

Range of Services

We can provide you with a wide spectrum of cooperation possibilities and services in our field of activity:

- Research and technology transfer in the field of power energy systems
- Grid system studies for planning and operation
- Project planning and development
- Consulting for the implementation of energy projects
- Specialised expert assessments
- Vocational education and training
- Individual professional training programmes

Chair of Electrical Energy Systems

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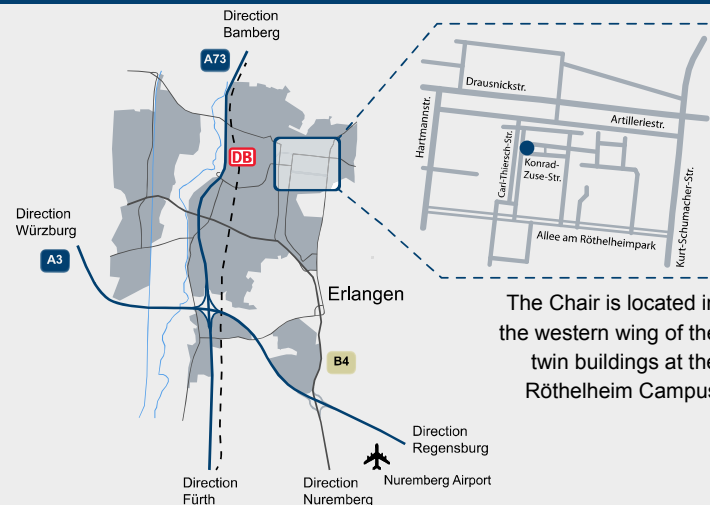
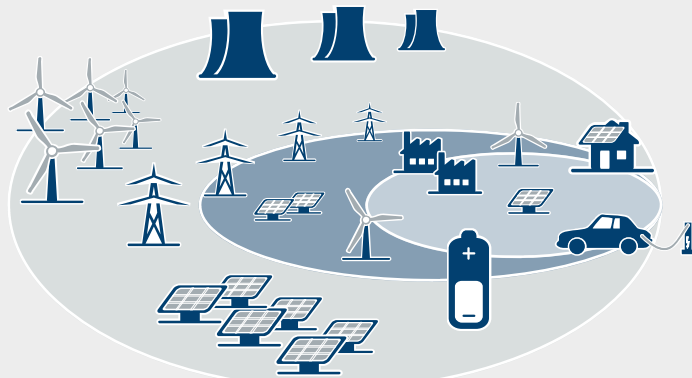
Web: <http://ees.eei.uni-erlangen.de>

Directions:

- By Road: A3, A73 (indirect also via A6, A9)
- By Rail: Erlangen Hbf. (ICE-Main Railway Station)
- By Air: Nuremberg Airport (a distance of about 20 km)

Chair of Electrical Energy Systems

Brief Profile



December 2011

We are a partner of the
Nuremberg Energy Campus.
More information under:
<http://www.encn.de>



About us

The Chair of Electrical Energy Systems at the Friedrich-Alexander University of Erlangen-Nuremberg was established on 1st April 2011.

In both training and research, we are predominantly engaged in the development and operation of future innovative electrical energy power supplies, as well as the design of such systems.

We wish to achieve with the training we offer and our work in research, a scientific contribution to the future advancements of sustainable energy systems. In doing so, we count on practical relevant interdisciplinary collaboration and cooperation in a national and international environment.

Courses

We offer a broad range of training from basic academic instruction up to specialized subjects for Bachelor and Master degree studies in Electrical Engineering and Energy Technology:

- Fundamentals of Electrical Engineering
- Components of electrical energy systems
- Operational behaviour of electrical energy systems
- Network control and power system management
- Power electronics in three-phase AC networks: HVDC transmission and FACTS
- Power generation and trading in deregulated markets
- Laboratory: Analog-Digital-Simulation
- Practical Workshop: Network operation and control
- Study Seminar: Sustainable energy systems

We provide and mentor Bachelor and Master Science degree studies on the aforementioned subjects and research.

Research Focus

Our field of research is orientated to the current challenges and innovation of electrical energy systems :

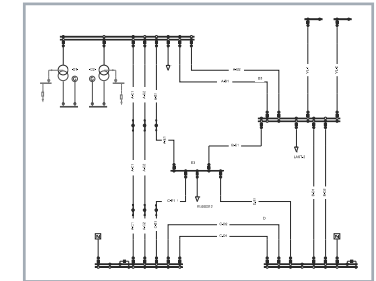
- The development and design of large scale transmission systems (e.g. Electricity Highways, Offshore-Grids, etc.)
- Design and integration of High Voltage Direct Current (HVDC) transmission systems and Flexible AC Transmission Systems (FACTS)
- System integration of centralised and decentralised renewables, in particular, wind, photovoltaic and solar thermal power plants
- Innovative storage concepts for volatile energy sources and their integration into the network
- Intelligent and future-orientated operation and management of transmission grids in a deregulated environment
- "Smart Energy Systems": interaction and repercussions of decentralised systems on the transmission.



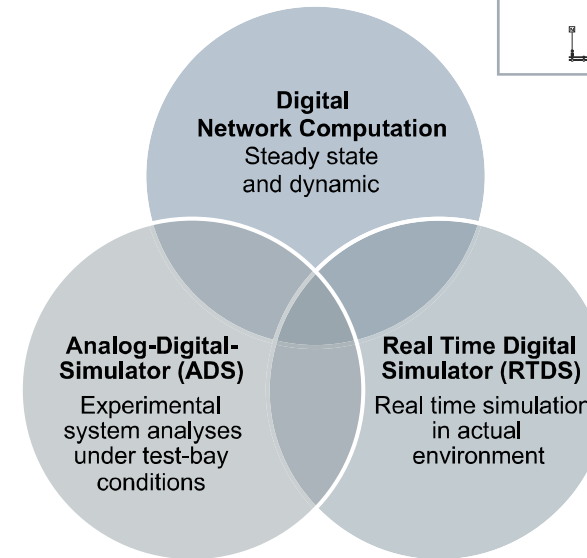
Analog-Digital-Simulator

Research Concept

Our research work involves the simulation of components and the system behaviour of electrical networks. Network models are able to be developed by means of coupling digital network computations and the experimental simulation of energy systems. This is carried out by bench scale testing, verifying the models against each other and analysing them in terms of their operational behaviour. The results provide important findings for the design and performance of real systems, the development of new technologies, as well as determining the necessary investment costs .



Digital Network Computation



Real Time Digital Simulator

