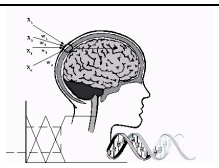
International
Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Title of Session:
Eco-Design through Systematic Innovation

Name, Title and Affiliation of Chair:
Davide Russo, PhD Mec. Eng, assistant professor at University of Bergamo, Department of Management, Information and Production Engineering

Co-Chair:
Caterina Rinaldi, ENEA, caterina.rinaldi@enea.it, ENEA Bologna Laboratorio " LCA & Ecodesign"

Details of Session (including aim and scope):

Special Session Eco Design through Systematic Innovation (http://sdm-16.kesinternational.org/) offers the opportunity to combine Eco designed products with systematic innovation.
Systematic innovation is the process of methodically analyzing and solving problems aiming at identifying the right problems to be solved and, then, generating innovative solution concepts avoiding empirical trial-and-error approaches.
Systematic Innovation for Eco Design involves 2 different aspects: problem assessment and solution generation.
The systematic process used to define the problem space deals with:
- how to identify environmental criticalities,
- how to determine the correct level of detail of a problem,
- how to gather information about the problem,
- how to visualize the entire problem assessment.

The systematic process used to identify opportunities and/or solving problems innovatively deals with:
- How to generate new ideas, inspired by Human-originated Systematic Innovation or Extracted knowledge from knowledge basis (Common problems and solutions across multiple industries and sciences; Universal patterns of technical evolution, Innovations that employ physical effects outside the field where they were developed, …)
- How to generate new ideas by Nature-inspired Systematic Innovation, via a Biomimetic approach

The session is open to every theoretical and applicative contribution to eco-design, involving systematic methods, CAI tools, and theories conceived or experimented to support eco design in industry.
This session welcomes research contributions to this topic that have integrated systematic approach for eco-designed product and process development.

Session Organizers
- Davide russo, DIGP-UNIBG, davide.russo@unibg.it
- Caterina Rinaldi, ENEA, caterina.rinaldi@enea.it

Topics/ Keywords –
- Systematic Eco-design tools and methods
- TRIZ
- Biomimetic
- Design by analogy
- environmental analysis
- life cycle assessment for sustainable product-service systems
- Eco-design strategies
- QFD

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

LCA Italian network, University of Bergamo, Ensam Paris, Etria Triz community, Green innovate- European program partners

Website URL of Call for Papers (if any):

Email & Contact Details:

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