

University of Luxembourg  
*E. Kieffer*

Team meeting 2020





- Provide advanced research support on optimization/A.I. algorithms
- PhD in Computer Sciences:
  - FNR AFR grant application accepted in 2015
  - Mathematical modelling and Game Theory :
    - Bi-level optimization  $\Leftrightarrow$  extension of Stackelberg games
    - Multi-levels: Finding a valid solution is NP-hard
    - Solution: “Learn to optimize”, AI-assisted design of heuristics
- Research interests: **mathematical optimization, machine learning, evolutionary computing**

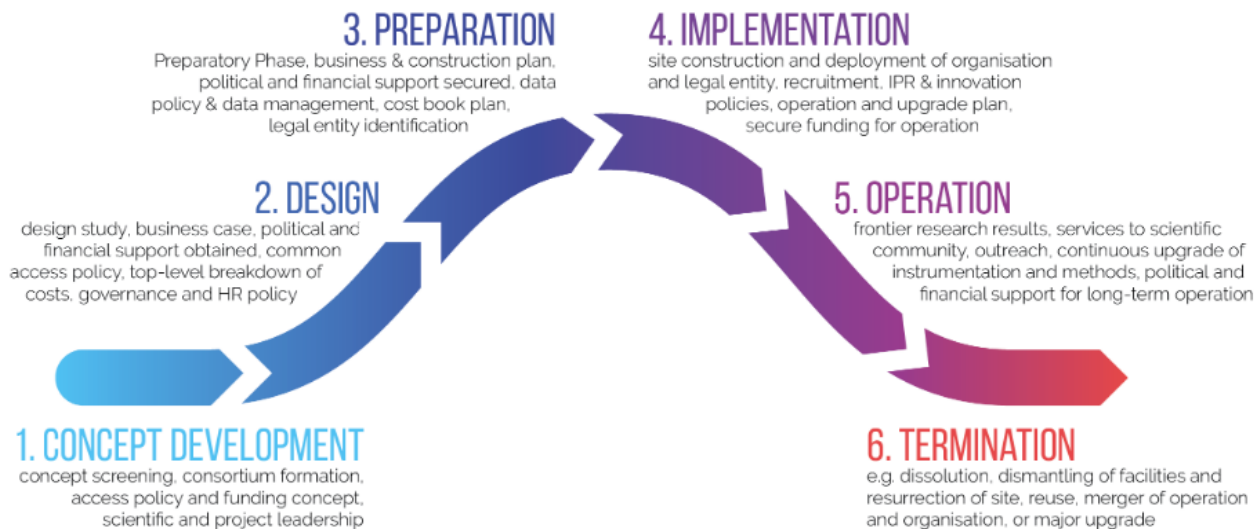
- Assist sysadmins after V. Plugaru left:
  - Helping for the UL HPC software set 2019b
  - Helping for UL HPC documentation
  - Automatic Reporting for PI
  - Gitlab ticket system for user registration (account creation)
  - ...
- HPC school:
  - Singularity container: <https://ulhpc-tutorials.readthedocs.io/en/latest/containers/singularity/>
  - Advanced Distributed Python: <https://ulhpc-tutorials.readthedocs.io/en/latest/python/advanceddistributedpython/>

- Master in Information and Computer Sciences (MICS) :
  - Mathematical Modelling
  - Introduction to Evolutionary Computing
  
- Bachelor in Computer Science (BICS):
  - Alessio - Winter 2019: Kmeans implementation
  - Licina - Spring 2020: Flowers recognition with PyTorch/FastAI
  - Sena – Spring 2021:
  
- Tutor for the Optimization course (MICS 2<sup>nd</sup> semester):
  - EVOAUTOML: Grammar-evolution of DNN

- Help writing some proposals:
  - SPECIES
  - HPSEEK
  
- Working on “Learning to optimize”
  
- Submitted and accepted projects:
  - SLICES (submitted)
  - STAIRS (accepted)



- ESFRI Roadmap 2021 application
- Eligibility for dedicated European funding to develop a novel RI
- Uni.lu will be a core partner representing Luxembourg
- SLICES will be built on top of existing smaller labs, RI (SILECS)

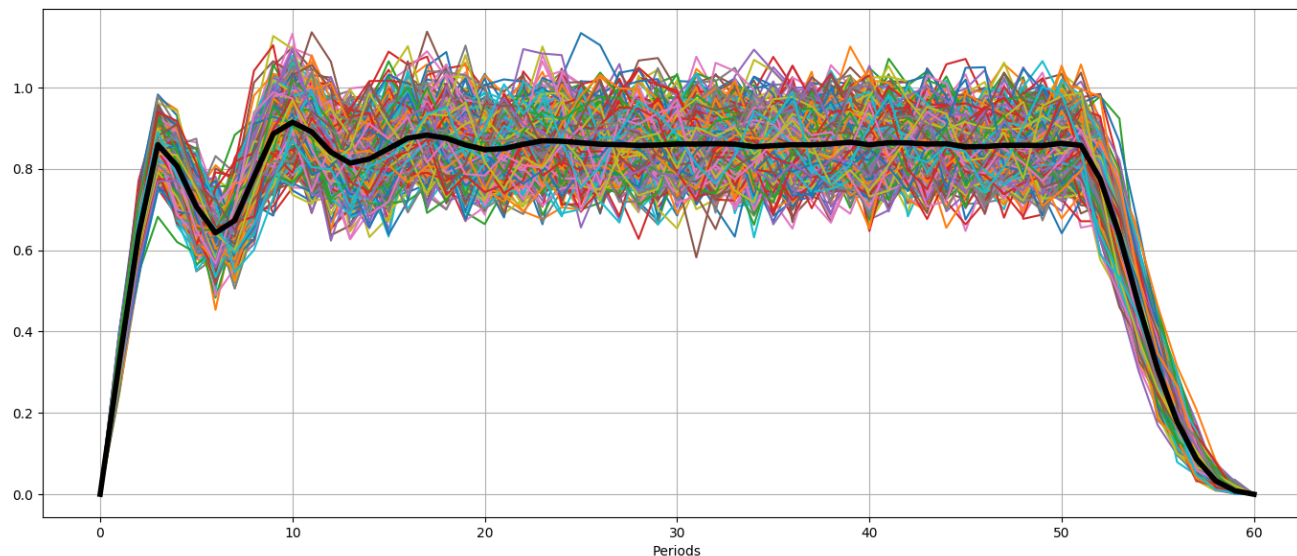


# Research activities: SLICES

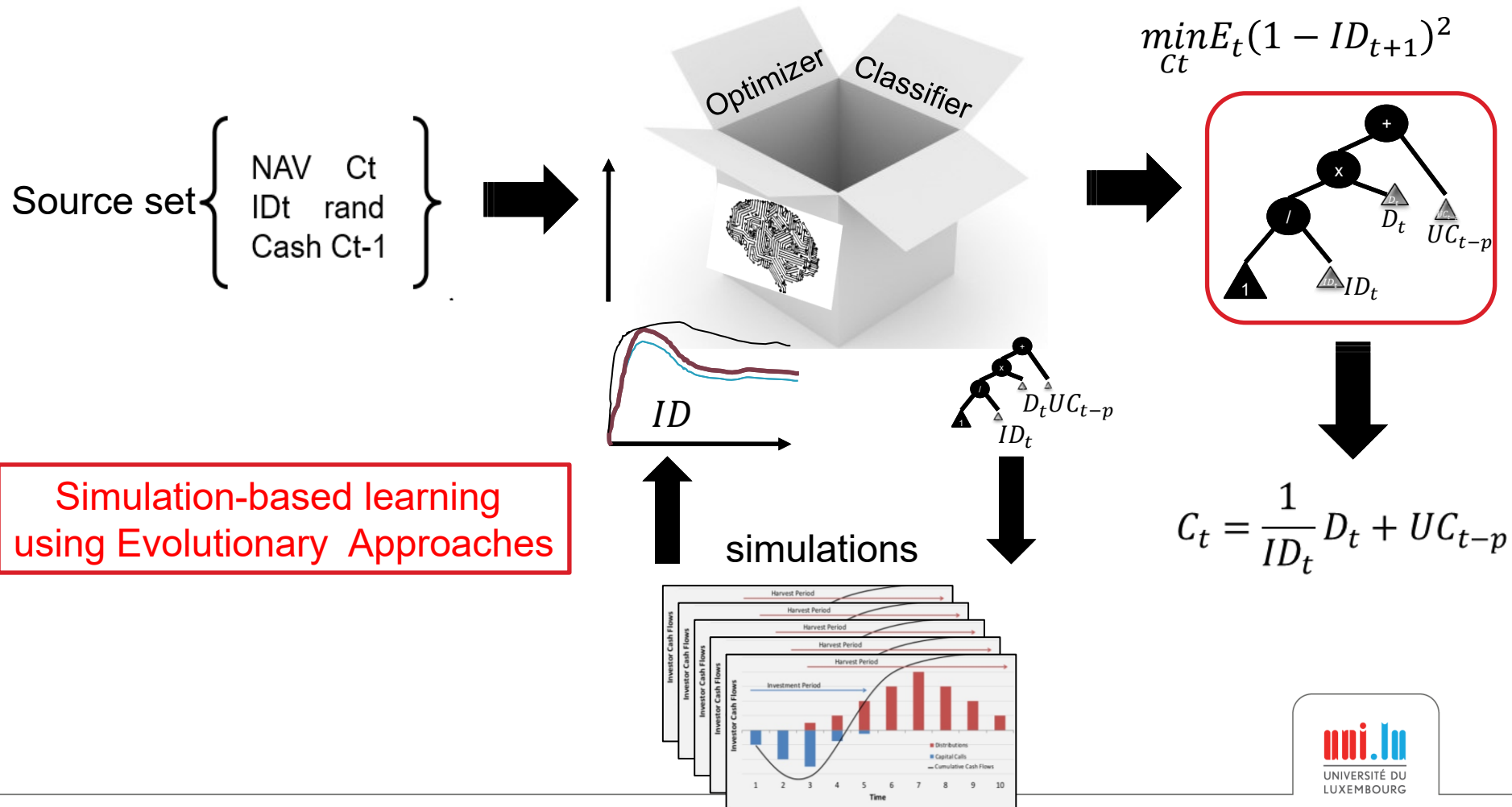


Countries	Government	Research and Academia		Industry	Clusters, networks and others	NRENs	Worldwide support
	National support	Partners	Support				
	Local support confirmed						
	Local support confirmed						
	Local support in progress						
	Local support in progress						

- STAREBEI project accepted
  - Short-term project providing a grant to a young researcher
  - UL tutor: Prof. Bouvry
  - EIB tutor: Dr. Lucius
- “Sustainable and Trustworthy AI Recommitment System (STAIRS)”
- Control Theory (Private Equity) ➡ keep invested







Thank you for your attention