and enthusiastic welcome they have shown us  
from the very beginning, in this extraordinary land*

*Desideriamo esprimere i nostri più sentiti ringraziamenti  
al Comune di Procida e in particolare al Sindaco Raimondo Ambrosino  
e alla sua straordinaria squadra, Giuditta Lubrano Lavadera - vicesindaco,  
Leonardo Costagliola - Assessore al Turismo e Salvatore Scotto di Rinaldi,  
per il calore e l'entusiasmo con cui ci hanno accolto, sin dal primo momento,  
in questa terra straordinaria.*

**Under the patronage of / Con il patrocinio di:**



MINISTERO DELL'AMBIENTE  
E DELLA SICUREZZA ENERGETICA



Comune  
di Procida



ISPRA  
Istituto Superiore per la Protezione  
e la Ricerca Ambientale



**Under the aegis of / Sotto l'egida di:**



**Partner Event / Evento Partner:**



# SUM2025

**8TH MULTIDISCIPLINARY SYMPOSIUM ON CIRCULAR ECONOMY  
AND URBAN MINING / 21-23 MAY 2025 / PROCIDA, NAPLES / ITALY**

**Organised by / Organizzato da:**



**With the scientific involvement of / Con il coinvolgimento di:**

University of Padua (IT)  
University of Southampton (UK)  
University of Victoria (CA)  
BOKU University (AT)  
Ghent University Hospital (BE)  
Hamburg University of Technology (DE)  
IST Técnico Lisboa (PT)  
Kaunas University of Technology (LT)  
Luleå University of Technology (SE)  
Marche Polytechnic University (IT)  
Polytechnic University of Turin (IT)  
Sant'Anna School of Advanced Studies, Pisa (IT)  
Sapienza University of Rome (IT)  
The University of Hong Kong (HK)  
Tsinghua University (CN)  
University of Catania (IT)  
University of Naples "Federico II" (IT)

**Promoted by / Promosso da:**

EPA - United States Environmental Protection Agency  
EPHA - European Public Health Alliance  
Biorefine Cluster Europe  
Circular Change  
ČAOBH - The Czech Circular Economy Association  
FEAD - European Waste Management Association  
GWCN - Global Waste Cleaning Network  
JSMCWM - Japan Society of Material Cycles and Waste Management  
KSWM - Korea Society of Waste Management  
IWMSA - Institute of Waste Management of Southern Africa  
CEWMS - Circular Economy, Waste, Materials and Sustainability  
GITISA - Italian Group of Environmental and Sanitary Engineering  
AIAT - Italian Association of Environmental and Planning Engineers  
AICA - International Association for Environmental Communication  
UNIRIMA - Italian National Union of Recovery & Recycling Paper Companies

# WELCOME LETTER

## LETTERA DI BENVENUTO

Dear Delegate,

following the success of the 7th edition held in 2024, we are excited to welcome you in Procida at SUM 2025, 8th Multidisciplinary International Symposium on Circular Economy and Urban Mining.

Please find here below some key info about the conference and the exciting social events that will take place during the Symposium.

### Free shuttle service

To ensure maximum accessibility to the symposium venue, the organizers have organised a free shuttle service departing from Piazza dei Martiri, available on Wednesday 21 / Thursday 22 / Friday 23. Timetable: see page 16.

### SOCIAL EVENTS

#### **Wednesday 21 May - Welcome Reception with Procida-style Apericena and Farm Experience (page 30)**

h. 18:00 - 20:30 - CalaCala Farmhouse and Restaurant

Meeting point: Palazzo D'Avalos - Ground floor, starting from h. 17:45

Join us for a unique Welcome Reception combining a traditional Procidana farm experience with a relaxed Italian-style apericena: a mix of drinks and a light buffet dinner. The perfect way to kick off the conference!

**Free event for symposium delegates.** In order to take part in the event, **reservation is mandatory by Wednesday h. 15:00.** Accompanying persons who wish to participate should purchase the ticket (35 € + VAT) from the secretariat. Round-trip transport is arranged by the Symposium Organizing Secretariat.

#### **Tuesday 22 May - Procida boat tour + Sunset cocktail on board (page 40)**

Meeting point: h. 18:30 - Marina Corricella

Get ready to fall in love with the hidden wonders of Procida! The boat trip allows you to reach exclusive destinations, which can only be visited by sea. Sunset cocktail on board!

Please book your seats at the registration desk by Thursday h. 17:00.

Cost: € 30 + VAT 22% per person

#### **Wednesday 23 May - Closing dinner & Beach Party (page 50)**

h. 20:00 - Vivara Restaurant

Enjoy the traditional Neapolitan cuisine with a spectacular sea view.

Dancing party on the beach at the end of the dinner!

50% of the price is included in the Symposium entrance fee. The remaining 50% will be paid by each delegate and amounts to € 40 + VAT 22%.

**Reservation is mandatory.** Please book your place at the registration desk.

Please note that delegates will need to arrange their own transport to the event location.

*We hope you enjoy the Symposium!  
The Organising Secretariat*

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# PRESENTATION

# PRESENTAZIONE

The previous edition of SUM Symposium, held in Capri in 2024, was a great success attracting participants coming from 34 different countries and representing various disciplines.

Considering the intense and rapid development of topics and issues related to Circular Economy, observing the growing need for a multidisciplinary approach and ascertaining that the voice of the scientific community should influence more heavily the political decisions regarding Circular Economy, SUM Symposium has become a multidisciplinary annual event.

The main aim of this decision is to promote a more continuous interaction (discussion, collaboration, exchange of experiences, etc.) between different disciplines with the full scientific engagement of intra-, cross-, multi-, inter-, and trans-disciplinary research teams, involving any stakeholders or entity that strategically drives its activity on a scientific basis.

The list of interested disciplines includes Agronomy, Biology, Chemistry, Economics, Engineering, Epidemiology, Geosciences, Law, Material Science, Medicine, Psychology, Sociology, etc. Each of them (as research groups, association, societies...) is working inside their individual area without fully exploiting the huge potential of a synergistic, not competing, collaboration. And the effect of that might virtuously influence industrialists, businesspeople, government officials, non-governmental organizations, local authorities, politicians.

In summary, the final goal of SUM is to promote globally Circular Economy thinking by advancing conceptually and technologically, while solving any critical issues.

The SUM Symposium, organised by IWWG—International Waste Working Group ([www.iwwg.eu](http://www.iwwg.eu)), nowadays represents the ideal reference Forum for Circular Economy and Urban Mining, where scientists and stakeholders can debate the most advanced results and focus on future needs.

SUM 2025 is held under the patronage of the Italian Ministry of the Environment and Energy Security, Campania Region, City of Procida, ENEA—Italian National Agency for New Technologies, Energy and Sustainable Economic Development, and ISPRA - The Italian Institute for Environmental Protection and Research.

The Symposium is held under the aegis of Tavolo di Roma.

*L'edizione precedente del SUM, tenutasi a Capri nel Maggio 2024, è stata un grande successo, attirando partecipanti provenienti da 34 paesi diversi e rappresentanti di varie discipline.*

*Considerando lo sviluppo intenso e rapido dei temi e delle problematiche legate all'Economia Circolare, osservando la crescente necessità di un approccio multidisciplinare e constatando che la voce della comunità scientifica dovrebbe influenzare maggiormente le decisioni politiche riguardanti l'Economia Circolare, il SUM è diventato un evento annuale multidisciplinare.*

*L'obiettivo principale di questa decisione è stato promuovere un'interazione più continua (discussione, collaborazione, scambio di esperienze, ecc.) tra diverse discipline, con il pieno coinvolgimento scientifico di gruppi di ricerca intra-,*

*cross-, multi-, inter- e trans-disciplinari, coinvolgendo tutti gli stakeholder o le entità che orientano strategicamente la propria attività su basi scientifiche.*

*La lista delle discipline interessate include Agronomia, Biologia, Chimica, Economia, Ingegneria, Epidemiologia, Geoscienze, Diritto, Scienza dei Materiali, Medicina, Psicologia, Sociologia, ecc. Ognuna di esse (come gruppi di ricerca, associazioni, società...) lavora all'interno del proprio ambito senza sfruttare appieno il grande potenziale di una collaborazione sinergica, non competitiva.*

*E l'effetto di ciò potrebbe influenzare virtuosamente industriali, imprenditori, funzionari governativi, organizzazioni non governative, autorità locali e politici. In sintesi, l'obiettivo finale di SUM è promuovere globalmente il pensiero sull'Economia Circolare, avanzando concettualmente e tecnologicamente, risolvendo al contempo eventuali criticità finali, ecc.*

*Il Simposio SUM, con l'organizzazione scientifica dell'IWWG – International Waste Working Group ([www.iwwg.eu](http://www.iwwg.eu)), rappresenta uno dei più importanti eventi scientifici internazionali sull'argomento.*

*Il SUM 2025, promosso da Istituzioni, Enti e Organizzazioni italiani e stranieri di primaria importanza, si avvale del coinvolgimento scientifico di alcuni dei più importanti Atenei del mondo e del fattivo contributo all'elaborazione del programma di oltre 75 scienziati, provenienti da 28 diversi Paesi, distribuiti nei cinque continenti e rappresentativi di tutti gli ambiti disciplinari coinvolti nell'Economia Circolare.*

*Il SUM 2025 è patrocinato dal Ministero dell'Ambiente e della Sicurezza Energetica, dalla Regione Campania, dalla Città di Procida, dall'Enea Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile e dall'ISPRA Istituto Superiore per la Protezione e la Ricerca Ambientale.*

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(IT)



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- Paolo VIOTTI, Sapienza University of Rome (IT)
- Andrea ZATTI, University of Pavia (IT)

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## SEGRETERIA OPERATIVA



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Symposium Manager  
*Euowaste Srl*



**Elena Cossu**  
General Manager  
*Euowaste + Arcoplan*



**Francesca Fava**  
Administration  
*Euowaste Srl*



**Anna Artuso**  
Graphics & website  
*Arcoplan*



**Sofia Zanchin**  
**Impiumi**  
Conference Hall  
*Detritus Journal*



**Federico Illuminati**  
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*University of Padova*



**Valentina Poli**  
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*University of Padova*



**Salvatore Scotto**  
Hospitality Manager  
*Comune di Procida*



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Official Photographer  
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SUM 2025 Organising Secretariat:  
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# SYMPOSIUM STRUCTURE

## STRUTTURA DEL SIMPOSIO

The scientific programme of SUM 2025 is structured in 3 parallel tracks and will include more than 120 presentations selected according to quality by the Symposium Committees. The presentations are organised in Oral sessions, Workshops and Poster sessions. Oral sessions last 75 min and include 4 presentations (40 min) and 30/35 min for Discussion. Workshops are focused on controversial issues in Circular Economy; they include few introductory lectures for seeding the debate among participants. Poster presentations are continuously accessible in a dedicated area.

*Il programma scientifico del SUM 2025 è strutturato in 3 sessioni parallele e comprende più di 120 presentazioni selezionate in base alla qualità dai Comitati Scientifici del Simposio. Le presentazioni sono organizzate in sessioni orali, workshop e poster. Le sessioni orali hanno una durata di 75 minuti, e includono 4 presentazioni (40 minuti) seguite da un momento di discussione con il pubblico di circa 30/35 minuti. I workshop sono incentrati su temi controversi dell'Economia Circolare; includono brevi presentazioni introduttive per aprire il dibattito tra i partecipanti. I poster saranno sempre accessibili ai partecipanti al Simposio, in una zona dedicata.*

### CONFERENCE ROOMS / SALE CONGRESSUALI

Session A: Blue Room - first floor  
Session B: Pink Room - first floor  
Session C: Yellow Room - ground floor  
Posters: Entrance hall - ground floor  
Coffee breaks: Courtyard - Palazzo D'Avalos

# INSTRUCTIONS

# ISTRUZIONI

## INSTRUCTIONS FOR SESSION CHAIRS & SPEAKERS / ISTRUZIONI PER PRESIDENTI DI SESSIONE E RELATORI

### Instructions for Chairs of Sessions

On arrival at the Symposium venue Chairs of oral sessions and workshops are kindly requested to contact the Speakers' Desk where curricula vitae of speakers will be provided and any last-minute changes in the programme of the session to be chaired will be notified.

Fifteen minutes prior to the start of the sessions, Chairs should report to the conference room where the session will take place, to meet the speakers.

Chairs are furthermore requested to ensure that all speakers remain seated at the table throughout the entire session and that the timetable is strictly adhered to. This is essential to ensure that each speaker is granted equal time for their presentation (max 10 minutes each) and the Q&A discussion.

### Istruzioni per i Presidenti di sessione

*I Presidenti delle sessioni orali e dei workshop sono gentilmente pregati di avvicinarsi allo Speakers Desk al proprio arrivo presso la sede del Simposio affinché vengano forniti loro i curricula vitae dei relatori e vengano comunicate eventuali modifiche al programma della sessione che dovranno presiedere.*

*15 minuti prima dell'inizio delle rispettive sessioni, i Presidenti si presenteranno presso la sala dove si svolgerà la sessione per prendere contatto con i relatori.*

*I Presidenti di sessione sono inoltre pregati di adoperarsi affinché nessuno dei relatori abbandoni la sala prima della conclusione della sessione e venga rispettata la tempistica prevista. Quest'ultimo aspetto è di particolare importanza al fine di garantire ad ogni relatore lo stesso tempo per la propria presentazione (max 10 minuti ciascuno) e per eventuali domande.*

### Information for Speakers

Speakers should contact the Chair 15 minutes prior to the start of the session in which their paper is to be presented. The Chair will be available in the conference room where the session is to take place. Speakers should be present at the conference table from the beginning of the session and remain for the entire duration. During the presentation commercial advertising should be avoided. Mention of affiliations or company name should be very discreet.

A member of our staff is on hand at the Speakers' Desk for all requirements. Speakers who have not sent a copy of their PowerPoint presentation to the Organising Secretariat are kindly requested to contact the Speakers' Desk in a timely manner, at the latest within the session prior to the one in which their own presentation is scheduled.

If your allotted time runs out, do not under any circumstances hurry to finish the entire presentation but go straight to the conclusions. To this regard, it may be of use to prepare a slide illustrating the conclusions in a synthesized version.

## Informazioni per i relatori

*I relatori dovranno contattare il Presidente della sessione durante la quale presenteranno la propria relazione almeno 15 minuti prima dell'inizio della stessa nella sala conferenze di riferimento. Gli autori dovranno essere presenti al tavolo della conferenza dall'inizio della sessione e rimanervi per tutta la durata della stessa. Nella presentazione va assolutamente evitata qualsiasi forma di pubblicità. Il riferimento a enti o ditte di appartenenza deve essere molto discreto. Al Banco Relatori sarà sempre presente un incaricato dell'organizzazione per fornire eventuale assistenza. Non sarà possibile utilizzare il computer del banco relatori per preparare le relazioni, ma solo per apportare piccole modifiche e per un controllo finale.*

*I relatori che non avessero inviato una copia della loro presentazione PowerPoint alla Segreteria Organizzativa prima del Simposio sono cortesemente pregati di recarsi al Banco Relatori non oltre la sessione precedente a quella in cui devono presentare la propria relazione (se si tratta di una sessione in programma per la mattina, il termine ultimo per contattare il Banco Relatori sarà la sera prima).*

*I relatori dovranno assicurarsi che la presentazione sia consegnata allo staff di riferimento secondo le tempistiche indicate.*

*Durante la presentazione, nel caso stia per terminare il tempo a disposizione, si prega di non accelerare per esporre il resto della relazione ma di passare direttamente alle conclusioni. A tal proposito, potrebbe rivelarsi utile preparare una slide che sintetizzi le conclusioni.*

# USEFUL INFORMATION

## INFORMAZIONI UTILI

### WHAT'S INCLUDED IN YOUR REGISTRATION / CHE COSA È INCLUSO NELLA VOSTRA REGISTRAZIONE

- Access to all Symposium sessions and workshops
  - Coffee breaks
  - Free shuttle service from Piazza dei Martiri to the conference venue (see details below)
  - Conference Proceedings (Access to the Members Area)
  - Welcome reception with a Procida-style apericena and farm experience (transport included)
  - 50% of the cost of the Closing Dinner and Beach Party (€40 + 22% VAT)
  - Conference material and Symposium Guide
  - Symposium app
- 
- *Accesso a tutte le sessioni del Simposio*
  - *Coffee break*
  - *Servizio di navetta gratuito da Piazza dei Martiri alla sede del Simposio (vedi dettaglio orari qui sotto)*
  - *Accesso alla members area contenente gli atti del Simposio*
  - *App del Simposio*
  - *Ricevimento di benvenuto con apericena Procidano e farm experience (trasporto incluso)*
  - *50% del costo della Cena finale del simposio con Party sulla spiaggia (€40 + 22% IVA)*
  - *Materiale congressuale e guida del Simposio*
  - *App del Simposio*

### FREE SHUTTLE SERVICE / SERVIZIO NAVETTA GRATUITO

To ensure maximum accessibility to the symposium venue, the organizers have organised a free shuttle service departing from Piazza dei Martiri, available on Wednesday 21 / Thursday 22 / Friday 23 with the following schedule:

- Morning: from 9:00 to 9:30 / from 10:45 to 11:15
- Afternoon: from 14:30 to 15:00 / from 16:15 to 16:45

*Per garantire la massima accessibilità alla sede del Simposio, in concomitanza con l'inizio di tutte le sessioni, nelle giornate di Mercoledì 21, Giovedì 22 e Venerdì 23, è a disposizione di tutti i partecipanti un servizio di navetta gratuito, con partenza da Piazza dei Martiri, nei seguenti orari:*

- *Mattino: dalle 9:00 alle 9:30 / dalle 10:45 alle 11:15*
- *Pomeriggio: dalle 14:30 alle 15:00 / dalle 16:15 alle 16:45*



# ISLAND APP

## APP PROCIDA



### MAKE THE MOST OF YOUR STAY: DOWNLOAD THE PROCIDA ISLAND APP!

Procida Island is the official app of the beautiful island of Procida, available for both iOS and Android. devices.

Designed for both locals and visitors, the app offers a complete guide to all businesses and services on the island - no exceptions. Whether you're looking for a cozy restaurant, local artisans, or essential services, you'll find everything you need at your fingertips.

Explore interactive maps, discover must-see spots with detailed descriptions, and stay up to date with ferry schedules, bus timetables, and beach locations - all in one place.

**Make the most of your time on the island: download Procida Island now!**

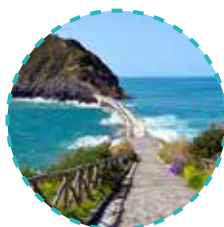
### VIVI AL MEGLIO IL TUO SOGGIORNO: SCARICA LA APP PROCIDA ISLAND

*Procida Island è l'app ufficiale della splendida isola di Procida, disponibile per dispositivi iOS e Android.*

*Pensata sia per i residenti che per i visitatori, l'app offre una guida completa a tutte le attività e i servizi presenti sull'isola – nessuno escluso. Che tu stia cercando un ristorante accogliente, artigiani locali o servizi essenziali, troverai tutto ciò di cui hai bisogno a portata di mano.*

*Esplora mappe interattive, scopri i luoghi imperdibili con descrizioni dettagliate e rimani sempre aggiornato su orari dei traghetti, linee degli autobus e spiagge – tutto in un'unica app.*

**Vivi Procida al massimo: scarica subito Procida Island!**



# MOBILE APP & PROCEEDINGS

## APP E ATTI DEL SIMPOSIO

Enhance your event experience with our official app! Powered by **Eventify**, the app allows you to:

- view the full agenda and session details
- bookmark favourite sessions and build your personal schedule
- read speaker profiles
- connect with fellow attendees and expand your network
- share photos and posts on the social feed
- receive real-time updates and news on all conference activities
- find useful info about Procida, ferry & bus timetables, places to see, local recommendations

**Download it now and check out all the powerful features!**

### INSTRUCTIONS FOR DOWNLOAD

#### Mobile app (for smartphones and tablets)

The mobile app is available in the App Store and Google Play Store:

- Download the **Eventify** app
- Open the app and search for SUM 2025
- Click on the event and then on “View more” to access all contents

To unlock all features, log in entering the same email address you used to register for the Symposium. You will receive an email with your personal passcode to log in to the app.

If you lose the passcode, don't worry - you'll receive the email each time you log in.

**Be sure to check the “Event Guide” tab for detailed and useful info about the conference and Procida!**

#### Desktop version (for computers)

The web version is accessible at: <https://sumsymposium.eventify.io/>

To unlock all features, click on “Login” in the top right corner and enter the same email address you used to register for the Symposium. You will receive an email with your personal passcode to log in to the app.

If you lose the passcode, don't worry - you'll receive the email each time you log in.

### SYMPOSIUM PROCEEDINGS

All accepted papers are available for download (PDF documents) from the website members' area (available upon login to registered participants only) at: <https://www.sumsymposium.it/en/members-area>



*Massimizza la tua esperienza: l'app ufficiale del Simposio ti aspetta!  
Sviluppata da Eventify, l'app ti consente di:*

- esplorare il programma e salvare le tue sessioni preferite
- leggere i profili dei relatori
- connetterti con altri partecipanti ed espandere il tuo network
- condividere foto e post nel social feed
- ricevere aggiornamenti e notizie in tempo reale su tutte le attività della conferenza
- trovare informazioni utili su Procida, orari di traghetti e autobus, luoghi da visitare e consigli locali

*Scaricala subito e scopri tutte le sue esclusive funzionalità!*

## **ISTRUZIONI PER IL DOWNLOAD**

### **App per smartphone e tablet**

*La app è disponibile su App Store e Google Play Store:*

- Scarica l'app **Eventify**
- Apri l'app e cerca SUM 2025
- Clicca sull'evento e poi su "View more" per accedere a tutti i contenuti

*Per sbloccare tutte le funzionalità, accedi con il tuo profilo inserendo lo stesso indirizzo email utilizzato per registrarti al Simposio. Riceverai un'email con il tuo codice personale per accedere all'app.*

*Se perdi il codice, non preoccuparti: riceverai l'email ogni volta che effettui l'accesso.*

**Assicurati di consultare la sezione "Event Guide" per tutte le info dettagliate sulla conferenza e su Procida!**

### **Versione Computer (PC e notebook)**

*La app è accessibile anche da computer al seguente link:*

*<https://sumsymposium.eventify.io/>*

*Per sbloccare tutte le funzionalità, accedi con il tuo profilo inserendo lo stesso indirizzo email utilizzato per registrarti al Simposio. Riceverai un'email con il tuo codice personale per accedere all'app.*

*Se perdi il codice, non preoccuparti: riceverai l'email ogni volta che effettui l'accesso.*

## **ATTI DEL SIMPOSIO**

*Tutti i paper accettati sono disponibili per il download (file PDF) nell'area riservata del sito ufficiale del Simposio (accesso con login solo per i partecipanti) all'indirizzo: **<https://www.sumsymposium.it/en/members-area>***

# SOCIAL PROGRAMME

## EVENTI SOCIALI

Social events have always been an essential part of the success of our conferences. More than just convivial gatherings, they are meaningful opportunities where professional dialogue is enriched by authentic human connections, all within a relaxed and engaging atmosphere. For SUM 2025, we have organised a social programme designed to immerse you in the magic of Procida - an island steeped in history, colour, culture, and tradition - through its picturesque landscapes, genuine local flavours and circular practice. Discover the events we have planned:

*Gli eventi sociali hanno da sempre rappresentato una componente essenziale del successo dei nostri convegni. Più che semplici momenti conviviali, sono occasioni significative in cui il dialogo professionale si arricchisce grazie a connessioni umane autentiche, il tutto in un'atmosfera rilassata e coinvolgente. Per il SUM 2025 abbiamo organizzato un programma sociale pensato per farvi immergere nella magia di Procida – un'isola ricca di storia, cultura e tradizione – attraverso i suoi paesaggi pittoreschi, i sapori autentici e le pratiche circolari. Scoprite gli eventi in programma:*



### Wednesday / 21 May / h. 18:00

#### WELCOME RECEPTION WITH PROCIDA-STYLE APERICENA & FARM EXPERIENCE

Join us for a unique Welcome Reception at Calacala Farmhouse combining a traditional Procidana farm experience with a relaxed Italian-style apericena: a mix of drinks and a light buffet dinner - **Page 30**



### Thursday / 22 May / h. 18:30

#### PROCIDA BOAT TOUR + SUNSET COCKTAIL ON BOARD

Get ready to fall in love with the hidden wonders of Procida! The boat trip allows you to reach exclusive destinations, which can only be visited by sea. At sunset, an aperitif will be served on board - **Page 40**



### Friday / 23 May / h. 20:00

#### CLOSING DINNER & DANCING PARTY ON THE BEACH

Enjoy the traditional Neapolitan cuisine with a spectacular sea view. Dancing party at the end of the dinner! 50% of the price is included in the Symposium entrance fee. **Reservation is mandatory.** Please book your place at the registration desk - **Page 50**

**DAY 1 / WEDNESDAY**  
**MAY 21**

# WEDNESDAY MAY 21

## MORNING

9:30 - 10:45 / BLUE HALL

### OPENING SESSION AND INTRODUCTORY LECTURES

Chair / Presidente: Raffaello Cossu, *University of Padova (IT)*

#### WELCOME ADDRESSES / *SALUTI DI BENVENUTO*

- Maria Cristina Lavagnolo, *University of Padova (IT)*
- Norbert Fraeyman, *Ghent University Hospital (BE)*
- Luísa Martins, *IST Técnico Lisboa (PT)*
- Maria Pettersson, *Luleå University of Technology (SE)*
- Stefan Salhofer, *BOKU University (AT)*
- Paolo Russo, *Tavolo di Roma (IT)*
- Raimondo Ambrosino, *Mayor of Procida (IT)*

#### OPENING LECTURE / *RELAZIONE DI APERTURA*

##### **Reducing overconsumption and waste in fashion: psychological drivers and technology acceptance**

by E. Rubaltelli, *Department of Developmental Psychology and Socialisation, University of Padova (IT)*

This keynote lecture will explore the psychological foundations of human decision-making in relation to sustainable behaviors. Why are consumers often reluctant to adopt environmentally friendly practices and technologies?

Among the various factors, a key role is played by systematic psychological biases — particularly those linked to how people cope with uncertainty and develop habits.

The first part of the lecture will introduce the cognitive and emotional mechanisms underlying these biases. It will then focus on two specific domains:

- Chemophobia and consumer skepticism toward green chemistry;
- Strategies to reduce overconsumption and waste in the transition toward a more sustainable fashion industry.

Throughout the lecture, prof. Rubaltelli will present evidence-based suggestions on how to apply psychological insights - especially through behavioral nudges - to promote more sustainable consumer choices.



**COFFEE BREAK / 10:45 - 11:15**





**Enrico Rubaltelli**  
University of Padova  
(IT)

*Enrico Rubaltelli is an Associate Professor of Psychology at the University of Padova. His main research interests include risk perception, behavioral economics and the role of emotion regulation in human decision-making.*

*He earned his Ph.D. from the University of Padova and is the founder of the Judgment and Decision Making Laboratory (JDM LAB). He is also a member of the Circular Economy, Waste, Materials and Sustainability (CEWMS) Center at the University of Padova.*

*Currently, he teaches a class on the Psychology of Economic Decisions at the School of Psychology and one on Psychology, Policy Making and Education to a Circular Economy at the School of Chemistry.*

*Dr. Rubaltelli's research has been published in several leading journals in psychology and the field of judgment and decision-making, including Nature Human Behavior, PNAS, Risk Analysis, Scientific Reports, British Journal of Psychology, Psychonomic Bulletin & Review, British Journal of Health Psychology, and Personality and Individual Differences.*



**COFFEE BREAK / 10:45 - 11:15**

# WEDNESDAY MAY 21

## MORNING

### SESSION A1 / 11:15 - 12:30 / BLUE ROOM - First Floor

#### EDUCATION AND COMMUNICATION

Chair / *Presidente*: Giovanni De Feo (IT)

*D. Scrinzi, D. Bona, S. Bertolini, S. Silvestri (IT)*

Design and implementation of an educational role-play activity about a bio-economy scenario

*G. De Feo (IT)*

Greenopoli: an innovative approach to environmental education and sustainable behavior

*B. Riccardi, M. Mitrovic, M. De Carli, U. Turrini, M.C. Lavagnolo (IT)*

UniZEB, a Laboratory Building to promote resource circularity and energy savings

*M. Derito, S. Longo, M. Cellura, A. Affranchi, S. Sagone (IT)*

The impact of gamification and interactive activities on students' environmental awareness: a case study in a school

### SESSION B1 / 11:15 - 12:30 / PINK ROOM - First Floor

#### CRITICAL RAW MATERIALS

Chair / *Presidente*: Alessandra Bonoli (IT)

*M.C. Lavagnolo, S. Gross (IT)*

An overview on Critical Raw Materials and Rare Earth

*G. Xu, X. Zeng (CN)*

Classification and quantification of anthropogenic mineral resource

*M. Peer, B. Berninger, T. Fehn, A. Hofmann (DE)*

Recovery of Indium and Rare Earth Elements from light-emitting diodes

*A. Goudarzi, A. Oulad Mansour, M.G. Genduso, C. Cristiani, E. Mesto, M. Lacalamera, E. Schingaro, G. Mongelli, P. Mameli, M. Bellotto (IT)*

The recovery of rare earths and valuable metals from the red muds of the Euralumina site in Porto Vesme, Sardinia, Italy



**LUNCH BREAK / 12:30 - 15:00**



## SESSION C1 / 11:15 - 12:30 / YELLOW ROOM - Ground Floor

**ENERGY IS ENVIRONMENT**Chair / *Presidente*: Roberto Cornetta (IT)

Energy choices have long exerted a profound influence on environmental equilibrium. Today, however, the imperative to safeguard the environment demands a substantial commitment—not only to rethinking our models of production and consumption, but, more importantly, to re-evaluating the value systems that enable the reconciliation of diverse and often competing interests. The complexity of these challenges necessitates the capacity to engage across disciplinary boundaries, overcoming cultural and intellectual barriers that have become increasingly obsolete.

In the coming decades, nations will be required to address a growing number of interrelated issues concerning both energy and the environment, arising at different times and within diverse socio-political contexts.

Accordingly, the pursuit of a genuinely sustainable model of global development—one that reconciles the need for reliable energy provision with the imperative to preserve natural resources and uphold ecological integrity—will depend critically on interdisciplinary and transnational expertise.

We maintain that only through an integrated and holistic approach to energy and environmental challenges can we effectively navigate the complex decisions ahead, which increasingly encompass not only technological dimensions, but also broader social and economic dynamics.

**LUNCH BREAK / 12:30 - 15:00**

# WEDNESDAY MAY 21

## AFTERNOON

### SESSION A2 / 15:00 - 16:15 / BLUE ROOM - First Floor

#### TOOLS FOR IMPROVING PERFORMANCE IN CIRCULAR ECONOMY

Chair / *Presidente*: Zaneta Stasiskiene (LT)

*T. Beltrani, C. Brunori, P.R. Di Palma, M. La Monica, M. Langone, S. Viglia, E. Rio, A. Proietti, S. Fega, W. Ganapini, R. Morabito (IT)*

Resource audit for the Fabric of Saint Peter in Vatican City: a preliminary analysis

*J.J. Stanković, I. Marjanović, M. Stanojevic (RS)*

Assessing circular economy performance in the European Union: a benefit of doubt approach

*G. Felici, M.C. Lavagnolo, G. Corsi, S. Fabbri, M. Niero, R. Cossu (IT)*

Valuing ecosystem services as a strategic tool to support circular economy in waste management

*Z. Stasiskiene (LT)*

Urban-Industrial Symbiosis as a Driver of Circular Metabolism: integrating cities and industries for systemic resource efficiency

### SESSION B2 / 15:00 - 16:15 / PINK ROOM - First Floor

#### TEXTILE WASTE RECYCLING

Chair / *Presidente*: Maria Cristina Lavagnolo (IT)

*E. Di Maria, M.C. Lavagnolo, L. George, R.A. Siddiqi (IT)*

Textile recycling supporting and enhancing industrial symbiosis

*A. Bonoli, S. Hazal Akyildiz, P. Marini, A. Fiorucci, S. Pennellini, R. Bellopede (IT)*

A preliminary study based on life cycle assessment of some separation techniques for polycotton textile waste recycling

*A. Maiello, A. Gayraud (NL)*

Migrating knowledge. Skills and practices of textile repair across migrant communities. The case of The Hague South West (Netherlands)

**SESSION C2 / 15:00 - 16:15 / YELLOW ROOM - Ground Floor**

**ITALIAN SESSION**

## **WORKSHOP: PRESENTAZIONE DEL PROGETTO REA - RASSEGNA DELL'ENERGIA E DELL'AMBIENTE**

*Chair / Presidente:* Andrea Fantappiè (IT)

REA (Rassegna dell'Energia e dell'Ambiente) è una nuova pubblicazione scientifica online che ha alla sua base l'idea di approfondire le relazioni tra energia ed ambiente, nella consapevolezza che queste relazioni rappresentano, oggi, uno dei nodi cruciali per il futuro della nostra società.

REA nasce con l'obiettivo di diventare un punto di riferimento per lo studio e l'analisi delle complesse questioni legate all'energia e alla tutela ambientale.

La Rassegna si propone come piattaforma di dialogo interdisciplinare, accogliendo contributi di natura giuridica, economica, ingegneristica, e anche filosofica, nella convinzione che solo attraverso un approccio integrato sia possibile affrontare le sfide globali che ci attendono.

"REA" intende quindi proporsi come:

- un laboratorio di idee per l'elaborazione di soluzioni innovative e sostenibili
- un forum di discussione aperto al confronto tra diverse prospettive disciplinari
- un canale di diffusione di ricerche accademiche di alto profilo scientifico
- uno strumento di aggiornamento sul quadro normativo e sulle politiche pubbliche europee e nazionali in dette materie
- un sito che formi una comune base conoscitiva e metodologica, tale da garantire una costante correlazione tra i differenti settori culturali che attengono alle scienze dell'energia, dell'ambiente e delle politiche di sviluppo.

Le pubblicazioni saranno esaminate da un Comitato scientifico di cui faranno parte esperti nei settori:

- del diritto amministrativo e in particolare del diritto ambientale e dell'energia
- dell'economia politica e aziendale e dei settori regolati
- dell'ingegneria ambientale
- delle relazioni d'impresa

# WEDNESDAY MAY 21

## AFTERNOON

### SESSION A3 / 16:30 - 17:45 / BLUE ROOM - First Floor

#### **CIRCULAR RESOURCES FROM INSECTS**

Chair / *Presidente*: Raffaello Cossu (IT)

*L.M.D.R.S. Martins, A.P.C. Ribeiro, A. Figueiras (PT)*

InsectERA - Green transition towards environmental sustainability based on a circular economy

*V. Grossule, M. Henjak, R. Cossu (IT)*

Treatment of food processing wastewaters by using Black Soldier Fly larvae

*A.P.C. Ribeiro, L.M.D.R.S. Martins (PT)*

Chitosan from crustaceans vs. insects: a comparative chemical assessment of crab and black soldier fly-derived chitosan

*V. Grossule, M. Henjak, G. Beggio, J.K. Tomberlin (IT)*

Biowaste treatment using black soldier fly larvae: effect of Substrate macro-nutrients on process performance

### SESSION B3 / 16:30 - 17:45 / PINK ROOM - First Floor

#### **STRATEGIES AND POLICIES**

Chair / *Presidente*: Marco Frey (IT)

*A. Zatti (IT)*

Taxation and the Circular Economy: perspectives and pitfalls with a specific focus on the Italian experience

*M.A. Rosen (CA)*

Integrating waste recovery and energy polygeneration to support a circular economy

*F. Tommasi (IT)*

Presentation of the Italian project "Spesa Sballata® Dimensione Italia" 2024-2026 and its "Linee di Indirizzo Igienico Sanitarie Spesa Sballata® Dimensione Italia -LISSBA"

*E. Grande, M. Stante, B. Malsegna, K. Gallucci, A. Di Giuliano, M. Taddei (IT)*

Sustainable treatment of adsorbent hygiene products

## SESSION C3 / 16:30 - 17:45 / YELLOW ROOM - Ground Floor

### INTERACTIVE LAB WITH YOUNG RESEARCHERS

Chair / Presidente: Maria Cristina Lavagnolo, Giovanni De Feo (IT)

The workshop offers a valuable opportunity to connect with the host territory and explore Procida through the lens of waste management and the circular economy.

The aim is to actively engage participants in a collaborative exploration of the island: we will closely observe how the local waste collection and disposal system works, analyze strategies to minimize environmental impact, and examine the role of the community in fostering sustainable practices.

Participants will be invited to document their experience through photographs, short videos, and interviews with residents, collecting stories, examples of good practices, and areas for improvement.

The collected material will be transformed into a short multimedia presentation, which will be screened during the final session of the conference as a shared reflection and a starting point for further discussion.

*Il workshop rappresenta un'opportunità per entrare in relazione con il territorio che ci ospita e scoprire Procida attraverso la lente della gestione dei rifiuti e dell'economia circolare.*

*L'obiettivo è coinvolgere attivamente i partecipanti in un'esplorazione partecipata dell'isola: osserveremo da vicino il funzionamento del sistema locale di raccolta e smaltimento dei rifiuti, analizzeremo le strategie adottate per ridurre l'impatto ambientale e approfondiremo il ruolo della comunità nella promozione di pratiche sostenibili.*

*I partecipanti saranno invitati a documentare l'esperienza con fotografie, brevi video e interviste ai cittadini, raccogliendo testimonianze, buone pratiche e criticità.*

*Il materiale raccolto sarà rielaborato in una breve presentazione multimediale, che verrà proiettata nella sessione conclusiva del convegno come restituzione collettiva dell'esperienza e stimolo alla discussione.*

# WEDNESDAY MAY 21

## SOCIAL EVENT

### WELCOME RECEPTION WITH PROCIDA-STYLE APERICENA AND FARM EXPERIENCE / APERICENA PROCIDANO "LIMONE CIRCOLARE"

CalaCala Farmhouse & Restaurant - Procida / h. 18:00

**Meeting point: Palazzo D'Avalos - Ground floor, starting from 17:45**

Join us for a unique Welcome Reception combining a traditional Procidana farm experience with a relaxed Italian-style apericena: a mix of drinks and a light buffet dinner. The perfect way to kick off the conference!

The experience includes: guided tour of the garden with Eduardo, in groups / Poolside Aperitif: Live preparation and tasting of the traditional Procida lemon salad in a mortar / Bruschetta with lemon and mint pesto and homemade salted anchovies / 360° lemon risotto / white wine.

The Farm Experience at CalaCala is a true immersion into the nature and agricultural traditions of Procida. Eduardo will share his vision of organic farming and introduce you to his "seed bank," which he has been cultivating for over fifty years. Salvatore will prepare traditional Procidian dishes live, while sharing the stories and cultural roots behind his cuisine. He will also prepare the famous home made lemon salad, which you can enjoy accompanied by an excellent bottle of wine.

**The event is free for symposium delegates but reservation is mandatory by Wednesday h. 15:00.**

Accompanying persons should purchase the ticket (€ 35 + VAT 22%).

Free round trip transport will be arranged by the Organizing Secretariat.

**Punto di incontro: Palazzo D'Avalos - Piano terra, dalle ore 17:45**

*Immergiti nell'autentica atmosfera di una fattoria procidana e goditi un' apericena tipico del luogo. L'esperienza comprende: Visita guidata nell'orto del CalaCala divisi in gruppi / Aperitivo a bordo piscina / Preparazione dal vivo e assaggio dell'antica insalata di limoni procidani nel mortaio / Bruschetta con pesto di limoni e menta e alici salate homemade / Risotto al limone 360° / vino bianco.*

*L'esperienza enogastronomica al Calacala è una vera immersione nella natura e nelle tradizioni agricole di Procida. Eduardo condividerà la sua visione dell'agricoltura biologica e ci mostrerà la sua "banca dei semi", che coltiva da oltre cinquant'anni. Salvatore preparerà dal vivo piatti tradizionali procidani, raccontando le storie e le radici culturali della sua cucina. Inoltre, realizzerà la famosa insalata di limoni fatta in casa, da gustare accompagnata da un'ottima bottiglia di vino.*

***L'evento è gratuito per gli iscritti al Simposio ma è obbligatorio prenotarsi entro le ore 15:00 di mercoledì. Eventuali accompagnatori dovranno acquistare il biglietto (€ 35,00 + IVA 22%). Trasporto gratuito organizzato, in andata e ritorno.***



**DAY 2 / THURSDAY**  
**MAY 22**

# THURSDAY MAY 22

## MORNING

### SESSION A4 / 9:30 - 10:45 / BLUE ROOM - First Floor

#### ONE HEALTH PERSPECTIVES

Chair / *Presidente*: Maria Cristina Lavagnolo (IT)

*M. Ferrante (IT) - Video Presentation*

One Health Conference activity on human rights and climate justice

*N. Fraeyman, L. Demarré, K. Vanderwee, S. Mahlic, V. Duprez, S. Malfait, S. Huysfeld, J. Dewulf (BE)*

Feasibility of the application of circular economy in health care

*G. Oliveri Conti, M. Dettori, P. Rapisarda, E. Pulvirenti, M. Ferrante (IT)*

From correct waste management to health protection: a focus on nanotoxics

*A. Ndiforngu, C.A. Cossu, M.C. Lavagnolo (IT)*

Microplastics in human and animal organisms

### SESSION B4 / 9:30 - 10:45 / PINK ROOM - First Floor

#### ADVANCED SOLUTIONS IN CIRCULAR ECONOMY

Chair / *Presidente*: Fabio Tatàno (IT)

*D. Panepinto, M. Ravina, M. Zanetti (IT)*

Consequences and risk modeling of natech in industrial environments

*F. Bavali, S. Shahrbandi, G. Galluccio (IT)*

Digital fabrication as a circularity driver in the wood design industry. A scoping review

*M. Costa, A. Coppola, F.S. Marra, D. Piazzullo (IT)*

Simulated database and AI modelling support for the development of bio-mass-based hybrid micro power grids

*X. Zhang, D. Yue (CN)*

Investigating the activation effect of synthetic humic acid on soil insoluble inorganic phosphorus

*M. Coscia, A. De Chiara (IT)*

Industrial symbiosis within industrial parks: key enabling factors



### COFFEE BREAK / 10:45 - 11:15



## SESSION C4 / 9:30 - 10:45 / YELLOW ROOM - Ground Floor

### WORKSHOP: URBAN MINING IN CONSTRUCTION SECTOR

Chairs / Presidenti: Marco Mori, Davide Cerra (ES)

#### **Interactive mapping of initiatives and opportunities for Urban Mining in the European construction sector, within the INBUILT Project**

This workshop, inspired by the Design Sprint methodology, explores the role of urban mining in the circular economy, focusing on identifying key stakeholders and initiatives. Participants will collaboratively create a map showcasing European initiatives and a poster to classify stakeholders across the construction value chain. Interactive group activities will facilitate discussions on mapping actors, identifying barriers, and uncovering opportunities for scaling up urban mining practices. Key Takeaways: Fundamental understanding of urban mining barriers and opportunities in the construction sector. Overview of existing urban mining initiatives, stakeholders, and solutions/tools in Europe. Each participant will receive a report summarizing the workshop's findings.

#### **AGENDA:**

##### **Welcome & Introduction**

- Brief presentation of the session goals and agenda.
- Formation of participant groups and assignment of roles: Speaker / Moderator / Secretary / Researcher.

##### **Icebreaker: "One-word expectation"**

Each participant writes a word on a post-it summarizing their expectation for the session.

##### **Inspiration: EU Case Studies**

Guest speaker presentation of Urban Mining initiatives in Europe.

##### **Group Brainstorm: EU Initiatives Map**

Each group identifies initiatives and places post-its on a printed EU map.

Post-it format: Initiative Name / Leading Partner / Participant Name / Contact (email optional).

##### **Group Activity: Stakeholder Mapping & Gaps**

Each group maps stakeholders for one initiative and identifies missing actors or solutions using red post-its.

##### **Group Activity: Barriers & Opportunities**

Groups list barriers on orange post-its. Then exchange tables and write green post-its suggesting opportunities.

##### **Group Key Findings**

Each group presents key findings in 2 minutes.

##### **Wrap-up & Networking Challenge**

Final reflections, key takeaways and next/steps.



## COFFEE BREAK / 10:45 - 11:15

# THURSDAY MAY 22

## MORNING

### SESSION A5 / 11:15 - 12:30 / BLUE ROOM - First Floor

#### LCA AS A TOOL FOR EVALUATING CIRCULAR ECONOMY PERFORMANCE

Chair / *Presidente*: Giuseppe Mazziotti di Celso (IT)

*A. Becci, A. Amato, F. Beolchini (IT)*

Life cycle assessment as a tool to achieve environmental sustainability in the circular economy

*H. Zarafshani, J. Van Caneghem, G. Granata (BE)*

LCA-TEA integrator: an open-source tool for integrated sustainability and economic assessment of biotechnological innovations: exploring qualitative, quantitative combined indicator-based, and preference-based integration methods

*S. Viglia, T. Beltrani, A. Picarelli, C. Chiavetta, R. Dublino, G. Formisano (IT)*

The role of LCA in sustainable agricultural practices: a case study of the HARNESSTOM Tomato Breeding Project

*F. Albano, C. De Bernardi, F.M. Abbate, E. Baldereschi, M. Niero, M. Frey (IT)*

Bridging the gap: how GHG accounting tools can support beer companies in the implementation of circular economy strategies

### SESSION B5 / 11:15 - 12:30 / PINK ROOM - First Floor

#### BIOENERGY AND BIOFUELS

Chair / *Presidente*: Luisa Martins (PT)

*F. Illuminati, M. Schiavon, M.C. Lavagnolo (IT)*

Energy and material recovery from agri-food waste: optimizing feedstock mixture for thermocomposting and pyrolysis

*S. Dell'Aversano, K. Gallucci, G. Vanga, A. Di Giuliano, L. Rossi, C. Villante (IT)*

Production process and scaling up of green diesel as an e-biofuel

*G. Tranccone, G. Policastro, M. Fabbricino (IT)*

Waste-to-Energy in agro-industries: experimental approaches to enhancing energy output from food by-products

*A. Randazzo, A. Folino, F. Tassi, F. Tatàno, S. de Rosa (IT)*

Engineering and geochemistry in the bioenergy potential estimations from waste biomasses through lab-scale anaerobic digestion



### LUNCH BREAK / 12:30 - 15:00

**SESSION C5 / 11:15 - 12:30 / YELLOW ROOM - Ground Floor****RECOVERY OF MATERIALS FROM PHOTOVOLTAIC PANELS AND PERMANENT MAGNETS**

Chair / *Presidente*: Michal Syc (CZ)

*A. Bonoli, F. La Marca (IT)*

Innovative technologies for recovery and recycling of rare earth elements (REEs) for neodymium-iron-boron (NdFeB) permanent magnets in high-tech and green energy applications

*L. Sparascio, G. Torta, D. Cespi, L. Ciacci, I. Vassura, F. Passarini (IT)*

Recycling of electric motors for the recovery and valorization of NdFeB magnet content

*F. Miserocchi, F. Coustier, K. Brunelli, P. Cerchier (IT)*

Material recovery from photovoltaic panels by means of thermal treatment: the effect of backsheet removal

*G. Farru, A.L. Sanna, M. Lisac Palomo, B. Ledesma, S. Roman Suero, G. Cappai, A. Serpe (IT)*

From End-of-Life Magnets to Functional Carbon Materials: A Circular Strategy for Resource Recovery

*A. Giacomelli, G.D. Pivari, L. Mascheretti, S. Cota (IT)*

Overcoming systemic barriers in recovering REE permanent magnets in WEEE



**13:00 - 14:30**

**BLUE ROOM - First Floor**

**IRACE - INTERNATIONAL ASSOCIATION  
ON CIRCULAR ECONOMY  
GENERAL ASSEMBLY**

*IRACE is a newly established International Research Association, officially founded on May 9, 2025. Its aim is to bring together individuals - academics, industry professionals, entrepreneurs, institutions, and associations - from diverse disciplines to advance the Circular Economy in a constructive and integrated manner.*

*To participate in the first General Assembly, SUM delegates must apply for IRACE membership at the Symposium registration desk. As a special offer, registration will be free for SUM participants until December 31, 2025.*

*Read more about IRACE at pag. 56-58.*



**LUNCH BREAK / 12:30 - 15:00**

# THURSDAY MAY 22

## AFTERNOON

### SESSION A6 / 15:00 - 16:15 / BLUE ROOM - First Floor

#### VALORIZATION OF RESOURCES FROM WASTE WATERS

Chair / *Presidente*: Marina Prisciandaro (IT)

*K. Ruskova, M. Mladenov, L. Manoilova (BG)*

Heavy metal ions removal from wastewater using wood-based activated carbon

*A. Luciano, D. Di Trapani, M. Carciola, S.F. Corsino, A. Cosenza, G. Di Bella, L. Gurreri, M. Langone, D. Mattioli, L. Petta, G. Sabia, G. Gravina, G. Sciortino, M. Morello, M. Torregrossa, G. Viviani, G. Mancini (IT)*

Assessing energy efficiency in wastewater treatment plant: a benchmark analysis from the SMARTEE-PLANTS project

*O. Johansson, M. Pettersson (SE)*

Waste or non-waste: reutilization of sewage sludge?

*F. Cecchini, K. Ayedi, V. Innocenzi, G. Mazziotti di Celso, M. Prisciandaro (IT)*

Advancing water circularity: a simulation of advanced oxydation processes and membrane treatment for sustainable industrial wastewater reuse

### SESSION B6 / 15:00 - 16:15 / PINK ROOM - First Floor

#### RECOVERY OF METALS FROM INDUSTRIAL WASTE

Chair / *Presidente*: Mariachiara Zanetti (IT)

*F. Rossi, C. De Bernardi, M. Niero, M. Frey (IT)*

Empowering foundries for sustainability: a user-friendly eco-design tool for environmental self-assessment

*E. Giansante, A. Fabrizi, G. Timelli (IT)*

Influence of impurity elements on the castability of recycled 6xxx series Al alloys

*F. Zeng, J. Van Caneghem, G. Granata (BE)*

Mechanochemical processing for efficient recycling of spent SCR catalysts



#### COFFEE BREAK / 16:15 - 16:45

## SESSION C6 / 15:00 - 16:15 / YELLOW ROOM - Ground Floor

### ITALIAN SESSION

#### WORKSHOP: INFRASTRUTTURE EMERGENTI PER TERRITORI CIRCOLARI E RIGENERATIVI

Chair / Presidente: Marina Rigillo (IT)

Il workshop si propone di sviluppare un'analisi approfondita sull'implementazione delle infrastrutture emergenti (Circularity Hubs) nell'ambito dei programmi di rigenerazione urbana ispirati ai principi dell'economia circolare.

L'obiettivo è quello di condividere i primi risultati nell'applicazione concreta di questi concetti alla riqualificazione di aree urbane critiche (dismesse o abbandonate), promuovendo un approccio integrato alla progettazione di una nuova tipologia di infrastruttura urbana. Si tratta di strutture capaci di rispondere alle esigenze emergenti che richiedono l'integrazione tra sostenibilità, circolarità, nuovi servizi pubblici, spazi per la vita collettiva e politiche innovative di welfare. Il workshop intende alimentare il dibattito scientifico sullo sviluppo di reti locali che integrino attrezzature e servizi per la circolarità di materiali e beni, all'interno di un più ampio quadro di innovazione sociale.

L'obiettivo è contribuire attivamente alla transizione verso l'economia circolare. In quest'ottica, l'attenzione sarà rivolta in particolare all'analisi delle potenzialità e delle criticità legate al trasferimento dei concetti teorici di circolarità e metabolismo urbano in pratiche progettuali concrete, ponendo attenzione all'interazione tra fattibilità tecnica e dimensioni umane, fisiche, culturali, organiche e socio-ecologiche.

#### Relazioni introduttive:

*M. Rigillo, A. Attademo (IT)*

Infrastrutture Emergenti per territori circolari e rigenerativi: alcune domande di ricerca.

*G. Galluccio, G. Esposito de Vita, R. Fontana (IT)*

Reti collaborative per il progetto di infrastrutture circolari

*S. Piccirillo, F. Paragliola, A. Monsu' Scolaro, Carlo Lupoli (IT)*

Consapevolezza ambientale e sinergie operative nelle filiere dello scarto

Conclusioni e prospettive di lavoro



COFFEE BREAK / 16:15 - 16:45

# THURSDAY MAY 22

## AFTERNOON

### SESSION A7 / 16:45 - 18:00 / BLUE ROOM - First Floor

#### PFAS IN CIRCULAR ECONOMY

Chair / *Presidente*: Stefan Salhofer (AT)

*G. Beggio, M.C. Lavagnolo (IT)*

Overview on PFAS in Circular Materials

*J. Van Caneghem, A. Verstegen, G. Torremans, J. Hofman, P. Berghmans, G. Otten, S. Herremans, E. Van Meenen, L. De Ren, A. Van Brecht (BE)*

Estimation of the destruction and removal efficiency for PFAS in a hazardous waste incinerator

*G. Beggio, A. Ndiforngu, R. Dall'Anese, T. Bonato, M.C. Lavagnolo (IT)*

Assessment of per- and polyfluoroalkyl substances in recycled plastics: screening and migration potential

*M. Šyc, J. Hyks, O. Hjelm, E. Korotenko, T. Cajthaml (CZ)*

Per- and polyfluoroalkyl substances (PFAS) in incineration solid residues

### SESSION B7 / 16:45 - 18:00 / PINK ROOM - First Floor

#### THE ROLE OF WASTE PICKERS IN RESOURCE RECOVERY

Chair / *Presidente*: Maria Pettersson (SE)

*J. Gutberlet (CA)*

Invisible Contributors: Waste Pickers and the Circular Economy in North America

*R. Suresh Kumar, N. Chitrlekha Narayanan (IN)*

Beyond tokenistic integration: rethinking Extended Producer Responsibility for a just circular economy transition in India

*B. Steuer (HK)*

The informal recycling sector in Hong Kong: an indispensable facilitator for a circular economy transition beyond single-use plastics?

*G. Oliveri Conti, M. Ferrante (IT)*

Sanitary impact among waste pickers in low income countries

**SESSION C7 / 16:45 - 18:00 / YELLOW ROOM - Ground Floor****RECOVERY OF RESOURCES FROM SPENT BATTERIES**

Chair / *Presidente*: Gjergj Dodbiba (JP)

*J. Bachér, I. Korolev (FI)*

Enhanced gravity separation of black mass from spent LFP batteries

*H. Li, Y. Qin, D. Yue (CN)*

Recycling of lithium batteries in China

*G. Dodbiba, K. Pitcharee, T. Fujita (JP)*

Optimization of lithium electrosorption from brine deposits for next-generation battery production

# THURSDAY MAY 22

## SOCIAL EVENT

### PROCIDA BOAT TOUR + SUNSET COCKTAIL ON BOARD / GIRO DELL'ISOLA IN BARCA + APERTIVO AL TRAMONTO

**Meeting point: Marina di Corricella / h. 18:30**

Get ready to fall in love with the hidden wonders of Procida! The boat trip to Procida allows you to reach exclusive destinations, which can only be visited by sea: from the bay of Carcara to the islet of Vivara to the breathtaking one of Corricella and Pozzo Vecchio, set of numerous films such as the film "Il Postino".

Sunset cocktail on board! Duration of the tour: 2 hours.

Seats are limited! In order to join the event, **book your place upon your arrival no later than thursday h. 17:00.**

**Cost: € 30 + VAT 22% per person**

The tour will conclude with disembarkation at Marina di Corricella, where participants can enjoy dinner at one of the many charming seaside restaurants.

Corricella is the oldest fishing village on the island of Procida. Dining here is a truly memorable experience: fresh seafood caught by local fishermen, served in a stunning setting with breathtaking sea views, surrounded by the iconic pastel-colored houses that make this village one of the most captivating in all of Italy.

After dinner, those who wish to continue the evening in good company are invited to meet at 23:00 at Blu Procida, a cozy cocktail bar set in a former boat storage space, right in the heart of Corricella.

*Preparatevi a innamorarti delle meraviglie nascoste di Procida! La gita in barca a Procida permette di raggiungere mete esclusive, visitabili solo via mare: dalla baia della Carcara all'isolotto di Vivara a quella mozzafiato della Corricella e del Pozzovecchio set di numerose pellicole cinematografiche come il film de "Il Postino". E al tramonto verrà servito un aperitivo a bordo! Durata del tour: 2 ore. I posti sono limitati. Per prendere parte all'evento **è necessario prenotare il proprio posto entro e non oltre le ore 17 di giovedì.***

**Costo: € 30 + IVA 22% a persona**

Lo sbarco del tour è previsto sempre alla Corricella, dove i partecipanti potranno cenare liberamente in uno dei tanti ristoranti affacciati sul mare. Caratteristica, suggestiva e romantica, Corricella è il borgo marinaro più antico di Procida. Cenare qui è un'esperienza indimenticabile: piatti a base di pesce fresco, pescato direttamente dai locali, serviti in un'atmosfera unica, con una vista mozzafiato sul mare e circondati dalle iconiche casette color pastello.

Dopo cena, per chi desidera proseguire la serata in compagnia, l'appuntamento è alle 23:00 al Blu Procida, un suggestivo cocktail bar ricavato da un antico deposito di barche, anch'esso situato nel cuore della Corricella.





**DAY 3 / FRIDAY**  
**MAY 23**

# FRIDAY MAY 23

## MORNING

**SESSION A8 / 9:30 - 10:45 / BLUE ROOM - First Floor**

### **FOOD WASTE MANAGEMENT IN CIRCULAR ECONOMY**

Chair / Presidente: Kosuke Kawai (JP)

*K. Kawai (JP)*

Separate food waste collection contributing to municipal solid waste recycling in Japan

*K. Ayedi, N.M. Ippolito, V. Innocenzi, G. Mazziotti di Celso, M. Prisciandaro (IT)*

Enhanced Winery Wastewater Treatment via Hydrodynamic Cavitation and Fenton Process

*A. Pezzani, I.M. Cigognini, S. Chierici, P. Ly Pham, C. Zurlini (IT)*

The project AGRITOMACTIVE: Valorization of green unripe tomatoes through sustainable extraction of cutin for applications in food packaging

**SESSION B8 / 9:30 - 10:45 / PINK ROOM - First Floor**

### **PLASTICS AND BIOPLASTICS**

Chair / Presidente: Valentina Poli (IT)

*D. Panepinto, I. Bianco, M. Ravina, B. Ruffino, M. Zanetti (IT)*

Hard-to-recycle plastics in the automotive sector

*M.G. D'Amato, A. Cesaro, G. Oliva, M. Bruno, T. Zarra, V. Naddeo, V. Belgiorio (IT)*

Outcomes of urban mining from waste bale processing

*K. Houssini, J. Li, Q. Tan (CN)*

Complexities of the global plastics supply chain revealed in a trade-linked material flow analysis

*S. Pocoví-Martínez, L. Grima-Carmena, S. Ibiza-Palacios, L. Martín-Román, C. Camiña-Urgel, F. Bosch-Mossi (ES)*

Eco-friendly demetallisation of ABS using biogenic lixivants



**COFFEE BREAK / 10:45 - 11:15**

SESSION C8 / 9:30 - 10:45 / YELLOW ROOM - Ground Floor

ITALIAN SESSION

**WORKSHOP: LA GESTIONE CIRCOLARE DEI RIFIUTI E DELLE RISORSE  
NELLE UNIVERSITÀ ITALIANE**

Chair / Presidente: Raffaello Cossu (IT)

*D. Boggiani (IT)*

L'esperienza di UNIPV nell'ambito della SERR - Settimana Europea per la Riduzione dei Rifiuti

*G. De Feo, F. De Martino (IT)*

Economia Circolare nelle Università - L'evoluzione del sistema di raccolta differenziata all'Università di Salerno



**COFFEE BREAK / 10:45 - 11:15**

# FRIDAY MAY 23

## MORNING

SESSION A9 / 11:15 - 12:30 / BLUE ROOM - First Floor

**MICS - MADE IN ITALY CIRCOLARE SOSTENIBILE**

Chair / *Presidente*: Maria Cristina Lavagnolo (IT)

*V. Poli, M.C. Lavagnolo (IT)*

Transitioning to bioplastics in the circular economy

*G. Venturelli, L. Guida, S. Mantero, P. Petrini, M. Levi (IT)*

Mechanical and Chemical Recycling of Leather Waste into Composites Suitable for Diverse 3D Printing Techniques

*C. Florio (IT)*

New generations of leathers and circular materials in the perspective of industrial symbiosis

*D. Caputo (IT)*

MICS, Made in Italy for the Circular Economy

SESSION B9 / 11:15 - 12:30 / PINK ROOM - First Floor

**WORKSHOP: CIRCULAR ECONOMY APPLICATION IN DOMESTIC SEWAGE MANAGEMENT**

Chairs / *Presidenti*: Luciana Migliore, Natalia Gusmerotti, Giulia Costa (IT)

This workshop will explore innovative treatment processes designed to enhance water circularity at the household level, with a focus on testing methods for treating and reusing wastewater from various domestic sources. A key component of the workshop will be the evaluation of environmental, social, and economic impacts associated with these processes. Furthermore, the event aims to foster a multidisciplinary dialogue on the challenges and opportunities involved in implementing CE strategies for domestic wastewater reuse.

*L. Migliore, A. Alabiso, R. Braglia, V. Cantelmo, R. Congestri, M. Meraviglia, A. Nebuloni, F. Scuderi, F. Costa (IT)*

Biotechnology for urban greening: the zero mile system© for the reuse of dishwasher wastewater

*L. Migliore, A. Alabiso, A. Appolloni, R. Baciocchi, R. Braglia, A. Canini, V. Cantelmo, R. Congestri, F. Costa, G. Costa, S. de A. Bombardelli Miranda, N.M. Gusmerotti, M. Longo, C. Mazzuca, M. Meraviglia, L. Micheli, A. Nebuloni, F. Scuderi, J. Valeri, S. Orlanducci (IT)*

From microfibers to nanodiamonds: the upcycling and reuse of washing machine wastewater

*J. Valeri, G. Costa, R. Baciocchi (IT)*

Assessment of the environmental benefits of a combined process for upcycling and reusing washing machine wastewater

*N.M. Gusmerotti, S. de Assis Bombardelli Miranda (IT)*

Developing case scenarios: how to create a baseline



**LUNCH BREAK / 12:30 - 15:00**

**SESSION C9 / 11:15 - 12:30 / YELLOW ROOM - Ground Floor**  
**WORKSHOP: RECOVERY OF CONSTRUCTION AND DEMOLITION WASTE**

Chair / *Presidente*: Richard Evitts (CA)

*S. Salhofer, A. Allesch, M. Huber-Humer, M. Hammerl, I. Do Nascimento Camargo, B. Kromoser (AT)*

Circularity indicators in the construction sector

*F. Faleschini, A. Conforti, F. Lollini, A. Abbà (IT)*

Steelcrete: our vision for a sustainable concrete

*A. Monsù Scolaro, F. Dettori (IT)*

Valorization of rubble and Construction & Demolition Waste in the aftermath of traumatic events (earthquakes, wars, etc...) - Strategies for sustainable recovery and circular resource management



**LUNCH BREAK / 12:30 - 15:00**

# FRIDAY MAY 23

## AFTERNOON

**SESSION A10 / 15:00 - 16:15 / BLUE ROOM - First Floor**

### **WORKSHOP: SUSTAINABLE LANDFILLING VS. SOIL SINK**

Chair / *Presidente*: Raffaello Cossu (IT)

The deposition of waste on soil is a key component of Circular Economy strategies, as it enables the closure of material cycles through the disposal of residues and non-recyclable waste. However, current EU regulations do not adequately address this unavoidable need, lacking a clear set of technical recommendations to support sustainable solutions.

This workshop aims to explore and provide answers to several critical questions:

- What types of residues are appropriate for deposition on soil?
- What environmental targets should be set, and what treatments should residues undergo accordingly?
- How should soil deposits be engineered and integrated into circular systems?
- Should such deposits be considered temporary (with the potential for future recovery) or final?
- How should we refer to sustainable deposition on soil? Is there a need for a new taxonomy?

#### **Introductory lecture:**

*R. Cossu (IT)*

Differences between sustainable landfilling and soil sink - Definitions and design principles

**SESSION B10 / 15:00 - 16:15 / PINK ROOM - First Floor**

### **WASTE BIOMASS RECOVERY**

Chair / *Presidente*: Panagiotis Basinas (CZ)

*K. Mella, M. Reyes, M.C. Diez (CL)*

Formulation of a biofertilizer based on agroindustrial wastes for crops production in the context of climate change

*M.R. di Cicco, I. Galante, A. Spagnuolo, A. Masiello, C. Vetromile, C. Lubritto (IT)*

Optimizing biomass yield and waste recycling: the potential of twin-layers photobioreactors

*M. Kriipsalu, K. Kenk, M. Ruutemann, K. Orupold (EE)*

End-of-biowaste in Estonia

*G. Cappai, G. Farru, M. Ghaslani, N. Marzban (IT)*

Hydrothermal humification of olive pomace: a circular approach for the production of humic substances



**COFFEE BREAK / 16:15 - 16:45**

## SESSION C10 / 15:00 - 16:15 / YELLOW ROOM - Ground Floor

### RECOVERY OF INERTS

Chair / *Presidente*: Giulia Costa (IT)

*A. Piemonti, G. Plizzari, S. Sorlini (IT)*

Street sweeping waste: state of the art and environmental characterization of the recovered inert materials

*E. Korotenko, M. Šyc, J. Jadrný, V. Veselý, P. Mašín (CZ)*

A novel approach to gypsum recovery from MSWI plants with sodium-based wet flue gas treatment systems: results, challenges and perspectives

*A. Monsù Scolaro, E. Antonini, G. Cerri, L. Malfatti (IT)*

Between scarcity and circularity of resources: technological innovation for granite scrap in Sardinia

*L. Clerici, A. Piemonti, G. Plizzari, A. Conforti (IT)*

Experimental study on the aggregate interlock in concrete with EAF slag aggregates



**COFFEE BREAK / 16:15 - 16:45**

# FRIDAY MAY 23

## AFTERNOON

**CLOSING SESSION / 16:45 - 18:00 / BLUE ROOM - First Floor**

### **LIGHTS AND SHADOWS OF THE CIRCULAR ECONOMY**

Chair / *Presidente*: Raffaello Cossu (IT)

Lights and Shadows in the Circular Economy:

- What has changed over the past year?
- What new insights have emerged from the multidisciplinary dialogue?
- What perspectives lie ahead?
- What can we, as Scientific Community, concretely do to make an impact?

*Open debate with the audience and the invited speakers:*

Maria Cristina Lavagnolo, *University of Padova (IT)*

Norbert Fraeyman, *Ghent University Hospital (BE)*

Marco Frey, *Sant'Anna School of Advanced Studies (IT)*

Zaneta Stasiskiene, *Kaunas University of Technology (LT)*

Stefan Salhofer, *BOKU University (AT)*

Raimondo Ambrosino, *Mayor of Procida (IT)*

*M.C. Lavagnolo, G. De Feo (IT)*

Output from the Interactive Lab with young researchers, sessione C03 - Multi-media presentation

*R. Cossu (IT)*

Closing photopresentation: highlights of SUM 2025





# FRIDAY MAY 23

## SOCIAL EVENT

### CLOSING DINNER & DANCING PARTY ON THE BEACH / CENA DI CHIUSURA E PARTY SULLA SPIAGGIA

Vivara Restaurant, Lungomare Cristoforo Colombo, 12, Procida  
h. 20:00

As per tradition, to celebrate the closure of the conference, all delegates are invited to a formal dinner at the restaurant Vivara, located just a few meters from the small port of Marina Chiaiolella. Enjoy the traditional Neapolitan cuisine with a spectacular sea view.

After-dinner entertainment and DJ set with a party on the beach or on the restaurant's panoramic terrace!

50% of the price is included in the Symposium entrance fee. The remaining 50% will be paid by each delegate and amounts to € 40 + VAT 22%.

**Reservation is mandatory no later than Thursday h. 13:00 from the Secretariat desk**

Accompanying persons should purchase the full ticket (€ 80 + VAT 22%) from the Secretariat.

*Nella serata di venerdì, a conclusione dei lavori, tutti i partecipanti sono invitati alla cena di chiusura presso il ristorante Vivara, situato a pochi metri dal porticciolo di Marina Chiaiolella. Il ristorante offre la possibilità di degustare piatti tipici della cucina partenopea in uno scenario mozzafiato. Dopo cena intrattenimento e dj set con un party sulla spiaggia o sulla terrazza panoramica del ristorante!*

*Il 50% del costo della cena e della serata è incluso nella quota d'iscrizione al Simposio, la restante metà è a carico dei partecipanti ed ammonta a € 40,00 + IVA 22%.*

**Prenotazione obbligatoria presso la segreteria entro giovedì ore 13:00.**

*Eventuali accompagnatori dovranno acquistare il biglietto intero (€ 80,00 + IVA 22%).*



**POSTER SESSION**  
**SESSIONE POSTER**

# POSTER SESSION

## SESSIONE POSTER

Posters will be accessible to Symposium delegates at all times in Palazzo D'Avalos, ground floor / *La sessione Poster sarà accessibile per l'intera durata del Simposio e sarà allestita al piano terra di Palazzo d'Avalos.*

**Po1** / V. Forlini, F. Marzotto, S. Gross, M. Carraro (IT)

Extraction of metals from industrial wastewater sludge with deep eutectic solvents: a proof of concept

**Po2** / M. Fanelli, E. Frapiccini, L. Alessandrini, G.P. Leone, M. Panfili, F. Donato, F. Girolametti, J.D. Coisson, L. Segale, A. Durazzo, M. Lucarini, G. Borsetta, A.F.G. Cicero, G. Sagratini (IT)

Valorization of fish waste for the extraction of vitamin D3 for nutraceutical applications

**Po3** / A.P. Provin, A.R. de Aguiar Dutra, J.B.S.O. de Andrade Guerra, A. Leal Vieira Cubas (BR)

Circular business model for smallholder farmers: utilizing banana farming waste for textile production

**Po4** / A. Leal Vieira Cubas, B. Bianchini Vali (BR)

Circular economy in cities: administrative strategies for implementation based on ISO 59004

**Po5** / D. Lorenczyk, M. Schleicher, I. Gebauer, K. Patzsch, E. Wilharm (DE)

Drying your hands with glucose - Paper towel waste as a substrate for diverse biotechnology

**Po6** / E. Pitacco, M. Pigato, C. Bernardini, L. D'Ambrosi, M. Forzan, K. Brunelli (IT)

Microwave-based pyrometallurgical process to produce ferrosilicon with PV cells from EoL PV panels

**Po7** / D. Sica, B. Esposito, S. Supino (IT)

Bridging circular economy and climate change in agri-food systems: a bibliometric exploration

**Po8** / K. Chamrádová, P. Basinas, Z. Rybková, K. Malachová (CZ)

Improvement Of The Methane Generation Potential Of The Anaerobic Digestion Solid Residue By Implementing A Biological Pretreatment With The Biomycete *L. Lacteus* At Various Conditions

**Po9** / P. Sessa, A. Simboli, L. Monaco (IT)

Electronic waste in the framework of Urban Mining and Urban Metabolism: an overview

**Po10** / S. Martinini, L. Sparascio, L. Ciacci, F. Passarini (IT)

Assessment of circularity requirements for rare earth permanent magnets in e-drive motors

**ORGANISERS  
& PARTNERS /  
ORGANIZZATORI  
E PARTNER**

# ORGANISING SECRETARIAT

## SEGRETERIA OPERATIVA

### EUROWASTE Srl

Eurowaste Srl is an event planning and management company initially established to handle scientific communication deriving from research work carried out in the field of environmental engineering at the University of Padua. Over time, the company has evolved into a service agency operating on a national and international level in the sector of scientific conferences and events.

For more than 30 years, Eurowaste has been involved in the organisation of international scientific symposia, several editions of which have attracted attendance by more than 1000 delegates from all over the world.

The company's activities are accessible to the Scientific Community worldwide in the form of support in the conception, organisation and realization of conferences, international symposia, meetings, workshops and all types of events.

### Services provided

Based on the aims and participant targets set by the client, the specific events budget, the international reach of the event, specific focus of partners and sponsors and reproducibility of the event, Eurowaste develops a purpose-designed event format for the client based on the following activities:

Event concept and design / Support to the Scientific Secretariat in defining the technical and scientific programme / Conception and organisation of social events / General assistance in initial start-up of the event / Budget Planning / Graphic design and conference material / Website development and management / Communication / Speaker and Author management / Venue sourcing and Catering / Logistic planning.

Eurowaste also manages a publishing house with the opportunity to produce and publish the scientific proceedings of the event (Cisa Publisher, pag. 57)

**If you want to organize a conference, rely on us!**

For further information please send an email at [info@eurowaste.it](mailto:info@eurowaste.it)



*Euowaste Srl è una società di pianificazione e gestione eventi nata inizialmente per gestire la comunicazione scientifica derivante dai lavori di ricerca nel settore dell'ingegneria ambientale dell'Università di Padova. Nel corso degli anni, l'azienda si è evoluta in un'agenzia di servizi operante a livello nazionale e internazionale nel settore dei convegni e degli eventi scientifici.*

*Da oltre 30 anni, Euowaste è coinvolta nell'organizzazione di simposi scientifici internazionali, diverse edizioni dei quali hanno attirato la partecipazione di più di 1000 delegati provenienti da tutto il mondo.*

*Le attività della Euowaste si rivolgono a tutta la comunità scientifica mondiale come supporto nella concezione, organizzazione e realizzazione di conferenze, simposi internazionali, workshop e altri tipi di eventi.*

### **I servizi forniti**

*Basandoci sugli obiettivi e sui target dei partecipanti stabiliti dal cliente, sul budget specifico, sulla portata internazionale dell'evento, sul focus specifico dei partner e degli sponsor e sulla riproducibilità dell'evento, Euowaste sviluppa un formato di evento "su misura" offrendo le seguenti attività:*

*Concept e design dell'evento / Supporto al Segretariato Scientifico nella definizione del programma tecnico e scientifico / organizzazione degli eventi sociali / Assistenza generale nella fase iniziale di avvio dell'evento / Pianificazione del budget / Progettazione grafica e materiale per la conferenza / Sviluppo e gestione del sito web / Comunicazione / Gestione degli speaker e degli autori / Ricerca della sede e catering.*

*Euowaste gestisce anche la propria casa editrice, offrendo l'opportunità di produrre e pubblicare gli atti scientifici dell'evento (Cisa Publisher, pag. 62)*

*Per la grafica, gli allestimenti in loco e il web design la società si avvale di una solida collaborazione con lo Studio di Progettazione e Grafica **Arcoplan**.*

### **Se desideri organizzare una conferenza, affidati a noi!**

*Per informazioni e richieste di preventivo si prega di inviare un' email a:*

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# IRACE

## International Research Association on Circular Economy

During the SUM 2024 edition which attracted participants coming from 34 different countries and representing various disciplines, Raffaello Cossu (University of Padova) and Ian William (University of Southampton), had the pleasure of discussing with many colleagues the foundational idea for the International Research Association on Circular Economy (IRACE).

The concept emerged from a shared recognition of the need to unite individuals—academics, industry professionals, entrepreneurs, institutions, and associations—from diverse disciplines to advance the Circular Economy in a constructive and integrated manner. The following key points underscore the rationale for IRACE:

- The Circular Economy needs the full scientific engagement of intra-, cross-, multi-, inter-, and trans-disciplinary research teams for solving different critical issues
- The voice of the scientific research is at present not shaping significantly political decisions regarding Circular Economy whilst stakeholders' groups are often more organized, vocal, and influential at both EU and national levels
- Interest in Circular Economy research extends beyond universities and traditional institutions to include any stakeholder or entity that bases its strategy on scientific principles
- The establishment of IRACE will significantly support the development and dissemination of high-quality Circular Economy research
- Membership in IRACE will be open to individuals and to national and international societies and associations representing various disciplines.
- IRACE is envisioned as a lean, agile, and low-cost organization, free from bureaucratic burdens and solely focused on the advancement of scientific knowledge in the field of Circular Economy

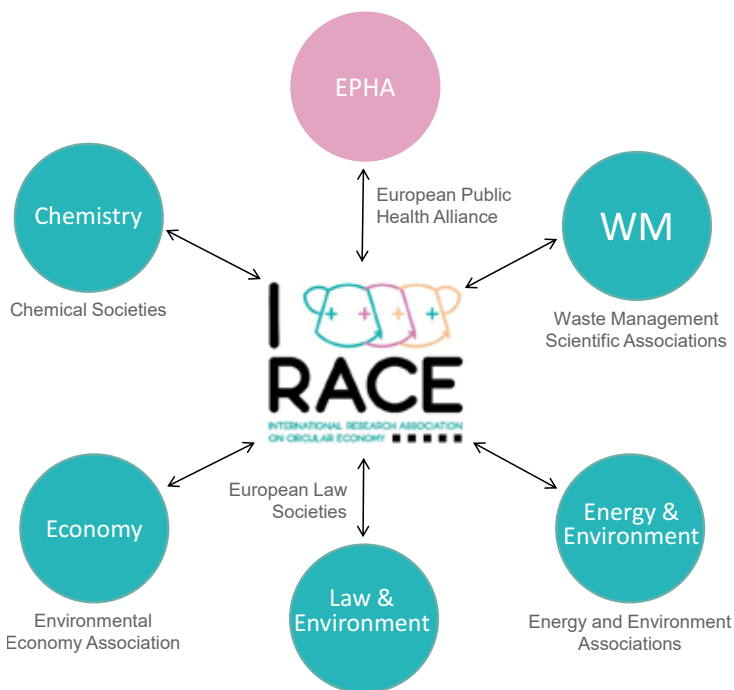
The idea of IRACE has already received strong support, with 73 colleagues from 23 countries (Argentina, Bangladesh, Belgium, Brazil, Canada, China, Czech Republic, Germany, Greece, India, Israel, Italy, Japan, Korea, Oman, Portugal, Serbia, Slovakia, Spain, Sweden, Turkey, and the UK), and representing 18 disciplines (including Agronomy, Architecture, Biology, Chemical Engineering, Chemistry, Ecology, Industrial Biotechnology, Geology, Law, Material Science, Medicine, Pharmacology, Physics, Political Science, Sociology, Electrical Engineering, Environmental Engineering, and Wastewater Engineering), endorsing its creation.

A key feature of IRACE will be its **Focus Groups**, each dedicated to addressing specific issues in the Circular Economy. These small expert groups will collect data, engage in multidisciplinary dialogue, and explore key “why, what, and how” questions. Their goal is to define problems, investigate solutions, and produce outputs such as position papers, research proposals, and policy recommendations, while engaging in public communication.

Critical issues identified during early discussions include:

- Widespread contamination and the diffusion of microplastics
- Management of non-recyclable waste and changing product composition





- Overproduction and planned obsolescence
- Misleading lobbying efforts by producers and recyclers
- Outsourcing of key Circular Economy steps (e.g., mining, recycling) to countries with inadequate environmental standards
- Unsustainable landfilling and outdated landfill regulations
- Defining the “sink” concept in the Circular Economy
- Potential health risks from contaminants in recycled products

Each Focus Group will operate within a defined time frame, with expected deliverables including policy inputs, research initiatives, and communications with authorities and the public.

IRACE does not intend to compete with existing associations. Instead, it seeks to act as a hub, complementing and enhancing their work by bringing in a strong multidisciplinary perspective.

This vision is summarized graphically in the figure above. Notably, the European Public Health Alliance has already expressed its interest in joining IRACE.

IRACE was officially founded on May 9, 2025, and its first General Assembly will take place during the SUM Symposium on **Thursday, May 22, from 13:00 to 14:30**. The General Assembly will have the authority to:

- Approve the association’s budget and operating regulations
- Elect members of the Managing Board
- Set membership fees for ordinary members
- Make decisions or recommendations on other agenda items

To participate in the General Assembly, SUM delegates must apply for IRACE membership at the Symposium registration desk. **As a special offer, registration will be free for SUM participants until December 31, 2025.**

The SUM Symposium will become IRACE’s primary annual scientific meeting, offering a platform for members to review progress and plan future activities. For further information please contact: [info@irace.eco](mailto:info@irace.eco)



## Behind the Logo – The Spirit of iRace

The iRace logo embodies the vision at the heart of the Association and highlights the importance of multidisciplinary within the scientific community in the context of the Circular Economy. The name “iRace” evokes the idea of a race—but not a solitary one. It is a collective race, one that can only be successfully completed through the unification of forces, knowledge, and skills from various disciplines. The small squares in the logo’s design symbolize the finish line—the checkered flag: the common goal.

The “irace” is also an animal and is depicted in the graphic of the logo in three different colors, representing distinct disciplinary fields. It is a herd animal, where the strength of the group and the connection among its members are essential for survival in nature. In the same way, multidisciplinary is key to addressing the challenges of the Circular Economy. Each discipline contributes its own unique expertise, and only by working together can these skills complement and enrich one another, leading to more innovative and effective solutions. The colored eyes of the figures in the logo represent this diversity of perspectives: each color symbolizes a different viewpoint (and a discipline), but all are complementary. And to reach the finish line, they look synergistically in the same direction.

In summary, the logo conveys a fundamental message: in the race toward a sustainable and circular future, success is only possible when the scientific community - represented by experts from all relevant disciplines - runs together.

# EVENTO PARTNER

## Green Med Expo & Symposium

Il Green Med Expo & Symposium è un evento annuale dedicato alla sostenibilità ambientale, all'economia circolare e alla transizione ecologica, che si svolge a Napoli presso la Mostra d'Oltremare. La prossima edizione sarà la sesta e si terrà dal 28 al 30 maggio 2025 .

### Cos'è il Green Med Expo & Symposium?

È una manifestazione organizzata da RiciclaTv ed Ecomondo, gratuita e aperta a tutti: cittadini, istituzioni, imprese, professionisti e studenti. L'evento offre un mix di esposizioni, convegni, seminari e attività esperienziali, con l'obiettivo di promuovere il dialogo tra pubblico e privato sui temi cruciali della sostenibilità .

### Aree tematiche principali

Il programma si articola attorno a quattro macro-aree:

- Miniere Urbane: focus sulla gestione dei rifiuti e sull'economia circolare.
- Acqua: gestione sostenibile delle risorse idriche e impatti del cambiamento climatico.
- Energia: transizione verso fonti rinnovabili e riduzione delle emissioni di gas serra.
- Biocittà: sviluppo urbano sostenibile, mobilità green e infrastrutture resilienti.

### Eventi e iniziative speciali

Durante i tre giorni dell'evento, sono previsti circa 45 eventi con più di 250 relatori. Tra gli eventi principali:

- Stati Generali sull'Ambiente in Campania: un confronto strategico promosso dalla Regione Campania sulle politiche ambientali regionali
- Materia Viva Experience: una mostra immersiva dedicata alla scoperta delle risorse nascoste nei rifiuti elettronici (RAEE), aperta dal 26 al 31 maggio .
- Green Blue House: uno spazio espositivo che esplora soluzioni abitative sostenibili e innovative
- Premio Claudio Cicatiello: un riconoscimento all'innovazione e alla sostenibilità per comuni e startup. La serata finale si svolgerà il 29 maggio dalle pre 19.

L'ingresso è gratuito e per partecipare basta scaricare il biglietto di ingresso dal portale della manifestazione ([www.greenmedsymposium.it](http://www.greenmedsymposium.it))

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# PARTNER JOURNAL

## RIVISTA PARTNER

### DETRITUS / MULTIDISCIPLINARY JOURNAL FOR WASTE RESOURCES AND RESIDUES

Detritus is an official journal of IWWG, International Waste Working Group, published by Cisa Publisher.

The journal is aimed at extending the “waste” concept by opening up the field to other waste-related disciplines (e.g. earth science, applied microbiology, environmental science, architecture, art, law, etc.) welcoming strategic, review and opinion papers.

Detritus is indexed in SCOPUS / Clarivate Analytics, Web of Science / Google Scholar.

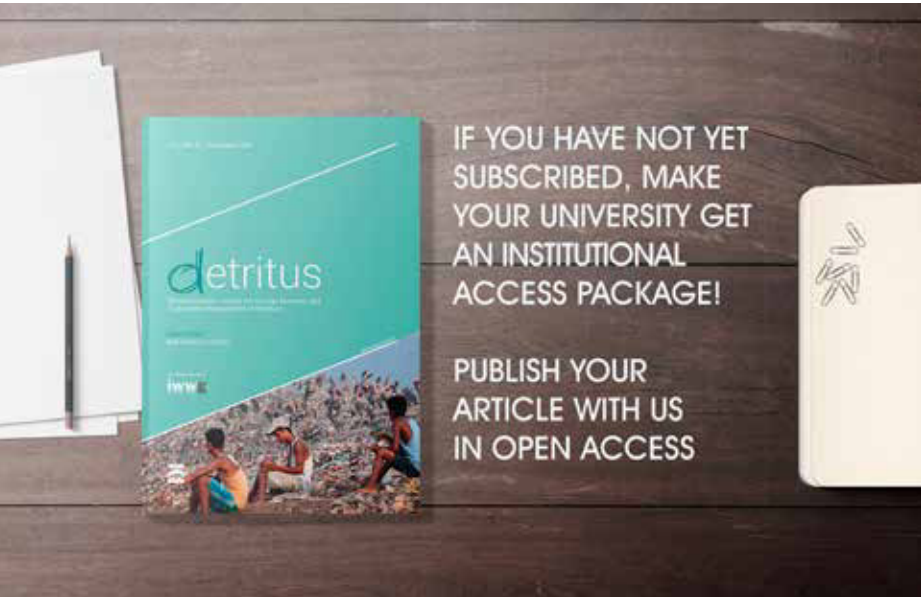
**JOURNAL IMPACT FACTOR: 1,3**  
**CITE SCORE: 3,3**

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Detritus is **completely free** for authors who intend to submit and publish a paper, with the aim of promoting the transfer of scientific knowledge without any economic constraints.

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An official journal of IWWG  
Editor in Chief: Raffaello Cossu  
Published by: Cisa Publisher



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# OFFICIAL PUBLISHER

## CASA EDITRICE UFFICIALE

### CISA PUBLISHER

Cisa Publisher is an imprint of Eurowaste Srl. Cisa Publisher represents the Eurowaste section dealing with transfer to the media (books, reports, textbooks, CD, etc) of the wealth of information accumulated throughout activities performed by the University of Padova (in particular in the field of waste management and contaminated site remediation) and by IWWG and member scientists.

#### CATALOGUE:

*R. Cossu, V. Grossule, M.C. Lavagnolo*

La discarica sostenibile. Ruolo nell'economia circolare e proposte normative

#### IWWG Monograph series:

- Sustainable Landfilling
- Landfill Aeration

#### Conference Proceedings:

- Sardinia International Symposium on Waste Management, Resource Recovery And Sustainable Landfilling
- SUM - Multidisciplinary Symposium on Circular Economy and Urban mining
- Venice International Symposium on Energy from Biomass and Waste

#### Detritus - Multidisciplinary Journal for waste resources and residues

#### Other Monographs:

- Urban Mining: A global cycle approach to resource recovery from solid waste

Publications are available at the registration desk and may be ordered online from the website [www.cisapublisher.com](http://www.cisapublisher.com).

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# MEDIA PARTNERS

## MEDIA PARTNER

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# SARDINIA 2025

20<sup>th</sup> INTERNATIONAL SYMPOSIUM ON WASTE MANAGEMENT,  
RESOURCE RECOVERY AND SUSTAINABLE LANDFILLING

13-17 OCTOBER 2025

FORTE VILLAGE / S.MARGHERITA DI PULA, CAGLIARI (IT)

## SARDINIA SYMPOSIUM: LET'S CELEBRATE THE 20TH EDITION!

Following the success of the previous edition, which saw the participation of 505 delegates from 55 countries, we are pleased to announce SARDINIA 2025 / 20th International Symposium on Waste Management and Sustainable Landfilling to be held from 13th to 17th October 2025 in the traditional venue of the Forte Village Resort, Santa Margherita di Pula, Italy.

The Sardinia Symposia are a biennial event organized by the International Waste Working Group (IWWG), with the scientific involvement of the Universities of Padova, BOKU (Vienna), Tongji (CN) and the Technical Universities of Luleå and Hamburg. Founded in 1987, the conference usually gathers more than 700 participants from all around the world, with more than 400 papers presented at each edition, making the Sardinia Symposium the most important solid waste management conference in the world.

The Programme will include oral sessions, workshops, active labs and other practical activities, discussion forums, poster presentations, business meetings, a commercial exhibition, outstanding networking opportunities and exciting social events!

The response to the Call for Abstracts has been remarkable, with over 300 submissions of extraordinary scientific quality from 48 different countries. You can explore the list of accepted papers and workshops on the Symposium website.





NEW CALL, NEW DEADLINE: Submit your abstracts by 16 June 2025

Sardinia 2025 will address attention to the following hot topics, interesting for additional paper submissions, workshop proposals and interactive labs:

**Design and production of sustainable products** in alignment with CE strategies, promoting reuse, remanufacturing, recycling, and sustainable end-of-life management / **Circular integration of energy**, solid, and liquid waste flows in eco-city models / **Reuse and repair strategies**: Evaluating their real-world impact on the CE / **Emerging pollutants in WM** / **Pharmaceutical residues and other contaminants** in sewage sludge / **Artificial Intelligence applications in WM**: Specific tools and case studies tailored to different sectors / **New EU regulations**: Is the policy landscape moving in the right direction for a circular and sustainable future? / **Sustainable management of hazardous asbestos-containing materials**: Technologies for containment, stabilization, inertization, land use considerations / **The role and design of waste deposition** in circular economy.

The Call for Abstracts has been reopened to welcome contributions addressing these critical issues alongside all previously listed subjects (*see table below*).

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. WASTE POLICY AND LEGISLATION                          | Need for appropriate legislation; international, national and regional guidelines; regulation and planning requirements; role of scientific and technical organizations; carbon tax.                                                                                                                                                                                                                                                                                                                                                                         |
| 2. WASTE MANAGEMENT STRATEGIES                           | Integrated waste management; national strategies; future perspectives, waste as a resource; public and private partnership                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3. PUBLIC CONCERN AND EDUCATION                          | Public involvement and relationship; NGO's activities; mediation; education; communication; training in waste management and operation                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4. WASTE MANAGEMENT ASSESSMENT AND DECISION TOOLS        | Life cycle analysis; risk assessment; environmental impact assessment; EMAS; quality control procedures; cost benefit analysis; multicriteria analysis; auditing; BAT-Best Available Technologies.                                                                                                                                                                                                                                                                                                                                                           |
| 5. WASTE CHARACTERIZATION                                | Standardization; analytical procedures, sampling, production variations vs time and geographical areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6. WASTE COLLECTION                                      | Cost optimization; collection on demand; separate collection; case studies; subsurface systems; pneumatic collection; ergonomics of waste collection.                                                                                                                                                                                                                                                                                                                                                                                                        |
| 7. WASTE MINIMISATION AND RECYCLING                      | Waste avoidance; waste logistics and recycling; new recycling technologies; material quality after recycling; packaging material; electronic waste; construction and demolition waste; batteries; end of life vehicle; market waste.                                                                                                                                                                                                                                                                                                                         |
| 8. BIOLOGICAL TREATMENT                                  | New developments in composting and anaerobic digestion; emissions from processing facilities; product quality; degradation and fate of emerging pollutants during biological treatment; biological treatment of special biowaste; challenges in using microbiology knowledge to explain biological process; assessment of indicators for evaluating product quality and humification                                                                                                                                                                         |
| 9. THERMAL TREATMENT                                     | Technologies and experiences; new technologies; production and use of RDF; emission control; treatment of residues; beneficial use of combustion ash.                                                                                                                                                                                                                                                                                                                                                                                                        |
| 10. MECHANICAL BIOLOGICAL TREATMENT PRIOR TO LANDFILLING | Mechanical pretreatment (separation, shredding, RDF-production, etc.); technology and experience; new technology, testing and landfill acceptance; off gas treatment; emission control.                                                                                                                                                                                                                                                                                                                                                                      |
| 11. SANITARY LANDFILLING                                 | Sustainable landfill concepts for mechanically biologically pretreated municipal waste and special waste; processes and emissions; leachate and gas management; landfill design and construction; barrier design and performance; technologies for mitigation of landfill gas emission; waste mechanics; landfill operation; administrative and financial aspects; landfilling under specific conditions (tropics, islands, mountains, etc.); aftercare and reuse; waste disposal as final sinks for harmful substances; landfill remediation; case studies. |
| 12. INTEGRATED WASTEWATER AND SOLID WASTE MANAGEMENT     | Decentralized systems; closed substance cycles; future perspectives; cases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13. WASTE MANAGEMENT AND CLIMATE CHANGE                                         | Minimisation of greenhouse gases from waste management activities and landfills, waste - CDM projects, minimisation of energy consumption, landfills as geological sinks for carbon and other elements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 14. WASTE MANAGEMENT IN DEVELOPING AND LOW-INCOME COUNTRIES                     | Appropriate technologies, experiences, international cooperation, financing, education.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 15. ENVIRONMENTAL FORENSICS                                                     | Environmental liability in waste management; Legal Considerations, including strategic considerations for chemical fate in litigation and arbitration; Contaminant source identification, correlation and remediation; Historical reconstruction of contaminant release into the environment; Contaminant Fingerprinting for source identification and/or age-dating; analytical techniques, methodologies, legal aspects; Integrated Case Studies, employing environmental fate and damage assessments.                                                                                                                                                                                 |
| 16. WASTE ARCHITECTURE                                                          | Functional requalification of old and new landfill sites; landfill mining for land reuse and remediation of degraded land; integration of pneumatic waste collection system in the urban space; design of facilities for separate collection systems; locations for waste disposal and relationships with the city; transfer stations; waste architecture and circular economy (reuse centres, etc.); architecture of buildings for waste treatment.                                                                                                                                                                                                                                     |
| 17. WASTE AND HEALTH                                                            | Impact of waste management practices on health; epidemiological surveys; public perception; potential health effects of different waste management technologies; communication; case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 18. SMART AND DIGITAL SOLUTIONS FOR WASTE MANAGEMENT & CIRCULAR ECONOMY         | Smart waste collection; smart solutions for the management of waste in the city of the future; waste recycling and social change; waste energy recovery in small and big cities; food waste reduction; e-waste management; new business model; smart Waste Management and future European Partnership; smart technologies for the improvement of reuse and recycling; potentiality of the AR-Augmented Reality in the field of Waste Management; AI, ML (Machine Learning), IoT (Internet of Things), Big Data, cloud and edge computing, specific software for product design, manufacturing, logistics, sales e-trading, business analytics and any other circular economy steps, etc. |
| 19. CONSTRUCTION & DEMOLITION WASTE FROM DISASTER WASTE                         | Characterisation; Management and environmental impact; etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 20. NEW ISSUES ON GEOSYNTHETICS IN ENVIRONMENTAL APPLICATION                    | Potential release of microplastics; Use of recycled plastics in manufacturing new geosynthetics; etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 21. CONTROL OF EMERGING CONTAMINANTS (EC) AND NANOPARTICLES IN WASTE MANAGEMENT | Minimisation of chemical in products (paper, plastics, etc.); EC in waste and sludges; Fate of EC in waste processing and disposal (composting, recycling, incineration, landfilling, etc.); Diffusion of EC from recycled products; Effects of EC on environment and health; etc.                                                                                                                                                                                                                                                                                                                                                                                                       |
| 22. CONTROL OF MICRO- & NANOPLASTICS (MNP) IN WASTE MANAGEMENT                  | Disintegration and biodegradation behaviour of different kind of plastics; MNP in waste and sludges; Fate of MNP in waste processing and disposal (composting, recycling, incineration, landfilling, etc.); Diffusion of MNP from recycled products; Effects of MNP on environment and health; etc.                                                                                                                                                                                                                                                                                                                                                                                      |
| 23. CIRCULAR ECONOMY                                                            | Concepts, strategies, policies; Ecodesign of products; Energy and economic aspects; Sustainable final sinks; Materials, CO2 and energy balance; Role of the different waste management technologies; Life Cycle thinking and risks assessment; etc.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 24. BIODIVERSITY AND WASTE MANAGEMENT                                           | Negative and positive potential impacts of waste management on biodiversity aspects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

For further information please contact the Organising Secretariat at [info@sardiniasymposium.it](mailto:info@sardiniasymposium.it) or visit the website: [www.sardiniasymposium.it](http://www.sardiniasymposium.it)