



## Profile

### Interdisciplinary Competence Center 'Virtual Humans' (CCVH) at the Chemnitz University of Technology

#### Claim:

The digital modelling of a human character holds both a considerable challenge for research and enormous potential for innovative applications. Thus, models of virtual humans are currently being adopted for sectors such as product and process ergonomics, the training in professions with a high risk potential, medical purposes, sports simulations, and entertainment. Thus, the importance of a virtual human model increases significantly with the number of human characteristics that can be incorporated. Central aspects concern the realistic description of the human body, the simulation of its movements and senses as well as the motion control of the virtual human taking cognition and emotions into account. The high multidisciplinary of the present research topic has motivated the foundation of the Interdisciplinary Competence Center 'Virtual Humans' at the Chemnitz University of Technology (CUT) in April 2011. Thus, the competence center serves as a platform for the joint work of researchers of individual fields in developing models of virtual humans. In doing so, the goal is in particular to broaden the applicability of the models with the integration of as many human properties as possible. The competence center is a substantial element of the CUT's focus area 'Human Factors in Technology'. Within the bonds of the transfer of technology the competence center is available for companies on the topics of Virtual Reality and Virtual Human Modelling.

#### Members:

Professorships of the CUT involved:

- Professorship Ergonomics (Director: Dr. Angelika Bullinger-Hoffmann)
- Professorship Computer Graphics and Visualisation (Director: Prof. Dr. Guido Brunnett)
- Professorship Artificial Intelligence (Director: Prof. Dr. Fred Hamker)
- Professorship Media Informatics (Director: Prof. Dr. Maximilian Eibl)
- Professorship Media Psychology (Director: Prof. Dr. Peter Ohler)
- Professorship Automation Technology (Director: Prof. Dr. Peter Protzel)
- Junior Professorship Visual Computing (Director: Jun.-Prof. Dr. Paul Rosenthal)

Additionally involved is the affiliated institute of the CUT:

- Institute of Mechatronics

#### Selected projects:

- Graduate School 'CrossWorlds' (in cooperation with the CCVH ; <http://crossworlds.info/>)
- Junior Research Group 'The Smart Virtual Worker' ([http://www.tu-chemnitz.de/forschung/virtual\\_humans/nwfg\\_svw/](http://www.tu-chemnitz.de/forschung/virtual_humans/nwfg_svw/))
- eMAN – Virtual Workers for the Digital Factory (Members of the CCVH together with the company imk automotive GmbH, <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=206>, <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=207&lang=>)
- Virtual Shoe Design (Members of the CCVH, <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=127>; <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=205>)
- V-Pong – Virtual Table Tennis (Members of the CCVH, <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=47>; <http://www.tu-chemnitz.de/informatik/GDV/forschung/projekte.php?id=209>)
- Intelligent Systems on Neurocognitive Basis (Member des CCVH, <http://www.tu-chemnitz.de/informatik/KI/>)
- Get Your Mesh (<http://www.tu-chemnitz.de/tu/presse/aktuell/1/4072>)

#### Partners:

We are working together with numerous regional and superregional partners in science and economy.

#### Contact us:

##### Speaker

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