

6th SIG Design Theory Workshop MINES ParisTech

Monday February 4

Chaired by B. Weil

9:00-9:15 **Welcome** D. Goetz (Research Dir of MINES ParisTech) & **Introduction**, P. Le Masson, Y. Reich

9:15-10:15 **5 years of design theory SIG: results and perspectives** A. Hatchuel & Y. Reich,

- 10:15-10:45 **The Game between Institutions and Design**, S. Meijers, Y. Reich (Tel Aviv Univ) and E. Subrahmanian (CMU)

Coffee Break

New Instruments for theory-driven experiments in design

- 11:00-11:30 **A visual notation depicting C-K constructs in moment-to-moment concept generation interactions**, N. Sonalkar, A. Mabogunje, L. Leifer (Stanford Univ)

- 11:30-12:00 **Genetic Computation and design theory**, A. Kazakci (MINES ParisTech)

Tuesday February 5

9:00- 11:15 FOUR WORKSHOPS IN PARALLEL

- **Workshop 1: social interactions in design (see next slide)** (Introduction by J. Gero, report by K. El Qaoumi & S. Hooge)

- **Workshop 2: Knowledge management and cognition (see next slide)** (Introduction by P. Le Masson, report by O. Kokshagina)

- **Workshop 3 : Design Theory and framing (see next slide)** (Introduction by P. Vermaas, report by C. Freitas & K. Levillain)

- **Workshop 4 : Design and identity of objects (see next slide)** (Introduction by A. Gentes, report by F. Jean & I. Brown)

Chaired by E. Kroll

- 11:30-12:00 **Workshops reports**

Chaired by A. Hatchuel

Knowledge production and design

- 14:00-14:30 **Sketching for Thinking: On Paper and in the Air**, B. Tversky (Stanford Univ)

- 14:30-15:00 **design Theory and new Objects of Science: from integrative to interdiscipline laboratory and vice-versa**, M. Mambrini (INRA), A.-F. Schmid (INSA Lyon and MINES ParisTech)

Coffee Break

New systematic for design

- 15:15-15:45: **Biomimetics**, O. Shai (Tel Aviv Univ), Y. Reich

- 15:45-16:15: **Design Theory to support the design of generic technologies**, O. Kokshagina (MINES ParisTech & ST Microelectronics), P. Cogez (ST-Microelectronics), P. Le Masson (MINES ParisTech), B. Weil (MINES ParisTech)

16:15-18:00 **Three parallel exploratory workshops and open debate**

JOINT SESSION Design Theory SIG and Design Creativity SIG

Chaired by P. Le Masson

- 13:30-14:30 **Robustness and Generativity** A. Hatchuel (MINES ParisTech), P. Le Masson (MINES ParisTech), Y. Reich (Tel Aviv Univ), B. Weil (MINES ParisTech)

Discussants : A.M.M Sharif Ullah (Kitami Institute of Technology); E. Subrahmanian (CMU)

- 14:30-15:30 **Concept generation and design creativity** T. Taura (Kobé Univ), Y. Nagai (JAIST)

Discussants: Todd Lubart (Paris Descartes Univ), Annie Gentes (Telecom Paristech)

Coffee Break

- 15:45-16:45 **Cognition and creativity**, M. Agogué (MINES Paristech), M. Cassotti (Sorbonne Univ)

Discussants : Grégoire Borst (Sorbonne Univ), Frido Smulders (Delft Univ)

- 16:45-17:30 **Open discussion on SIG orientations**, Intro. by Y. Reich

Workshops – Tuesday February 5

WORKSHOP 1: Social interactions in design (20mn each presentation)

Chaired by A. Mabogunje, reported by K. El Qaoumi & S. Hooge - Introduction by J. Gero

- **Social interactions in design**, J. Gero (Krasnow Institute for Advanced Study)
- **Specific characteristics of innovative design in agriculture: a distributed design of biotechnical objects**, L. Prost, E. Berthet, M. Cerf, M.-H. Jeuffroy, J. Labatut, J.-M. Meynard, (INRA)
- **Collaboration formats and creativity**: A field study of video game design by professionals, A.-M. Hébert, F. Détienne, C. Licoppe (Telecom ParisTech)
- **The dark side of the Swatch Design**, G. Garel (CNAM)
- **Social Interactions, Cognitive artifacts, Globalization and design theory**, Y. Reich, E. Subrahmanian

WORKSHOP 2: Knowledge management and cognition in design (20mn each presentation)

Chaired by A. Kazakçi, reported by O. Kokshagina - Introduction by P. Le Masson

- **How to improve research process resources qualification by adequate monitoring of research projects**, I. de Fontaines (Eurocopter), D. Lefeuvre (Eurocopter), G. Prudhomme (Grenoble INP), M. Tollenaere (Grenoble INP)
- **Empirical Study of new CAD tools Performance from a Design Theory Perspective**, P.-A. Arrighi (Dassault Systèmes – MINES ParisTech), P. Le Masson (MINES ParisTech), B. Weil (MINES ParisTech)
- **Improving Result Quality in Engineering Design by better linking employee's and task's features**, . Hirsch (RWTH Aachen), J. E. Heller, R. Djaloeis, C. Schlick, J. Feldhusen
- **Experimenting C-K Theory in Design-Oriented Educational Context: Analysis of the Process Methodology, Results, and Lessons Drawn**, P. Blanchard (EDNA), P. Corsi (IKBM)
- **On Applying Design Thinking Methods Elsewhere: Context Matters**, F. Smulders (Delft Univ)

WORKSHOP 3: Design theory and models (20mn each presentation)

Chaired by Y. Reich, reported by C. Freitas & K. Levillain - Introduction by P. Vermaas

- **The missing goals of contemporary design**, P. Vermaas (TU Delft)
- **Explaining TRIZ model of contradictions with Pareto dominance model**, Dubois (INSA Lyon)
- **Coherence as Design Principle**, L. Koutsoumpou (National TU Athens)
- **Criteria and Design Alternatives – Evaluation and Comparison based on common design entities**, A. Dentsoras (Patras Univ)
- **C-K Mapping and Computational Perception**, A. M. M. Sharif Ulah (Kitami Institut of Technology)
- **Modelling pragmatic design moves with C-K theory**, E. Kroll (Technion)

WORKSHOP 4: Design and identity of object (20mn each presentation)

Chaired by A. Hatchuel, reported by F. Jean & I. Brown - Introduction by A. Gentes

- **Unstable meaning and constructive fixation: questioning object identity**. M. Béjean (Paris Est Univ), A. Gentès, C. Jutant, C. Mivielle (Telecom ParisTech)
- **From Foresight to Poetics: Opening Future (s)**, G. Amar (MINES ParisTech)
- **Critical discourse in front of non descript objects** N. Thély (Rennes 2 Univ)
- **In need of a new product-use ontology : the contributions of design theory**, I. Brown, P. Le Masson, B. Weil (MINES ParisTech)
- **The design of « narrative objects ». Reflexions on the combination of the Design theory of objects (C-K theory) and the Design theory of the self as Narrative Identity (ipse-idem dialectic, Ricœur, 1990).**, C. Abrassart (Montreal Univ)