



West University
of Timișoara



FMI
FACULTATEA
DE MATEMATICĂ
ȘI INFORMATICĂ

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

WEST UNIVERSITY OF TIMISOARA, ROMANIA

BROCHURE 2021



FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

About



West University
of Timișoara

The Faculty of Mathematics was established in 1948 as a component part of the Pedagogical Institute from Timișoara. Starting with 2004, the Faculty of Mathematics changed its name to the Faculty of Mathematics and Computer Science. Mathematics and Computer Science are priority fields of study that have led to the extraordinary technical development of our civilization.

Our faculty is committed to offer to its students:

- the possibility to become specialists in the two fields;
- modern, high-academic programs, at bachelor's, master's and doctoral level;
- access to state-of-the-art equipment and excellent study and research conditions.

The academic community in our faculty infrastructure of the West University of Timișoara.

1

DEPARTMENT OF COMPUTER SCIENCE

2

DEPARTMENT OF MATHEMATICS

1

Bachelor studies (duration of 3 years)

- Computer Science (taught in Romanian and English)
- Applied Computer Science

2

Master studies (duration of 2 years)

- Artificial Intelligence and Distributed (taught in Romanian and English)
- Software Engineering
- Big Data - Data Science, Analytics and Technologies (taught in English)
- Bioinformatics
- Cyber Security

3

Doctoral studies (duration between 3-5 years)

- Parallel and Distributed Computing
- Artificial Intelligence
- Machine Learning and Big Data
- Theoretical Computer Science

1

Bachelor studies (duration of 3 years)

- Mathematics (taught in Romanian)
- Mathematics and informatics (taught in Romanian)

2

Master studies (duration of 2 years)

- Analytic and Geometric Modeling of Systems (taught in Romanian)
- Financial Mathematics (taught in Romanian)

3

Doctoral studies (duration between 3-5 years)

- Mathematical Analysis and Applications in Control Theory
- Differential Equations and Nonlinear Analysis
- Asymptotic and Geometric Behaviour of Dynamical Systems
- Dynamical Systems, Mechanics and Geometry

1 Teaching & research facilities

- 8 laboratories for teaching
- 4 laboratories for the research activity of master and PhD students
- 4 seminar rooms
- 2 lecture rooms

2 Documentation

- Computer Science Department Library
- Faculty of Mathematics and Computer Science Library at BCUT (www.bcut.ro)

3 Access to computing resources for students

- 145 computer stations in laboratories
- 2 clusters (with 28, respectively 400 cores)

4 Teaching and administrative staff

- 38 permanent teaching staff positions
- >30 associated teaching staff positions
- 1 system engineer
- 1 faculty administrator

1

International Agreements

- **Erasmus** agreements with 40 universities from European countries (Austria, Bulgaria, Denmark, France, Finland, Hungary, Germany, Italy, Poland, Portugal, Slovenia, Spain, Turkey, UK)
- **Bilateral agreements** for joint doctoral studies with universities from Austria, France and Italy
- **Double-degree Bachelor** programs in Computer Science in partnership with 7 European universities: France, Spain, Portugal, Germany, Romania, Finland, Italy

2

Academic Partnerships

- **Informatica-Universitaria Consortium**: Babeș-Bolyai University Cluj Napoca, University of Bucharest, A. I. Cuza University Iasi, West University of Timisoara
- **Industrial Programs**: IBM Romania, Microsoft Academic Alliance, OAI Oracle



FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Center for Research in Computer Science (CeRiCS)



OVER 50 RESEARCHERS



6 RESEARCH DIRECTIONS



OVER 70 INTERNATIONAL & NATIONAL PROJECTS

UT

West University
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The main mission of the Research Center in Computer Science is to offer a collaborative environment aiming to stimulate high quality research in a broad range of computer science topics and to foster the cooperation with national and international research teams.

1

Main research topics

- Cloud Computing, HPC, and IoT
- Big Data Applications and Analysis
- Artificial Intelligence and Machine Learning
- Applications in Earth Observation
- Theory of Computing
- Computational and Applied Mathematics

2

Some recent results

- Software tools for monitoring data intensive applications and data-centric programming models for large-scale parallel systems.
- GPU-accelerated data processing with applications in biometrics, medical image processing, forecasting tasks, blockchain smart-contract transmission and execution.
- Interpretation and validation of agent based models.
- Rule-based systems for computation and deduction, synthesis of algorithms based on multisets.

3

Team

- Number of researchers: 51
- 18 senior researchers (Director: Prof. Dr. Viorel NEGRU)
- 7 post doctoral researchers
- 26 PhD students in 6 research groups

4

Strategic partners

- Research Institute for Symbolic Computation, inz, Austria
- Computer Vision Center and Universidad Autonoma Barcelona, Spain
- University of Waterloo, Canada
- University of Tsukuba, Japan
- Polytechnic University of Milan, Italy
- University of Ljubljana - Slovenia
- University of Novi Sad - Serbia

5

Research infrastructure

- **Pepper** - semi humanoid robot used for research on intelligent systems and learning-processes
- **InfraGrid** Compute Cluster (2009): 4x IBM Blade Center-H Chassis, 50x IBM Blade-Server HS22
- **HOST** GPU Cluster (2012): 7 compute nodes and 13TB of raw storage capacity
- **BID** Power Cluster: 1x IBM Power System AC922, 1x IBM Power System AC922, 1x IBM Spectrum Scale Storage, 1PB storage capacity



ERRIS (Engage in the Romanian Research Infrastructures System)

- <https://erris.gov.ro/UVT-HPC-Center>





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