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Contact us

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The department of Man-Machine Interaction was established at the beginning of 2016 by joining two research teams, one focused on modelling and monitoring of human body, the later on interdisciplinary research of new technologies. The creation of a new department was motivated by the effort to build a team with professional competence in technology, engineering, humanities, social sciences and natural sciences. Such a team creates a solid base for an interdisciplinary approach towards various issues of man-machine interaction. We focus both on theoretical and experimental research of emerging technologies which are becoming an integral part of our society, culture and human body as well.



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The Human
Cognitive
Enhancement

wiki

<http://hcewiki.zcu.cz>



Genetic Modifications
 Brain-Computer Interface
 Nutrition
 Smart Drugs
 Education
 Mental Training
 Electronic and Other Devices

“Progress in computing and information technology has vastly increased our ability to collect, store, analyze, and communicate information. External hardware and software supports now routinely give humans beings effective cognitive abilities that in many respects far outstrip those of our biological brains.”
 – Nick Bostrom & Rebecca Roache

“Why develop cognitive enhancers and not malaria drugs? Why spend money on drug development instead of education?”
 – Maartje Schermer et al.

Wearables
 Head-mounted Devices
 Head-mounted Displays
 Smart Glasses
 Virtual Reality Devices
 Smart Contact Lenses
 Other Head-mounted Devices
 Body-worn Wearables
 Limb-mounted
 Torso-mounted
 Clothing-integrated

“My main points here are that we all have little experience with wearable computers... All I can say for sure is to buckle your safety belts, because Google Glass is just one of many of these kinds of big changes in computing we will likely see in the future, and it will be a wild, scary, crazy, and exciting ride.”
 – Jason Hong

“There is no evidence that consumer infant physiologic monitors are life-saving, and there is potential for harm if parents choose to use them.”
 – Christopher P. Bonafide et al.

Speech Technologies

Electrolarynx
 Speech Synthesizers
 Speech Protheses
 Intelligent Personal Assistants

“The integration of speech recognition into our lives will bring an array of benefits... Nonetheless, moving forward it will be important to recognize that voice data is unique in its historical protection, communicative content, and biometric features.”
 – Stacey Gray

Neurostimulation

Trigeminal Nerve Stimulation
 Vagus Nerve Stimulation
 Brain Stimulation
 Transcranial Direct Current Stimulation
 Cranial Electrotherapy Stimulation
 Transcranial Magnetic Stimulation
 Neurofeedback
 Deep Brain Stimulation

“The idea of directly enhancing the brain with drugs, brain stimulation, or neurosurgery might seem frightening. But more than frightening, the use of these enhancement technologies raises crucial neuroethical and legal issues.”
 – Anita Jwa

New Senses or Reflexes

Ultrasound Sensing
 Magnetic Field Sensing

The Human Cognitive Enhancement Wiki, or HCEwiki in short, serves as an encyclopaedia of technologies that enhance or otherwise modify human cognition. We aim to provide not only a comprehensive list of available technologies but also a commentary on related topics such as health issues, controversies, socio-economic implications and more. We also strive to approach each subject with care, research it properly and, if they are available, reference relevant sources, past research, and literature.

Ethics – Responsible Research and Innovation – Philosophy –
 – Technology Assessment – Social Sciences – Computer Science – ICT –
 – Human-Computer Interaction –
 – Media Studies – Forecasting –
 Futurology – Future and Emerging Technologies – Transformative Humanities – Cognitive Science –
 – Human Enhancement