

Systems Lifecycle Engineering and Management

Systems Engineering is a key approach to manage specification, design, development, production engineering, operation, maintenance and disposal of complex products or systems. Methods, models, tools and digital thread are now key enablers to reach an optimal trade-off between stakeholders, designers, manufacturers and other experts interested by the concerned product or system and supporting the decision making based on criteria dealing with quality, leadtime, risk, cost and ecology issues.

Future engineers are invited to systems thinking and to be lifecycle oriented for a better sustainability of the product-service systems they will develop in the context of Industry 5.0.

Mentors

Professor Benoît Eynard is currently the leader of Industrial Engineering team of Roberval research institute at the Université de Technologie de Compiègne – UTC, France. In 2007, he has joined UTC as a Full Professor for leading the Department of Mechanical Systems Engineering until 2012. Previously, he was Assistant Professor at the Université de Technologie de Troyes where he managed the MSc program on Information Technology for Mechanical Engineering. He obtained his PhD in Computer-Integrated Manufacturing in 1999 at the University of Bordeaux.

From 2013 to 2020, he was general chairman of the division focusing on Factories of the Future of French Society of Mechanical Engineering also known as S.mart academic group (formerly AIP-PRIMECA).

He is also member of the IFIP working group 5.1. dealing with “Global Product development for the whole life-cycle” and of the Design Society where he currently led during three years the special interest group on “Design Methods for Cyber-Physical Systems”. Now he also acts as Advisory Board member of Design Society.

He is an internationally recognized researcher in product lifecycle management, collaborative design, systems engineering, mechatronic design, digital factory, manufacturing process management, cyber-physical production systems, eco-design and sustainable manufacturing. He has published over 80 papers of international journals and 200 international conferences. He also has been guest editor for 15 journal special issues and academic books, and now he is Editorial Board member for 5 international journals.

Google Scholar: <https://scholar.google.fr/citations?hl=fr&user=777pHtcAAAAJ>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=8582074700>

Researchgate: <https://www.researchgate.net/profile/Benoit-Eynard>

Dr. Raoudha Gaha Elkamel is a doctor of Mechanical Engineering. She was an associate professor at the National School of Engineers of Sousse between 2015 and 2020.

Actually, she is an Associate Professor at the Université de Technologie de Compiègne and is part of the Integrated Product Process Systems (SIPP) research team within the Roberval laboratory.

In June 2021, she was appointed Sustainable Development Referent for the Roberval laboratory. She leads various doctoral projects and supervisions in the fields of eco-design, the factory of the future and additive manufacturing.

Student profile

Master in industrial engineering, or final undergraduate in industrial or mechanical engineering

Subjects

Systems engineering method for smart product design

Eco-design tool for lifecycle assessment of integrated product-process development

Digital engineering model for product design and production engineering

