



**LERIA**

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Laboratoire d'Etude et de Recherche en Informatique d'Angers

Université d'Angers, France

# ID Card

- Created: 1994
- 60
- E. Monfroy (2022-), Lesaint (2016-21), JK Hao (2005-15)
- Resources:
  - 8 professors (UA), 19 lecturers (UA), 6 associated lecturers (ESEO, ESAIP)
  - 20 PhD students, 2 postdoc, 3.5 engineers, 1 admin, 2 ATER, 1 ECER
  - part of the GLiCID project (regional HPC/Data center)
- Coupling with Dpt. of Computer Science
  - 50 % of the LERIA members are from the dpt
  - Master: 2 years / 60 students
  - Bachelor: 3 years / 250 students

# Environment

- Member of the MaSTIC N°641 inter-regional doctoral school
  - (École Doctorale Mathématiques et Sciences et Technologies du numérique, de l'Information et de la Communication (MaSTIC )
  - Nantes, Angers, Le Mans
  - 280 PhD students, 11 research laboratories
- Member of the SFR MathSTIC of UA
  - labs: LAREMA, LARIS, and LERIA
- Support structures
  - Région Pays de Loire, DRIED, SATT-Ouest

# International Collaboration

- Local:
  - LARIS, IRHS, MOLTECH, ESEO-Tech, ESAIP
- National:
  - CRIL, LIRMM, LISIC, ...
- Involved in the EU Green Alliance
  - 9 European University
  - Oriented towards Sustainable Development Goals
  - Tight collaborations with: Ireland, Portugal, Roumania, Sweden
- International
  - Chile, China, Portugal, Poland, Japan, Mexico, Spain, Germany, Ireland, Roumania, Italy, ...

# Organization: 3 themes

- Oriented towards AI (symbolic and computational)
- Fundamental and applied research
- Organized in 3 themes:
  - MOC : Méta-heuristiques et Optimisation Combinatoire
  - RIC : Raisonnement dans l'Incertain et Contraintes
  - ARC : Apprentissage Artificiel et Représentation des Connaissances

# MOC : Méta-heuristiques et Optimisation Combinatoire

- Topics:
  - Metaheuristics
  - Matheuristics
  - Fitness landscape
  - Autonomous search (with RIC theme)
  - Machine learning (with ARC theme)
  
- Applications:
  - Bioinformatics
  - Logistics
  - Problems on graphs

# ARC : Apprentissage Artificiel et Représentation des Connaissances

- Topics:
  - Knowledge Representation and Reasoning
  - Recommendation systems
  - Machine Learning
  - AI and Molecular Chemistry
  - Combinatorial optimization (with MOC theme)
- Applications:
  - Generation of molecules (QuChemPedia project)
  - Recommendation app for Angers
  - Archival system

# RIC : Raisonnement dans l'Incertain et Contraintes

- Topics:
  - Constraint programming
  - Problem modeling
  - Logic
  - Answer set programming
  - Combinatorial optimization (with MOC theme)
  
- Applications:
  - University Time Tabling
  - Grammatical Inference
  - Slow tourism



# Some projects

- ANR
  - Combo (ARC, MOC)
  - Evariste (MOC, RIC)
- Etoiles montantes:
  - G-Genocode (ARC)
  - Deep Meta (ARC)
- PhD founded on projects
  - 6 CIFRE (Thalès, UbiSoft, Huawei, ...)
  - 2 Tandem (région & Univ.)
- SEED Chain2Sustain (EU Green)
- 4 PHC (under evaluation: Ulysse, Galileo, Pessoa, Polonium)