WORKSHOP DESIGN RESEARCH: 10 YEARS ON

International Design Conference – DESIGN16 – 16.5.16

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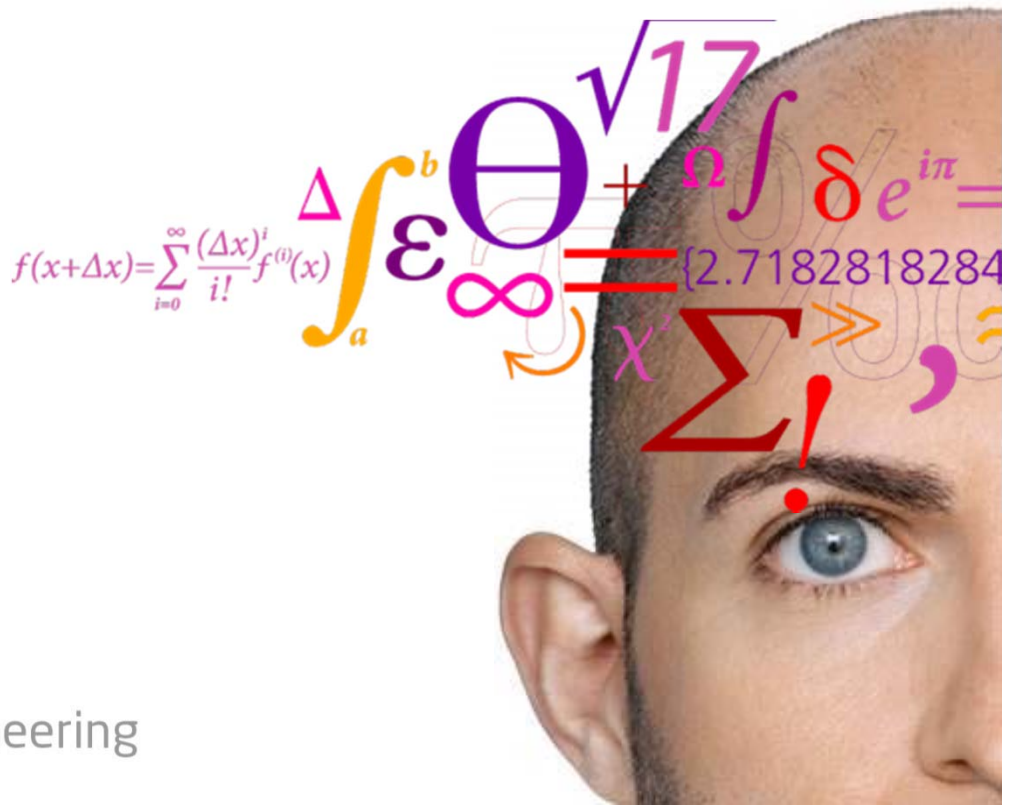

Engineering Systems
Department of Management Engineering

Contextualising

THE WORLD WE LIVE IN

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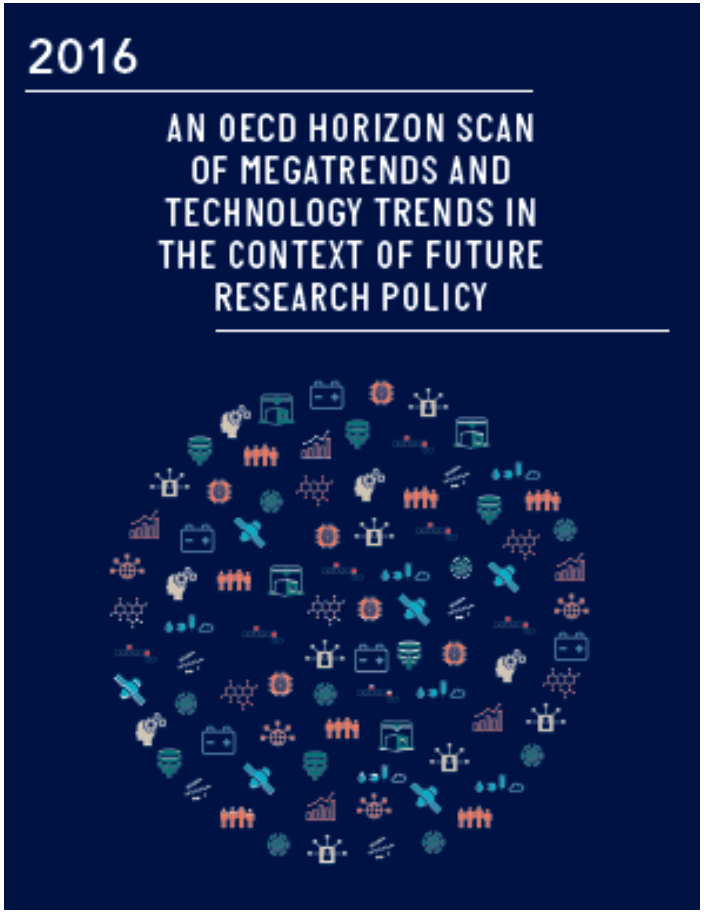
16. May 2016

Megatrends and Technology Trends



http://ufm.dk/en/publications/2016/an-oecd-horizon-scan-of-megatrends-and-technology-trends-in-the-context-of-future-research-policy

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HUMAN(ITY)

TECHNOLOGY

DATA

SOCIETY

SYSTEM INTEGRATION

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Design Research

ROLES

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Design research tackling societal challenges

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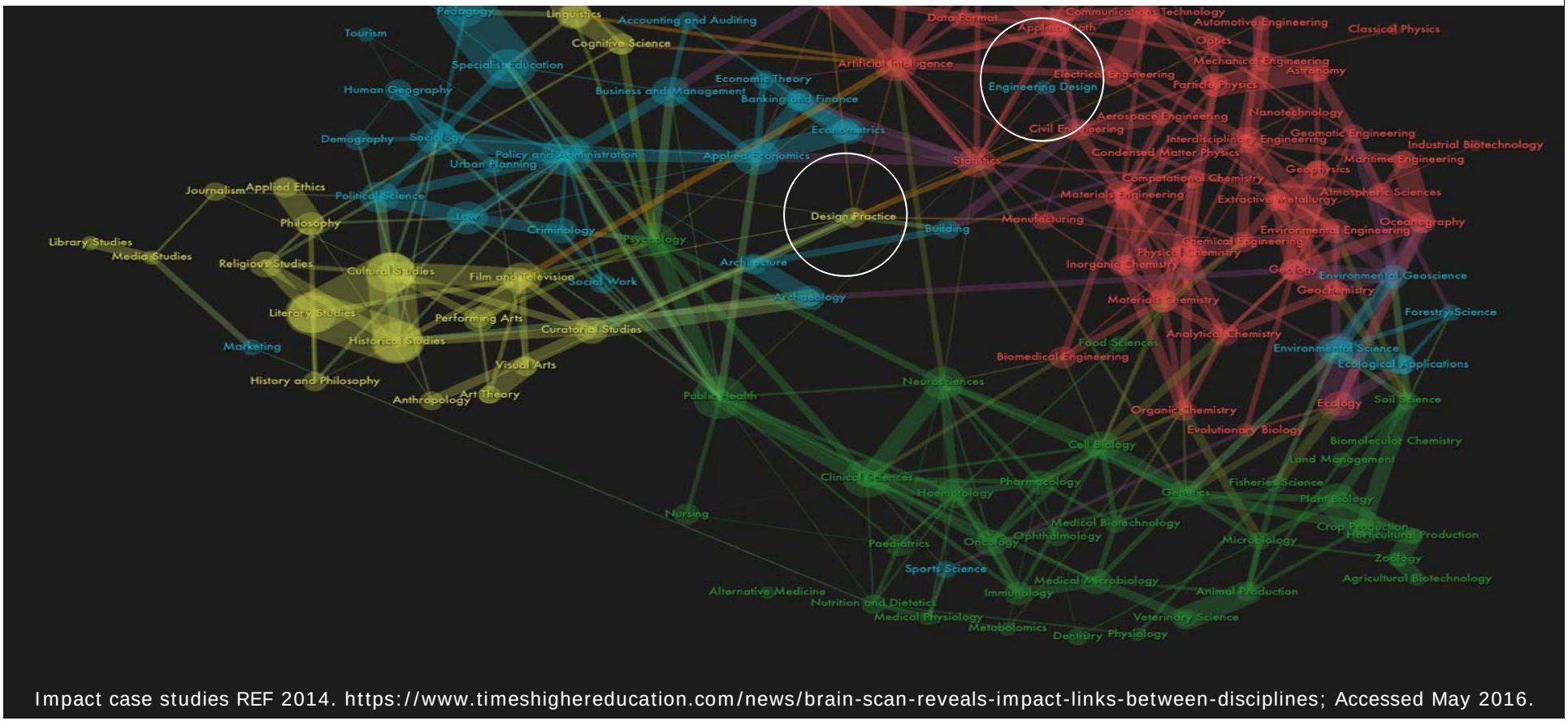
Design as connector: research and practice



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Design research
active role for the future of humanity

Design research to move

to articulating what it can offer and do well

to linking process to performance outcomes (success science)

to taking an active role in creating the future of humanity

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Preliminary summary: Design Research in 2026

ROLES

- **DESIGN RESEARCH TACKLING SOCIETAL CHALLENGES**
- **DESIGN RESEARCH AS CONNECTOR BETWEEN FIELDS**
- **DESIGN RESEARCH FOR CREATING THE FUTURE OF HUMANITY**

- **ARTICULATING WHAT IT CAN OFFER AND DO WELL**
- **LINKING PROCESS TO PERFORMANCE OUTCOMES : SUCCESS SCIENCE**

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Design Research

THEMES

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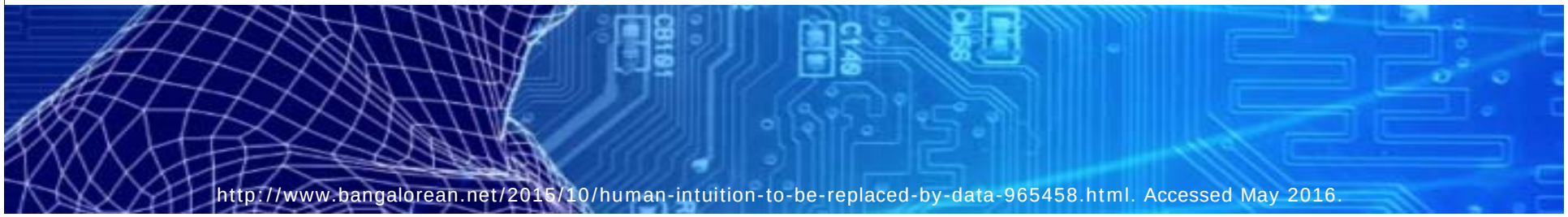
Reasoning, visualisations, decision-support:

Data-driven human intelligence



http://www.bangalorean.net/2015/10/human-intuition-to-be-replaced-by-data-965458.html. Accessed May 2016.

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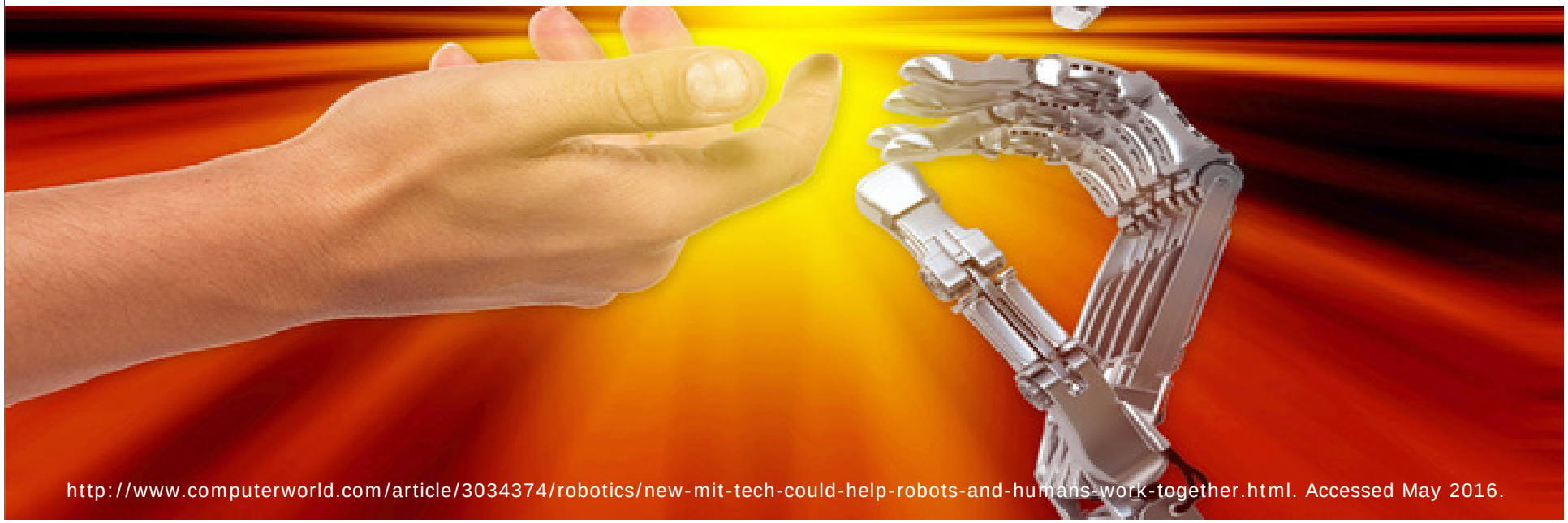
Collaboration, interaction:

Designing for human-robot-teams working together



http://www.computerworld.com/article/3034374/robotics/new-mit-tech-could-help-robots-and-humans-work-together.html. Accessed May 2016.

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System integration

e.g. smart, inclusive, connected, co-ordinated care, transport, energy …

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Bringing a systems perspective to, e.g. healthcare

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Bringing a systems perspective to, e.g. policy

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Designing for the very small: The coming human body on a chip

http://www.fastcoexist.com/3033574/the-coming-human-body-on-a-chip-that-will-change-how-we-make-drugs. Accessed May 2016.

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Designing for the very large: Large scale infrastructure projects

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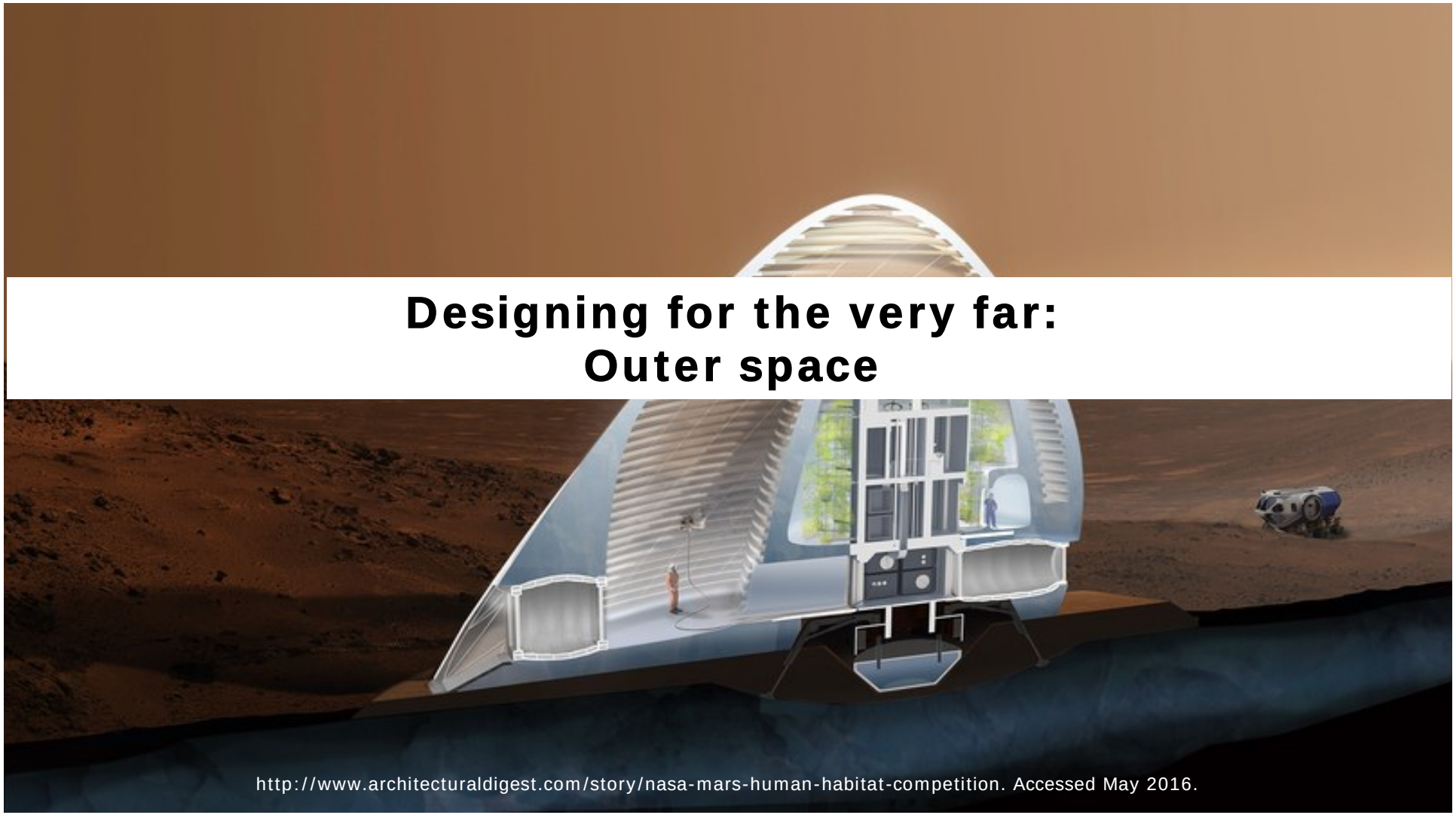
Designing for the very far: Outer space



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THEMES

- REASONING, DECISION-SUPPORT, HUMAN INTELLIGENCE
- COLLABORATION (E.G. HUMAN-ROBOT-TEAMS)
- SYSTEM INTEGRATION AND BRINGING SYSTEM PERSPECTIVE
- NEW AREAS OF STUDY: VERY LARGE, VERY SMALL, VERY FAR

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Design Research

MODES

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Some thoughts on how we conduct design research forward

- Simulation, design of experiments, big data & thick data
- Using new technologies to inform research and design practice, live research, sensor data for condition monitoring, observations and predictions, behavioural patterns
- Citizen science and crowd research

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Some thoughts on design research dissemination

- **Do we need to 'get out there' more ?**
  - Social media? Tweets?
  - Open access/Open science
- **Do we need to 'dialogue' more ?**
  - Different ways of holding our conferences?
  - Full conference papers, really?

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Summary:
Design Research in 2026

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MODES

- OF RESEARCH:
  SIMULATION, EXPERIMENTS, SENSOR DATA, CITIZEN SCIENCE
- OF DISSEMINATION: CONFERENCES WITH ABSTRACTS ONLY?

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