

12th Society And Materials International Conference

SAM 12

22 & 23 May 2018

Metz, FRANCE



Sponsors:



CHANGING EVERY DAY



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Day 1 – 22 May

8.30 Welcome coffee and registration

9.00 Welcome address – ENIM, France, Jean-Pierre BIRAT, IF Steelman, France

Session 1: Sustainability in practice, eco-design and new business models

9.20 Keynote Lecture: *Energy and materials in the low carbon transition: scarcity or abundance ?*, Patrick CRIQUI, CNRS, France

10.00 *Assessing the Efficiency of the Off-gas Network Management in Integrated Steelworks*, V. COLLA, Scuola Superiore Sant'Anna, Italy

10.20 *SMEs and Eco-Design: How to Deploy Massively*, S. MAYER, Pôle éco-conception, France

10.40 Coffee break & Poster session

11.10 *Integration of Sustainability in Research and Innovation: Perspectives from ArcelorMittal's Experience*, A.-L. HETTINGER, ArcelorMittal R&D, France

11.30 *Life Cycle Assessment of a Carsharing Product-Service System*, O. GUYON, PSA, France

11.50 *Sustainable Business Models & Life Cycle Assessment: Leasing of Steel Sheet Piles*, R. TURCONI, ArcelorMittal R&D, France

12.10 Lunch

Session 2: Social sciences and materials

13.40 Keynote Lecture: *Opportunities and limits of the Circular Economy - A metallurgical perspective*, Markus REUTER, University of Freiberg, Germany

14.20 *How Product Social Impact Assessment (PSIA) differs from Product Social Value Assessment (PSVA) and why they complement each other*, M. CARATY & J.P. CHANTEAU, ArcelorMittal R&D / Université Grenoble Alpes, France

14.40 *A New Innovation Paradigm: Combining Technological and Social Innovation*, A. SCHROEDER, TU Dortmund, Germany

15.00 *Approaching the "Human Factors" in Formation of Industrial Symbiosis*, H. FYHN, NTNU, Norway

15.20 *Social Cycle of Materials and Collective Actors: Some Ideas for Analysis*, A. DECLICH, Knowledge & Innovation, Italy

15.40 Coffee break & Poster session

16.10 *LCA-based Calculation of the Added Value of Products: Case Study of a Concentrated Solar Power Plant*, N. KO, University of Stuttgart, Germany

16.30 *Societal Life Cycle Impact Assessment Framework for Potential Job Creation and Case Study on the French Carbon Fiber Aeronautical Recycling Sector*, A. THEVENOT, Université de Bordeaux, France





Session 3: LCA, MFA and new methodologies

- 16.50 *End of Life of Wind Energy Systems: a Regional Case Study*, N. TAZI, CREIDD, France
- 17.10 *Impact of Heavy Metals on Human Toxicity Using LCA: a Case Study for Walloon Corn*, S. GERBINET, University of Liège, Belgium
- 17.30 *Emergy Analysis of Biogas Production Using a Life Cycle Inventory Approach*, A. MARVUGLIA, LIST, Luxemburg
- 17.50 *End of Life Scenarios for Construction Materials: a Case Study from a Luxembourgish Eco-Village*, A. BOLOWICH, LIST, Luxemburg

18.10 End of sessions day 1

19.15 City guided tour - Meeting in front of train station

20.30 J.S. Thomas Award & Gala dinner – La Voile Blanche – Centre Pompidou

Day 2 – 23 May

Session 3: LCA, MFA and new methodologies

8.30 Welcome coffee and registration

9.00 Keynote Lecture: *EIT Raw Materials and Circular Economy*, Ignacio CALLEJA, EIT-Raw Materials, Germany

9.40 *Phosphorus and nitrogen management in Austria as an example for the benefits of coupled resource analysis*, J. TANZER, TU Wien, Austria

10.00 *Comparative Assessment of Conventional and Alternative Leather Tanning Processes from a Life Cycle Perspective*, Z.U. CHOWDHURY, KUET, Bangladesh

10.20 *(Im-)Material Flow Analysis for System Innovation*, J. GOBERT, ENPC/INSA Strasbourg, France

10.40 Coffee break & Poster session

Session 4: Circular economy, beyond the hype

11.10 Keynote Lecture: *The environment, from the standpoints of philosophy and social sciences*, Jean-Pierre BIRAT, IF Steelman, France

11.50 *A dynamic vs an attributional LCA to stimulate circular economy in the construction sector: new construction materials from industrial waste*, K. VAN ACKER, KU Leuven, Belgium

12.10 *VALDEM Project: From LCA of Demolition Waste to Circular Economy of Buildings*, S. GROSLAMBERT, University of Liège, Belgium

12.30 Lunch

14.00 *Decoupling Evaluation Using Total Material Requirement and Life-Cycle CO₂ Emissions*, E. YAMASUE, Ritsumeikan University, Japan

14.20 *An Estimation of the Amount of Dissipated Alloy Elements in Special Steel from Automobile recycling Processes*, Z. ZHANG, Tohoku University, Japan

14.40 *Closing the Loop on Platinum from Catalytic Converters: Contributions from Material Flow Analysis*, M. SAIDANI, Centrale Supélec, France

Session 5: E-mobility, electrification of energy and energy storage

15.00 Keynote Lecture: *Which innovation for a sustainable future*, Luc CHEFNEUX, Royal Academy of Belgium, Belgium

15.40 *Stationary Battery Systems: Recyclability and the Life Cycle Impact on the Depletion of Mineral Resources*, J. PETERS, KIT, Germany

16.00 *Use Phase Simulation for the Environmental Evaluation of Electrified Vehicle's Traction Batteries*, J. GARCIA, PSA, France

16.20 Coffee break & Poster session

16.50 *Smart, Sustainable & Resilient – How Electric Vehicles Affect the Infrastructures and Resources demand of Cities*, S. ZIEMANN, KIT, Germany

17.10 *Investigating Energy Storage Systems Use Phase*, H. ELZEIN, CIRAIG, Canada

17.30 *Using Dynamic Energy and Material Flow Analysis for Assessing the Potential of Circular Approaches to Reduce Resource Criticality*, A. REGETT, FFE e.V., Germany

17.50 *Batteries for Stationary Grid Application – Potential Resource Demand Until 2050*, M. WEIL, KIT, Germany

18.10 SAM 10 Conclusions - Jean-Pierre BIRAT, IF Steelman

Posters

Development of impact categories for the application of LCA in Space - Space Debris, N. KO, University of Stuttgart, Germany

Environmental impact assessment of freight transport in three Belgian scenarios in the year 2030, S. GROSLAMBERT, University of Liège, Belgium

Development of Multi-Value Circulation Based on Re-Manufacturing, K. NAKAJIMA, NIES, Japan

Industrial Symbiosis performances assessment in integrated Iron and Steel plants using the System Dynamics approach, R. NORBERT, ArcelorMittal, France

One Year of Varied Use of Clothing: Sustainability through Renting?, F. PIONTEK, Ulm University, Germany

Ukraine's Commitments Under Association Agreement: Challenges and Opportunities for Steel Industry, V. SHATOKHA, National Metallurgical Academy of Ukraine, Ukraine

Comparison of Material Flow Analysis Between Canada and France: the Impact of Mining on an Economic System, A. THEVENOT, University of Bordeaux, France

Environmental Evaluation of Waste Management Options of Secondary Batteries in Developing Countries, M. WEIL, KIT, Germany

Life Cycle Thinking as a future guidance for recycling technologies and raw materials, R. GRAF & F. GEHRING, Fraunhofer Institute for Building Physics, Germany

In-use wood-based materials stock in Indonesia: a dynamic material flow analysis, R. ARYAPRATAMA, University of Freiburg, Germany

Education of Students and Citizens for New Materials, A. DELEBARRE, Mines ParisTech, France



Venue

ENIM – Ecole Nationale d'Ingénieurs de Metz

1 Route d'Ars Laquenexy,

57078 Metz, France

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Organizing Committee

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Registration

To register, please fill in the form available [online](#). Deadline: **6 May 2018**.

There is no registration fee!