Monday, January 30th

8:00: Welcome breakfast and registration **(Place: in front of Grand Amphi)**

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

Plenary Session: Design theory and science
Chair: Eswaran Subrahmanian
(Room Grand Amphi)

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: in front of Grand Amphi)

Plenary Session: design theory and category theory
Chair: Armand Hatchuel
(Room Grand Amphi)

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 ang generative algorithms
Chair: Pascal Le Masson
(Room Grand Amphi)

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: in front of Grand Amphi)

Plenary Session: New Bauhauses
Chair: Gaetano CASCINI
(Room Grand Amphi)

16:00 – 17:30	µe-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)**

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: Caroline Jobin

9:00 -12:30 (room To Be Defined)

- 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
09:00 – 12:30 (room To Be Defined)	**DESIGN THEORY AND SYSTEMS** *Chair: Chipten Valibhay* • 9:00-9:30. *A Review of Design Methods for the Transition of Large-Scale Systems*. Andreas Makoto Hein **(University of Luxembourg)** • 9:30-10:00. *Augmenting Human Authority through Systems Autonomy- Novel Design Heuristics for Complex Intelligent Systems?* Gunnar Holmberg, Nicolette Lakemond **(Linköping University)** • 10:00-10:30. *Design Theory and Practice in 2050: What can we learn from the Systems Engineering 2050 project?* Yoram Reich (**Tel Aviv 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 theory of additive designing*. Vladimir Sedenkov

🍽**12:30 – 14:00 Lunch** 🍽

Place ATRIUM

	Parallel session 3
09:00-12:30 (room To Be Defined)	**DESIGN THEORY AND INNOVATION MANAGEMENT** *Chair :Gaetano Cascini* 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)**

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🍽 **12:30 – 14:00 Lunch** 🍽

Place ATRIUM

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	Parallel session 4
09:00 – 12:30 (room To Be Defined)	**DESIGN THEORY AND DESIGN METHODS** *Chair: Agathe Gilain* • 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: Maxime Thomas

09:00 – 12:30
(room To Be
Defined)

- 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. *Image Schemas and Ontology in Architectural Rules*. Maria Rosaria Stufano Melone **(Politecnico di Bari)**, Stefano Borgo **(Laboratory for Applied Ontology)**, Oliver Kutz **(Free University of Bozen-Bolzano)**
- 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. *Designerly activity theory, Framing and Design theory*. Mithra Zahedi, Virginie Tessier **(Université de Montréal**)
- 11:30-12:00. *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

- 9:00-9:30. *C-K MATERNELLE: What things say.* 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 Brahimi, 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)**

09:00 – 12:30 (room To Be Defined)

🍽12:30 – 14:00 Lunch 🍽
Place ATRIUM

Tuesday, January 31ˢᵗ

Plenary Session: Design science for research
Chair: Benoit Weil
(Room Grand Amphi)

14:00-14:45	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)**
14:45 – 15:30	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**)

15:30 – 16:00 Break
(Place: in front of Grand Amphi)

Plenary Session: design theory for grand challenges
Chair: Eswaran Subrahmanian
(Room Grand Amphi)

16:00 – 16:45	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)**

Chair: Eswaran Subrahmanian	
16:45	Closing and Future Program