Main research interest (DSC/e related)

As more and more “everyday life” data are collected through sensors embedded in personal tools, accessories and wearables, it becomes increasingly important to give appropriate meaning to those data, extract the essence and visualize them. In our view, it is important to give those data back to the users and make them accessible for purposes of self-management and bio-feedback.

We explore novel societally relevant applications of smart garments, algorithmically designed garments, parametric design, human-patient simulators, life-style management tools and bio-feedback systems. Our vision is to combine aesthetics and meaningful data, often in physical form.

Scientific staff (DSC/e related)

Approximately half of the DI group’s activities are focusing on data driven research. Key involved staff:

Prof. Loe Feijs (head of the group)
Realization of intelligent systems

Dr. Peter Peters
DO CHANGE project

Dr. Jun Hu
Social computing and IoT

Dr. Rong-Hao Liang
Sensor systems

Dr. Frank Delbressine
Actuators for feedback

Moreover 6 PhDs are working on various Data Science projects.

Success stories

Our work on the smart jacket and Origo (with Philips), contributed to the construction of a world-class research ecosystem in perinatology.

The heart bloom biofeedback system was shown at Dutch Design Week (DDW) and Dubai Design week.

In the Do CHANGE project we develop a health ecosystem for integrated disease management for hypertensive and cardiac patients. see also http://www.do-change.eu/about

Project examples

• **DO CHANGE, EU funded H2020 project.** The primary goal is to develop a health ecosystem for integrated disease management for hypertensive and cardiac patients. www.do-change.eu/

Data science is an interdisciplinary field that uses a variety of techniques to create value based on extracting knowledge and insights from available data. Data science is applied everywhere: in business, health, industry, finance, government, education, and also in scientific research.

The Data Science Center Eindhoven (DSC/e) is TU/e’s response to these challenges and possibilities. By bringing top scientists and students from over thirty research groups from different TU/e departments together on specific topics, we can tackle the most challenging scientific and societal challenges. All involved groups made a one-page description of their main research interests and the involved staff with their key expertise, like the one you’re holding now.

**Mathematics and Computer Science**

- Algorithms
- Applied Geometric Algorithms
- Architecture of Information Systems
- Data Mining
- Mathematical Image Analysis
- Probability
- Security of Embedded Systems
- Software Engineering & Technology
- Statistics
- Stochastic Operations Research
- System Architecture & Networking
- Visualization
- Web Engineering

**Electrical Engineering**

- Cognitive Internet of Things
- Control Systems
- Electrical Energy Systems
- Signal Processing Systems

**Built Environment**

- Building Lighting
- Information Systems in the Built Environment
- Real Estate Management & Urban Planning
- Urbanism and Urban Architecture

**Industrial Engineering & Innovation Sciences**

- Human Technology Interaction
- Information Systems
- Innovation, Technology Entrepreneurship & Marketing
- OPAC: Freight Transport & Logistics
- OPAC: Maintenance & Manufacturing
- OPAC: Supply chain management
- Philosophy & Ethics

**Biomedical Engineering**

- Cardiovascular Biomechanics
- Computational Biology
- Medical Image Analysis