Universität Bremen
FB3: Mathematik/Informatik
Bibliothekstr.
28359 Bremen – Germany
✉ *bsimon@uni-bremen.de*
⌂ *cslog.uni-bremen.de/bsimon*
Nationality: French

Bertrand SIMON

Education and positions

since 2018	**Postdoctoral researcher**, *University of Bremen (Germany).*
2015 – 2018	**PhD in computer science**, *LIP laboratory - ROMA team - École Normale Supérieure de Lyon*, "Scheduling task graphs on modern computing platforms", directed by Dr. Frédéric Vivien and Dr. Loris Marchal, defended on July 4, 2018.
2012 – 2014	**Master Informatique Fondamentale** *(Master in theoretical computer science)*, *ENS de Lyon*, with High Honors.
2011 – 2012	**Licence Informatique Fondamentale** *(B.Sc. in theoretical computer science)*, *ENS de Lyon*, with Highest Honors.

Research visits and internships

2015	**Visiting scholar**, *5 months*, Stony Brook University (NY, United States), advisor Dr. M. Bender.
2014	**Intern**, *5 months*, ENS Lyon, LIP, ROMA team, supervisors Dr. L. Marchal and Dr. F. Vivien, "Scheduling malleable task trees on hybrid platforms".
2014	**Intern**, *5 months*, ENS Lyon, LIP, ROMA team, supervisors Dr. L. Marchal and Dr. F. Vivien, "Scheduling malleable task trees".
summer 2013	**Intern**, *3 months*, Concordia University, Montreal (Canada), supervisor Prof. B. Jaumard, "Deadlock avoidance in train scheduling simulation".
summer 2012	**Intern**, *6 weeks*, INRIA Sophia-Antipolis, France, STARS team, supervisor Dr. G. Charpiat, "Gesture recognition and dynamics of an articulated movement".

Internship supervision

summer 2017	Hanna Nagy (Undergraduate, 2 months, cosupervised with Loris Marchal and Frédéric Vivien)
spring 2018	Ali Al Zoobi (M2, 5 months, cosupervised with Loris Marchal)
2019-2020	Alexander Lindermayr (Master thesis, cosupervised with Nicole Megow)
2019-2020	Ole Fischer (Bachelor thesis, cosupervised with Nicole Megow)

Teaching experience

2020	**Algorithms under uncertainty**, University of Bremen, Master (15h).
2017-2018	**Practice sessions of concurrent programming**, Université Lyon 1, L3 (32h).
	Co-supervision of a Programming Project, ENS de Lyon, L3 (32h).
2016-2017	**Tutorials of Probabilities**, ENS de Lyon, L3 (32h).
	Co-supervision of a Programming Project, ENS de Lyon, L3 (32h).
2015-2016	**Tutorials of Performance Evaluation and Networks**, ENS de Lyon, M1 (28h).
	Tutorials of Optimisation and Approximation, ENS de Lyon, M1 (24h).
	Tutorials of Architecture, Systems and Networks, ENS de Lyon, L3 (4h).

Support sessions, ENS de Lyon, L3 (6h).

Scientific Production — authors are listed in alphabetical order, except for [J1,C1,W2]

Thesis

[T1]   Bertrand SIMON. "Scheduling Task Graphs on Modern Computing Platforms". PhD thesis. Université de Lyon, 2018.

Journal articles

[J1]   Bertrand SIMON, Brigitte JAUMARD, and Thai Hoa LE. "Deadlock Avoidance and Detection In Railway Simulation Systems". In: *Transportation Research Record: Journal of the Transportation Research Board* 2448 (2014).

[J2]   Loris MARCHAL, Bertrand SIMON, Oliver SINNEN, and Frédéric VIVIEN. "Malleable Task-graph Scheduling with a Practical Speed-up Model". In: *IEEE Transactions on Parallel and Distributed Systems* (2018).

[J3]   Louis-Claude CANON, Loris MARCHAL, Bertrand SIMON, and Frédéric VIVIEN. "Online Scheduling of Task Graphs on Heterogeneous Platforms". In: *IEEE Transactions on Parallel and Distributed Systems* (2019).

[J4]   Loris MARCHAL, Bertrand SIMON, and Frédéric VIVIEN. "Limiting the Memory Footprint when Dynamically Scheduling DAGs on Shared-Memory Platforms". In: *Journal of Parallel and Distributed Computing* (2019).

[J5]   Olivier BEAUMONT, Louis-Claude CANON, Lionel EYRAUD-DUBOIS, Giorgio LUCARELLI, Loris MARCHAL, Clément MOMMESSIN, Bertrand SIMON, and Denis TRYSTRAM. "Scheduling on Two Types of Resources: a Survey". In: *ACM Computing Surveys* (2020).

Conference proceedings

[C1]   Bertrand SIMON, Brigitte JAUMARD, and Thai Hoa LE. "Deadlock Avoidance and Detection in Railway Simulation Systems". In: *Joint Rail Conference*. American Society of Mechanical Engineers. 2014.

[C2]   Abdou GUERMOUCHE, Loris MARCHAL, Bertrand SIMON, and Frédéric VIVIEN. "Scheduling Trees of Malleable Tasks for Sparse Linear Algebra". In: *European Conference on Parallel Processing (Euro-Par)*. 2015.

[C3]   Michael A. BENDER, Jon BERRY, Rob JOHNSON, Thomas M. KROEGER, Samuel MCCAULEY, Cynthia A. PHILLIPS, Bertrand SIMON, Shikha SINGH, and David ZAGE. "Anti-Persistence on Persistent Storage: History-Independent Sparse Tables and Dictionaries". In: *Proceedings of the Thirty-Fifth Symposium on Principles of Database Systems (PODS)*. 2016.

[C4]   Michael A. BENDER, Rezaul CHOWDHURY, Alex CONWAY, Martin FARACH-COLTON, Pramod GANAPATHI, Rob JOHNSON, Samuel MCCAULEY, Bertrand SIMON, and Shikha SINGH. "The I/O Complexity of Computing Prime Tables". In: *12th Latin American Theoretical Informatics Symposium (LATIN)*. 2016.

[C5]   Michael A. BENDER, Samuel MCCAULEY, Bertrand SIMON, Shikha SINGH, and Frédéric VIVIEN. "Resource Optimization for Program Committee Members: A Subreview Article". In: *Fun with Algorithms (FUN)*. 2016.

[C6]   Louis-Claude CANON, Loris MARCHAL, Bertrand SIMON, and Frédéric VIVIEN. "Online Scheduling of Sequential Task Graphs on Hybrid Platforms". In: *European Conference on Parallel Processing (Euro-Par)*. 2018.

[C7]   Loris MARCHAL, Hanna NAGY, Bertrand SIMON, and Frédéric VIVIEN. "Parallel Scheduling of DAGs under Memory Constraints". In: *IPDPS 2018-32st IEEE International Parallel & Distributed Processing Symposium*. 2018.

[C8] Antonios ANTONIADIS, Christian COESTER, Marek ELIAS, Adam POLAK, and Bertrand SIMON. "Online Metric Algorithms with Untrusted Predictions". In: *37th International Conference on Machine Learning (ICML)*. Accepted. 2020.

[C9] Martin BÖHM, Ruben HOEKSMA, Nicole MEGOW, Lukas NÖLKE, and Bertrand SIMON. "Computing a Minimum-Cost k-hop Steiner Tree in Tree-Like Metrics". In: *45th International Symposium on Mathematical Foundations of Computer Science (MFCS)*. Accepted. 2020.

[C10] Vincent FAGNON, Imed KACEM, Giorgio LUCARELLI, and Bertrand SIMON. "Scheduling on Hybrid Platforms: Improved Approximability Window". In: *14th Latin American Theoretical Informatics Symposium (LATIN)*. Accepted. 2020.

International workshops

[W1] Loris MARCHAL, Samuel MCCAULEY, Bertrand SIMON, and Frédéric VIVIEN. "Minimizing I/Os in Out-of-Core Task Tree Scheduling". In: *19th Workshop on Advances in Parallel and Distributed Computational Models (APDCM)*. 2017.

[W2] Bertrand SIMON, Joachim FALK, Nicole MEGOW, and Jürgen TEICH. "Energy Minimization in DAG Scheduling on MPSoCs at Run-Time: Theory and Practice". In: *Workshop on Next Generation Real-Time Embedded Systems*. 2020.

Pre-prints

[S1] Martin BÖHM, Franziska EBERLE, Nicole MEGOW, Lukas NÖLKE, Jens SCHLÖTER, Bertrand SIMON, and Andreas WIESE. "Fully Dynamic Algorithms for Knapsack Problems with Polylogarithmic Update Time".

[S2] Martin BÖHM and Bertrand SIMON. "Discovering and Certifying Lower Bounds for the Online Bin Stretching Problem".

[S3] Franziska EBERLE, Ruben HOEKSMA, Nicole MEGOW, Lukas NÖLKE, Kevin SCHEWIOR, and Bertrand SIMON. "Speed-Robust Scheduling".

Oral presentations

Conferences and workshops

July 2014	"Scheduling Malleable Task Trees". *9th Scheduling for Large Scale Systems Workshop*. ENS de Lyon (France).
Mar. 2016	"Malleable task-graph scheduling with a practical speed-up model". *New Challenges in Scheduling Theory Workshop*. Aussois (France).
June 2016	"Ressource optimization for P.C. members: a subreview article". *8th International Conf. on Fun with Algorithms*. La Maddalena (Italy).
May 2017	"Minimizing I/Os in Out-of-Core Task Tree Scheduling". *19th Workshop on Advances in Parallel and Distributed Computational Models*. Orlando (USA).
Apr. 2018	"Online Scheduling of Sequential Task Graphs on Hybrid Platforms". *New Challenges in Scheduling Theory Workshop*. Aussois (France).
May 2018	"Parallel scheduling of DAGs under memory constraints". *International Parallel and Distributed Processing Symposium*. Vancouver (Canada).
June 2019	"Parallel scheduling of DAGs under memory constraints". *MAPSP Conference*. Renesse (Netherlands).
Jan. 2020	"Energy Minimization in DAG Scheduling on MPSoCs at Run-Time: Theory and Practice". *NG-RES Workshop*. Bologna (Italy).
Feb. 2020	"Online Metric Algorithms with Untrusted Predictions". *Dagstuhl Scheduling Workshop*. Dagstuhl (Germany).

Seminars and meetings

Apr. 2014	"Scheduling Malleable Task Graphs With Memory Constraints". *ANR SOLHAR - Focused meeting on the scheduling needs*. ENS de Lyon (France).
Nov. 2014	"Scheduling Trees of Malleable Tasks for Sparse Linear Algebra". *ANR SOLHAR - Plenary meeting*. LaBRi - Bordeaux (France).
Nov. 2014	"Scheduling Trees of Malleable Tasks for Sparse Linear Algebra". *Journée GOThA commune avec le GdT Systèmes Distribués - Ordonnancement pour l'Informatique*. LIP6 - Paris (France).
Dec. 2016	"Scheduling Series-Parallel Graphs of Malleable Tasks". *ANR SOLHAR - Plenary meeting*. Toulouse (France).
Jan. 2018	"Cache-efficient Skip Lists". *Seminar for undergraduate students*. Le Pleynet (France).
May 2018	"Task Graph Scheduling on Modern Computing Platforms". *Invited seminar*. University of Bremen (Germany).
Feb. 2019	"Minimizing I/Os in Out-of-Core Tree Scheduling". *Invited seminar*. University of Bremen (Germany).
Feb. 2019	"Parallel Scheduling of DAGs under Memory Constraints". *Invited seminar*. LIRMM, Montpellier and LIG, Grenoble (France).
Oct. 2019	"Scheduling Invasive Multicore Programs under Uncertainty". *Annual meeting of the TCRC 89 InvasIC project*. Dinkelsbühl (Germany).
Feb. 2019	"Scheduling Invasive Multicore Programs under Uncertainty". *Semi-annual meeting of the TCRC 89 InvasIC project*. Irsee (Germany).
Mar. 2020	"Online Metric Algorithms with Untrusted Predictions". *DataMove seminar*. LIG, Grenoble (France).
Mar. 2020	"Ordonnancement de graphes de tâches sur plates-formes de calcul modernes". *CC-IN2P3 seminar*. Villeurbanne (France).

Posters

Jan. 2014	Bertrand SIMON, Brigitte JAUMARD, and Thai Hoa LE. "Deadlock Avoidance and Detection In Railway Simulation Systems". *TRB Annual Meeting*. Presented by B. Jaumard. Washington, D.C. (USA).
Apr. 2016	"Malleable task-graph scheduling with a practical speed-up model". *SIAM Conference on Parallel Processing*. Paris (France).

Collective responsibilities

Administrative

2017-2018	Elected representative for non-tenured members at the LIP (ENS Lyon computer science laboratory) council, co-organized a two-days seminar for PhD students.

Refereeing

2019	SPAA, Euro-Par, IPDPS, ISAAC, FOSSACS	2020	JOSH, JCSS, Euro-Par, Discrete Optimization, APPROX, Maths of OR
2018	CCPE, Parallel Computing	2017	ICPP, SUSCOM, IPDPS
2016	JPDC, ICPP, Parallel Computing	2015	Parallel Computing

Program Committee member

2019	Europar (*Co-chair of Topic 3: Scheduling and Load Balancing*)

Language skills

French	**Native.**	Spanish	**Conversational.**

| English | **Proficient** (2013 TOEIC score: 930/990). | German | **Notions.** |

Computer skills

| Scientific tools | C++, R, OCaml, Coq, Python, Maple, Java. | Office automation | LibreOffice, LaTeX. |

Personal interests

Vulgarization	Co-supervision of middle school groups working on small research projects via the *Maths en Jeans* program from 2015 to 2017.
Sports	Ultimate *(2016 French University Championship runner-up, French 1st Division in 2016, 2018)*, Ski, Tennis.
Association	Elected to the ASUL Ultimate directing committee, a 90-member sports association, 2017.

References

Frédéric Vivien
Laboratoire d'Informatique du Parallélisme
ENS Lyon
46 allée d'Italie
F-69364 Lyon Cedex 07, France
✉ frederic.vivien@inria.fr
☎ +33 4 26 23 38 81

Oliver Sinnen
Department of Electrical and Computer Engineering
University of Auckland
Private Bag 92019
Auckland 1142 New Zealand
✉ o.sinnen@auckland.ac.nz
☎ +64 9 923 8285

Michael A. Bender
Department of Computer Science
Stony Brook University
Stony Brook
NY 11794-2424 USA
✉ bender@cs.stonybrook.edu
☎ +1 631-632-7835

Nicole Megow
Universität Bremen
FB3: Mathematik/Informatik
Bibliothekstr. 5
28359 Bremen, Germany
✉ nicole.megow@uni-bremen.de
☎ +49 (421) 218-63581