Curriculum Vitae | Benjamin **Bergougnoux**

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Academic positions and degrees

Since 2022 | **Postdoc** at University of Warsaw, Poland, in collaboration with the group of Michał Pilipczuk.

2019-2022 | **Postdoc** at University of Bergen, Norway, in collaboration with the *Algorithm Group* and suppervised by Jan Arne Telle

2018-2019 | **Assistant Professor** at Université Paris Cité and IRIF, in collaboration with the team Theory and algorithmics of graphs

2015-2018 | **PhD** in Computer Science from the Université Clermont Auvergne (France)
Laboratory: LIMOS
Thesis: *Matrix Decompositions and Algorithmic Applications to (Hyper)Graphs*
Supervisor: Mamadou Moustapha Kanté
Defended on 13 February 2019

2013-2015 | **Master degree** in Computer Science from the Université de Montpellier (France)
Specialization: Algorithmic, Complexity, Optimization.
Master Thesis: *Parameterized Complexity and Kenerlization for Constraint Satisfaction Problem.* Supervised by Cristophe Paul and Philippe Janssen.

2010-2013 | **Bachelor degree** in Mathematics from the Université de Montpellier (France)
Specialization: *Algebra and Computer Science.*

Publications in conferences

[C1] Sparse Graphs of Twin-Width 2 Have Bounded Tree-Width
WITH J. GAJARSKÝ, G. GUSPIEL, P. HLINENÝ, F. POKRÝVKA, M. SOKOŁOWSKI * ISAAC 2023 * doi: 10.1007/978-3-031-43587-4_28 * Open Access

[C2] Kernelization for Finding Lineal Topologies (Depth-First Spanning Trees) with Many or Few Leaves
WITH E. SAM, P. GOLOVACH, N. BLASER * FCT 2023 * doi: 10.1007/978-3-031-43587-4_28 * Open Access

[C3] Space-Efficient Parameterized Algorithms on Graphs of Low Shrubdepth
WITH V. CHEKAN, M. KANTÉ, R. GANIAN, M. MNICH, M. PILIPCZUK, S. OUM, E.J. VAN LEEUWEN * ESA 2023 * doi: 10.4230/LIPIcs.ESA.2023.18 * Open Access

[C4] New Width Parameters for Independent Set: One-sided-mim-width and Neighbor-depth
WITH T. KORHONEN, I. RAZGAN * WG 2023 * doi: 10.1007/978-3-031-43380-1_6 * Open Access

[C5] Tight Lower Bounds for Problems Parameterized by Rank-width
WITH T. KORHONEN, N. NEDERLOF * STACS 2023 * doi: 10.4230/LIPIcs.STACS.2023.11 * Open Access

[C6] A Logic-Based Algorithmic Meta-Theorem for Mim-Width
WITH J. DREIER, L. JAFFKE * SODA 2023 * doi: 10.1137/1.9781611977554.ch125 * Open Access

[C7] Recognition of Linear and Star Variants of Leaf Powers is in P
WITH S. HØGEMO, M. VATCHELLE, J. A. TELLE * WG 2022 * doi: 10.1007/978-3-031-15914-5_6 * Open Access

[C8] On Dasgupta's hierarchical clustering objective and its relation to other graph parameters
WITH S. HØGEMO, U. BRANDES, C. PAUL, J. A. TELLE * FCT 2021 * doi: 10.1007/978-3-030-86593-1_20 * Open Access

[C9] Close relatives of Feedback Vertex Set without single-exponential algorithms parameterized by treewidth
WITH É. BONNET, N. BRETTELL, O. KWON * IPEC 2020 * doi: 10.4230/LIPIcs.IPEC.2020.3 * Open Access

[C10] Node Multiway Cut and Subset Feedback Vertex Set on graphs of bounded mim-width
WITH C. PAPADOPOULOS, J. A. TELLE ∗ WG 2020 ∗ doi: 10.1007/978-3-030-60440-0_31 ∗ Open Access

[C11] More applications of the d-neihgbor equivalence: acyclicity and connectivity constraints
WITH M. M. KANTÉ ∗ ESA 2019 ∗ doi: 10.4230/LIPIcs.ESA.2019.17 ∗ Open Access

[C12] On minimum connecting transition sets in graphs
WITH T. BELLITTO ∗ WG 2018 ∗ doi: 10.1007/978-3-030-00256-5_4 ∗ Open Access

[C13] Towards a polynomial kernel for directed feedback vertex set
WITH E. EIBEN, R. GANIAN, S. ORDYNIAK, M. S. RAMANUJAN ∗ MFCS 2017 ∗ doi: 10.4230/LIPIcs.MFCS.2017.36 ∗ Open Access

[C14] An optimal XP algorithm for Hamiltonian cycle on graphs of bounded clique-width
WITH M. M. KANTÉ, O. KWON ∗ WADS 2017 ∗ doi: 10.1007/978-3-319-62127-2_11 ∗ Open Access

Publications dans des journaux

[J1] Node Multiway Cut and Subset Feedback Vertex Set on graphs of bounded mim-width
WITH C. PAPADOPOULOS, J. A. TELLE ∗ *Algorithmica*, 2022 ∗ doi: 10.1007/s00453-022-00936-w ∗ Open Access

[J2] Towards a polynomial kernel for directed feedback vertex set
WITH E. EIBEN, R. GANIAN, S. ORDYNIAK, M. S. RAMANUJAN ∗ *Algorithmica*, 2021 ∗ doi: 10.1007/s00453-020-00777-5 ∗ Open Access

[J3] More applications of the d-neihgbor equivalence: acyclicity and connectivity constraints
WITH M. M. KANTÉ ∗ *SIAM J. Discret. Math.*, 2021 ∗ doi: 10.1137/20M1350571 ∗ Open Access

[J4] An optimal XP algorithm for Hamiltonian cycle on graphs of bounded clique-width
WITH M. M. KANTÉ, O. KWON ∗ *Algorithmica*, 2020 ∗ doi: 10.1007/s00453-019-00663-9 ∗ Open Access

[J5] Counting minimal transversals of β-acyclic hypergraphs
WITH F. CAPELLI, M. M. KANTÉ ∗ *J. Comput. Syst. Sci.*,2019 ∗ doi: 10.1016/j.jcss.2018.10.002 ∗ Open Access

[J6] Fast exact algorithms for some connectivity problems parameterized by clique-width
WITH M. M. KANTÉ ∗ *Theor. Comput. Sci.*, 2019 ∗ doi: 10.1016/j.tcs.2019.02.030 ∗ Open Access

Publications dans des workshops

[W1] Disjunctive minimal separators enumeration
WITH M. M. KANTÉ, KUNIHIRO WASA ∗ WEPA 2019 ∗ Open Access

Publications in preparation

[P1] Enumerating minimal solution sets for metric graph problems
WITH O. DEFRAIN, F. MC INERNEY ∗ Open Access

[P2] A Logic-Based Algorithmic Meta-Theorem for problems based on blocks properties
WITH L. JAFFKE

[P3] A new notion of Representative Sets for Graph Coloring

Collective responsibilities

May 2022 | **APGA 2022: Advances in Parameterized Graph Algorithms**, Calp (Espagne)
Member of the organization commitee, in charge of the website

2019-2022 | **University of Bergen**
Member of four commitees for evaluating PhD students intermediary lectures

Since 2019 | **The Parameterized Complexity Newsletter**
Co-editor of the newsletter

2017-2018 | **LIMOS, Clermont-Ferrand (France)**
Member of the laboratory council

2016-2018 | **ANR project: GraphEn (Graphe Enumeration)**
Member of the ANR projet and webmaster.

November 2016 | **WEPA: Workshop on Enumeration Problems and Applications**, Clermont-Ferrand
Member of the organization committee and webmaster.

Teaching

I gave 158 hours of teaching during my ATER position and 192 hours during my PhD. In the following, L is for lecture, T for tutorial and P for practical work.

Assistant professor, Université Paris Cité, 158 hours			
2018-2019	C language	3RD YEAR	60h P
	Programming Project	2ND YEAR	24h T
	Object-oriented programming advanced	3RD YEAR	20h P
	System programming	4TH YEAR	24h P
	Web programming	3RD YEAR	30h P
During my PhD, Université Clermont Auvergne, 3×64 hours			
2017-2018	Algorithmic Introduction	1ST YEAR	30h L/T
	Graph Theory	3RD YEAR	18h P
	Project Supervisor	4TH YEAR	
	Operating Systems	3RD YEAR	16h T
2016-2017			12h L, 16h T, 16h P
	IT tools	1ST YEAR	12h P
	Networks	3RD YEAR	8h T
2015-2016	OCaml programming	1ST YEAR	64h P

Presentations as an external guest

- Seminar of the team ACRO, LIS, Marseille, March 2023.
- STACS, conference, Hamburg (Germany), March 2023.
- Virtual seminar, *Discrete Math Colloquium*, IBS South Korea, February 2023.
- Seminar of the team AlGCO, LIRMM, Montpellier, December 2022.
- Seminar of the team Optimisation Combinatoire, G-SCOP, Grenoble, November 2022.

- GWP, Satellite Workshop of ICALP, Paris, July 2022.
- WG, conference, Tübingen (Germany), June 2022.
- GRAA, french virtual seminar of graph theory and combinatorics, January 2022
- IPEC, online conference, December 2020
- WG, online conference, June 2020
- ESA, Munich (Germany), September 2019
- IBS Summer Research Program on Algorithms and Complexity in Discrete Structures (South Korea), July 2019
- Seminar of the algorithm group, University of Bergen (Norway), March 2019
- International symposium of Basic Sciences at INU (South Korea), October 2018
- JGA, french workshop on graphs and algorithms, Grenoble, November 2018
- Seminar of the team LINKS, INRIA Lille (France), March 2017
- JGA, french workshop on graphs and algorithms, Bordeaux, November 2017
- Université de Bordeaux (France), LABRI, September 2017
- JGA, french workshop on graphs and algorithms, November 2016
- Seminar of the Algorithms and Complexity Group, TU Wien, Vienna (Austria), September 2016

Research Visits

2023 | Aix Marseille University, LIS, Team ACRO, 7 days,
Collaborators : O. Defrain, F. Mc Inerney

2019 | Algorithm group, University of Bergen (Norway), 7 days,
Collaborators: J. A. Telle, C. Papadopoulos

2018 | University of Incheon (South Korea), 7 days,
Collaborators: O. Kwon, E. Eiben

2017 | LABRI, Université de Bordeaux (France), 7 days,
Collaborators: M. Bonamy, T. Bellitto

Équipe LINKS, INRIA Lille (France), 7 jours,
Collaborators: F. Capelli

2018 | Algorithms and Complexity Group, TU Wien (Austria), 7 days,
Collaborators: E. Eiben, R. Ganian, S. Ordyniak, M. S. Ramanujan