Romaric Duvignau

Assistant Professor

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Education

2012-2015 **Computer Science Ph.D.**, *University of Bordeaux*, *Maintenance and simulation of dynamic random graphs*, under the supervision of Pr Philippe Duchon, defended on 2015-10-16.

Employment record

2020- **Assistant Professor**, *Chalmers University of Technology*, Gothenburg (Sweden).
- Department of *Computer Science and Engineering*, division *Computer and Network Systems* CNS.
- Teaching in CSE BSc and *Computer Systems and Networks* Master's program.

2017-2019 **Postdoctoral Researcher**, *Chalmers*.
- CSE, CNS/DCS and teaching in CS programs (20% of employment time).

2016-2017 **Research and Teaching Fellow**, *Aix-Marseille University*, Marseille (France).
- LIF, team: *Distributed Algorithms*, teaching in the CS department of Aix-Marseille University.

2012-2016 **PhD (2012-2015); Research and Teaching Fellow (2015-2016)**, *LaBRI*, Bordeaux (Fr.).
- Teams: *Distributed Algorithms* and *Enumerative and Algebraic Combinatorics*.
- Teaching at the Univ. of Bordeaux (2015-2016) and at the Inst. of Technology of Bdx (2012-2015).

Research and supervision

Research areas
- Efficient data communication, distributed systems and mobile networking, big data analysis and streaming analytics for Cyber-Physical Systems (CPS), 5G core network architecture, connected and autonomous vehicles, distributed power systems and efficient P2P energy sharing.

Granted research projects
- Main PI of *Passive Attacks on 5G Networks* (Chalmers Area of Advance ICT seed project, 2022).
- PI of *Dynamic and Efficient Energy-sharing P2P networks* (AoA Energy, 2021).
- Co-PI of AutoSPADA (Automotive Stream Processing and Distributed Analytics) OODIDA Phase 2, funding from Vinnova SEK 7 900 000, 2020-2022.
- Main contributor in *ADAPT: Adaptive DigitAl Power sysTems* (AoA Energy, 2019-2021) and participant in On-board Off-board Distributed Data Analytics (Vinnova, 2016-2019).

Scientific recognition
- Reviewer for well-established journals: Theoretical Computer Science, Computer Communications, Algorithmica, IEEE Transactions on Knowledge and Data Engineering, Applied Energy, FGCS, etc.
- Reviewer for top-ranked conferences: IPDPS, DISC, DEBS, ITSC, EuroSys, ICALP, PPop, etc.
- Opponent for the Licentiate of Daniel Brahneborg, *Improving the Quality Attributes of a Monolithic Messaging Gateway* (2020).
- Editor of the Journal of Interconnection Networks (2021-), PC member of ALGOSENSORS 2021.

Supervision
- 14 Master Thesis (24 students) since 2018, including 9 in collaboration with Ericsson.
- 6 Technical Writing projects, 3 Data-driven support for CPS projects (master classes).

Recent journal and conference publications (extract)
- R. D., B. Havers, V. Gulisano, M. Papatriantafilou. Time-and Computation-Efficient Data Localization at Vehicular Networks' Edge. IEEE Access, 2021, 9, 137714-137732.
- R. D., V. Heinisch, L. Göransson, V. Gulisano, M. Papatriantafilou. Benefits of small-size communities for continuous cost-optimization in peer-to-peer energy sharing. Applied Energy, 2021, 301, 117402.
- B. Havers, R. D., H. Najdataei, V. Gulisano, M. Papatriantafilou, A. C. Koppisetty. DRIVEN: A framework for efficient Data Retrieval and clustering in Vehicular Networks, *Future Generation Computer Systems*, 2020, 107:1-17.
- R. D., M. Papatriantafilou, K. Peratinos, E. Nordström, P Nyman, Continuous Distributed Monitoring in the Evolved Packet Core. ACM DEBS 2019, 187-192.
- R. D., V. Gulisano, M. Papatriantafilou, V. Savic. Streaming Piecewise Linear Approximation for Efficient Data Management in Edge Computing. ACM SAC 2019, 593-596.