



Workers and creativity: how to improve working conditions by participative methods

June 26-27 Brussels

Towards IEA 2018: Reflections on Creativity

Build a platform and taking the opportunity of being creative!



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Centro GRC – Sicurezza del Paziente – Regione Toscana



The Italian Society of Ergonomics is pleased to host in 2018 in Florence, the 20th international IEA conference. It is the first time in the history of the 50 years of the IEA and the SIE that this event will take place in Italy!

IEA 2018 - A Joint Endeavour of the European Ergonomics Societies



www.iea2018.org

Creativity in Practice



SIE - Società Italiana di Ergonomia e Fattori Umani

Italian Ergonomics and Human Factors Society is sustaining Florence IEA 2018 triennial congress of IEA.

President: Francesca Tosi
Vice President: Federico Terenzi
President Org. Committee IEA2018: Riccardo Tartaglia
Secretary for Foreign Activities: Sara Albolino

- SIE was **founded in 1961**, the same year of IEA
- **455 Members**: 40% polytechnic disciplines, 30% biomedical, 30% in psychosocial disciplines
- **10 local chapters and technical committees** on training and professional aspects in ergonomics, ergonomics in design, healthcare ergonomics and patient safety, occupational ergonomics

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Refers to the typical challenge of the Italian way to innovation engaged to transform the results of research on innovation in concrete actions to improve the quality of life and work. In addition, creativity in practice is a valuable skill to break taken-for-granted schema and dealing with uncertainty both in high and low and medium income countries developing new modalities of work.

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Prevalence of non-routine and cognitive task

Physical, routine and machine-use tasks are in decline, while intellectual (especially literacy) tasks, social tasks and ICT use are experiencing steady growth. In recent years, routine task methods have shrunk in structural terms (because the most routine occupations are in decline), while at the same time traditionally non-routine occupations have become considerably routinised.

Eurofound (2016), *What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016*. Luxembourg: Publications Office of the European Union.

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The New Nature of Work and Creativity

- Heterogeneous
- Fluid
- Multifaceted and flexible
- Uncertain
- Intense
- Systemic

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Individual and Diffused Creativity

Two views on creativity

- Internalistic view:** mental process, internal, of generation of new ideas
- Interactive view:** mental process triggered by external hints, through interaction with objects, tools, people, opportunities

David Kirsh (2014) The importance of chance and interactivity in creativity. *Pragmatics and Cognition*, 22(1), 5-26

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Reflections on Creativity

We are bound to our environment
What happens outside the brain
affects what happens inside

Our thought process is biased by
the representation we use to
create it (eg. writing or drawing)



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Reflections on Creativity

Arrange six sticks all of equal length, to make four
identical equilateral triangles with sides one stick long



Six sticks

Creativity in Practice

Reflections on Creativity

Arrange six sticks all of equal length, to make four
identical equilateral triangles with sides one stick long



Six sticks



Correct solution



Unsuccessful try



Invalid solution

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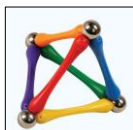
Reflections on Creativity

Arrange six sticks all of equal length, to make four
identical equilateral triangles with sides one stick long

Six sticks



Correct solution



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Reflections on Creativity

- We think and perform differently in **different media**
- Randomness** and **chance** can serve as a stimulus to broaden thinking and overcome cognitive set and **functional fixedness**
- Chance is not the source of variation is the **seed** that facilitates novel invention



Creativity in Practice

Ergonomics and Creativity

Creativity belongs to all the jobs to different extent and offers opportunity to workers.

By dealing with work and wellbeing Ergonomics cannot neglect creativity or opportunities and problems that creativity generates.

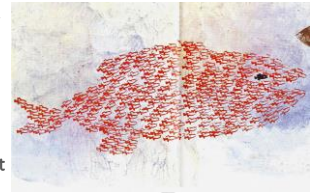


Creativity in Practice

Ergonomics and Creativity

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Ergonomics and Creativity

Ergonomics is not anymore only a set of rules to follow, standards and recommendations but as an open book with guide-lines proposals and suggestions to favour, develop and orient also ethically the practice of creativity by introducing the sustainable amount of randomness and chance in work activities



Creativity in Practice

Scientific committee composition

| | | |
|--------------------|------------------------|-------------------|
| Europe (20) | Middle East (1) | Africa (2) |
| Italy 2 | Israel 1 | South Africa 2 |
| Netherlands 1 | America (13) | Asia (5) |
| Denmark 1 | USA 6 | Japan 1 |
| Germany 4 | Canada 2 | Malaysia 1 |
| France 4 | Mexico 1 | Singapore 1 |
| Spain 3 | Colombia 1 | Taiwan 1 |
| Poland 1 | Argentina 1 | Indonesia 1 |
| Serbia 1 | Brazil 1 | |
| Hungary 1 | Chile 1 | |
| EU 2 | | |

+ 27 Technical Committee Chairs

- ✓ propose and choose the panel of keynote speakers
- ✓ contribute to define of the scientific program
- ✓ review a limited number of abstracts
- ✓ participate to the assignment of IEA 2018 awards

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TOPICS: Interplay between theoretical view and practical view

Human Factors
and Ergonomics
Domains



Productive Sectors
and
Services

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TOPICS Human Factors and Ergonomics Domains

- Activity Theories for Work Analysis and Design
- Aerospace Human Factors and Ergonomics
- Affective Design
- Aging
- Agriculture
- Anthropometry
- Auditory and Vocal Ergonomics
- Building and Construction
- Ergonomics for Children and Educational Environments
- Ergonomics in Advanced Imaging
- Ergonomics in Design
- Safety & Health
- Slips, Trips and Falls
- Transport Ergonomics and Human Factors (TEHF)
- Visual Ergonomics
- Work With Computing Systems - WWCS
- Ergonomics in Design for All
- Ergonomics in Manufacturing
- Gender and Work
- Healthcare Ergonomics
- Human Factors and Sustainable Development
- Human Simulation and Virtual Environments
- Mining
- Musculoskeletal Disorders
- Organizational Design and Management
- Process Control
- Psychophysiology in Ergonomics

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TOPICS Productive Sectors and Services

- Manufacturing
- ICT
- Robotics
- Aerospace
- Agriculture
- Healthcare
- Building and Construction
- Mining
- Transport
- Automotive
- Military and Security
- Architecture
- Banking and insurance
- Advanced Imaging
- Sports Entertainment and Leisure
- Fashion
- Education and Training
- Cultural Heritage and Tourism
- Urban and Rural Planning

HFE Domains HFE Domains HFE Domains

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Video Abstract

How does your research look like from «the field»?
Research seen from the user perspective
Video showing the effect/reaction/need of your research

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HFE CAFE

Stories and History of Human Factors
From Human Factors People to the People

When Human Factors was born ?
Who are the people who made human factor grow?

Series of informal public discussions on the contribution of Human Factors to the contemporary societies and future developments

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CALL for Contributions: Abstracts Management

| | | | | |
|---|--|---|---|--|
| Opening the call for papers on IEA2018 website and emails for notifications | Closing call for symposia, workshop and short courses, special session | First closing for call for papers and start of review process | Closing call for Human Factors and Ergonomics Stories | Notification for acceptance to authors |
| 30 June 2017 | 30 sept 2017 | 30 Nov 2017 | 30 Dec 2017 | 31 Jan 2018 |

All submissions should be done through the website www.iea2018.org

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CALL for Contributions: Abstracts Submissions

Before 30th of September: You can contribute to the IEA 2018 conference by proposing **symposia, workshops/short courses and special session**.

Before 30th of November: You can contribute to the IEA 2018 with oral **presentation, posters and video posters** for parallel session.
The abstracts accepted for oral presentation will be asked to be extended; highly rated abstracts will be selected for special issue publication. Details to be posted on this page in early 2018.

Before 30th of December, You can contribute to the IEA 2018 by **sending stories of human factor experts who made human factor grow and develop**.
The authors will present the selected contributions during informal discussions on the role of HFE and future developments in the contemporary societies.

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| | |
|--------------|------------------------|
| ISQUA | SPECIAL SESSION |
| WHO | SPECIAL SESSION |
| AHFE | SPECIAL SESSION |
| ICOH | WORKSHOP |
| ILO | WORKSHOP |

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PUBLICATION PLAN



Publication Plan

Proceedings

IEA Press

Taylor & Francis (request for electronic version)

Elsevier (request for electronic version)

Special issues with selected contributions and peer review

Work

Ergonomics

Applied Ergonomics

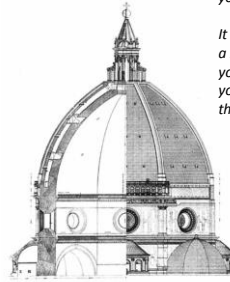
ISQUA Journal



«There is a tremendous amount of craftsmanship in between a great idea and a great product. And as you evolve that great idea it changes and grows.

It never comes out like it starts because you learn a lot more as you get into the subtleties of it and you also find that there are tremendous trade offs you have to make. But without that great idea there would be no great product»

Adapted from Kirsh, 2014



Thanks to:

Sebastiano Bagnara, Oronzo Parlangeli

Stefano Guidi, Simone Pozzi

<http://iea2018.org/>

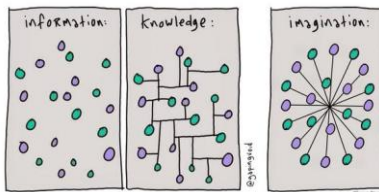
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for your
Attention!



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Regione Toscana
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