EMS at a glance

- 14 PhD projects and 1 post-doctoral project of interdisciplinary character and high scientific and industrial relevance

- 11 PhD supervisors with international reputation

- Excellent technological, analytical, and computational infrastructure

- An elaborate learning/teaching program combining the strengths of the two participating Institutes of Microsystem Technology (IMTEK) and of Computer Science (IIF)

- Guidance by a team of two supervisors for each PhD student

- Complementary training activities by local small and medium enterprises

- Mentoring program specific to female PhD students (futura mentoring)

PhD Program

Embedded Microsystems

Contact

Prof. Dr. W. Burgard

Head of the PhD program "Embedded Microsystems"

Department of Computer Science (IIF) University of Freiburg Georges-Köhler-Allee 079 79110 Freiburg
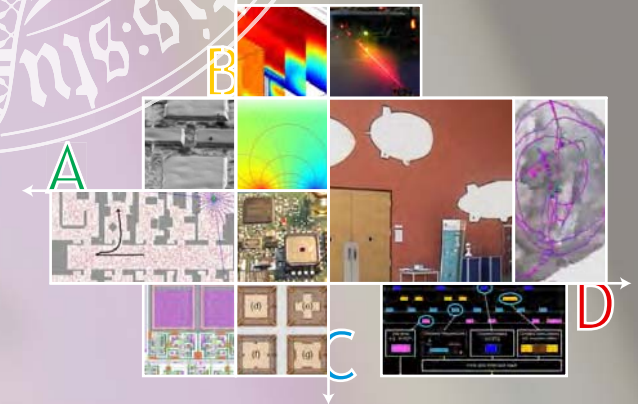
phone: +49-761-203-8026
fax: +49-761-203-8007
mail: burgard@informatik.uni-freiburg.de
url: www.imtek.de/ems

Faculty of Engineering

University of Freiburg

IMTEK

IIF Institut für Informatik Freiburg

Concept

The PhD program addresses highly qualified junior scientists in the fields of micro-electro-mechanical systems engineering and computer science.

The focus of the program lies on the integration of microsensors and micro-electronic components with computer science know-how into miniaturized, intelligent, and communicating units. Bridging the traditional borderline between computer science and microsystem technology, this program constitutes a broad scientific basis for graduation, for a carrer in science, and for employment in industry. With its unique combination of the Institute of Microsystem Technology (IMTEK) and the Institute of Computer Science (IIF), the Faculty of Engineering at the University of Freiburg offers an excellent environment for this purpose.

Jobs

A.1	Recofigurable analogue circuits
A.2	Application-specific microcontrollers
A.3	Real time operating systems
A.4	Sensor network programming
B.1	Test methods for digital components
B.2	Self-diagnosis and -calibration
B.3	Algorithms for image processing
C.1	Localization with magnetic sensors
C.2	Sensor data fusion
C.3	Miniaturized positioning sensors
C.4	Thermal microsystems
D.1	Communication of microsystems
D.2	Wireless sensor network protocols
D.3	Self-sustaining wireless microsystems
E	Cluster of embedded microsystems

Requirements

For admission:

- Exceptional achievements in your studies in the field of computer science, physics, mathematics, microsystem technology, electrical and mechanical engineering, or related disciplines
- Starightforward and fast completion of your studies
- A convincing interview with potential PhD advisors of the PhD program

Once you are admitted:

- Full labor devotion to the PhD program
- Active participation in the seminars and in summer/winter schools of the program
- Publication of results at conferences and in the archival literature

SICK ◆ MICRONAS E+H

Deutsche Forschungsgemeinschaft

DFG