



The department has a long tradition in Berlin. As early as 1920, the “Institut für Psychotechnik” was founded at the “Königlich Technische Hochschule zu Berlin”, today “Technische Universität Berlin” (TU Berlin). The goal was to apply psychological knowledge to the problems of working situations. The department follows in this tradition. But as technological developments change the world, the scope of the field has expanded and new challenges are being faced. People have to deal with increasingly sophisticated technical systems at their work place as well as in their free time. Apart from the computer and modern information technology, this also includes complex systems in production (e.g. robotics) and operation (e.g. control rooms), or the electronic systems in cars, airplane cockpits, or hospital operating rooms. Research at the department focuses on these areas, often in cooperation with industrial partners.

## Research Topics

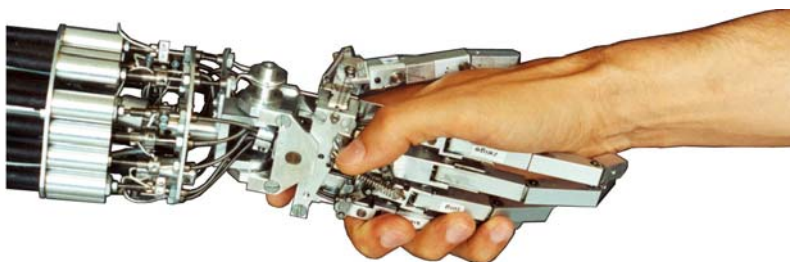
- Cognitive and emotional processes when using technical systems
  - Mental workload, attention, vigilance, and fatigue
  - User experience and emotions
  - Modelling technical knowledge and causal thinking
- Neurobiopsychology of stress
  - Eliciting and modifying factors such as work environment or drugs
  - Effects on memory, attention, and performance failures
  - Neuroergonomic applications
- Automation and optimization
  - Supervision and use of automated systems in aviation and medicine
  - Analysis and optimization of clinical work processes
  - Balanced rationalization in the health care sector
- Safety and risk
  - Safety culture and systems safety in high-hazard industries
  - Perception and communication of risks
  - Decision, safety, and risk behaviour



- Design and evaluation of technical systems
  - Multimodal and multimedia human-machine interaction
  - Assistance systems in automobiles and aircraft
  - Medico-technical products for the elderly
- Working with the internet
  - Web usability
  - E-learning and E-teaching
  - Internet-based research
- Coping of caregivers of persons with chronic diseases
  - Cognitive-behavioural prevention and intervention
  - Testing and evaluating of resource oriented interventions
  - Advising family members by professional advisers and caregivers
- Methods for applied and basic research
  - Usability engineering and testing
  - Eye-movement analysis and physiological measurement
  - Simulation and cognitive modelling



The department offers a master’s degree course in "Human Factors" (M. Sc.). This is an interdisciplinary course for students with a degree (bachelor or ‘diplom’) in psychology, cognitive science, computer science, or engineering. For more information: [www.humanfactors.tu-berlin.de](http://www.humanfactors.tu-berlin.de)



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