Raphaël BLEUSE

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French and Swiss citizenships

Curriculum Vitae (updated 2023-02-13)

Professional Experiences

2019
Associate Professor, *IUT 2, Univ. Grenoble Alpes*, Grenoble, France

2017–2018
Research Associate, *PCOG team, FSTC, University of Luxembourg*, Luxembourg
Coordination of the development of the ILNAS-UL Master "Smart Secure ICT for Business Innovation".

2016–2017
Teaching Assistant, *IUT 2, Univ. Grenoble Alpes*, Grenoble, France
50% teaching, 50% research.

Education

2013–2017
Ph.D. in Computer Science, *DataMove team, LIG, Univ. Grenoble Alpes*, Grenoble, France
"Apprehending heterogeneity at (very) large scale".
Advisors: Grégory MOUNIÉ and Denis TRYSTRAM.
Committee: Lionel EYRAUD-DUBOIS, Nectarios KOZIRIS, Vitus J. LEUNG, Alix MUNIER, and Yves ROBERT.

2010–2013
Engineer's degree, *Ensimag, Grenoble INP*, Grenoble, France
Superior National School of Applied Mathematics and Computer Science.
Equivalent of a Master Degree of Science in Engineering, specialization in *Information Systems Engineering*.

Teaching (741 h)

IUT 2, Univ. Grenoble Alpes, Grenoble, France (578 h)

2021–2022 Computer Architecture, tutorials/practicals, undergraduate, 20 h

2021–2022 Introduction to Continous Integration, lectures/practicals, undergraduate, 28 h

2019–2022 Advanced Algorithmics – C++ Language, practicals, undergraduate, 16 h/year (48 h total)

2019–2022 Architecture of Networks, tutorials/practicals, undergraduate, 31 h/year (94 h total)

2019–2022 C Language, lectures/practicals, undergraduate, 15 h/year (44 h total)

2019–2022 Object-Oriented Modeling, lectures/tutorials/practicals, undergraduate, 37 h/year (110 h total)

2019–2022 Methodology of Application Development, project follow-up, undergraduate, 30 h/year (90 h total)

2016–2017 Advanced Databases, lectures/tutorials/practicals, undergraduate, 20 h

2016–2017 Computer Architecture and C Language, practicals, undergraduate, 16 h

2016–2017 Distributed Programming, practicals, undergraduate, 24 h

2016–2017 Introduction to Algorithms and Programming, lectures/tutorials/practicals, undergraduate, 24 h

2016–2017 Introduction to Databases, lectures/tutorials/practicals, undergraduate, 30 h

2016–2017 Principles of Operating Systems, tutorials/practicals, undergraduate, 30 h

Ensimag, Grenoble INP, Grenoble, France (18 h)

2015–2016 Algorithms and Data structures, tutorials, undergraduate, 18 h

Polytech, Univ. Grenoble Alpes, Grenoble, France (15 h)

2015–2016 Computers: Hardware and Software Architectures, tutorials, undergraduate, 15 h

Esisar, Grenoble INP, Valence, France (130 h)

2013–2015 Communicating Applications, practicals, postgraduate, 12 h/year (24 h total)

2013–2015 Distributed Programming, practicals, postgraduate, 21 h/year (42 h total)

2013–2015 Introduction to Databases, tutorials/practicals, undergraduate, 18 h/year (36 h total)

2013–2015 Network Architecture and Protocols, practicals, postgraduate, 14 h/year (28 h total)

Supervision

2022 Ahmadreza AHMADI, *Model-Free Control Approach for the Collection of Resources in High Performance Computing*, M.Sc. student, MiSCIT, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Quentin GUILLOTEAU & Bogdan ROBU.

2022 Ali El Hadi NOURA, *Integration of Scheduler Knowledge into CiGri Control Loop*, M.Sc. student, MiSCIT, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Quentin GUILLOTEAU & Bogdan ROBU.

2022 Jolann VAUDEY, *Comparison of Controller Synthesis and Scheduling Techniques for Dynamically Reconfigurable Allocation of Tasks on Computing Resources*, M.Sc. student, MoSIG, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Gwenaël DELAVAL.

2020–2021 Sophie CERF, *Improving the Performance and Energy Efficiency of HPC Applications Using Autonomic Computing Techniques*, postdoctoral researcher
Co-supervision with Éric RUTTEN.

2021 Ismaïl AWILA, *Adaptive Control Approach for Power Regulation in High Performance Computing Systems*, M.Sc. student, MiSCIT, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Sophie CERF & Éric RUTTEN.

2020 Manal BENAISSA, *Relationships Between Scheduling and Autonomic Computing Techniques for Parallel Computing Resources Management*, M.Sc. student, MoSIG, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Éric RUTTEN.

2017 Marc-Alexandre OGANDAGA CAPITO, *Improving Visualization Techniques for Large Scale Traces*, M.Sc. student, MoSIG, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Denis TRYSTRAM.

2016 Matthias KOHL, *Efficient Shapes for Tasks' Allocation within Extreme Scale Computing Platform*, M.Sc. student, MoSIG, Univ. Grenoble Alpes, Grenoble, France
Co-supervision with Denis TRYSTRAM.

Other Activities

Program committees

2023 37th IEEE International Parallel & Distributed Processing Symposium (**IPDPS 2023**)

2019 33rd IEEE International Parallel & Distributed Processing Symposium (**IPDPS 2019**)

Organizing committees

2016 22nd International European Conference on Parallel and Distributed Computing (**Euro-Par 2016**), Grenoble, France

2014 11th Workshop on "New Challenges in Scheduling Theory", Aussois, France

Refereeing

Intl. journals · 5 — Concurrency and Computation: Practice and Experience; Journal of Parallel and Distributed Computing; Parallel Computing; RAIRO-Operations Research.

Intl. conferences · 9 — IEEE Intl. Conference on Autonomic Computing and Self-Organizing Systems (**ACSOS**); IEEE/ACM Intl. Symposium on Cluster, Cloud and Grid Computing (**CCGRID**); Intl. European Conference on Parallel and Distributed Computing (**Euro-Par**); Intl. Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Platforms (**HeteroPar**); Intl. Symposium on Parallel and Distributed Computing (**ISPDC**); Intl. Symposium on Experimental Algorithms (**SEA**); Intl. Conference on Software, Telecommunications and Computer Networks (**SoftCOM**); ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA**).

Languages

French   mother tongue
English   fluent *(TOEFL iBT 103/120)*

Publications & Communications

International journals

[J1] R. Bleuse et al. "Scheduling Independent Moldable Tasks on Multi-Cores with GPUs". In: *IEEE Transactions on Parallel and Distributed Systems* 28.9 (Sept. 2017), pp. 2689–2702. DOI: 10.1109/TPDS.2017.2675891.

[J2] R. Bleuse et al. "Scheduling independent tasks on multi-cores with GPU accelerators". In: *Concurrency and Computation: Practice and Experience* 27.6 (2015), pp. 1625–1638. DOI: 10.1002/cpe.3359.

International conferences

[C1] I. Hawila et al. "Adaptive Power Control for Sober High-Performance Computing". In: *CCTA*. IEEE, Aug. 2022, pp. 403–410. DOI: 10.1109/CCTA49430.2022.9966115.

[C2] S. Cerf et al. "Sustaining Performance While Reducing Energy Consumption: A Control Theory Approach". In: *Euro-Par*. Vol. 12820. Lecture Notes in Computer Science. Springer, Sept. 2021, pp. 334–349. DOI: 10.1007/978-3-030-85665-6_21.

[C3] M. Olszewski et al. "Visualizing the Template of a Chaotic Attractor". In: *Graph Drawing*. Vol. 11282. Lecture Notes in Computer Science. Springer, Sept. 2018, pp. 106–119. DOI: 10.1007/978-3-030-04414-5_8.

[C4] R. Bleuse et al. "Interference-Aware Scheduling using Geometric Constraints". In: *Euro-Par*. Vol. 11014. Lecture Notes in Computer Science. Springer, Aug. 2018, pp. 205–217. DOI: 10.1007/978-3-319-96983-1_15.

[C5] R. Bleuse, G. Lucarelli, and D. Trystram. "A Methodology for Handling Data Movements by Anticipation: Position Paper". In: *Euro-Par Workshops*. Vol. 11339. Lecture Notes in Computer Science. Springer, Aug. 2018, pp. 134–145. DOI: 10.1007/978-3-030-10549-5_11.

[C6] R. Bleuse et al. "Scheduling Data Flow Program in XKaapi: A New Affinity Based Algorithm for Heterogeneous Architectures". In: *Euro-Par*. Vol. 8632. Lecture Notes in Computer Science. Springer, Aug. 2014, pp. 560–571. DOI: 10.1007/978-3-319-09873-9_47.

International workshops

[W1] R. Bleuse et al. "Interference-Aware Scheduling with 2D-Torus as a Case Study". Presented at *ECCO XXX*. Koper, Slovenia, May 2017.

[W2] R. Bleuse, G. Lucarelli, and D. Trystram. "Convex Allocations under IO Constraints". Presented at the 5th *JLESC Workshop*. Lyon, France, June 2016.

[W3] R. Bleuse, G. Lucarelli, and D. Trystram. "Convex Allocations under IO Constraints". Presented at *New Challenges in Scheduling Theory*. Aussois, France, Mar. 2016.

[W4] R. Bleuse. "Affinity Scheduling: from Quantitative to Qualitative". Presented at the 2nd *JLESC Workshop*. Chicago, USA, Nov. 2014.

Theses

[T1] R. Bleuse. "Apprehending heterogeneity at (very) large scale". PhD thesis. LIG, Univ. Grenoble Alpes, Grenoble, France, Oct. 2017.

[T2] R. Bleuse. "Utilisation efficace des accélérateurs GPU – Ordonnancement sur machines hybrides". MA thesis. Ensimag, Grenoble INP, Grenoble, France, June 2013.

Software

[SW1] R. Bleuse et al., *cate: Chaotic Attractor TEmplate* 2018. LIC: LGPL-3.0-only. URL: https://pypi.org/project/cate, VCS: https://gitlab.inria.fr/cate/cate.

[SW2] R. Bleuse, *procset.py* 2017. LIC: LGPL-3.0-only. URL: https://procset.readthedocs.io/en/stable, VCS: https://gitlab.inria.fr/bleuse/procset.py.