EPFL Sustainable Innovation Challenge (SIC) 2025 Participant Booklet

This event booklet provides all the details about the EPFL Sustainable Innovation Challenge (SIC) and the planned activities.

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Welcome message from the SIC Organizing Team

We warmly welcome you to the first edition of the **Sustainable Innovation Challenge (SIC)** at EPFL, a pioneering event where students, researchers, startups, and industry leaders come together to address global sustainability challenges through innovation and collaboration.

Sustainability is at the core of today's most pressing issues, and we would like for SIC to serve as a platform for advancing impactful discussions and solutions. Over these two days, you will have the opportunity to witness cutting-edge innovations, engage in meaningful discussions, and network with leading experts in the field.

Whether you are here to present your research, showcase a project, connect with talent, or gain insights from top sustainability minds, we encourage you to make the most of this unique experience.

Let's shape a more sustainable future together!

The SIC Organizing Team

Event Overview

What is SIC?

The **Sustainable Innovation Challenge (SIC)** is a **two-day event** designed to bring together **students, startups, research labs, companies, and sustainability experts** to exchange ideas, showcase innovations, and drive forward sustainable solutions.

It is made up of:

- A **scientific conference** with plenary seminars and interactive workshops covering many aspects of sustainability, as well as an **Academic Citizens' Assembly** to engage as working groups in significant, actionable discussions around the topic of sustainability.
- An **exhibition** where companies, labs, and startups showcase their projects, connect with talent, and explore research collaborations.
- A **student challenge** where European university teams present their sustainable technologies trying to address critical questions in sustainability. A jury made of Industry & Academy experts will evaluate them for a CHF 30,000 prize to support the growth of their projects.
- **Networking sessions** designed to foster new discussion and partnership between academia and industry.

For the full duration of the event, there will also be a collective climate fresco, to represent the many meanings sustainability has for each one of us.

When & Where?

📅 **Date:** March 13th-14th, 2025
📍 **Venue:** RLC & MED Hall, EPFL, Lausanne

Anyone with an interest in shaping a sustainable future is welcome to join!

Event schedule

Below is a general overview of the SIC event, followed by the complete schedule of the two days. We are looking forward to welcoming you to all the activities planned!

All details can also be found on our eventbrite.

March 13th, 2025

- **Morning**: Opening speech by Edouard Bugnion (Vice-president for Innovation and Impact, EPFL) followed by plenary seminars on **sustainable finance**, **sustainable food systems**, **energy transition**, and **decarbonization**, and the exhibition stands opens. In parallel, there will be some educational activities by the Transversal Skills and Career Center EPFL.
- **Afternoon**: Plenary seminars on **decarbonization**, **MFA**, **LCA** and **climate policies**, followed by the student challenge.
- **Evening**: Special networking reception.

March 14th, 2025

- **Morning**: Plenary seminars on **sustainability in education**, **sustainable architecture**, interactive workshop on **careers in sustainability**.
- **Afternoon**: interactive workshop on **sustainable business scale-up** and students workshop on sufficiency and resilience, followed by plenary seminars on **degrowth**, and **social aspects of sustainability**. Finally, the **Academic Citizens' Assembly** in parallel to the second session of the students workshop on **sufficiency and resilience**.
- **Evening**: Award ceremony & closing remarks with Stéphanie Lacour* (Vice-president for Support to Strategic Initiatives at EPFL).

<table>
<tr><th>March 13th</th><th>Rolex Forum</th><th>MED Hall & Rolex Hall</th><th>Rolex Bulles & Rolex Hodler</th></tr>
<tr><td>8:00 - 8:45</td><td>Registration</td><td>Registration (Rolex Hall)</td><td rowspan="13">Activities by Transversal Skills and Career Center EPFL</td></tr>
<tr><td>8:45 - 9:00</td><td>Opening statement with Edouard Bugnion</td><td></td></tr>
<tr><td>9:00 - 9:45</td><td>Kai Gehring</td><td rowspan="11">Industry, Academia & Student exhibition</td></tr>
<tr><td>10:00 - 10:45</td><td>Alexander Mathys</td></tr>
<tr><td>10:45 - 11:15</td><td>Coffee Break</td></tr>
<tr><td>11:15 - 12:00</td><td>Christophe Ballif</td></tr>
<tr><td>12:15 - 13:00</td><td>Cédric Tard</td></tr>
<tr><td>13:00 - 14:00</td><td>Lunch</td></tr>
<tr><td>14:00 - 14:45</td><td>Grégory Nocton</td></tr>
<tr><td>15:00 - 15:45</td><td>Claudia Binder</td></tr>
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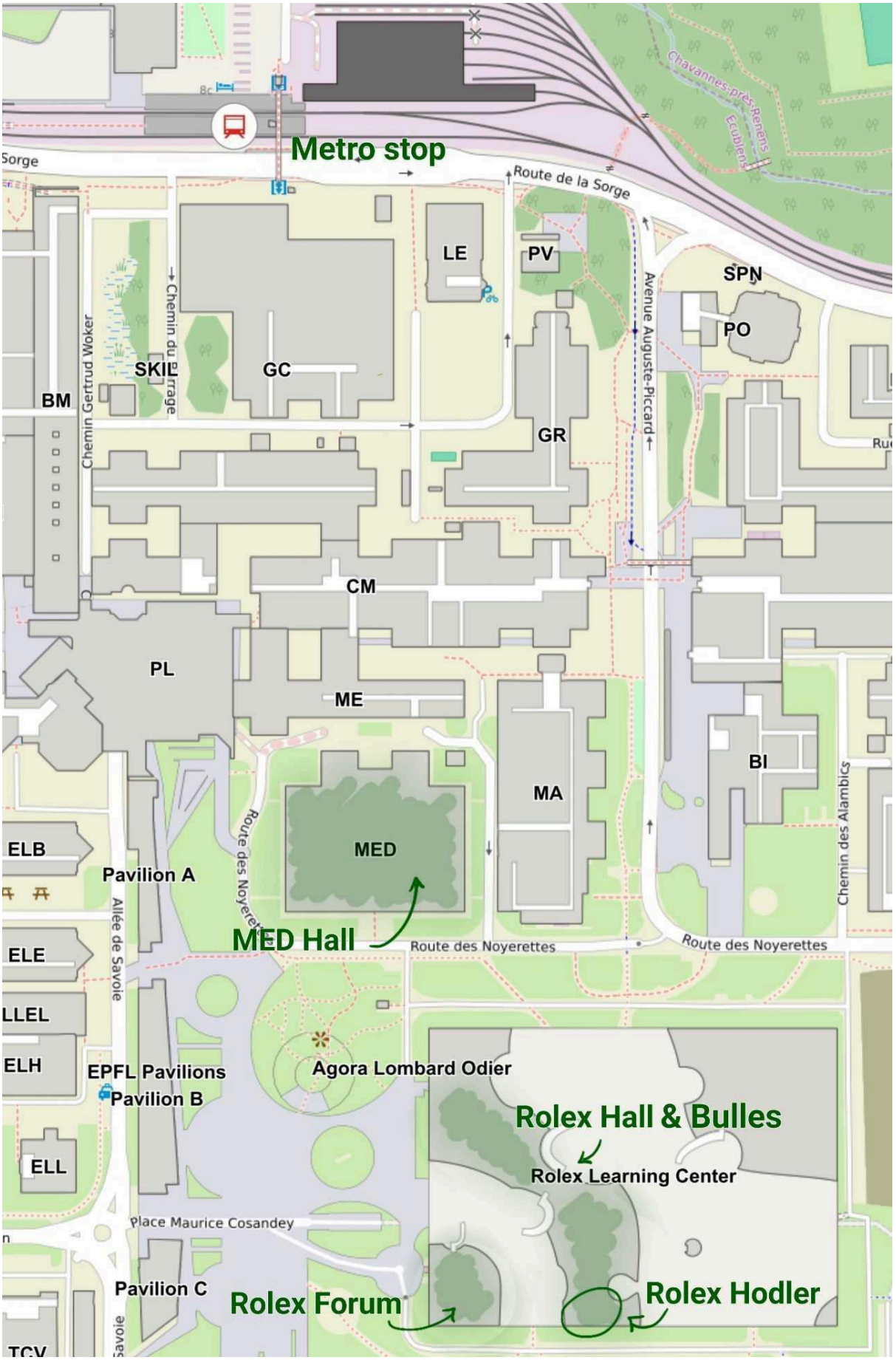
16:45 - 17:15	Coffee Break		
17:15 - 18:00	Massimo Tavoni		
18:15 - 20:30	Challenge		
20:30 - ...	Apéro		

March 14th	**Rolex Hodler**	**Rolex Forum**
9:00 - 9:45		Monika Roeling
10:00 - 10:45		Giacomo D'Alisa
10:45 - 11:15		Coffee break
11:15 - 11:45	Enterprise for Society	
12:00 - 12:45		Satu Huuhka
12:45 - 13:45		Lunch
13:45 - 14:15	Deloitte	
14:30 - 15:15	Zero Emission Group (invited participants)	
15:30 - 16:15		Julia Steinberger
16:30 - 18:30	16:30 - 17:15 Zero Emission Group**	Academic Citizens' Assembly + Coffee
18:30 - 19:00		Awards and closing statement with Stéphanie Lacour*

	Seminar
	Special format event
	Workshop

* TBC.
** en français.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Pavilion B
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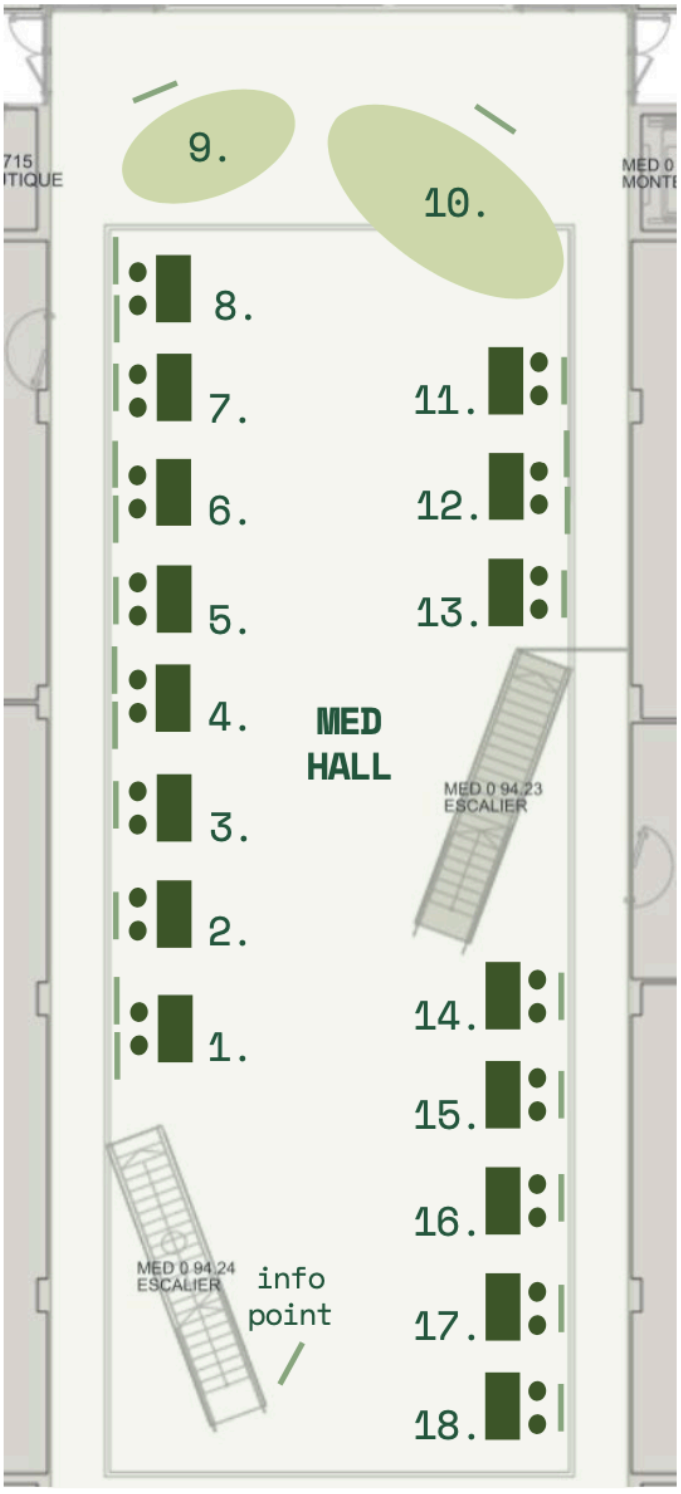
Agora Lombard Odier
Rolex Hall & Bulles
Rolex Learning Center
Place Maurice Cosandey
Pavilion C
Rolex Forum
Rolex Hodler



1.ARC + SARA
2.EPFL Carbon Team
3.Swiss Solar Boat
4.Laidlaw
5.GUST project
6.Agissons
7.SAILGEN
8.Ecolens + ZEG
9.Daedalus
10. Swiss Kite
11.TUM Carbon + Green tech
12. Solar Eindhoven
13. Trovador
14. Sailowtech
15. NeoMineX
16. RebuiLT
17. GenoRobotics
18. Serigraphie

1. Wasteflow
2. Resilio
3. Ecocloud
4. Sustainable Agroecosystem
5. Integrative Food EPFL
6. Tech4dev + IDM
7. Oikocredit
8. Carbon Removal Booster
9. E4S
10. Urbasolar
11. Sustainable Robotics Lab EMPA
12. LFIM
13. Kuori
14. Texup
15. Aethernum - Tech
16. Gramitherm
17. Arcalignum
18. Arbio
19. Inspire AG
20. Volt control
21. Perovskia

Details of Seminar & Workshops

Seminars

SIC will feature renowned **sustainability experts**, **researchers**, and **industry leaders** who will share insights on key challenges and emerging solutions.

Confirmed speakers are (alphabetical order):

1. Christophe Ballif (École Polytechnique Fédérale de Lausanne)
   Title: Energy transition made easy: a quick travel between myths and reality, between Switzerland and China, with a closer look to photovoltaics
2. Claudia Binder, Ankita Singhvi (École Polytechnique Fédérale de Lausanne)
   Title: Where should we innovate? Insights from MFA analyses
3. Giacomo D'Alisa (Universidad Autónoma de Barcelona)
   Title: The case for degrowth and the Universal Care Income
4. Kai Gehring (University of Bern, Wyss Academy for Nature)
   Title: Insuring peace: index-based livestock insurance, droughts, and conflict
5. Satu Huuhka (Tampere University)
   Title: What is a sustainable building?
6. Alexander Mathys (Eidgenössische Technische Hochschule Zürich)
   Title: Emerging food production for more sustainable food systems
7. Sascha Nick (Business School Lausanne, École Polytechnique Fédérale de Lausanne)
   Title: When is innovation beneficial to society? A systems perspective
8. Grégory Nocton (Ecole Polytechnique, Centre National de la Recherche Scientifique)
   Title: Carbon removal by Direct Air Capture
9. Monika Roeling (TU Delft)
   Title: A roadmap to sustainability and climate education at TU Delft?
10. Julia Steinberger (Université de Lausanne)
    Title: Living well within limits: is it possible? And what will it take?
11. Cédric Tard (Ecole Polytechnique, Centre National de la Recherche Scientifique)
    Title: CO2 extraction from seawater: from Lab Bench to Ocean Depths
12. Massimo Tavoni (Politecnico di Milano, EIEE)
    Title: Keeping the Paris agreement alive: scenarios of climate stabilization

Workshops

Participants can attend **hands-on workshops and interactive discussions** led by **industry professionals, students associations, and NGOs**, covering professional topics and more.

Confirmed workshops are (alphabetical order):

1. Enterprise for Society Center
   Title: How to build a career that matters
2. Deloitte
   Title: Making an impact that matters
3. Transversal Skills and Career Center (École Polytechnique Fédérale de Lausanne)
   For details on all their activities, you can visit epflcareer.ch.
4. Zero Emission Group (École Polytechnique Fédérale de Lausanne)
   Titre: Sobriété, Résilience et Limites : Les Clés d'un Avenir Durable

At the end of the booklet, you will find a complete list of abstracts for each activity.

Exhibition Stands & Industry Meet-Ups

What is the Exhibition?

The **SIC exhibition** is a space where **companies**, **research labs**, **NGOs**, and **startups** showcase their projects, technologies, and research in sustainability. Moreover, the student teams will also hold a stand with their projects before the competition.

At the end of the booklet, you will find a complete list with all exhibitors.

Why Visit the Exhibition?

- Discover **innovative sustainable technologies**.
- Connect with **innovators and industry leaders**.
- Engage in **live demonstrations** and **interactive discussions**.

Internships and hiring

Companies, researchers, and students will have the chance to connect through structured **networking sessions** throughout the event, and many exhibitors

joined us together with placement opportunities. Check each stand, have a chat and find out more!

Student Challenge

What is the SIC Challenge?

The **SIC Challenge** welcomes student teams from across Europe to present their **innovative sustainability solutions** to answer some of the most pressing questions in sustainability. These include:

- Reduction of carbon emissions
- Ecosystems and biodiversity restauration
- Energy transition
- Climate data gathering

Competition Format

📅 March 13th | 🕑 18:15 - 20:30

On the first day of the SIC event, twelve student teams will pitch their project and answer the questions of a jury composed of experts from industry and academia. The pitches will be three minutes long, followed by four minutes of Q&A from the jury and the public. The jury has already thoroughly analyzed the material submitted by each team, and will finalize their vote after the live pitches.

📅 14th Mar. | 🕑 18:30 - 19:00

On the second day, we will end SIC with the awards ceremony.

🏆 30.000 CHF shared between students based on their score
🏅 Additional honorific public prize

The list of participating teams is (alphabetical order):

1. AEther Swiss Kite (École Polytechnique Fédérale de Lausanne, Switzerland)
2. EPFL Carbon Team (École Polytechnique Fédérale de Lausanne, Switzerland)
3. Genorobotics (École Polytechnique Fédérale de Lausanne, Switzerland)
4. GUST (University of Lodz, Poland)
5. NeoMineX (Katholieke Universiteit Leuven, Belgium)

6. RebuiLT (École Polytechnique Fédérale de Lausanne, Switzerland)
7. Sailowtech (École Polytechnique Fédérale de Lausanne, Switzerland)
8. Solar Team Eindhoven (Technische Universität Eindhoven, Netherlands)
9. Team Daedalus (Technische Universität Eindhoven, Netherlands
10. The SARA Project (Eidgenössische Technische Hochschule Zürich, Switzerland)
11. Trovador (Técnico Lisboa, Portugal)
12. TUM Green Tech - Desalination (Technische Universität München, Germany)

The jury consists of:

1. Julia Bory (Lead of Innovation, Enterprise for Society Center)
2. Dunia Brunner (Project Officer & Lecturer, CCD Université de Lausanne and Enterprise for Society Center)
3. Frédéric Dreyer (Innovation & Ecosystem Manager, École Polytechnique Fédérale de Lausanne)
4. Yves Leterrier (Senior Scientist, Laboratory for Processing of Advanced Composites - École Polytechnique Fédérale de Lausanne)
5. Michka Mélo (Sustainability Coach, École Polytechnique Fédérale de Lausanne)
6. Sascha Nick (Scientist & Lecturer, École Polytechnique Fédérale de Lausanne and Professor, Business School Lausanne)
7. Karen Scrivener (Full Professor, Laboratory of Construction Materials Materials Science and Engineering - École Polytechnique Fédérale de Lausanne)

Venue & Logistics

How to Get to EPFL

EPFL is easily accessible by **public transport** and **bike**.

🚇 **By metro**: Take **M1 metro** from Lausanne-Flon towards **Renens** and get off at **EPFL station**.

🚆 **By train**: Arrive at **Lausanne station**, then take **M1 metro** or a bus to EPFL.

🚲 **By bike**: EPFL has multiple bike parking areas and is well connected to Lausanne's cycling paths.

🚗 **By car**: You can follow the directions to the Rolex Learning Center, and park at the Rolex Learning Center parking.

Sustainability Guidelines for Participants

EPFL is committed to hosting a **sustainable event**. We encourage participants to:

♻️ **Minimize waste**: Use reusable water bottles and limit printed materials, and recycling stations are available throughout the event venue.

🚶 **Use public transport**: The venue is easily accessible by metro, bus, and bike.

🍃 **Opt for sustainable food choices**: Plant-based and locally sourced options will be available at catering stands, and any leftovers (even if we hope not to have any!) will be redistributed. Coffee breaks will also consist of redistributed food.

💡 **Reduce energy consumption**: Be mindful of electronic usage during the event.

We appreciate your support in making SIC 2025 a low-carbon and responsible event!

Sponsors & Partners

SIC is made possible through the support of our **sponsors and institutional partners**, who share our vision for a sustainable future.

Our Partners Include:

- **Academic Partners**: Carbon Removal Booster, École Polytechnique Fédérale de Lausanne, Transversal Skills and Career Center, Eidgenössische Technische Hochschule Zürich - Student Project House
- **Industry**: Enterprise for Society
- **Students associations**: Castor Freegan, Chocopoly, UpFashionLab, Ingénieur engagés, Artepoly

Interested in partnering with us for the next edition? Contact sic@epfl.ch for sponsorship opportunities.

Contact & Emergency Information

SIC Organizing Team Contact

For general inquiries, stand information, or program details, contact:
📩 Send an email to sic@epfl.ch.
📱 Join our WhatsApp community.
🌐 Visit our website.

Emergency Contacts

- **Some emergency SIC contact**: You can call Victor (+33 63 328 90 54) or Ilaria (+41 76 267 79 31)
- **EPFL Security & First Aid**: 📞 +41 21 693 30 00
- **Local Emergency Numbers**:
    - Police: 📞 117
    - Fire Department: 📞 118
    - Ambulance: 📞 144

Lost & Found, First Aid & Support

- **Lost & Found Desk**: Located at the event's info point, or directly ask the event staff or security.
- **First Aid**: You can refer to the EPFL Security & First Aid number, or directly ask the event staff or security.

We Look Forward to Seeing You at SIC 2025!

Details of Seminars & Workshops

List of titles and abstract for each activity (alphabetical order):

Seminars

Christophe Ballif (École Polytechnique Fédérale de Lausanne)
Title: Energy transition made easy: a quick travel between myths and reality, between Switzerland and China, with a closer look to photovoltaics.
Abstract: In the first part of the presentation, we'll illustrate the enormous challenge for a transition to a carbon neutral world. Through simple, but often ignored, calculations, we'll show that the core of the transition worldwide must realistically be based mostly on solar and wind electricity. We'll discuss how, because or thanks to the hundreds of billions of dollars invested in manufacturing assets in Asia, it is now possible to deploy over thousand gigawatt of new renewable energy production assets every year as well as the batteries required to manage the grids. We'll discuss the impact of energy transition on minerals and mining, and the cost in terms of CO2 emission. We'll also show that, if the right route is not chosen, the fossil fuel industry we'll ensure we continue to warm up the world. We'll show how technological innovation, competition and volume, make for a permanent increase in the component efficiency, a decrease in the manufacturing costs as well as a decrease in the carbon footprint of all clean energy assets. In particular, we'll discuss the various improvements in the chain of photovoltaics, as well as the constant change and evolutions of silicon solar cells (from Al-BSF to PERC, Heterojunction, Topcon, tandem and much more). After discussing shortly the situation of Switzerland with close to 11% solar electricity production for 2024, we'll illustrate with multiple examples the amazing possibilities offered by specialty PV products: from white solar modules for the building to local Swiss manufacturing, from stratospheric balloons carrying ultra-light weight silicon modules to connected high performance Swiss solar watches, from floating solar to agrivoltaics, there seem to be no boundaries for solarizing our world!

Claudia Binder, Ankita Singhvi (École Polytechnique Fédérale de Lausanne)
Title: Where should we innovate? Insights from MFA analyses.
Abstract: The transition towards more sustainable material systems requires innovation at product, urban and national levels. However, it is not always clear where we should innovate, which technologies we should foster and what the side effects of the innovations could be. Whereas life cycle assessment supports in comparing different products from cradle to grave, it lacks in providing a holistic view on the overall material system. Material Flow Analysis (MFA) is a systemic tool based on the law of mass balance which quantifies the stocks and flows of a system providing the basis for scenario modeling. The results of an MFA can aid in

prioritizing innovations and interventions. We provide a short insight into the methodology and focus on two examples, phosphorus and circularity of rare earths with respect to renewable energy technologies (e.g., PV, wind), to show the utility of MFA for supporting a more sustainable material management.

Giacomo D'Alisa (Universidad Autónoma de Barcelona)
Title: The case for degrowth and the Universal Care Income
Abstract: The talk consists of two parts. First, I will defend degrowth - living well with less through a different way of living and prioritizing well-being, equity and sustainability. Based on emerging initiatives and traditions worldwide, we propose a radical vision of degrowth and outline policies to transform work and care, income and investment, avoiding exploitative and unsustainable practices. Degrowth can be achieved through transformative strategies that allow societies to become more sustainable by design, not by disaster. Secondly, I will present one of the proposals within the range of degrowth policies: universal care income. I will explain how it aligns with the universal basic income proposal and what aspects it differs from it.

Kai Gehring (University of Bern, Wyss Academy for Nature)
Title: Insuring peace: index-based livestock insurance, droughts, and conflict
Abstract: We provide quasi-experimental evidence of how an innovative market-based solution using remote-sensing technology can mitigate drought-induced conflict. Droughts are a major driver of conflict in Africa, particularly between nomadic pastoralists and sedentary farmers. The IndexBased Livestock Insurance (IBLI) piloted in Kenya provides automated, preemptive payouts to pastoralists affected by droughts. Combining plausible exogenous variation in rainfall and the staggered rollout of IBLI in Kenya over the 2001-2020 period, we find that IBLI strongly reduces drought-induced conflict. Key mechanisms are an income smoothing effect and reduced migratory pressure for pastoralists, reducing the likelihood of miscoordination with other land users. Our study suggests that market-based solutions are a scalable, cost-effective pathway to mitigate conflict, complementing political solutions such as institutional reforms.

Satu Huuhka (Tampere University)
Title: What is a sustainable building?
Abstract: Construction and buildings are a major contributor to climate change, biodiversity loss, resource depletion and waste generation worldwide. All buildings cause emissions, so is there such a thing as a sustainable building? In my presentation, I will discuss where the environmental impacts of buildings and cities stem from, how they accumulate temporally, and how to apply consequential thinking when trying to determine the lower-impact choice from multiple competing alternatives. Using case studies, I will elaborate how the circular economy, such as building and materials reuse, can help to reduce the environmental burden of the construction industry. Furthermore, I will propose what it takes to transition the sector from linear to circular.

Alexander Mathys (Eidgenössische Technische Hochschule Zürich)
Title: Emerging food production for more sustainable food systems
Abstract: Innovations in food systems can support all 17 Sustainable Development Goals. The wide scope of the SDGs calls for holistic approaches that integrate 'siloed' food sustainability assessments in order to develop solutions able to change complex food systems. Here we present a multi-indicator sustainability assessment to quantify the performance of food systems, products, and services. Specifically, the integration of nutritional quality is crucial for a fair assessment. This data shows the need for nutritional equivalent, more sustainable alternatives to animal-based food and feed. Several aspects regarding affordability of such products need to be considered and include scalability, need for economy of scale, reduction of capital (CAPEX) and operational expenditures (OPEX). Centered on this framework, selected solutions by using polyextremophilic microalgae for nutritious food and black soldier fly larvae (BSFL) for more sustainable feed systems are suggested. The nutrient rich microalgae biomass of Galdieria sulphuraria grows in low pH (0–3) and at high temperatures up to 56°C without cooling. The selective habitat of G. sulphuraria inhibits the growth of other microbial species, saving decontamination costs, simplifying the process, enabling circular residue stream utilization and continuous cultivation. On top of that, our developed emerging nanosecond pulsed electric field based single cell stimulation enabled up to 40% more biomass production in comparison to the control. All these aspects significantly minimize CAPEX and OPEX. Integration of up to 50% bright yellow microalgae protein concentrate with significantly more micronutrients such as vitamin E, B1, B2, B3, and B6 in comparison to soy demonstrated the potential of heterotrophic microalgae-based meat substitutes. For feed applications, resilient BSFL can effectively convert residue and waste streams into high quality feed in urban and rural areas. This supports potentially more sustainable feeds for needed livestock in developing areas. Selected implementation initiatives of these science-driven innovations with relevant industry partners and start-ups demonstrate the impact and relevance for the food sector.

Sascha Nick (Business School Lausanne, École Polytechnique Fédérale de Lausanne)
Title: When is innovation beneficial to society? A systems perspective
Abstract: While the physical limits of innovation and technology often lie orders of magnitude beyond current capabilities, their immediate consequences are frequently overlooked. Who will use these innovations, and for what purpose? Who will be excluded? How will they impact society, ecosystem resilience, and broader society? Who will deploy them, and how long will that take? What unfolds in the meantime? These seemingly simple questions are deeply connected to the dynamics of complex adaptive systems. Understanding and shaping these system-wide effects is just as critical as developing the innovations themselves. Often, the most transformative breakthroughs lie not in technology but in social and governance innovations. In this talk, we will explore what

meaningful, positive innovation looks like across mobility, housing, aviation, renewable energy, and climate action.

Grégory Nocton (Ecole Polytechnique, Centre National de la Recherche Scientifique)
Title: Carbon removal by Direct Air Capture
Abstract: Direct Air Capture (DAC), which consists of directly and selectively capturing the CO2 in the atmosphere in relatively low concentrations (424 ppm), is a tremendous scientific challenge. The hurdles that impede the widespread adoption of amine-based technologies and the regeneration of adsorbent materials capable of carrying out this DAC at moderate energy cost are other complex challenges against the prohibitive energy cost of thermal regeneration techniques. Within the field, there is interest in capturing CO2 at temperatures closer to those of many industrial exhaust streams. However, metal oxide sorbents operating at these temperatures generally exhibit slow CO2 uptake kinetics and cycle instability. A final question remains about the fate of CO2, which has been captured. It is either buried to achieve a negative net cycle or transformed and valorized in a net zero cycle. During the conference, we will introduce you to the players and technologies in the field, and discuss their limitations. We will also present our approaches to developing original studies with various metals, cold plasmas, and photochemical methods to capture, regenerate, and transform captured CO2 efficiently.

Monika Roeling (TU Delft)
Title: A roadmap to sustainability and climate education at TU Delft?
Abstract: In 2019, TU Delft decided to become carbon neutral, circular, climate adaptive, and a living lab by 2030 while contributing to the quality of life. Creating a roadmap to sustainability and climate change within education at TU Delft is essential. We are currently working on a better implementation of both topics in all education programmes. The project initially started with an inventory of over 1800 BSc, Msc and minor courses on keywords and SDGs. The results were then gathered in an online (Green) Database that helps both students and teaching staff to have an overview of sustainability and climate change education at TU Delft and to choose wisely. With this newly acquired information it was possible to start the discussions with the executive board and other stakeholders on improving the educational programs. Next to these conversations, we worked on a university wide framework based on frameworks from literature. A first pilot was started with the BSc renewal of Building and Architecture started in 2022. During this revision, all Building and Architecture courses were linked to at least one SDG. The renewed BSc is currently running for its first year and will soon be evaluated with the help of students and staff. Furthermore, in January 2025 a community of practice was started in cooperation with The Teaching Lab. From now on, lecturers, students and support staff interested in sustainability and climate change education will work together more and more, showing the importance of collaboration and interdisciplinary science.

Julia Steinberger (Université de Lausanne)
Title: Living well within limits: is it possible? And what will it take?
Abstract: The Living Well Within Limits project investigates the energy requirements of well-being, from quantitative, participatory and provisioning systems perspectives. In this presentation, I will communicate individual and cross-cutting findings from the project, and their implications. In particular, I will share our results on the international distribution of energy footprints by country, consumption category, and income classes, as well as modelling the minimum energy demand that would provide decent living standards for everyone on earth by 2050. I will show that achieving low-carbon well-being, both from the beneficiary ("consumer") and supply-chain (producer) sides, involves strong distributional and political elements. Political economy research is thus necessary to diagnose reasons for poor outcomes, and identify the most promising avenues for positive change. I thus argue for the active (as in activist) engagement of the research community.

Cédric Tard (Ecole Polytechnique, Centre National de la Recherche Scientifique)
Title: CO2 extraction from seawater: from Lab Bench to Ocean Depths
Abstract: This presentation explores innovative technologies for extracting carbon dioxide from aqueous media, focusing on electrochemical methods and techniques that redistribute and dilute acidity from the surface ocean to deeper layers. These approaches aim to reduce surface acidification and accelerate carbonate homeostasis, addressing the critical issue of ocean acidification and its impact on marine wildlife. Key technologies discussed include advanced electrochemical processes and novel methods for acidity redistribution, each with its unique advantages and challenges. Specific case studies will be presented to illustrate the real-world applications and effectiveness of these technologies. The main challenges, such as sustainability, energy consumption, or salinity, will be addressed, along with potential solutions to overcome these obstacles. The potential impacts of these technologies are significant, including a reduction in ocean acidification and an increase in the ocean's capacity to act as a carbon sink, thereby mitigating atmospheric carbon dioxide concentrations. By highlighting these cutting-edge methods and their practical implementations, this talk aims to inspire further research and adoption of these technologies to protect our oceans and combat climate change.

Massimo Tavoni (Politecnico di Milano, EIEE)
Title: Keeping the Paris agreement alive: scenarios of climate stabilization
Abstract: Despite increasing risks from climate change, progress on climate policy remains insufficient. Growing geopolitical tensions risk exacerbating delays in mitigation to a point of no return. In this talk, we discuss future scenarios of emissions and their compatibility with climate stabilization at safe levels. We discuss the role of technology, society and economics to keep the Paris

agreement climate goals alive, and compare the efforts of mitigation with their benefits to society.

Workshops

Enterprise for Society Center
Title: How to build a career that matters
Abstract: Want to make a real impact but not sure where to start? Whether you dream of driving sustainability in a global corporation or launching solutions in a green tech startup, there's no single path to a career with purpose. Join us for a dynamic conversation with Angélique Chatton (BCV) and David Campbell (Frigg) as they share how they built careers that drive change—one in a major financial institution, the other in a climate-focused startup.

Deloitte
Title: Making an impact that matters
Abstract: The biggest impact comes from the boldest early-stage innovations—but they need the right support to scale. Deloitte combines business and tech to help startups turn raw ideas into real-world solutions. That's why it co-founded UpLink—a platform fueling high-impact startups tackling global challenges. This session explores why early innovation wins and how business can help scale ideas that truly change the world. Don't watch the change happen—drive it. Join our session.

Transversal Skills and Career Center (École Polytechnique Fédérale de Lausanne)
add

Zero Emission Group (École Polytechnique Fédérale de Lausanne)
Title: Sobriety, Resilience, and Limits: Keys to a Sustainable Future
Abstract: Do you want to contribute to a more sustainable future but don't know where to start? This one-hour workshop is the perfect opportunity to learn about sobriety and resilience and how they can transform our lives. We will identify obstacles to change and explore ways to overcome them. Come join us to exchange ideas, learn, and take action for a better world!

Titre: Sobriété, Résilience et Limites : Les Clés d'un Avenir Durable
Abstract: Vous souhaitez contribuer à un avenir plus durable mais ne savez pas par où commencer ? Cet atelier d'une heure est l'occasion idéale pour découvrir les concepts de sobriété, de résilience, et de comprendre comment ils peuvent transformer notre manière de vivre. Ensemble, nous identifierons les obstacles au changement et explorerons des solutions concrètes pour les surmonter. Venez échanger, apprendre et agir pour un monde meilleur !

Details of Exhibition Stands & Industry Meet-ups

List of stands (alphabetical order):

13. Aeternum-Tech
14. Æther Swiss Kite
15. Agissons
16. Arbio
17. ARC
18. Arcalignum
19. Axpo Urbasolar
20. Carbon Removal Booster
21. Enterprise for Society
22. EcoCloud
23. EcoLens
24. EPFL Carbon Team
25. Genorobotics
26. Gramitherm
27. GUST Project
28. Integrative Food and Nutrition Center EPFL
29. Kuori
30. Laidlaw foundation
31. LFIM
32. NeoMineX
33. Oikocredit
34. Oikos
35. Perovskia
36. RebuiLT
37. Resilio
38. TUM Green Tech - SAILGEN
39. Sailowtech
40. Sérigraphie - UpFashionLab, Ingénieur engagés, Artepoly EPFL
41. Solar Team Eindhoven
42. Sustainable Agroecosystems Group ETHZ
43. Sustainable Robotics Lab EMPA-EPFL
44. Swiss Solar Boat
45. Teach4Sustainability
46. Team Daedalus
47. Tech4Dev + IDM hackathon
48. Texup
49. The SARA Project
50. Transversal Skills and Career Center
51. Trovador

52. TUM Green Tech - Desalination
53. TUM Carbon Removal Initiative
54. Volt Control
55. Wasteflow
56. Zero Emission Group