Fakulteta za informacijske študije
Faculty of information studies

CEEPUS

Modelling and Simulation in Study Programmes at FIS

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EVALUATED BY IEP
EUA-Institutional Evaluation Programme
www.eua.be/iep

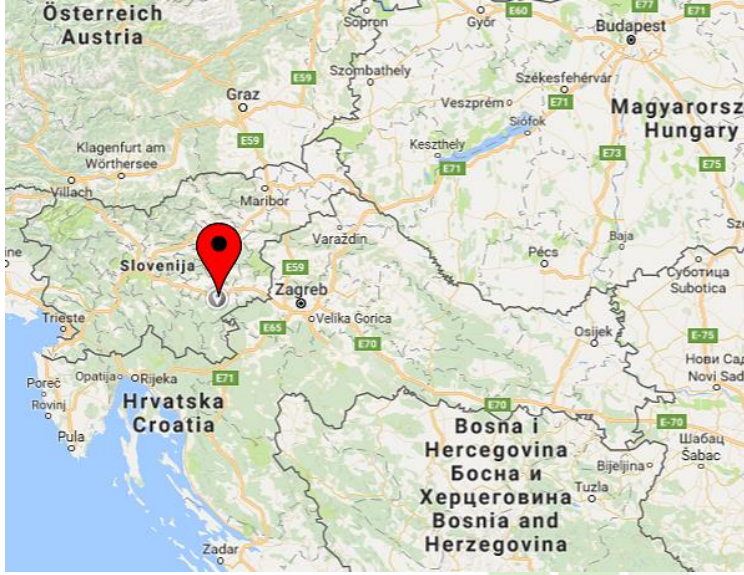
FIS

About the faculty

Faculty of Information Studies

in Novo mesto, Slovenia

www.fis.unm.si



Established in: 2008

Faculty consists of: 52 teachers and 7 administrative staff

No. of students: 300 students and 150 graduates

Budget: 70% R&D, 30% teaching

Five study programmes in informatics, computer science

- Three 1st cycle study programmes
- One 2nd cycle (Masters) and one 3rd cycle (Doctorate)

Research projects

- Five ongoing (Horizon 2020, Erasmus+, FP7, National Research Agency)
- Sixteen concluded projects, including:

Projects so far (we run 20+ financed projects, below listed those with funding>100,000 EUR)

- 2013-2015 "Creative Core: Simulations", four sub-projects: 'Simulating bio-inspired technological networks', 'Categorization and simulation of document flows', 'Simulation of business processes', 'Simulation in logistics, production systems and service systems'. EU and European regional development fund: **999,000 EUR**.
- 2013-2016 "Complex Networks". Slovenian research agency: **494,000 EUR**.
- 2012-2015 "Development of a quality system at FIS". EU and Slovenian Ministry of Education, Science and Sport: **243,000 EUR**.
- 2015-2018 "Complex Oscillatory Systems: Modeling and Analysis". EU (H2020 Marie Sklodowska-Curie actions): **235,000 EUR** (total consortium funding 3,879,000 EUR).
- 2014-2020 "Online support for development of project proposals - S4P". Slovenian research agency: **121,000 EUR**.
- 2013-2016 "Unraveling Biological Networks". Slovenian research agency: **120,000 EUR** (total consortium funding 150,000 EUR).

Research projects

- Biggest project:
- Creative core: Simulations
  - Budget: 1M€
  - Infrastructure: HPC „Rudolf“
    - 736 CPU cores, 3.6 TB RAM, 96 TB HDD
    - runs at 13 Tflops
    - part of Slovenian GRID infrastructure „SLING“
  - Development of methods and solutions in:
    - simulation of bio-inspired technological networks;
    - categorisation and simulation of document flows;
    - business process simulation, and
    - manufacturing, services and transport/logistics simulation.

Research groups

Decision Support Systems Laboratory

- Areas of research:
  - Development and applications of decision support systems (MCDA)
  - Simulation and analysis in manufacturing, logistics, transport and service systems
  - Design of methods and tools for simulation and optimization of organizational systems
  - Discrete, continuous and agent-based models of organizational and environmental systems

- Head: Blaž Rodič, associate professor.

Research groups

Institute for Processes and Analysis

- Areas of research:
  - Business process modeling and simulation in public and private institutions
  - Development of novel methodologies for business process analysis
  - Disaster management and public safety
  - Project management

- Head: Borut Rončević, full professor.

Research groups

Laboratory of Data Technologies

- Areas of research:
  - Parallel algorithms and application of high performance computing
  - Big data mining, machine learning and applications
  - Mathematical modeling and algorithmic aspects of real complex systems
  - Applications of network analysis in biology, psychology, sociology and economics
  - Computational modeling and analysis of complex systems in nature and society
  - Mechanisms of self-organization in complex systems, meta-heuristic and genetic algorithms
  - Modeling crowdsourcing and other complex social phenomena such as immigration
- Head: Zoran Levnajić, associate professor.

Other activities

Conferences and schools:

- International Conference on Information Technologies and Information Society (ITIS).
  - http://itis2016.fis.unm.si/ Open C4P!
- Summer school and Winter camp
  - HPC school organised with Faculty of Mech. Engineering
- Regional Informatics conference

Simulation and modelling in the curriculum

- 1st cycle study programmes; S&M related courses
  - Mandatory courses:
    - Data Bases and Data Modelling
    - Knowledge Discovery in Data
    - Network Analysis Methods
  - Elective courses:
    - Process Modelling within Organisation using UML
    - Introduction to Modelling and Simulation of Discrete and Continuous Systems
    - Fundamentals of Document Systems
    - High Performance Computing Systems

Simulation and modelling in the curriculum

- 2nd cycle (Masters) ; S&M related courses
  - Elective courses:
    - Data Mining
    - Decision Support Systems
    - Knowledge Management
    - Processes and Document Systems
    - Big Data Analysis
    - Introduction to Modelling and Simulation of Discrete and Continuous Systems
    - Agent Based Modelling

Simulation and modelling in the curriculum

- 3rd cycle (Doctorate); S&M related courses
    - Elective courses:
        - Modelling and Simulation of Logistics Systems
        - Data Mining
        - Network Theory

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THANK YOU FOR YOUR ATTENTION.

QUESTIONS ARE WELCOME.

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