

Stimulating and measuring creativity

A research project on human and AI performance

Evento organizzato dalla costellazione collaborativa di ricerca “Thinking in opposites to improve creativity (toc): a challenging hypothesis for cognitive sciences and AI”

June 3-4 2025

June 3 (9.00-13.00)

Sala Conferenze Dip. di Economia e Diritto, Piazza Strambi 1, Macerata

chairperson: Ivana Bianchi

9.00-9.20: **Welcoming address** (John McCourt, Rector of the University of Macerata; Silvana Colella, delegate for Research and Assessment)

9.20-9.40: **Can humans really create? Creativity and imagination in Aristotle**

Arianna Fermani (Professor of History of Ancient Philosophy, University of Macerata, IT)

9.40-10.20: **Meta-reasoning and creative cognition in individuals and teams**

Linden Ball* & Beth Richardson° (*Professor of Cognitive Psychology, Director of Research and Enterprise, Faculty of Science and Technology, University of Central Lancashire, UK, °Senior Lecturer in Experimental Social Psychology, School of Psychology and Humanities, University of Central Lancashire, UK)

10.20-11.00: **Opposites are like analogies: Creative processes with opposites “in the wild” and in the lab**

Bo Christensen (Professor of Design Research, Imagine... Centre for Creative Industries and Institutions, Copenhagen Business School, DK)

11.00-11.30: **coffee break**

11.30-12.10: **Good and bad opposition and the scope of creative potential**

Carita Paradis* and Sara Farshchi° (*Professor of English Linguistics, Center for Languages and Literature, Lund University, SW; °Postdoc, Lund University Humanities Lab and Logopedics, Phoniatics and Audiology, Lund University, SW)

12.10-12.50: **Pragmatic and epistemic analysis of the interactions involved in solving real-world problems**

Ramona Bongelli*, Carla Canestrari°, Ilaria Riccioni° (Professors in General Psychology; *Department of Political Sciences, Communication and International Relations University of Macerata, IT; °Department of Education, Cultural Heritage and Tourism, University of Macerata, IT)

June 3 (14.30-18.30)

Sala Conferenze Dip. di Economia e Diritto, Piazza Strambi 1, Macerata

chairperson: Tiberio Uricchio

14.30-15.10: **From opposites as perceptual structures to creativity**

Ivana Bianchi*, Roberto Burro°, Elena Capitani**, Erika Branchini°° (Professor**° and Dr.**°° in General Psychology; *Department of Humanities, University of Macerata, IT; °Department of Human Sciences, University of Verona, IT)

15.10-15.50: **Thinking in opposites to improve performance in problem solving and hypothesis testing**

Erika Branchini°, Roberto Burro°, Ivana Bianchi*, Elena Capitani* (Professor*°, Dr.**°° in General Psychology; °Department of Human Sciences, University of Verona, IT; *Department of Humanities, University of Macerata, IT)

15.50-16.30: **Thinking in opposites to improve art appreciation**

Marco Bertamini*, Marco Roccato**, Ivana Bianchi#, Roberto Burro°, Erika Branchini°°, Ian Verstegen§ (Professor**°, Dr.***° in General Psychology; *Department of General Psychology, University of Padua, IT; #Department of Humanities, University of Macerata, IT; °Department of Human Sciences, University of Verona, IT; §Professor of Modern Art History, Director of Visual Studies, University of Pennsylvania, USA)

16.30-17.00: **coffee break**

17.00-17.40: **Giving to gain insight: altruistic motivation and creative problem solving**

Carola Salvi (Professor of Cognitive Neuroscience, John Cabot University, Rome, IT) [Teams]

17.40-18.20: **Opposites in artistic problem solving: case studies from Renaissance and modern art**

Ian Verstegen (Professor of Modern Art History, Director of Visual Studies, University of Pennsylvania, USA) [Teams]

18.20-18.30: **Final remarks – Day 1**

June 4 (9.30-13.00)

Sala Conferenze Dip. di Economia e Diritto, Piazza Strambi 1, Macerata

chairperson: Linden Ball

9.30-10.10: **AI visual perception and intelligence**

Tiberio Uricchio (Professor of Information Processing Systems, Department of Information Engineering, University of Pisa, IT)

10.10-10.50: **Compositional representations in Vision-Language Models**

Massimiliano Mancini (Dr. in Computer Vision and Machine Learning, Department of Information Engineering and Computer Science, University of Trento, IT)

10.50-11.20: **coffee break**

11.20-12.00: **Compositionality in embodied AI agents**

Marco Fiorucci (Dr. in Artificial Intelligence and Machine Learning, Department of Mathematics "Tullio Levi-Civita", University of Padua, IT)

12.00-12.40: **Applications of GenAI to architectural representation: diffusion models in support of creative processes**

Enrico Pupi (Architect, PhD in architectural and landscape heritage, Department of Architecture and Design, Polytechnic of Turin, IT)

12.40-13.00: **Discussion**

