



Final Conference

Advancing towards a carbon-neutral and sustainable chemical production

23rd of October 2024 · 9:30 AM -16:15 PM CEST

Hybrid: Online & Tarragona



Registration link https://cutt.ly/SunCoChem_Conference

**Final Conference**

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About the event

Reducing greenhouse gas emissions is one of Europe's primary challenges in combating global warming and climate change. Over the years, the European chemical industry has been committed to this goal, aiming to achieve carbon neutrality by 2030.

SunCoChem is a European sustainable chemistry project promoting a carbon-neutral energy and high-value chemical production for the European chemical industry through the development of an innovative photoelectrocatalytic reactor for solar-driven CO₂ conversion into green chemicals.

In this event, project researchers will present the most representative innovative solutions, results and outcomes of SunCoChem, going beyond the state of the art and its added value for companies in the chemical sector. Additionally, partners will showcase the photoelectrocatalytic reactor device developed, validated and demonstrated within the project.



Undergraduate, graduate or master students willing to learn about sustainable chemistry, CO₂ conversion and reduction, photo(electro)catalytic synthesis, green hydrogen, oxo-chemicals production, carbon neutral chemical manufacture, sunlight energy, etc.

Researchers in chemical technologies and green hydrogen from Universities, Institutes or Research Centres.

Professionals from companies in the field sustainable chemistry and chemical industry in general (technicians, R&D managers), etc.

General public with interest in SunCoChem topics.

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Agenda

Wednesday, 23rd October

Consult the agenda and more information here

9:30
-
16:15
CEST

HYBRID
EVENT

Eurecat's
facilities in
Tarragona

In streaming
via online

<https://suncochem.eu/suncochem-final-conference/>

Time	Topic	Speaker
9:30 h - 10:30 h	OPENING PLENARY: Welcome, keynote and SunCoChem overview	
9:30 h	Welcome and introduction to the conference	María Navarro , SunCoChem coordinator and European Program Manager, Eurecat
9:40 h	SunCoChem results overview	Adrianna Nogalska , SunCoChem Scientific coordinator and Head of Hydrogen Technologies, Eurecat
9:55 h	Keynote Session "Artificial Photosynthesis as Inspiration for sustainable chemical production"	Julio Lloret-Fillol , Group Leader, ICIQ, Researcher, ICREA
10:15 h	Questions & Answers	All speakers
10:30 h - 11:00 h	Coffee Break	
11:00 h - 12:30 h	SESSION 1: Developing SunCoChem reactor for solar-driven CO₂ conversion into green chemicals	
	Chair: Hilmar Guzmán , Assistant Professor, Politecnico di Torino	
11:0 h	Selective polysulfone membrane for CO ₂ Capturing	Adrianna Nogalska , SunCoChem Scientific coordinator and Head of Hydrogen Technologies, Eurecat
11:15 h	Development and optimization of electrodes and operating conditions for the conversion of CO ₂ to syngas	Simelys Hernández , SunCoChem technical coordinator and Associate Professor, Politecnico di Torino
11:30 h	Photo-Electrochemical device scale-up and commercialization expectatives	Freddy Liendo , R&D Manager, Hysytech
11:45 h	Catalysts assessment through functional/structural investigations with operando techniques	Angelica Chiodoni , Senior Researcher, PI of Advanced characterizations and optimized functional materials for energetic transition, Istituto Italiano di Tecnologia (IIT)
12:00 h	Nanocomposite membranes for (photo)electrochemical applications	Sara Cavaliere , Professor at University of Montpellier, Institut Charles Gerhardt Montpellier, CNRS


Time	Topic	Speaker
12:15 h	CO ₂ capture with ionic liquids – reality or a dream?	Boyan Iliev , <i>Head of custom synthesis</i> , Iolitec Ionic Liquids Technologies
12:25 h	Questions & Answers	All speakers
12:30 h - 13:15 h	SESSION 2: Exploring the societal, economic and environmental impacts of SunCoChem Chair: Boyan Iliev, Head of custom synthesis, Iolitec Ionic Liquids Technologies	
12:30 h	Environmental sustainability of SunCoChem processes: Life Cycle Assessment methodologies	Enrique Lacasa , <i>Researcher at the Waste, Energy and Environmental Impact Unit</i> , Eurecat
12:40 h	CPG industry experts' views of SunCoChem technology and European consumers' intentions to buy CPGs containing recycled CO ₂	Antonia Delistavrou , <i>Associate Professor in Marketing</i> , International Hellenic University
12:50 h	Techno-economic feasibility of SunCoChem	Freddy Liendo , <i>R&D Manager</i> , Hysytech
13:00 h	Opportunities and challenges for the SunCoChem technologies in the chemical market	Eric Schuler , <i>Electrochemical Process Engineer in Volta Technologies</i> , Avantium Chemicals
13:10 h	Questions & Answers	All speakers
13:15 h - 14:30 h	NETWORKING LUNCH	
14:30 h - 15:00 h	SESSION 3: The potential of green hydrogen technologies Chair: Miriam Díaz de los Bernardos, Director of the Chemical Technology Unit of Eurecat and Director of the H2CAT Network	
14:30 h	The role of Innovation for the Development of new Hydrogen Technologies in Catalonia	Miquel Anglada i Autet , <i>promoter of the H2CAT</i> , Eurecat
14:40 h	Public understanding and acceptance of decarbonization technologies. Green hydrogen as a case of study	Jordi Prades-Tena , <i>researcher at the ASTERISC Communication Research Group</i> , Universitat Rovira i Virgili
14:50 h	Questions & Answers	All speakers
15:00 h - 16:15 h	ROUND TABLE: Green technologies and solutions for decarbonising the industry Chair: Miriam Díaz de los Bernardos, Director of the Chemical Technology Unit of Eurecat and Director of the H2CAT Network	
	Participants: <ul style="list-style-type: none"> • Julio Lloret-Fillol, <i>Group Leader, ICIQ and Researcher, ICREA</i> • Carlos Molina, <i>coordinator of Economy, International Trade and Innovation, FEIQUE</i> • Simelys Hernández, <i>SunCoChem technical coordinator and Associate Professor, Politecnico di Torino</i> • Rola El Bijou Saleh, <i>R&D Engineer, ACCIONA Industrial</i> • Núria López, <i>Group Leader, ICIQ</i> 	
16:15 h	CLOSING CONFERENCE: Final remarks, conclusion and end of the event	

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Speakers & biography

María Navarro


SunCoChem project's coordinator and European Program Manager Eurecat



She holds a PhD in Chemical Engineering by the University of Barcelona on the degradation of antibiotics by photocatalysis and ozonation. During her stages in research organizations, María gained experience in the preparation of proposals and the coordination of technical projects. María has also long-time record in the private sector, where she has worked as project coordinator, supporting the strategical position of the companies. She has more than 10 years' experience in project management and has participated in several national and European projects. Currently she is European Program Coordinator at Eurecat, the main research and technology centre in Catalonia and the second largest private non-profit research organization in southern Europe. She supports Eurecat's research and innovation roadmaps in different fields of knowledge such as Digital, Sustainability or Industrial areas.

Adrianna Nogalska

SunCoChem scientific coordinator and Head of Hydrogen Technologies Eurecat



Dr. Adrianna Nogalska, Head of the Hydrogen Technology Line at the Eurecat Chemical Technology Unit. She obtained a bachelor's degree in cosmetic chemistry and a master's degree in chemical materials from the Adam Mickiewicz University in Poznan, Poland, and a doctorate (Cum Laude) in Nanoscience, Materials and Chemical Engineering from the URV, Spain. Specialized in electrical engineering, her experience focuses on the field of hydrogen production and its versatile applications in energy generation and synthesis, including CO₂ recycling and membrane technologies. She is the author of 15 articles and 5 book chapters (h index=9), inventor of 3 patents and participated in 15 conferences.

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Speakers & biography

Simelys Hernández



SunCoChem technical coordinator and Associate Professor
Politecnico di Torino

Simelys Hernández is Associate Professor of Chemical Plants at the Politecnico di Torino, Italy. In the CREST Group, she leads research activities on novel photo-electro-catalytic processes for the sustainable production of chemicals and fuels, via water splitting, CO₂ reduction, wastewater treatment, and industrial waste recycling. She is the author of > 100 international publications (h-index 39). She has been the technical coordinator of H2020 EU projects (SuCoChem, RECODE, Celbicon, Artiphyction and Eco2CO2) for developing technologies for green H₂ production and CO₂ capture and utilization from lab-scale (TRL2/3) to Pilot scale (TRL5/6).

Hilmar Guzmán



Assistant Professor
Politecnico di Torino

Hilmar Guzmán held a double M.S. degree in Chemical and Sustainable Processes Engineering from Universidad Central de Venezuela and Politecnico di Torino (Italy). In 2017, she started her PhD studies at Politecnico di Torino (PoliTO) under Prof. Simelys Hernández supervision, reaching the Cum Laude PhD degree in Chemical Engineering. After the PhD, she continued working as a postdoc, and in 2022, she won a position as an Assistant professor - Researcher at PoliTO. Her work is focused on R&D of new technologies exploiting renewable sources (e.g. sunlight) for tackling Climate Change, such as CO₂ capture and valorization for producing energy carriers (like Methane) and commercial products (like ethylene) by co-electrolysis systems.

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Speakers & biography

Freddy Liendo



R&D Manager

Hysytech

Chemical Engineer from the Universidad Central de Venezuela, with a double Degree with the Politecnico di Torino. He obtained his PhD in Chemical Engineering at Politecnico di Torino, where he worked on CCUS technologies within the framework of European (Horizon 2020 and Horizon Europe) and National projects. In 2021, he started his collaboration with the R&D team of Hysytech, where he is an R&D specialist and process engineer. He is involved in several EU-funded projects leading the development of new emerging technologies and processes to tackle climate change.

Angelica Chiodoni



Senior Researcher, PI of Advanced characterizations and optimized functional materials for energetic transition

Istituto Italiano di Tecnologia

Angelica Chiodoni, material scientist and electron microscopist, is currently a Tenure Track Senior Researcher and PI of the “Advanced characterizations and optimized functional materials for energetic transition” research line at the Center for Sustainable Future Technologies, Italian Institute of Technology, in Turin. The focus of her research activity is in particular on advanced in-situ/operando and correlative operando characterizations of functional materials for their optimization for the energy transition applications. A. Chiodoni is the coordinator of the electron microscopy facility and operando techniques at CSFT.

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Sara Cavaliere



Lecturer in chemistry and materials science

Professor at University of Montpellier, Institut Charles Gerhardt Montpellier

Sara Cavaliere's work aims to develop nanomaterials capable of improving energy conversion devices, such as fuel cells, transforming the energy of a chemical reaction into electric current. After a master's degree in chemistry at the University of Milan, a doctorate at the Lavoisier Institute in Versailles and a postdoctoral fellowship at the University of Fribourg, Sara Cavaliere held a position as temporary teaching and research associate at the university. from Lyon. This is where she began her research into the manufacture of nanofibers with magnetic properties, using the electrostatic spinning process. Lecturer at the University of Montpellier since 2009, she continues to explore this method to develop high-performance and durable materials at the heart of fuel cells. Supported in 2013 by an ERC Starting Grant from the European Research Council and enhanced by two patents, Sara Cavaliere's work has today given her international recognition. Author of numerous publications, member of the editorial boards of several scientific journals, the young chemist is also at the origin of the first international congress Electrospinning for energy, organized in 2016.

Boyan Iliev



Head of custom synthesis

Iolitec Ionic Liquids Technologies GmbH

Boyan Iliev, Head of Custom Synthesis, graduate in chemistry, 2001, from Medical University of Sofia, PhD degree in Organic chemistry in 2005, University Zurich and post doc experience from University in Stuttgart, has more than 15 years of experience in synthesis and purification of ionic liquids. He is also heading a division of sales in Europe and is coordinating some of the EU-projects of the company. Main interests is structure-property relations in ionic liquids and their applications in CO₂ capture and transformation.

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Enrique Lacasa



Environmental Impact Assessment Researcher Eurecat

Enrique Lacasa, researcher in Sustainable Impact line at Eurecat. He obtained industrial engineering degree in the University of Cantabria and the PhD in sustainability applied to design and development products in the University of Zaragoza. His experience has been developed as mechanical engineer in product development for 8 years, and currently specialized as sustainability researcher.

Antonia Delistavrou



Associate Professor in Marketing International Hellenic University

She holds a PhD in marketing and has been a marketing professor for 30 years at higher education institutes in Greece. Her main research interests are ethical consumerism and ecological consumer behaviour. She co-authors research papers published in international journals and proceedings of international conferences.

Eric Schuler



Electrochemical Process Engineer in Volta Technologies Avantium Chemicals

Dr. Eric Schuler is a Process Engineer with eight years' experience in CO₂ conversion. He has a BsC. in Biochemistry from the Ruhr-University of Bochum with a focus on analytical chemistry, and a M.Sc. in Chemistry and Physics with a focus on CO₂ Plasmachemistry from the University of Amsterdam. During his PhD at the University of Amsterdam he focused on sustainable methods for polymer production from CO₂ with an emphasis on integrating the process steps. At Avantium he helps develop routes to produce polymers for CO₂ and specializes in process design, optimization, and integration. He has a passion for connecting fundamental science with process design to improve scientific relevance for industry.

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Speakers & biography

Miriam Díaz de los Bernardos

Director of the Chemical Technology Unit of Eurecat and Director of the H₂CAT Network
Eurecat



Miriam holds a degree in Chemistry (2008), a master's degree in synthesis and catalysis (2009) and a PhD in organic synthesis (2012) from Universitat Rovira I Virgili of Tarragona. During 2012 she gained experience in R&D projects at the Max-Planck-Institut für Kohlenforschung (Mülheim, Germany) as pre-doctoral scientist working in asymmetric synthesis. He joined to CTQC (Tarragona) in 2013 as junior scientist in organic synthesis and nanomaterial science working in the design, planning and execution of competitive and private multidisciplinary R&D projects. Her expertise covers organic synthesis and the design of new catalysts which could result ultra-selective to obtain industrially relevant products from waste feedstocks such as CO₂ in thermo-, photo- and electrochemical processes.

Miquel Anglada i Autet

H₂CAT promoter
Eurecat



Promoter of the H₂CAT network. Physics engineer (UPC) with a double MSc in Sustainable Energy Systems (KTH-UPC), he has been involved in research of new technologies for hydrogen production, and more recently he has been dedicating to the technology transfer support for new hydrogen technologies, as the promoter of H₂CAT.

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Jordi Prades-Tena



**Researcher at the ASTERISC
Communication Research Group**
Universitat Rovira i Virgili

Jordi Prades-Tena holds a Ph.D in Communication (URV 2015), a master in Environmental Law (URV, 2011) and a BA in Journalism (UAB, 1995). His research interests are related to both risks and benefits communication practices including meaning-making processes, risk perception, public participation, and conflict management. He focuses on topics such as the water-energy nexus and the environment, food and health. He participated in several European and Spanish projects about communication and climate services (INDECIS), climate justice (CJLL), climate change (METAFPERCOM), urban pollution and transportation (ACEPTA), chemical emergencies, and food (FoodRisC, EYTO). He worked as a journalist in several mainstream media and public bodies for more than twenty years.

Julio Lloret-Fillol



Group Leader
Institute of Chemical Research of Catalonia (ICIQ) and
Researcher Catalan Institution for Research and Advanced
Studies (ICREA)

Dr. Julio Lloret-Fillol graduated in Chemistry from the Universidad de Valencia in 2001 where he also obtained his PhD in 2006, working under the supervision of Prof. Lahuerta and Prof. J. Pérez-Prieto. After his PhD he moved to the University of Heidelberg where he stayed two years as a postdoctoral MEdC fellow and two years as a postdoctoral Marie Curie fellow. Since 2010 he has been working as independent research leader at Universitat de Girona (Ramón y Cajal programme). In 2014 he obtained a position as Young Research Group Leader at the Institut de Química Computacional i Catàlisi (UdG).

In November 2014 he started his independent research career at the Institute of Chemical Research of Catalonia (ICIQ) within the CELLEX-ICIQ starting career programme.

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Carlos Molina



Coordinator of Economy, International Trade and Innovation
Federación Empresarial de la Industria Química Española (FEIQUE)

Carlos Molina has a degree in Chemistry and has been working for more than eight years for the Business Federation of the Spanish Chemical Industry (FEIQUE) in the departments of Product Stewardship, International Trade and, currently, in the Innovation department. In addition, he is technical secretary of the Sustainable Chemistry Platform SusChem Spain and collaborates with different working groups and experts of the European Chemical Industry Council (CEFIC).

Rola El Bijou Saleh



R&D Engineer
ACCIONA Industrial

Chemical Engineer with 5 years of experience in R&D projects focused on renewable energy, hydrogen, and CCUS technologies. Currently working as a Project Manager in the R&D department at ACCIONA Industrial, overseeing projects related to CCUS technologies and hydrogen production. Strong technical expertise in process modeling and simulation.

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Núria López

Group Leader

Institute of Chemical Research of Catalonia (ICIQ)

Núria López graduated in Chemistry (1999) and got her Ph.D. degree in Theoretical Chemistry at the University of Barcelona, Spain (1995). As a postdoctoral researcher, she joined the Center for Atomic-scale Materials Physics led by Prof. Jens K. Nørskov (Denmark). In 2005 she started her independent career at ICIQ. Her research group focuses on the theoretical research in heterogeneous photo-electro-catalysis. Prof. López has co-authored over 200 scientific publications. In 2010 she was awarded an ERC Starting Grant (2010) and then a ERC Proof-of-concept (2015) by the European Research Council. She was awarded a “Prize for Excellence” by the Real Sociedad Española de Química in 2015. She has collaborated with several industries in Europe to leverage atomistic modelling, participated in 9 EU projects, and served in several committees in the European Union, including the most important supercomputing initiatives in Europe (she is currently Chair of PRACE’s Steering Committee).



Advancing towards a carbon-neutral and sustainable chemical production

About SunCoChem

The European SunCoChem project represents a significant leap towards a sustainable and carbon-neutral future in energy and chemical production. The project has developed an innovative photoelectrocatalytic reactor for the production of valuable chemical oxo-products, utilizing CO₂ captured from the chemical industry itself combined with solar energy. The reactor developed has undergone rigorous testing to develop value-added chemicals for diverse applications, including cosmetics and food.

SunCoChem's innovation mitigates costs and CO₂ emissions, reducing the European chemical industry's dependence on carbon-based raw materials while contributing towards a solar-driven carbon-neutral industry aligned with the commitments agreed at the 2015 United National Climate Change Conference (COP21).

Organised



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