Area of Specialization:

Energy Technology

Tutor: **Professor Wolfgang Kröger**

Research Area: **Safety Technology**

Language: **ENGLISH / GERMAN**

Prerequisites a student should comply with:
Skills in system thinking; basic understanding of at least one large-scale technical system; basic knowledge in probability theory or statistics.

Portrait of the student:
Interest in systems engineering, modeling and simulation; interest in interdisciplinary, overriding engineering tasks.

What the students can expect:
Individual supervision within small project groups; full integration into national and international LSA's research projects.

Strongly recommended core courses:

HS	FS
151-0153-00L Reliability of Technical Systems	151-0018-00L Ingenieur Tools V: Computer-based Failure Mode and Effects Analysis 151-0156-00L Safety of Nuclear Power Plants 151-0154-00L Risk Analysis of Highly Integrated Systems

Recommended core courses:

HS	FS
151-0951-00L Process Design and Safety	151-0214-00L Gas Turbine Mechanics and Design

Occupational outlook:
Positions in financial services (incl. insurance companies), consultants, public sector, and research.

Research projects:
Management of IT Risk for Global Banks (Credit Suisse)
Vulnerability Assessment for Civil Defense (Bundesamt für Bevölkerungsschutz (BABS))
Probabilistic Safety Assessment: Analytic Solution of Large Fault Tree Models Using Binary Decision Diagrams and Neural Networks (KKW Leibstadt)
Application of Event-oriented Process Chains for Information Systems Optimization (KTI)
Modeling, Simulation and Optimization of Maintenance Strategies under Consideration of Logistic Processes (Huba Control)
Balancing Safety and Availability for the LHC Machine Protection System (CERN)
Agent Based Modeling of Failure Propagation in Complex Engineering Systems for Risk Analysis (swisselectric)