

Monday, January 30th

[Microsoft Teams link for whole day](#)



8:00: Welcome breakfast and registration (Place: ATRIUM)

8:45: Opening talk by Eric Savattero, head of faculty and Cachan campus director (**EPF engineering school**) (Room amphithéâtre Hypatie)

Plenary Session: Design theory and science

Chair: Eswaran Subrahmanian
(Room amphithéâtre Hypatie)



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| 9:00 – 9:45 | Creative empowerment in science: a design theory approach of Les Houches School of physics | Chipten VALIBHAY - Armand HATCHUEL (Mines Paris PSL) |
| 9:45 – 10:30 | On biological novelties | Maël MONTEVIL (CNRS - ENS) |

 **10:30 – 11:00 break** 
(Place: ATRIUM)

Plenary Session: design theory and category theory

Chair: Armand Hatchuel
(Room amphithéâtre Hypatie)

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| 11:00 – 11:45 | Artisanal sheaf crafting: Designing with math for NASA's Near Space Network | Alan HYLTON (NASA) |
| 11:45 – 12:30 | Sheaves for Design | Daniel ROSIAK (NIST) |



 **12:30 – 14:00 Lunch** 
Place ATRIUM

Monday, January 30th

Plenary Session: Design theory and generative algorithms

Chair: Pascal Le Masson
(Room amphithéâtre Hypatie)

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| 14:00 – 14:45 | Can Pareto Fronts meet the splitting condition? Comparing two Generative Design Algorithms | Lorenzo NICOLETTI (Matlab) Maxime THOMAS (EPF – Mines Paris PSL) |
| 14:45 – 15:30 | The quantitative working space model - a tool to structure the exploration in the K space | Florian SCHMITT (TU Darmstadt) |


15:30 – 16:00: break

 (Place: ATRIUM)

Plenary Session: New Bauhauses

Chair: Gaetano CASCINI
(Room amphithéâtre Hypatie)

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| 16:00 – 17:30 | µ-bauhaus erlangen-nuremberg – bauhaus meets modern microelectronics | Joerg SCHULZE (FAU) |
| 17:30 – 18:15 | A Bauhaus of transitions: an Institute of Design-oriented Management Science – management of the unknown and engineering of transitions | Pascal LE MASSON Benoit WEIL (Mines Paris PSL) |

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| 18:15 – 18:30 | An overview of the research conducted in EPF engineering school by Frederic Ragueneau, Head of Research (EPF Engineering School) |
| 18:30-20:00 | Cocktail and visit of the research facilities in EPF Place ATRIUM |

Tuesday, January 31st

Parallel session 1

DESIGN THEORY, DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

Chair: Agathe Gilain

9:00 -12:30
(room B205)

- 9:00-9:30. *A design-theoretical analysis of the CRISP-DM model of data mining.* Udo Kannengiesser (**Johannes Kepler University Linz**), John Gero (**University of North Carolina at Charlotte**)
- 9:30-10:00. *Designing AI Applications for the Unknown by Using Simulation to Generate Training Data. Insights of Operations Management.* Philipp Göelzer (**TH-Nürnberg**), Albrecht Fritzsche (**Université Internationale de Rabat**)
- 10:00–10:30. *Applications of Artificial Intelligence in Small-Scale Farming and the Role of Trust. A PSI-Design Approach.* Jeanne Marie Madeleine Attoungbre, Albrecht Fritzsche (**Université Internationale de Rabat**)

☉ | **10:30 – 11:00 Coffee break** | ☉
(space B200)

- 11:00-11:30. *Digitalization of multisensory collective activity: The case of virtual wine tasting.* Leona Chandra Kruse (**University of Liechtenstein**)
- 11:30-12:00. *Approaching Design Instructions with A Three-Act Theory Model.* Yakhoub Ndiaye, Lucienne Blessing (**Singapore University of Technology and Design**)

☉ | **12:30 – 14:00 Lunch** | ☉
Place ATRIUM

Parallel session 2

DESIGN THEORY AND SYSTEMS

Chair: Chipten Valibhay

09:00 – 12:30
(room B202)

- 9:00-9:30. *A theory of additive designing.* Vladimir Sedenkov
- 9:30-10:00. *Design Theory and Practice in 2050: What can we learn from the Systems Engineering 2050 project?* Yoram Reich (**Tel Aviv University**)
- 10:00-10:30. *Augmenting Human Authority through Systems Autonomy- Novel Design Heuristics for Complex Intelligent Systems?* Gunnar Holmberg, Nicolette Lakemond (**Linköping University**)

☉| **10:30 – 11:00 Coffee break** |☉|
(space B200)

- 11:00-11:30. *Making sense of the partly unknown in the context of smart city solutions.* Elinor Särner, Gunnar Holmberg, Nicolette Lakemond (**Linköping University**)
- 11:30-12:00. *A Review of Design Methods for the Transition of Large-Scale Systems.* Andreas Makoto Hein (**University of Luxembourg**)

☉| **12:30 – 14:00 Lunch** |☉|
Place ATRIUM

Parallel session 3

DESIGN THEORY AND INNOVATION MANAGEMENT

Chair : Gaetano Cascini

09:00-12:30
(room B203)

- 9:00-9:30. *About non-knowledge in knowledge management for planning: Towards an applied ontological approach.* Maria Rosaria Stufano Melone, Domenico Camarda (**Politecnico di Bari**)
- 9:30-10:00. *Do Design Theories Account for Synchrony in Design Teams?* Marija Majda Perisic (**University of Zagreb**) Mario Stroga, John Gero (**University of North Carolina at Charlotte**)
- 10:00-10:30. *Situated Information Design.* Yvonne Eriksson (**Mälardalen University**)

🕒 **10:30 – 11:00 Coffee break** 🕒
(space B200)

- 11 :00-11:30. *Understanding Design Options of Platform Providers in Supporting Business Ecosystems.* Faouz Ben Adada; Albrecht Fritzsche (**Université Internationale de Rabat**)
- 11:30-12:00. *Why AI fails frequently and severely in problem-solving - a management design perspective.* Nishant Rohit (**University of Laval**), M.N. Ravishankar (**Queen's Management School**) Dirk Schneckenberg (**Rennes School of Business**)
- 12:00-12:30. *CK-theory and the belly of the beast! The influence of autonomous processes on the application of CK-design processes.* Frido Smulders. (**TU Delft**)

🕒 **12:30 – 14:00 Lunch** 🕒
Place ATRIUM

Parallel session 4

DESIGN THEORY AND DESIGN METHODS

Chair: Sophie Hooge

09:00 – 12:30
(room B204)

- 9:00-9:30. *Beyond depth and breadth: managing length of (collective) design activities.* Sophie Hooge (**Mines Paris – PSL Université**), Dominique Laousse (**SNCF**)
- 9:30-10:00. *Game design from a design theory perspective.* Enrique Perez (**Institut für Ludologie**)
- 10:00-10:30. *Methods as engineering knowledge.* Claudia Eckert (**The Open University**)

🕒 **10:30 – 11:00 Coffee break** 🕒
(space B200)

- 11:00-11:30. *Value Design Compass™, a Business Value Analysis and Design Framework.* Cédric Berger (**Université de la Valeur**)
- 11:30-12:00. *Design Stages Incorporating Suh's Axiomatic Design.* Christopher Brown (**Worcester Polytechnic Institute**)

🕒 **12:30 – 14:00 Lunch** 🕒
Place ATRIUM

Parallel session 5

DESIGN THEORY AND PHILOSOPHY

Chair: Ehud Kroll

09:00 – 12:30
(room B206)

- 9:00-9:30. *An analysis of designing based on the Peircean categories.* Lauri Koskela (**University of Huddersfield**) Ehud Kroll (**ORT Braude College**)
- 9:30-10:00. *Designerly activity theory, Framing and Design theory.* Mithra Zahedi, Virginie Tessier (**Université de Montréal**)
- 10:00-10:30. *Towards a cognitive model of design framing.* **Kelly Nick** (Queensland University of Technology), John Gero (**UNCC**)

🕒 **10:30 – 11:00 Coffee break** 🕒
(space B200)

- 11:00-11:30. *The role of design in the transduction of power.* Anne-Françoise Schmid (**Chaire TMCI**), Muriel Mambrini-Doudet, Anne-Lise Dauphine-Morer (**INRAE**), Eswaran Subrahmanian, Ira Monarch (**CMU**)

🕒 **12:30 – 14:00 Lunch** 🕒
Place ATRIUM

Parallel session 6

DESIGN THEORY AND COGNITION

Chair: Benoit Weil

09:00 – 12:30
(room B207)

- 9:00-9:30. *C-K MATERNELLE: What things say.* Laurence Alberti-Ortheau (**Education Nationale**), Dominique Lafon (**CAYAK INNOV**)
- 9:30-10:00. *The Impact of Viewing Images of Precedents on the Cognitive Process of Architectural Idea Generation.* Djari Chahinez (**University of Batna**), Arrouf Abdelmalek (**LEMPAU**)
- 10:00-10:30. *Evaluating the impact of broadbent's creative techniques on the creative capacities of the designing subject.* Imène Brahim, Arrouf Abdelmalek (**LEMPAU**)

☉ | **10:30 – 11:00 Coffee break** | ☉
(space B200)

- 11:00-11:30. *On Creativity and Limits of Perception: Pushing the Boundaries of Implementing C-K Designs.* Patrick Corsi (**IKBM**)
- 11:30-12:00. *Design Theory and Neurocognition: Exploring how systems thinking changes how design problems are framed.* Tripp Shealy (**Virginia Tech**), John Gero (**UNCC**), Paulo Ignacio (**Virginia Tech**)
- 12:00-12:30. *Situated concepts within design spaces: Their evolution over time.* Julie Milovanovich, John Gero (**UNCC**)

☉ | **12:30 – 13:30 Lunch** | ☉
Place ATRIUM

Tuesday, January 31st

[Microsoft Teams link for the afternoon](#)

Plenary Session: Design science for research

Chair: Benoit Weil
(Room amphithéâtre Hypatie)

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|---------------|---|---|
| 13:30-14:15 | Design Science Research in Information Systems and Management Research – On Fitness, Projectability, Completeness, Justification, Validation and Organization of Design | Robert WINTER (Univ of St. Gallen) |
| 14:15 – 15:00 | Analysing design abduction with C-K theory to uncover generativity properties in Design and Science | Ehud KROLL (Braude College of Engineering) Pascal LE MASSON Benoit WEIL (Mines Paris PSL) |

Plenary Session: design theory for grand challenges

Chair: Eswaran Subrahmanian
(Room amphithéâtre Hypatie)

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|---------------|---|--|
| 15:00 – 15:45 | Design theory and sustainability transition: local contextual exploration with global knowledge integration and sharing | Eswaran SUBRAHMANIAN (CMU) Yoram REICH (Tel Aviv University) Chris McMahon (University of Bristol) |
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Chair: Eswaran Subrahmanian

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| 15:45 | Closing and Future Program |
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