

Society and Materials - EcoSD

15th International Conference

Preliminary program

Process and Product Ecodesign
Social & Economic Innovation
Functional & Circular Economy
Sustainable Development



Picture: Place de la Bourse in Bordeaux © Xellery

10-12 May 2021, virtual venue

SAM15 - EcoSD



Day 1 – 10 May 2021

9:00

Welcome address

Session 1: Industry 4.0 and Sustainability Chair: N. Perry, ENSAM Bordeaux

9:20 *INFLUENCE OF DESIGN PROPERTIES OF PRINTED ELECTRONICS ON THEIR ENVIRONMENTAL PROFILE*, T. PRENZEL, Fraunhofer Institute for Building Physics, Germany

9:40 *CARBON AND MATERIAL IMPACTS OF URBAN TRANSPORT POLICY – AN ECONOMETRIC OPEN DATA APPROACH*, J. PETERS, Universidad de Alcalá, Spain

10:00 *SUSTAINABILITY SCREENING IN THE CONTEXT OF ADVANCED MATERIAL DEVELOPMENT FOR PRINTED ELECTRONICS-CS*, T. PRENZEL (for F. Gehring), Fraunhofer Institute for Building Physics, Germany

10:20 *MULTI-AGENT SYSTEMS TO IMPROVE EFFICIENCY IN STEELWORKS*, V. IANNINO, Scuola Superior Sant'Anna, Italy

10:40 *Break*

Session 2: Social Sciences visions of SAM topics Chair: F. Feudo, K&I

11:00 **Keynote Lecture: JP. Birat, IF Steelman, *Transitions as a model of energy, ecology and social changes.***

11:40 *SOCIETAL ACCEPTANCE OF EMERGING ENERGY TECHNOLOGIES IN THE CONTEXT OF THE ENERGY TRANSITION*, D. BAUR, KIT, Germany

12:00 *INDUSTRY 5.0: THE TRIPLE TRANSITION DIGITAL, GREEN, AND SOCIAL*, A. SCHROEDER, TU Dortmund, Germany

12:20 *THE BEGINNING AND THE END OF THE ALUMINIUM VALUE CHAIN*, L. Kolbeinsen, NTNU, Norway

12:40 **Poster elevator pitch (see poster list on the last page)**

13:00 *Lunch break & poster session*

14:00 *SME'S, ENERGY EFFICIENCY, INNOVATION: A REFLECTION ON MATERIALS AND ENERGY TRANSITION*, A. DECLICH, Knowledge & Innovation, Italy

14:20 *SOCIAL LIFE CYCLE ASSESSMENT OF NOVEL FLOTATION TECHNOLOGY*, G. CECERE, Politecnico di Milano, Italy

Session 3: Strategic and geopolitical approaches Chair: JP. Birat, IF Steelman

14:40 **Keynote Lecture: C. Philibert, IFRI, *Decarbonising the world economy : the roles of electricity, hydrogen and electrofuels***

15:20 *A GENERAL THEORY FOR STOCK DYNAMICS OF POPULATIONS AND BUILT AND NATURAL ENVIRONMENTS*, R. BILLY, NTNU, Norway

15:40 *NEW SUSTAINABLE BUSINESS MODELS BASED ON PRODUCT SERVICE SYSTEMS FOR THE ENERGY SECTOR, THE CASE OF ENGIE*, J. AYRAULT, ENGIE, France

16:00 *Break*

16:20 *ENGINEERING NEW MATERIALS FROM BIOMASS. A MULTIDISCIPLINARY OBJECT IN MATERIAL SCIENCE AND BEYOND: COMPOST*, J.J GAUMET, Institut Jean Barriol, France

16:40 *GALLIUM AVAILABILITY FOR REGIONAL ENERGY TRANSITION: THE CHALLENGING FROM DYNAMIC ALUMINUM CYCLE IN CHINA*, H. SONG, University of Southern Denmark, Denmark

17:00 *GLOBAL SCENARIOS OF RESOURCE AND EMISSIONS SAVINGS FROM SYSTEMIC MATERIAL EFFICIENCY IN BUILDINGS AND CARS*, S. PAULIUK, University of Freiburg, Germany

17:20 *FUTURE METAL STOCK AND FLOWS BY SECTOR BASED ON SHARED SOCIOECONOMIC PATHWAYS: THE EXAMPLE OF ALUMINIUM ALLOYS*, J. PEDNEAULT, CIRAI, Canada

17:40 **End of sessions day 1**

Day 2 – 11 May 2021

Session 4: Sustainable mobility and sustainable cities Chair: G. Sonnemann, Université de Bordeaux

9:00 **Keynote Lecture: A. Delebarre, Mines ParisTech, *Teaching Climate Change for responsible individuals and pro-active companies***

9:40 *CHALLENGES AND OPTIONS FOR THE RECYCLING OF PRESENT AND FUTURE BATTERIES*, M. WEIL, KIT, Germany

10:00 *ANALYSIS OF EU-FUNDED RESEARCH ACTIVITIES ON REUSE AND RECYCLING OF RESIDUAL MATERIALS IN THE STEEL SECTOR*, V. COLLA, Scuola Superior Sant'Anna, Italy

10:20 *POTENTIALS AND CHALLENGES OF A CIRCULAR ECONOMY: A SYSTEMATIC REVIEW FOR THE FUTURE OF LITHIUM-ION BATTERIES*, Ö. BOZKURT, Gazi University, Ankara, Turkey

10:40 *ECOLOGICAL EVALUATION OF PROCESS HEAT GENERATION IN STEEL PRO-CESsing WITH SPECIAL CONSIDERATION OF THE ENERGY TRANSITION*, F. KAISER, RWTH, Germany

11:00 *ALUMINIUM-BASED ENERGY STORAGE: TECHNO-ECONOMIC EVALUATION OF ENERGY STORAGE USE CASES*, H. ERSOY, KIT, Germany

11:20 *Break*

11:40 *CURRENT STATE OF INDUSTRIAL SYMBIOSIS AND ENERGY EFFICIENCY IN THE EUROPEAN ENERGY INTENSIVE SECTORS*, T. BRANCA, Scuola Superior Sant'Anna, Italy

12:00 *UNDERSTANDING DESIGN PROCESS AT THE BASE OF THE PYRAMID: EXPLORATORY ANALYSIS OF A WATER ACCESS SOLUTION*, L.M. LOPEZ SANTIAGO, CREIDD, France

12:20 *EARLY STAGE SUSTAINABILITY SCREENING OF NA-ION CATHODE MATERIALS*, M. BAUMANN, KIT, Germany

12:40 Jean-Sébastien THOMAS Award

12:55 *Lunch break & poster session*

13:50 **Keynote Lecture: A. Allanore, MIT, *Sustainable Materials & Electrons: from curriculum development to processes***

Session 5: New Green Deal, Circular Economy & Energy Transition Chair: D. Millet, Eco-SD

14:30 *LCA IN THE SPACE SECTOR: WHAT HAS BEEN DONE SO FAR?*, A. GALLICE, Ariane Group, France

14:50 *PERSONALIZED LIFE CYCLE ASSESSMENT – QUANTIFICATION OF THE CARBON FOOTPRINT OF PASSENGER CARS TAKING INDIVIDUAL ASPECTS INTO ACCOUNT*, A.-K. BRIEM, University of Stuttgart, Germany

15:10 *CHALLENGES AND PITFALLS OF CONDUCTING PROSPECTIVE LCA FOR EMERGING TECHNOLOGIES – THE EXAMPLE OF METAL FREE ORGANIC BATTERY*, M. ERAKCA, KIT, Germany

15:30 *VALORISATION OF ALL THE FRACTIONS OF CDW, A ROUTE TO CIRCULAR ECONOMY: LCA OF LEROY MERLIN PROJECT*, S. GROSLAMBERT, University de Liège, Belgium

15:50 *APPLYING the GeoPoRisk method at Midpoint and Endpoint level AS A COMPLEMENT TO LCA: The case of Li-ion batteries for the EU*, J. SANTILLAN-SALDIVAR, Université de Bordeaux, France

16:10 *EX-ANTE EVALUATION OF NOVEL BIOTECHNOLOGY PROCESSES FOR THE PRODUCTION OF BIO-BASED SUCCINIC ACID*, A. MERCHAN, RWTH, Germany

16:30 *IMPROVING THE CLIMATE FOOTPRINT OF CEMENT: A MODELLING-BASED APPROACH INTEGRATING DEMAND AND SUPPLY*, K. KERAMIDAS & S. MIMA, JRC/Grenoble University, France

16:50 **End of sessions day 2**

Conclusions

17:10 **End of conference**

Posters

CONSTRUCTION OF THE MAPPING OF CSR ISSUES THAT CAN BE MANAGED DURING THE DESIGN PROCESS, A.-L. CAPOMACCIO, Stellantis, France

PUBLIC ACCEPTANCE OF EMERGING ENERGY TECHNOLOGIES IN THE CONTEXT OF THE GERMAN ENERGY TRANSITION, D. BAUR, KIT, Germany

INTEGRATING AND COMMUNICATING ASPECTS OF ENVIRONMENTAL SUSTAINABILITY DURING PERSONALIZED PRODUCT DEVELOPMENT, A.-K. BRIEM, University of Stuttgart, Germany

ENTROPY, EXERGY AND THE NEXUS BETWEEN THERMODYNAMICS AND RESOURCE DEPLETION, J. PETERS, Universidad de Alcalá, Spain



Venue

Virtual



Pictures show various views of Bordeaux, where SAM-14 was to be organized, prior to the cancellation of the event.

Scientific Committee

Chairmen: Jean-Pierre Birat (IF Steelman)
D. Millet (EcoSD)

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Event access

Links to access online event .are available on the [website](#)

Organizing Committee

The conference is organized by:
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M. Chiappini (ArcelorMittal)
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