Slide 1

Faculty of Automation and Computer Science

Computer Science Department

DSRL Distributed Systems Research Laboratory

Workshop
Large Scale Distributed Systems – challenges and use-cases in H2020 projects

DSRL Research in Large Scale Distributed Systems

Prof. Ioan Salomie
Computer Science Departament
Ioan.Salomie@cs.utcluj.ro

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Slide 2

Distributed Systems Research Laboratory Core Team

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Slide 3

Distributed Systems Research Laboratory
http://dsrl.coned.utcluj.ro

Areas of Expertise

Large Scale Distributed Systems

Intelligent Energy Systems	IoT & Smart Environments for Adult Care	Cyber-Physical Systems
Big Data Analytics, ML	Modeling, Simulation Optimization, Adaptation	Blockchain-based asset trading

Smart Grids, Smart Cities, Data Centers

Use Cases, Prototypes, Solutions, Technologies
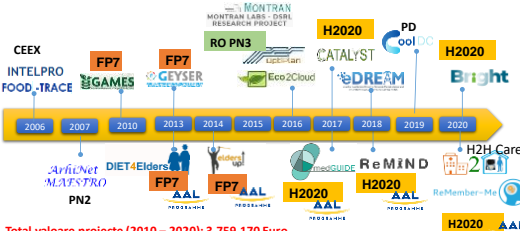
Ambient Assistive Living, Older Adults Care, Dementia Management, Nutrition Management

Energy Trading, Industry 4.0, Social Robots

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Slide 4

Distributed Systems Research Laboratory
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Areas of Expertise

Large Scale Distributed Systems

Intelligent Energy Systems	IoT & Smart Environments for Adult Care	Cyber-Physical Systems
Big Data Analytics, ML	Modeling, Simulation Optimization, Adaptation	Blockchain-based asset trading

2006 2007 2010 2013 2014 2015 2016 2017 2018 2019 2020

Total valoare proiecte (2010 – 2020): 3.759.170 Euro

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Distributed Systems Research Laboratory
Network of Partners

Journal Publications (last 4 years)
Red and Yellow Zones

1. M. Antal, C. Pop, T. Cioara, I. Anghel, I. Salomie, F. Pop - A system of systems approach for data centers optimization and integration into smart energy grids, in Future Generation Computer Systems, April 2020, ISSN 0167-739X. **IF: 5.768**
2. I.Anghel, T.Cioara, D.Moldovan, M.Antal, C.Pop, I.Salomie, C.Pop and V.Chifu - Smart Environments and Social Robots for Age-Friendly Integrated Care Services, in International journal of environmental research and public health, 17(11), 3801, 2020, **IF: 2.468**
3. D.Moldovan, I.Anghel, T.Cioara and I.Salomie - Adapted Binary Particle Swarm Optimization for Efficient Features Selection in the Case of Imbalanced Sensor Data, in Applied Sciences (Switzerland), 2020, 10(4), 1496, **IF: 2.474**
4. M.Antal, T.Cioara, I.Anghel, R.Gorzenski, R.Januszewski, A.Oleksiak, W.Piatek 3, C.Pop, I.Salomie and W. Szeliga - Reuse of Data Center Waste Heat in Nearby Neighborhoods: A Neural Networks-Based Prediction Model, *Energies* 2019, 12(5), 814; doi: 10.3390/en12050814, **IF : 2.676**
5. T. Cioara, I. Anghel, I. Salomie, M. Antal, C. Pop, M. Bertoncini, D. Arnone, F. Pop - Exploiting data centres energy flexibility in smart cities: Business scenarios, *Information Sciences*, 2018, ISSN 0020-0255. **IF: 4.378**
6. M. Antal, T. Cioara, I. Anghel, C. Pop, I. Salomie - Transforming Data Centers in Active Thermal Energy Players in Nearby Neighborhoods, *Sustainability* 2018, 10, 939. **IF:2.075**
7. M. Antal, C. Pop, T. Petrican, A. Vesa, T. Cioara, I. Anghel, I. Salomie, E. Niewiadomska-Szynkiewicz - MoSiCS: Modeling, simulation and optimization of complex systems–A case study on energy efficient datacenters, *Simulation Modelling Practice and Theory*, 2018, ISSN 1569-190X **IF: 2.239**
8. C. Pop, T. Cioara, M. Antal, I. Anghel, I. Salomie, M. Bertoncini - Blockchain Based Decentralized Management of Demand Response Programs in Smart Energy Grids, *Sensors* 2018, 18(1), 162. **IF:2.475**
9. T. Cioara, I. Anghel, I. Salomie, L. Barakat, S. Miles, D. Reidlinger, A. Taweel, C. Dobre, F. Pop, Expert system for nutrition care process of older adults, *Future Generation Computer Systems*, Volume 80, March 2018, Pages 368-383, ISSN 0167-739X. **IF:4.968**
10. T. Cioara, I. Anghel, M. Bertoncini, I. Salomie, D. Arnone, M. Mammina, T. Velivassaki, M. Antal - Optimized Flexibility Management Enacting Data Centres Participation in Smart Demand Response Programs, *Future Generation Computer Systems*, Vol. 78, Part 1, January 2018, pp. 330-342. **IF:4.968**
11. T. Cioara, I. Anghel, I. Salomie, Methodology for Energy Aware Adaptive Management of Virtualized Data Centers, in *Energy Efficiency*, April 2017, Volume 10, Issue 2, pp 475–498 IF: **1.634**
12. M. Antal, C. Pop, T. Cioara, I. Anghel, I. Salomie, F. Pop, A system of systems approach for data centers optimization and integration into smart energy grids, *Future Generation Computer Systems*, Available online 24 May 2017, ISSN 0167-739X. **IF: 4.96**

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