HOGIE Luc

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CNRS Research Engineer at I3S laboratory, Université Côte d'Azur, Inria.

Work experience

Since Feb. 2010 — **Research Engineer** *at CNRS, Sophia-Antipolis, France.*
Context: research activities of the COMRED Research unit.

- Management of Open Source software projects for I3S, Inria, and Terra Numerica
- Research in Distributed Systems
- Teaching in Master and License degrees at Université Côte d'Azur: Java programming language, Object-oriented programming, Distributed systems for Big Data, System programming

2007-2010 — **Research Engineer** *at Centre Inria d'Université Côte d'Azur, Sophia-Antipolis, France.*
Context: R&D project funded by Alcatel Lucent Bell (Belgium) on the evaluation of routing schemes for backbone networks.

- Software design/implementation of an high-performance graph library, and a backbone networks simulator
- Teaching Java programming language, algorithms

2003-2007 — **Researcher** *at Department of Computer Science, University of Luxembourg.*
Context: PhD thesis "Delay Tolerant Networks: Modeling, Simulation and Broadcast-based Applications".

- Scientific/technical Research
- Collabs with labs at Malagà University, Université de Bretagne, Université du Havre, etc.
- Software design/implementation of a MANETs simulator
- Teaching OO-designs and implementations

2002-2003 — **Software Architect/Development Engineer** *at SOGET, Le Havre, France.*

- OO-designs for AP+: a J2EE-based B2B application for shipowners
- design/implementation of an **high-performance messaging** module

2001-2002 — **Research Engineer** *at CRS4 (Centre for Advanced Studies, R&D in Sardinia), Cagliari, Italy.*
Context: civil security studies for Cagliari city (E-mate project)

- design/implementation of a Multi-Agent-based simulator of urban traffic/evacuation
- design/implementation a high performance 2D plotter for Java/Swing

2000 — **System Architect** *at LIH (Computer Science Laboratory of Le Havre).*

- design/installation of a DEC/Digital **Unix** Beowulf cluster for distributed scientific computing

Studies

2003-2007	*University of Luxembourg & University of Le Havre (co-tutelle).* **Ph.D** in Computer Science *with grades* "Excellent" (Luxembourg) and "Très honorable avec félicitations du jury" (France) *Thesis title: Delay Tolerant Networks: Modeling, Simulation and Broadcast-based Applications.*
2000-2001	*University of Le Havre.* **Professional Master (DESS)** in Distributed Software Engineering..
-	*University of Le Havre & University of Rouen.* **Research Master (DEA)** in Theoretical Computer Science and Applications..
1998	*University of Le Havre.* **Two-years university degree (DUT)** in Computer Science.

Most significant skills

Informatics

- Software design and implementation
- Algorithms, distribution, parallelism, data structures, complexity
- Project management
- Implementations

Linguistic

- **French** native speaker
- **English** (advanced)
- **Italian** (advanced)
- **excellent writing abilities**.

Misc

- Psychology
- Music (composition, production, piano, bass, drums, guitar, etc)

List of publications

References

[1] E. Alba, B. Dorronsoro, F. Luna, A. J. Nebro, P. Bouvry, and L. Hogie. A cellular multi-objective genetic algorithm for optimal broadcasting strategy in metropolitan manets. *Comput. Commun.*, 30(4):685–697, 2007.

[2] D. Coudert, L. Hogie, A. Lancin, D. Papadimitriou, S. Pérennes, and I. Tahiri. Feasibility study on distributed simulations of BGP. In *26th ACM/IEEE/SCS Workshop on Principles of Advanced and Distributed Simulation, PADS 2012, Zhangjiajie, China, July 15-19, 2012*, pages 96–98. IEEE Computer Society, 2012.

[3] D. Coudert, L. Hogie, A. Lancin, D. Papadimitriou, S. Pérennes, and I. Tahiri. Feasibility study on distributed simulations of BGP. *CoRR*, abs/1209.0943, 2012.

[4] D. Coudert, L. Hogie, A. Lancin, D. Papadimitriou, S. Pérennes, and I. Tahiri. Feasibility study on distributed simulations of BGP. *CoRR*, abs/1304.4750, 2013.

[5] G. Danoy, P. Bouvry, and L. Hogie. Coevolutionary genetic algorithms for ad hoc injection networks design optimization. In *Proceedings of the IEEE Congress on Evolutionary Computation, CEC 2007, 25-28 September 2007, Singapore*, pages 4273–4280. IEEE, 2007.

[6] L. Hogie. *Mobile Ad Hoc Networks: Modelling, Simulation and Broadcast-based Applications. (Réseaux Mobile Ad hoc : modélisation, simulation et applications de diffusion)*. PhD thesis, University of Luxembourg, 2007.

[7] L. Hogie. Idawi: a decentralised middleware for achieving the full potential of the iot, the fog, and other difficult computing environments. In R. Martins, L. Veiga, and A. Lebre, editors, *Proceedings of the 1st Workshop on Middleware for the Edge, MIDDLEWEDGE 2022, Quebec City, Quebec, Canada, 7 November 2022*, pages 1–5. ACM, 2022.

[8] L. Hogie. A service-oriented middleware enabling decentralised deployment in mobile multihop networks. In J. Troya, R. Mirandola, E. Navarro, A. Delgado, S. Segura, G. Ortiz, C. Pautasso, C. Zirpins, P. Fernández, and A. Ruiz-Cortés, editors, *Service-Oriented Computing - ICSOC 2022 Workshops - ASOCA, AI-PA, FMCIoT, WESOACS 2022, Sevilla, Spain, November 29 - December 2, 2022 Proceedings*, volume 13821 of *Lecture Notes in Computer Science*, pages 209–220. Springer, 2022.

[9] L. Hogie. A decentralized web service infrastructure for the interoperability of applications in multihop dynamic networks. In *6th Conference on Cloud and Internet of Things, CIoT 2023, Lisbon, Portugal, March 20-22, 2023*, pages 211–218. IEEE, 2023.

[10] L. Hogie, P. Bouvry, and F. Guinand. An overview of manets simulation. In L. Brim and I. Linden, editors, *Proceedings of the First International Workshop on Methods and Tools for Coordinating Concurrent, Distributed and Mobile Systems, MTCoord@COORDINATION 2005, Namur, Belgium, April 23, 2005*, volume 150 of *Electronic Notes in Theoretical Computer Science*, pages 81–101. Elsevier, 2005.

[11] L. Hogie, P. Bouvry, M. Seredynski, and F. Guinand. A bandwidth-efficient broadcasting protocol for mobile multi-hop ad hoc networks. In *Fifth International Conference on Networking and the International Conference on Systems (ICN / ICONS / MCL 2006), 23-29 April 2006, Mauritius*, page 71. IEEE Computer Society, 2006.

[12] L. Hogie, G. Danoy, P. Bouvry, and F. Guinand. A context-aware broadcast protocol for mobile wireless networks. In L. T. H. An, P. Bouvry, and P. D. Tao, editors, *Modelling, Computation and Optimization in Information Systems and Management Sciences, Second International Conference, MCO 2008, Metz, France - Luxembourg, September 8-10, 2008. Proceedings*, volume 14 of *Communications in Computer and Information Science*, pages 507–519. Springer, 2008.

[13] L. Hogie, F. Guinand, and P. Bouvry. A heuristic for efficient broadcasting in the metropolitan ad hoc networks. In M. G. Negoita, R. J. Howlett, and L. C. Jain, editors, *Knowledge-Based Intelligent Information and Engineering Systems, 8th International Conference, KES 2004, Wellington, New Zealand, September 20-25, 2004. Proceedings. Part I*, volume 3213 of *Lecture Notes in Computer Science*, pages 727–733. Springer, 2004.

[14] L. Hogie, D. Papadimitriou, I. Tahiri, and F. Majorczyk. Simulating routing schemes on large-scale topologies. In G. F. Riley, R. M. Fujimoto, R. Simmonds, and F. Quaglia, editors, *24th ACM/IEEE/SCS Workshop on Principles of Advanced and Distributed Simulation, PADS 2010, Atlanta, Georgia, USA, May 17-19, 2010*, pages 132–141. IEEE Computer Society, 2010.

[15] F. Luna, A. J. Nebro, B. Dorronsoro, E. Alba, P. Bouvry, and L. Hogie. Optimal broadcasting in metropolitan manets using multiobjective scatter search. In F. Rothlauf, J. Branke, S. Cagnoni, E. Costa, C. Cotta, R. Drechsler, E. Lutton, P. Machado, J. H. Moore, J. Romero, G. D. Smith, G. Squillero, and H. Takagi, editors, *Applications of Evolutionary Computing, EvoWorkshops 2006: EvoBIO, EvoCOMNET, EvoHOT, EvoIASP, EvoINTERACTION, EvoMUSART, and EvoSTOC, Budapest, Hungary, April 10-12, 2006, Proceedings*, volume 3907 of *Lecture Notes in Computer Science*, pages 255–266. Springer, 2006.

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[17] T. Trolliet, N. Cohen, F. Giroire, L. Hogie, and S. Pérennes. Interest clustering coefficient: a new metric for directed networks like twitter. *CoRR*, abs/2008.00517, 2020.

[18] T. Trolliet, N. Cohen, F. Giroire, L. Hogie, and S. Pérennes. Interest clustering coefficient: a new metric for directed networks like twitter. *J. Complex Networks*, 10(1), 2021.

Members of the jury for my PhD

- Prof. Alain Cardon (president of the jury) LIP6;
- Prof. Pascal Bouvry (co-supervisor) ..... Université du Luxembourg;
- Prof. Frédéric Guinand (co-supervisor) ..... Université du Havre;
- Prof. Enrique Alba ..... Universidad de Màlaga;
- Prof. Marco Conti ..... Consiglio Nazionale delle Ricerche (CNR);
- Dr. Steffen Rothkugel ..... Université du Luxembourg;
- Dr. Michel Syska ..... INRIA Sophia Antipolis;
- Dr. Di Caro (invited) ..... IDSIA (CH);