
CV

Nicolas Nisse, **Inria** Research Officer (CRCN) Engineer Supélec, Ph.D. in Computer Sciences, HDR

Project team COATI,
Inria Sophia Antipolis
2004, route des Lucioles - B.P. 93
F-06902 Sophia Antipolis Cedex, France
Tel. : +33 (0)4 97 15 53 28
Fax : +33 (0)4 92 38 53 80

26th November 1980
french
email : nicolas.nisse@inria.fr
Webpage :
<http://www-sop.inria.fr/members/Nicolas.Nisse/>

Inria Research Officer since Sept. 2009, Chargé de recherche 1st classe since Sept. 2011,
in the team project *COATI*, Inria, I3S (CNRS/UNS), [PES 2011-14](#); [PEDR 2015-18](#)

Education

2014 : Habilitation à Diriger des Recherches (HDR), May 26th, 2014

Algorithmic complexity Between Structure and Knowledge How Pursuit-evasion Games help. Inria, doctoral school of Univ. Nice Sophia Antipolis, France.

Jury : V. Chepoi, Prof., Univ. Aix-Marseille, D. Coudert, CR Inria, F.V. Fomin, Prof., Univ. of Bergen, Norway, P. Fraigniaud, DR CNRS, LIAFA, Univ. Paris Diderot, C. Gavoille (referee), Prof., Univ. Bordeaux, D.M. Thilikos (referee), DR CNRS, LIRMM, Univ. Montpellier 2 & Prof., Univ. d'Athènes, J-C. Régin (president), Prof., Univ. Nice Sophia Antipolis, P. Widmayer (referee), Prof., ETH Zürich, Switzerland.

2004-2007 : Ph.D. thesis in Computer Sciences, July 2nd, 2007

Graph Searching and related problems. Graph minors, connected search strategies, and distributed approach. LRI, doctoral school of University Paris-Sud (Orsay)

Jury : J-P. Allouche (president), DR CNRS, LRI, P. Fraigniaud (supervisor), DR CNRS, LRI, D. Kratsch (referee), Prof., Université de Metz, LITA, D.M. Thilikos, Prof., Université d'Athènes, S. Thomassé (referee), Prof., Université Montpellier 2, LIRMM

2003-2004 : Master thesis in Informatics, DEA Informatique Distribuée, mention TB, doctoral school of University Paris-Sud, Orsay, France.

2001-2004 : Supélec Gif-sur-Yvette, Engineer in the field of information and energy sciences.

2001-2002 : Licence of Mathematics, mention Bien Université Paris VI (télé-enseignement)

1998-2001 : Classes préparatoires MPSI and MP*, lycée Thiers, Marseille.

1998 : Baccalauréat S, mention Très Bien, speciality Mathematics.

Professional Experiences (before 2009)

2008-2009 : Postdoctoral fellow Inria in the project *MASCOTTE*, Inria, UNS (I3S, CNRS).

2007-2008 : Postdoctoral fellow in the project *Anillo en Redes* (CONICYT), Departamento de Ingeniería Matemática, Universidad de Chile, Santiago, Chile.

2004-2007 (Orsay) Ph.D at LRI, Univ. Paris-Sud under the supervision of Pierre Fraigniaud.

03-08/2004 (Orsay) M2 intern. at LRI, with P. Fraigniaud. Study of connected graph searching in graphs.

06-08/2003 (CEA Cadarache) Engineer (research) internship at IRSN, Study of the behaviour of a thermocouple type K at high temperature.

07/2002 (CEA Cadarache) Engineer intern. at Cegelec, Maintenance of electrical installations middle-voltage.

Languages : French (mother tongue). English, Spanish (fluent). German (basic notions).

Summary of my Research

My research focuses on graph theory and algorithms. My work focuses on efficient computation of structural and metric properties of graphs and their study to take advantage of them for the design of efficient algorithms to solve practical optimization problems. More precisely, I aim at efficiently computing (in practice) tree decompositions of the graphs. For this purpose, I study their relationship with pursuit-evasion games in graphs. More generally, I study two-player games in graphs that allow me to model practical problems and offer an original point of view to better understand the structure of the graphs involved. My theoretical research has applications in (tele)communication and transportation networks.

This work is the result of collaborations with students that I (co-)supervised in internship, thesis or postdoc, with my colleagues from COATI and other Inria teams, other French or foreign universities, as well as with companies (Alcatel-Lucent, Amadeus).

Games in the graphs. My thesis focused on the graph searching problem that aims at coordinating a team of mobile agents to clean the vertices/edges of a contaminated network (eg, pipe network contaminated by a toxic gas, computer network contaminated by a virus). Equivalently, this is a pursuit-evasion game where agents must capture an invisible target moving in the graph. The underlying optimization (NP-complete) problem is to minimize the number of agents needed to complete the task. From a theoretical point of view, this problem is closely related to tree decompositions of graphs (see next subsection).

Graph Searching (GS). The initial question was to understand the impact of adding the connectivity constraint (the "clean" part of the network must be constantly connected) on the number of agents and on other properties (eg, monotony) of strategies. I have proved (usually algorithmically) bounds on the number of agents in general graphs and in various graph classes [Ci37,Ci36,J38,J35,J28] (these results come with their counterpart in terms of tree decomposition.) The constraint of connectivity is important in a distributed context where it must be ensured that the communications between the mobile agents are safe. At the end of my thesis and afterwards, I became interested in designing graph searching distributed algorithms (the agents are modeled by finite automata having only a local knowledge of their environment). In particular, I studied tradeoffs between number of agents and amount of global/local information they must have on the network [Ci35,Ci34,Ci32,J39,J36,J33]. More recently, I defined a variant of GS in which two agents can not occupy simultaneously the same position. The advantage of this variant is that it suits well with the distributed model "Look-Compute-Move" (LCM) which allows in particular to propose self-stabilizing algorithms (and therefore fault-tolerant to a certain extent). I proved complexity results and proposed polynomial algorithms (centralized, and in the LCM model) in different classes of graphs (paths, cycles, trees, separating graphs, etc.) [Ci18,Ci14,Ci13,J22,J15,J13]. I have also proved that this variant allows, in some classes of graphs, to compute good approximations of path-decompositions. Beside, I studied other problems of coordination of mobile agents (gathering, exploration, communication) in the LCM model [Ci12,Ci9,J14]. The results mentioned above are summarized (along with those of the literature) in the book chapter [E2].

Cops and Robber (C & R). During my 1st post-doc, I turned to the other family of pursuit-evasion games : the cops and robber games whose study is closely related to that of the structural and metric properties of graphs. Two players move in turn, one of the cops and the other a robber, along the edges of a graph. The "Graal" in this domain would be to prove (or refute) Meyniel's conjecture (1985) that says that $O(\sqrt{n})$ cops are always sufficient to capture a robber in a graph with n vertices. To tackle this difficult question, I have studied variants in which more "power" is given to the robber. I first studied the capture of a fast robber in grids [Ci31,J32] and characterized the classes of graphs in which one cop can capture a fast and/or sometimes invisible robber [J31]. This result is intrinsically linked to the hyperbolicity of the graphs. I obtained (Bi Li's thesis) results on the initial variant that led me to efficient algorithms for computation of tree decompositions and compact routing [Ci19,J23] (see next subsection).

Turn-by-turn games and applications. The study of C&R games naturally led me to define and study other turn-based games with two players in graphs. For the last 6 years, I have defined a game that generalizes both C&R and the problems of eternal domination in graphs [Ci6,Ci3,Ci1,J9,J2]. I also studied

the surveillance game that we defined because it allows to model problems of pre-downloading web pages [Ci21,Ci15,J26,J20]. During the last two years (Fionn Mc Inerney's thesis), I am interested in a sequential variant of the metric dimension (also related to identifying codes) of graphs in which a player queries vertices (the number of which must be minimized) to obtain information on the distance to which a target (mobile or not) is to be located. This game allows, among other things, to model localization problems in sensor networks and allows us to get a better understanding of the metric spaces related to certain graph classes. More precisely, we obtained complexity results and designed polynomial algorithms for some classes of graphs [Ci2,J3,J1]. I am still actively working on these topics.

Structural study of graphs and their tree and linear decompositions. One of the main aspects of my thesis is the relationship between GS and tree-decompositions of graphs. The latter consists in breaking down a graph into small subsets of vertices (called "bags") which are organized in a tree-like manner while satisfying some connectivity properties (this is one of the cornerstones of the Graph Minor Theory). The GS is indeed the algorithmic counterpart of these decompositions. During my thesis, I defined the notion of non-deterministic GS which establishes a link between tree-decompositions and path-decompositions [Ci38,Ci33,J40,J37,J19]. This point of view allowed me, shortly after my thesis, to generalize fundamental results of duality [J34] and parametric calculation of decompositions [S9].

Applications to routing in WDM networks. The equivalence between graph searching strategies and graph decompositions comes from the fact that they define a vertex-ordering. This relationship allowed D. Couderc to model the routing reconfiguration problem as a GS problem in an auxiliary graph. During my postdoc at MASCOTTE and during the thesis of R. Soares, I used my expertise in graph decompositions in this context. I proved complexity results, studied tradeoffs that the operator can expect with regard to quality of service, and proposed heuristics and linear programs for the reconfiguration problem [Ci30,Ci29,Ci25,Ci22,Ci17,J30,J18]. After having moved away a few years from this problem, I come back (a little) via the Ph.D. thesis of A. Gausseran in the context of SDN and NFV networks.

Effective computation of decompositions. The parameterized algorithm for the computation of decompositions mentioned above [S9] is purely theoretical. Since then, I tackle the difficult problem of computing tree-decompositions of graphs in practice. Improving linear programs for reconfiguration, we proposed an algorithm (implemented in SageMath) that computes optimal path-decompositions of graphs up to more than 100 vertices (which is the best algorithm known at the time) [Ci10, J17]. The general approach that I propose is not to focus on the size of bags, but on other criteria such as their number [107, [Ci8,J10] or, more importantly, their structural and metric properties. In this context, my work on C&R led me to the design of an efficient heuristic (implemented in Python) for the computation of tree-decompositions in graphs with small chordality (B. Li thesis) [Ci19,J23] (this algorithm also gives bounds on the chordality and the hyperbolicity of the graphs). We improved these results to obtain an efficient approximation algorithm for treewidth in a large class of graphs [Ci5, J16]. I continue to collaborate with B. Li (PHC submitted) and G. Ducoffe and regularly propose internship topics on this subject (see also SticAmSud GALOP project).

Applications to (tele)communication networks. I regularly use my skills on the graph properties to propose efficient algorithms in particular graph classes for problems related to information spreading in networks (topic of my project AIDyNet).

Algorithms with local knowledge, and distributed routing. During my postdoc at the Universidad de Chile, I started to work on the problem of compact routing guided by the structure of the graphs. I continued this work in the context of the DCR and EULER projects (collaboration with Alcatel-Lucent Belgium on routing in the Internet) [Ci27,J29]. In particular, we worked on how to implement these protocols (as well as other existing ones) in a decentralized way [20]. My work on C&R has also allowed me to design compact distributed routing algorithms that are effective in weak networks [Ci19,J23]. A fault-tolerant routing case is considered in [Ci24]. In addition,

I have proposed (usually) distributed solutions for the spreading of information in other types of networks such as wireless networks [Ci28,Ci26,J24], Peer-to-Peer [Ci16,J11] or optical [Ci7]. Another challenge posed by real networks is that no global knowledge is accessible : algorithms using only local information are required. I have proposed a model of distributed computation and proved (im)possibility results concerning the global properties of graph which it allows to compute [Ci23,Ci20,J21].

Maintenance of airline operations. In a different context, my expertise in graph algorithms led me to collaborate with Amadeus (management company for the distribution and sale of travel services) to design algorithms for the decision support of air traffic controllers [Ci4,J6,J4].

Transportation networks. The second period of the EA ALDyNet has recently led me to study the problems of transport planning in urban networks. I have co-supervised several internships on the subject, a postdoc (A. Ait Ouahmed) and am a member of the ANR MultiMod (multimodal transport problems) carried by D. Coudert with whom I co-supervise the Ali Al Zoobi's thesis on this subject.

Optimization in graphs. Since I joined COATI, I have been working regularly on graph theory problems thanks to collaborations with my colleagues (from COATI or not). We first consider the complexity of the considered problems (NP-completeness results) and, when possible (using the structural properties of the graphs), give polynomial algorithms in particular graph classes. I have thus worked on graph coloring problems [Ci11,J25], convexity (which models contamination phenomena) [S6,J27,J7], isometric ordering of the vertices of a graph [J8], visualization [S7]. Since recently, I study the substructures of directed graphs [S2,J5].

Studying this type of problems is also part of the SticAmSud GALOP project.

List of Publications

Note. You can find my publications here :

<http://www-sop.inria.fr/members/Nicolas.Nisse/publications/>

In brief : 40 publications in International revues, 38 publications in International Conferences

Editions of conf. Proceedings/ Special Issues and Book Chapters

- E1. S. Angelopoulos, N. Nisse and D.M. Thilikos (Eds.). *Forewords : Special issue on Theory and Applications of Graph Searching Problems*. To appear in **Theoretical Computer Sciences**.
- E2. N. Nisse : *Network Decontamination*. Chapter of Distributed Computing by Mobile Entities, P. Flocchini, G. Prencipe, and N. Santoro (Eds.), **Springer, LNCS**, Volume 11340, pp. 516-548, (2019). <https://link.springer.com/book/10.1007/978-3-030-11072-7>
- E3. F.V. Fomin, P. Fraigniaud, N. Nisse, D.M. Thilikos (Eds.) : *Forewords : Special issue on Theory and Applications of Graph Searching Problems*. **Theoretical Comp. Sc.**, Volume 655 : 1, 2016.
- E4. R. Baldoni, N. Nisse and M. van Steen (Eds.). *International Conference on Principles of Distributed Systems (OPODIS)*, Nice, France, Dec. 2013. LNCS 8314, Springer.
- E5. Y. Busnel, N. Nisse and F. Rousseau (Eds.). *15th Rencontres Francophones sur les Aspects Algorithmiques des Télécom. (AlgoTel)*, Pornic, France, 2013. CNRS, LINA, Université de Nantes.

International Journals (40)

- J1. B. Bosek, P. Gordinowicz, J. Grytczuk, N. Nisse, J. Sokól, M. Sleszynska-Nowak. *Centroidal localization game*. **Electronic Journal of Combinatorics**, Volume 25(4), 2018.
- J2. N. Cohen, F. Mc Inerney, N. Nisse, and S. Pérennes. *Study of a combinatorial game in graphs through Linear Programming*. To appear in **Algorithmica**. <https://link.springer.com/article/10.1007/s00453-018-0503-9>
- J3. B. Bosek, P. Gordinowicz, J. Grytczuk, N. Nisse, J. Sokól, M. Sleszynska-Nowak. *Localization game on geometric and planar graphs*. **Discrete Applied Maths**, Vol. 251, pp. 30-39, 2018.
- J4. N. Nisse, A. Salch, and V. Weber. *Recovery of disrupted airline operations using k-Maximum Matching in Graphs*. To appear in **European Journal of Operational Research**. <https://authors.elsevier.com/tracking/article/details.do?aid=14892&jid=EOR&surname=Nisse>
- J5. N. Cohen, F. Havet, W. Lochet, and N. Nisse. *Subdivisions of oriented cycles in digraphs with large chromatic number*. To appear in **Journal of Graph Theory**. <https://onlinelibrary.wiley.com/doi/abs/10.1002/jgt.22360>
- J6. J. Bensmail, V. Garnero and N. Nisse *On improving matchings in trees, via bounded-length augmentations*. **Discrete Applied Maths**. Volume 250, pages 110-129, 2018.
- J7. J. Araujo, G. Ducoffe, N. Nisse and K. Suchan, *On interval number in cycle convexity*. **Discrete Mathematics and Theoretical Computer Science**. Volume 20(1), 2018.
- J8. D. Coudert, G. Ducoffe, N. Nisse, and M. Soto. *On distance-preserving elimination orderings in graphs : complexity and algorithms*. **Discrete Applied Maths**, Vol. 243, pages 140-153, 2018.
- J9. N. Cohen, N. Martins, F. M. Inerney, N. Nisse, S. Pérennes, and R. Sampaio. *Spy-Game on graphs : complexity and simple topologies*. **Theor. Comput. Sci.**, Volume 725, pages 1-15, 2018.
- J10. B Li, F. Z. Moataz, N. Nisse and K. Suchan, *Minimum Size Tree-Decompositions*. **Discrete Applied Maths**, Volume 245, pages 109-127, 2018.

- J11. F. Giroire, R. Modrzejewski, N. Nisse and S. Pérennes, *Maintaining Balanced Trees For Structured Distributed Streaming Systems*. **Discrete Applied Maths**, Vol. 232, pages 176-188, 2017.
- J12. S. Saha, W. Tavernier, D. Papadimitriou, D. Careglio, A. Kumar, C. Glacet, D. Coudert, N. Nisse, L. Fàbrega, P. Vilà, M. Camelo, P. Audenaert, D. Colle and P. Demeester, *Routing at Large Scale : Advances and Challenges for Complex Networks*. **IEEE Network**, Institute of Electrical and Electronics Engineers, pages 12-22, 2017.
- J13. E. Markou, N. Nisse and S. Pérennes. *Exclusive Graph Searching vs. Pathwidth*. **Information and Computation**, Volume 252, pages 243-260, 2017.
- J14. G. D'Angelo, A. Navarra and N. Nisse, *Gathering and Exclusive Searching on Rings under Minimal Assumptions*. **Distributed Computing**, Volume 30(1), pages 17-48, 2017.
- J15. L. Blin, J. Burman and N. Nisse, *Exclusive Graph Searching*. **Algorithmica**, Volume 77(3), pages 942-969, 2017.
- J16. D. Coudert, G. Ducoffe and N. Nisse, *To approximate treewidth, use treelength!* **SIAM Journal of Discrete Maths**, Volume 30(3), pages 1424-1436, 2016.
- J17. D. Coudert, D. Mazauric and N. Nisse. *Experimental Evaluation of a Branch and Bound Algorithm for computing Pathwidth*. **J. of Experimental Algorithmics**, Volume 21(1), 2016.
- J18. N. Nisse and R.P. Soares. *On the monotonicity of process number*. **Discrete Applied Maths**. Volume 210, pages 103-111, 2016.
- J19. O. Amini, D. Coudert, N. Nisse, *Some Results on Non-deterministic Graph Searching in Trees*. **Theoretical Computer Science**, Volume 580, pages 101-121, 2015.
- J20. F. Giroire, I. Lamprou, D. Mazauric, N. Nisse, S. Pérennes and R. P. Soares. *Connected Surveillance Game*. **Theoretical Computer Sc.**. Volume 584, pages 131-143, 2015.
- J21. F. Becker, A. Kosowski, M. Matamala, N. Nisse, I. Rapaport, K. Suchan, and I. Todinca. *Allowing each node to communicate only once in a distributed system : shared whiteboard models*. **Distributed Computing**, Volume 28(3), pages 189-200, 2015.
- J22. G. D'Angelo, G. Di Stefano, A. Navarra, N. Nisse, and K. Suchan. *A unified approach for different tasks on rings in robot-based computing systems*. **Algorithmica**, Vol. 72(4), pp. 1055-1096, 2015.
- J23. A. Kosowski, B. Li, N. Nisse and K. Suchan. *k-Chordal Graphs : from Cops and Robber to Compact Routing via Treewidth*. **Algorithmica**, Volume 72(3), pages 758-777, 2015.
- J24. J.-C. Bermond, B. Li, Min-Li Yu, N. Nisse, H. Rivano, *Data gathering and personalized broadcasting in radio grids with interference*. **Theoretical Comp. Sc.**, Vol. 562, pp. 453-475, 2015.
- J25. J. Araújo, N. Nisse and S. Pérennes. *Weighted Coloring in Trees*. **SIAM Journal of Discrete Maths**, Volume 28(4), pages 2029-2041, 2014.
- J26. F.V. Fomin, F. Giroire, A. Jean-Marie, D. Mazauric and N. Nisse, *To satisfy Impatient Web surfers is Hard*. **Theoretical Computer Science**, Volume 526, pages 1-17, 2014.
- J27. J. Araújo, V. Campos, F. Giroire, N. Nisse, L. Sampaio, and R. Soares. *On the hull number of some graph classes*. **Theor. Comput. Sci.**, 475 :1-12, 2013.
- J28. L. Barrière, P. Flocchini, F. V. Fomin, P. Fraigniaud, N. Nisse, N. Santoro and D. M. Thilikos, *Connected Graph Searching*. **Information and Computation**, 219 :1-16, 2012.
- J29. N. Nisse, I. Rapaport and K. Suchan *Distributed computing of efficient routing schemes in generalized chordal graphs*. **Theoretical Computer Science**, 444 :17-27, 2012.
- J30. N. Cohen, D. Coudert, D. Mazauric, N. Nepomuceno and N. Nisse, *Tradeoffs in process strategy games with application in the WDM reconfiguration problem*. **Theoretical Computer Science**, Volume 412(35), pages 4675-4687, 2011.
- J31. J. Chalopin, V. Chepoi, N. Nisse, Y. Vaxès, *Cop and robber games when the robber can hide and ride*. **SIAM Journal of Discrete Maths.**, Vol. 25(1), pages 333-359, 2011.

- J32. F.V. Fomin, P. Golovach, J. Kratochvil, N. Nisse and K. Suchan, *Pursuing a fast robber on a graph*. **Theoretical Computer Science**, Volume 411(7-9), pages 1167-1181, 2010.
- J33. D. Ilcinkas, N. Nisse, D. Soguet, *The Cost of Monotonicity in Distributed Graph Searching*. **Distributed Computing**, Volume 22(2), pages 117-127, 2009.
- J34. O. Amini, F. Mazoit, N. Nisse, S. Thomassé, *Submodular Partition Functions*. **Discrete Maths**, Volume 309(20), pages 6000-6008, 2009.
- J35. N. Nisse, *Connected Graph Searching in Chordal Graphs*. **Discrete Applied Mathematics**, Volume 157 (12), pages 2603-2610, 2009.
- J36. N. Nisse, D. Soguet, *Graph Searching with advice*. **Theoretical Computer Science**, Volume 410 (14), pages 1307-1318, 2009.
- J37. F.V. Fomin, P. Fraigniaud, N. Nisse, *Nondeterministic Graph Searching : From Pathwidth to Treewidth*. **Algorithmica**, Volume 53 (3), pages 358-373, 2009.
- J38. P. Fraigniaud, N. Nisse, *Monotony Properties of Connected Visible Graph Searching*. **Information and Computation**, Volume 206, pages 1383-1393, 2008.
- J39. L. Blin, P. Fraigniaud, N. Nisse, S. Vial, *Distributed Chasing of Network Intruders by Mobile Agents*. **Theoretical Computer Science**, Volume 399 (1-2), pages 12-37, 2008.
- J40. F. Mazoit, N. Nisse, *Monotonicity Property of Non-Deterministic Graph Searching*. **Theoretical Computer Science**, Volume 399 (3), pages 169-178, 2008.

Proceedings of International Conferences (38)

- Ci1. F. Mc Inerney, N. Nisse, and S. Pérennes. *Eternal Domination in Strong Grids*. Proceedings of 11th International Conference on Algorithms and Complexity (**CIAC**), 2019.
- Ci2. J. Bensmail, D. Mazauric, F. Mc Inerney, N. Nisse and S. Pérennes. *Sequential Metric Dimension*. Proceedings of 16th Workshop on Approximation and Online Algorithms (**WAOA**), Springer LNCS 11312, pp. 36-50, 2018.
- Ci3. N. Cohen, F. Mc Inerney, N. Nisse, and S. Pérennes. *Spy Game in trees and grids*. Proceedings of 28th International Symposium on Algorithms and Computation (**ISAAC**), Vol. 92. LIPIcs. Schloss Dagstuhl, pages 22 :1-22-13, 2017.
- Ci4. J. Bensmail, V. Garnero, N. Nisse, A. Salch and V. Weber, *Recovery of disrupted airline operations using k-Maximum Matching in Graphs*. Proceedings of 9th Latin-American Algorithms, Graphs and Optimization Symposium (**LAGOS**), Elsevier, Electronic Note Discrete Maths, Vol. 62, pages 3-8, 2017.
- Ci5. G. Ducoffe, S. Legay and N. Nisse, *On the complexity of computing the tree-breadth*. Proceedings of “27th International Workshop on Combinatorial Algorithms” (**IWOCA**), LNCS, Vol. 9843., Springer, pages 3-15, 2016.
- Ci6. N. Cohen, M. Hilaire, N. A. Martins, N. Nisse and S. Pérennes *Spy-Game on graphs*. In Proceedings of “8th International Conference on Fun with Algorithms” (**FUN**), LIPIcs 49, Schloss Dagstuhl, pages 10 :1-10 :16, 2016.
- Ci7. M. M. Kante, F. Z. Moataz, B. Momège and N. Nisse. *Paths with forbidden transitions in grids*. Proceedings of the “41st International Workshop on Graph-Theoretic Concepts in Computer Science” (**WG**), Springer, LNCS, 2015.
- Ci8. B. Li, F. Z. Moataz, N. Nisse and K. Suchan. *Minimum Size Tree-Decompositions*. Proc. of 8th Latin-American Algorithms, Graphs and Optimization Symp. (**LAGOS**), Elsevier, Electronic Note Discrete Maths, 2015.
- Ci9. G. D’Angelo, X. Défago and N. Nisse. *Stigmergy of anonymous agents in discrete environments*. Proceedings of the Second International Symposium on Computing and Networking (**CANDAR**), 2014.

- Ci10. D. Coudert, D. Mazauric and N. Nisse. *Experimental Evaluation of a Branch and Bound Algorithm for computing Pathwidth*. Proceedings of the 13rd Symposium on Experimental Algorithms (**SEA**), Springer LNCS 8504, pages 46-58, 2014.
- Ci11. J. Araujo, N. Nisse and S. Pérennes. *Weighted Coloring in Trees*. Proceedings of the 31st Symposium on Theoretical Aspects of Computer Science (**STACS**), Schloss Dagstuhl, pages 75-86, 2014.
- Ci12. G. D'Angelo, A. Navarra and N. Nisse. *Gathering and Exclusive Searching on Rings under Minimal Assumptions*. Proceedings of 15th International Conference on Distributed Computing and Networking (**ICDCN**), LNCS 8314, pages 149-164, Springer, 2014.
- Ci13. L. Blin, J. Burman, and N. Nisse. *Exclusive graph searching*. In Proceedings of 21st European Symposium on Algorithms (**ESA**), LNCS 8125, pages 181-192. Springer, 2013.
- Ci14. G. D'Angelo, G. Di Stefano, A. Navarra, N. Nisse, and K. Suchan. *A unified approach for different tasks on rings in robot-based computing systems*. In 15th Workshop on Advances in Parallel and Distributed Computational Models (**APDCM**). IEEE, 2013.
- Ci15. F. Giroire, D. Mazauric, N. Nisse, S. Pérennes, and R.P. Soares. *Connected surveillance game*. In Proceedings of the 20th International Colloquium on Structural Information and Communication Complexity (**SIROCCO**), LNCS 8179. Springer, 2013.
- Ci16. F. Giroire, R. Modrzejewski, N. Nisse, and S. Pérennes. *Maintaining balanced trees for structured distributed streaming systems*. In Proceedings of the 20th International Colloquium on Structural Information and Communication Complexity (**SIROCCO**), LNCS 8179. Springer, 2013.
- Ci17. N. Nisse and R.P. Soares. *On the monotonicity of process number*. In 7th Latin-American Algorithms, Graphs and Optimization Symposium (**LAGOS**). Elsevier, 2013. to appear in Electronic Note Discrete Maths.
- Ci18. L. Blin, J. Burman and N. Nisse. *Distributed Exclusive and Perpetual Tree Searching*. Brief Announcement in Proceedings of 26th International Symposium on Distributed Computing (**DISC**), Springer LNCS 7611, pages 407-408, 2012.
- Ci19. A. Kosowski, B. Li, N. Nisse and K. Suchan. *k-Chordal Graphs : from Cops and Robber to Compact Routing via Treewidth*. In Proceedings of 39th International Colloquium on Automata, Languages and Programming (**ICALP**), track C, Springer LNCS 7392, pages 610-622, 2012.
- Ci20. F. Becker, A. Kosowski, N. Nisse, I. Rapaport and K. Suchan. *Allowing each node to communicate only once in a distributed system : shared whiteboard models*. In Proceedings of 24th ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA**), to appear. 2012.
- Ci21. F.V. Fomin ; F. Giroire, A. Jean-Marie, D. Mazauric, N. Nisse, *To Satisfy Impatient Web surfers is Hard*. In Proceedings of 6th International Conference on FUN with Algorithms (**FUN**), Springer LNCS 7288, pages 166-176, 2012.
- Ci22. S. Belhareth, D. Coudert, D. Mazauric, N. Nisse and I. Tahiri. *Reconfiguration avec contraintes physiques dans les réseaux WDM*. In Proceedings of Workshop on New Trends in Optical Networks Survivability (**Netsurviv**), IEEE, colocated with ICC, to appear, 2012.
- Ci23. F. Becker, M. Matamala, N. Nisse, I. Rapaport, K. Suchan, and I. Todinca. *Adding a referee to an interconnection network : What can(not) be computed in one round*. In Proceedings of 25th IEEE International Parallel & Distributed Processing Symposium (**IPDPS**), IEEE, pages 508-514, 2011.
- Ci24. N. Hanusse, D. Ilcinkas, A. Kosowski and N. Nisse, *Locating a target with an agent guided by unreliable local advice*. To appear in Proceedings of 29th ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (**PODC**), pages 355-364, 2010.
- Ci25. N. Cohen, D. Coudert, D. Mazauric, N. Nepomuceno and N. Nisse, *Tradeoffs in process strategy games with application in the WDM reconfiguration problem*. In Proceedings of 5th International Conference on FUN with Algorithms (**FUN**), Springer LNCS 6099, pages 121-132, 2010.

- Ci26. F. Huc, C. Molle-Caillouet, N. Nisse, S. Pérennes and H. Rivano, *Stability of a local greedy distributed routing algorithm*. To appear in Proceedings of the 12th Workshop on Advances in Parallel and Distributed Computational Models (**APDCM**), IEEE, 2010.
- Ci27. N. Nisse, I. Rapaport and K. Suchan, *Distributed computing of efficient routing schemes in generalized chordal graphs*. Proceedings of the “16th Colloquium on Structural Information and Communication Complexity” (**SIROCCO**), Springer, LNCS 5869, pages 252-265, 2009.
- Ci28. J.-C. Bermond, N. Nisse, P. Reyes, H. Rivano, *Fast Data Gathering in Radio Grid Networks*. Proceedings of the “8th international conference on Ad Hoc Networks and Wireless (**AdHoc-NOW**)”, Springer, LNCS 5793, pages 69-82, 2009.
- Ci29. D. Coudert, D. Mazauric, N. Nisse, *On Rerouting Connection Requests in Networks with Shared Bandwidth*. Proceedings of the DIMAP Workshop on Algorithmic Graph Theory (**AGT**), Elsevier, Electronic Notes in Discrete Maths, Volume 32, pages 109-116, 2009.
- Ci30. D. Coudert, F. Huc, D. Mazauric, N. Nisse, J.-S. Sereni, *Routing Reconfiguration/Process Number : Coping with Two Classes of Services*. Proceedings of the “13th Conference on Optical Network Design and Modeling” (IFIP/IEEE, **ONDM**), 2009.
- Ci31. N. Nisse, K. Suchan, *Fast Robber in Planar Graphs*. Proceedings of the “34th International Workshop on Graph-Theoretic Concepts in Computer Science” (**WG**), Springer, LNCS 5344, pages 312-323, 2008.
- Ci32. D. Ilcinkas, N. Nisse, D. Soguet, *The Cost of Monotonicity in Distributed Graph Searching*. Proceedings of the “11th International Conference On Principles Of Distributed Systems” (**OPODIS**), Springer, LNCS 4878, pages 415-428, 2007.
- Ci33. F. Mazoit, N. Nisse, *Monotonicity Property of Non-Deterministic Graph Searching*. Proceedings of the “33rd International Workshop on Graph-Theoretic Concepts in Computer Science” (**WG**), Springer, LNCS 4769, pages 33-44, 2007.
- Ci34. N. Nisse, D. Soguet, *Graph Searching with advice*. Proceedings of the “14th Colloquium on Structural Information and Communication Complexity” (**SIROCCO**), Springer, LNCS 4474, pages 51-65, 2007.
- Ci35. L. Blin, P. Fraigniaud, N. Nisse, S. Vial, *Distributed Chasing of Network Intruders by Mobile Agents*. Proceedings of the “13th Colloquium on Structural Information and Communication Complexity” (**SIROCCO**), Springer, LNCS 4056, pages 70-84, 2006.
- Ci36. P. Fraigniaud, N. Nisse, *Monotony Properties of Connected Visible Graph Searching*. Proceedings of the “32nd International Workshop on Graph-Theoretic Concepts in Computer Science” (**WG**), Springer, LNCS 4271, pages 229-240, 2006.
- Ci37. P. Fraigniaud, N. Nisse, *Connected Treewidth and Connected Graph Searching*. Proceedings of the “7th Latin American Theoretical Informatics Symposium” (**LATIN**), Springer, LNCS 3887, pages 479-490, 2006.
- Ci38. F. V. Fomin, P. Fraigniaud, N. Nisse, *Nondeterministic Graph Searching : From Pathwidth to Treewidth*. Proceedings of the “30th International Symposium on Mathematical Foundations of Computer Science” (**MFCS**), Springer, LNCS 3618, pages 364-375, 2005.

Proceedings of National Conferences (21)

- Cn1. J. Bensmail, D. Mazauric, F. Mc Inerney, N. Nisse and S. Pérennes. *Localiser une cible dans un graphe*. In 20es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), 2018.
- Cn2. N. Cohen, N. Martins, F. Mc Inerney, N. Nisse, S. Pérennes, R. Sampaio. *Enquêter dans les graphes*, In 19es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), 2017.

- Cn3. N. Nisse, A. Salch and V. Weber, *Opérations aériennes et chaînes augmentantes*. In 17es Rencontres de la société Française de Recherche Opérationnelle et d'Aide à la Décision (**ROADEF**) 2016.
- Cn4. D. Coudert, G. Ducoffe and N. Nisse, *Structure vs métrique dans les graphes*. In 17es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), 2015.
- Cn5. N. Nisse, A. Salch and V. Weber, *Comment appliquer les chaînes augmentantes pour atterrir à l'heure*. In 17es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), 2015.
- Cn6. M.M. Kanté, F. Z. Moataz, B. Momège and N. Nisse *On paths in grids with forbidden transitions*. In 17es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), 2015.
- Cn7. A. Kosowski, B. Li, N. Nisse and K. Suchan. *k-Chordal Graphs : from Cops and Robber to Compact Routing via Treewidth*. In 14es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 83-86, 2012.
- Cn8. F. V. Fomin, F. Giroire, A. Jean-Marie, D. Mazauric and N. Nisse, *Satisfaire un internaute impatient est difficile*. In 14es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 79-82, 2012. ([best paper award](#))
- Cn9. L. Blin, J. Burman and N. Nisse, *Nettoyage perpétuel de réseaux*. In 14es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 31-34, 2012.
- Cn10. S. Belhareth, D. Coudert, D. Mazauric, N. Nisse and I. Tahiri. *Reconfiguration avec contraintes physiques dans les réseaux WDM*. In 13es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 17-20, 2011.
- Cn11. F. Becker, M. Matamala, N. Nisse, I. Rapaport, K. Suchan, and I. Todinca. *Reconstruire un graphe en une ronde*. In 13es Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 31-34, 2011.
- Cn12. N. Cohen, D. Coudert, D. Mazauric, N. Nepomuceno and N. Nisse, *Tradeoffs in routing re-configuration problems*. In 12me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 119-122, 2010.
- Cn13. N. Hanusse, D. Ilcinkas, A. Kosowski and N. Nisse, *Comment battre la marche aléatoire en comptant ?* In 12me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 27-30, 2010.
- Cn14. J.-C. Bermond, N. Nisse, P. Reyes, H. Rivano, *Fast Data Gathering in Radio Grid Networks*. Proceedings of the 11me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 53-56, 2009.
- Cn15. D. Coudert, F. Huc, D. Mazauric, N. Nisse, J.-S. Sereni, *Reconfiguration dans les réseaux optiques*. Proceedings of the 11me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 25-28, 2009.
- Cn16. N. Nisse, K. Suchan, *Voleur véloce dans un réseau planaire*. Proceedings of the 10me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 29-32, 2008.
- Cn17. D. Ilcinkas, N. Nisse, D. Soguet, *Le coût de la monotonie dans les stratégies d'encercllement réparti*. Proceedings of the 10me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 33-36, 2008. ([best student paper award](#))
- Cn18. N. Nisse, D. Soguet, *Stratégies d'encercllement avec information*. Proceedings of the 9me Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 49-52, 2007.

- Cn19. L. Blin, P. Fraigniaud, N. Nisse, S. Vial, *Encerclement réparti d'un fugitif dans un réseau par des agents mobiles*. Proceedings of the 8mes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 89-92, 2006.
- Cn20. F. V. Fomin, P. Fraigniaud, N. Nisse, *Stratégies d'encerclement non déterministes*. Proceedings of the 8mes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 81-84, 2006.
- Cn21. P. Fraigniaud, N. Nisse, *Stratégies d'encerclement connexes dans un réseau*. Proceedings of the 7mes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (**AlgoTel**), pages 13-16, 2005.
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International Conferences without Proceedings (selection on abstract).

1. J. Bensmail, D. Mazauric, F. Mc Inerney, N. Nisse and S. Pérennes. *Sequential Metric Dimension*. 10th International colloquium on graph theory and combinatorics (**ICGT**), 2018
 2. N. Cohen, F. Havet, W. Lochet and N. Nisse, *Subdivisions of oriented cycles in digraphs with large chromatic number*. Bordeaux Graph Workshop (**BWG**), 2016.
 3. B. Li, F. Z. Moataz and N. Nisse. *Minimum Size Tree-Decompositions*. 9th International colloquium on graph theory and combinatorics (**ICGT**) 2014.
 4. J. Chalopin, V. Chepoi, N. Nisse and Y. Vaxès, *Cop and robber games when the robber can hide and ride*. 8th French Combinatorial Conf. (**FCC/ICGT**), 2010.
-

Invited Talks

1. N. Nisse, *Tree-decompositions with metric properties on the bags*. 2nd Workshop Franco-brésilien de Graphes et Optimisation Combinatoire (**GCO**), Praia de Redonda, Brazil, March 31st, 2016
2. N. Nisse, *Cops and robber games in graphs*. Journées Graphes et Algorithmes (**JGA**) 2015, Orléans, November 4th, 2015.
3. N. Nisse, *Cops and robber games in graphs*. 7th Workshop on GRAPh Searching, Theory and Applications (**GRASTA**), Montréal, Canada, 2015
4. N. Nisse, *What Can(not) Be Computed in One Round in Interconnection networks?* Réunion ANR Displexity, Arcachon, September 3rd, 2015
5. N. Nisse, *Cops and robber games in graphs*. **Journées nationales du GDR IM**, Bordeaux, France, 2015.
6. N. Nisse, *Fractional combinatorial two-player games*. 27th European Conference on Operational Research (**EURO**), Rome, Italy, 2013.
7. N. Nisse, *Routing Reconfiguration in WDM Networks*. 5th Workshop on GRAPh Searching, Theory and Applications (**GRASTA**), Banff, Canada, 2012
8. N. Nisse, *Routing with faulty advice*. IMSA Workshop on Algorithms and Randomness, Santiago, Chili, 2011
9. N. Nisse, *Graph Searching and Graph Decompositions*. 24th European Conference on Operational Research (**EURO**), Lisbonne, Portugal, 2010
10. N. Nisse, *Distributed Graph Searching*. 2nd Workshop on GRAPh Searching, Theory and Applications (**GRASTA**), Redonda, Brésil, 2008
11. N. Nisse, *Monotonicity Property of Non-Deterministic Graph Searching*. 1st Workshop on GRAPh Searching, Theory and Applications (**GRASTA**), Crête, 2006

Submitted/Technical Reports

- S1. J. Bensmail, F. Mc Inerney and N. Nisse. *Metric Dimension : from Graphs to Oriented Graphs*. [Research Report] Inria. 2018. Submitted.
- S2. F. Havet and N. Nisse, *Constrained ear decompositions in graphs and digraphs*. (2018). In revision for DMTCS.
- S3. F. Mc Inerney, N. Nisse, and S. Pérennes. *Eternal Domination in Strong Grids*. (2018). Submitted.
- S4. J. Bensmail, D. Mazauric, F. Mc Inerney, N. Nisse and S. Pérennes. *Sequential Metric Dimension*. (2018). Submitted to Algorithmica.
- S5. G. Ducoffe, S. Legay and N. Nisse, *On the complexity of computing the tree-breadth*. Research Report, arXiv :1601.01958 (2016). In revision for Algorithmica.
- S6. K. Knauer and N. Nisse, *Computing metric hulls in graphs*. Submitted to DMTCS.
- S7. S-G. Jeong, Y. Tarabalka, N. Nisse and J. Zerubia. *Inference of Curvilinear Structure based on Learning a Ranking Function and Graph Theory*. Research Report, RR-8789, HAL, Sophia Antipolis, France, 2015.
- S8. F. Giroire, N. Nisse, S. Pérennes and R.P. Soares. *Fractional Combinatorial Games*. Research Report, RR-8371, Inria, Sophia Antipolis, France, 2013.
- S9. P. Berthomé, T. Bouvier, F. Mazoit, N. Nisse and R. P. Soares, *A unified FPT Algorithm for Width of Partition Functions*. Research Report, Inria-RR8372, HAL, Sophia Antipolis, France, 2013.

Popularization

- P1. N. Nisse. *Posters de médiation scientifique I : Deux Jeux Combinatoires*. 2017. <https://hal.inria.fr/hal-01645160/file/CombinatorialGames2.pdf>.
- P2. N. Nisse. *Posters de médiation scientifique II : Tour de Magie et Binaire*. 2017. <https://hal.inria.fr/hal-01645162/file/Binaire2.pdf>
- P3. N. Nisse. *Posters de médiation scientifique III : Réseaux de Tri*. 2017. <https://hal.inria.fr/hal-01645164/file/ReseauDeTri2.pdf>.
- P4. N. Nisse. *Posters de médiation scientifique IV : Jeux dans les Graphes*. 2017. <https://hal.inria.fr/hal-01645165/file/Graphes2.pdf>

Teaching and Popularization

Schools

University of Oulu (Finland), Graph Theory and Optimization, September 15-18th, 2015. I have been invited to give a one week course.

ENS Lyon : Linear Programming, with F. Giroire and F. Havet, Jan. 23-27th, 2012.

Inria Sophia : Complex Networks, 3 to 6 hours each year from 2014 to 2018. (<http://www-sop.inria.fr/members/Giovanni.Neglia/complexnetworks/>).

Master 1 International, Univ. Nice Sophia Antipolis

since Sept. 2015 : course Resolution Methods (with R. Aparicio-Pardo). 2015-17 (9h per year). 2018 (21 h)

Approximation and FPT algorithms : Bin-packing, graph theory...

Classe préparatoire, Lycée International de Valbonne (LIV), Sophia Antipolis.

since Sept. 2011 : **co-responsible** (with M. De Falco and L. Pottier) of the Computer-Science course in MPSI. Creation of a new class in partnership with Inria. In charge of the course.

2011-12 (40h), 2012-13 (40h), 2013-14 (14h), since 2014 (16h per year)

Introduction to Computer Science : complexity, sorting algorithms, divide and conquer, dynamic programming, trees. <http://www-sop.inria.fr/members/Nicolas.Nisse/lectures/prepa>

Master 2 UBINET (Ubiquitous Networking and Computing) Univ. de Nice Sophia Antipolis.

since Sept. 2011 : **in charge** of the course Algorithms for Telecommunications.

2009-10 (6h), 2010-11 (12h), 2011-12 (12h), 2012-13 (9h), 2013-14 (9h), since 2014 (12h per year)

Graph Theory (graph theory, gathering problem, compact routing)

<http://www-sop.inria.fr/members/Nicolas.Nisse/lectures/>

Master 2 MDFI (Discrete Mathematics and Computer Sciences) Univ. de la Méditerranée.

2008-09 (20h), 2009-10 (10h), 2010-11 (10h), 2011-12 (20h), 2012-13 (20h)

Graph Theory (flows, matching, linear programming, graph decompositions)

Supélec (engineer school), dpt Informatics Gif-sur-Yvette. (monitorat)

2006-2007

Computer Systems Architecture, 27h TP

Data Structures and Algorithms (Java), 18h TP

Software Engineering and Deployment of Systems 36h TP

Programming Model 18h TP

2005-2006

Computer Systems Architecture, 27h TP

Data Structures and Algorithms (Java), 36h TP

Software Engineering and Deployment of Systems 36h TP

2004-2005

Computer Systems Architecture, 63h TP
Software Engineering and Deployment of Systems 36h TP

Popularization

Since 2016, I dedicate **more than** 15% of my time to popularization. I am a member of **Mastic** (Médiation et Animation scientifiques Inria Sophia Antipolis - Méditerranée) and I co-founded the project **Galejade** <https://galejade.inria.fr/> where we build new resources (physical or software) for popularization like posters [P1,P2,P3,P4], or games (e.g. [https://pixees.fr/tablette-de-chocolat-empoisonnee/...](https://pixees.fr/tablette-de-chocolat-empoisonnee/)). I also give many seminars/courses in schools both for teachers and kids :

- Fêtes de la science / grand public : Forum des Maths., Aix-en-Provence, 25-26 avril 2019. Journée portes ouvertes, Inria Sophia Antipolis, dimanche 7 oct. 2018. Palais des Congrès de Juan-Les-Pins (8h-19h, week-end), 22-23 oct. 2016, 7-8 oct. 2017, 20-21 oct. 2018. Collège de Vinon-sur-Verdon (83), 11-13 oct. 2016, 10-12 oct. 2017, 9-12 oct. 2018 (chaque jour, animations devant 4 à 6 classes).
- Seminars/courses in front of teachers : Prof. de primaire, Lyon, 10 avril 2019. Prof. de Cycle 2 (CP-CE2) : 21 nov. 2018 (Le Cannet) et 28 nov. 2018 (Mandelieu), 5 avril 2019 (Le Cannet). Prof. de primaire, samedi 12 mai 2018, île Sainte Marguerite. Animation d'ateliers de GALEJADE au weekend d'initiation à la culture numérique organisé par Class'Code MED. ESPE (ex IUFM) : 19-20 mars et 9-10 avril 2018, 22 mars 2019. Présentation d'animations devant de futurs enseignants (1 journée) qui les présentent ensuite à des élèves de primaire (1 demi-journée) avec notre aide. "liens entre médiation numérique et recherche", MMSH, Aix en Provence, 14 mars 2018.
- Seminars in front of high-school students : Collège Sydnet Bechet, Antibes, 14 mars 2019 (semaine des Maths.) Lycée Carnot, Cannes, 13 mars 2019. Master en science de l'éducation Nice, 18 octobre 2018. Stage MathC2+, Activité pour une quarantaine de lycéens, Inria Sophia, 21 juin 2017, 14 juin 2019. Lycée des Remparts, Marseille, 17 avril 2015. Lycée Marcel Pagnol, Marseille, dec. 2013

Ph.D. Committees

- Antoine Naudin (**referee**). Univ. Aix Marseille, October 2017.
- Noël Gillet (**referee**). Univ. Bordeaux, 10th March, 2017.
- Sylvain Legay. Univ. Paris-Sud, 1st March, 2017.
- Pedro Montealegre. Univ. Orléans, 28th Feb., 2017.
- Guillaume Ducoffe. Univ. Nice Sophia Antipolis, 9th Dec., 2016.
- Jean-Florent Raymond (**referee**). Univ. Montpellier/Univ. of Warsaw. 18th Nov., 2016.
- Valentin Garnero (**referee**). Univ. Montpellier. 4th July, 2016.
- Bi Li (**co-supervisor**), Univ. Nice-Sophia, Nov. 12th 2014.
- Ronan Pardo Soares (**co-supervisor**), Univ. Nice-Sophia, Nov. 8th 2013

Students supervision

Ph.D. students

- Adrien Gausseran (from Oct. 2018), . Co-supervision with J. Moulhierac (10%).
- Ali Al Zoobi (from Oct. 2018), . Co-supervision with D. Coudert (50%).
- Fionn Mc Inerney (from Oct. 2016, def. expected June 2019), *Turn-by-turn two Player games in graphs*
- Bi Li (since Oct. 2011, def. Nov. 12th 2014), *Tree Decompositions and Routing Problems*. Current position : assistant professor at Xidian University (China)
- Ronan Pardo Soares (since Nov. 2010, defended Nov. 8th 2013), *Routing Reconfiguration in WDM Networks*. Current position : assistant professor at Univ. Federal do Ceará (Brazil).

Master/Undergraduate students

- “post”-Master 2 internship of Athanasia Farmaki (jan.-june 2019).
- Master 2 internship of Mykhailo Zima (Univ. Nice-Sophia) (mars-august 2018).
- Master 2 internship of Yin Zhuochao (Univ. Nice-Sophia) (mars-august 2018).
- Undergraduate intern. of Thibault Hilaire (ENS Saclay) (juin-juil. 2018).
- Undergraduate intern. of Alexandre Simon (INSA Lyon) (juin-juil. 2018).
- “post”-Master 2 internship of Eleni Batziou (oct. 2017-april 2018). **Work in progress**
- Master 2 internship of Marko Oleksiyenko (Univ. Nice-Sophia) (march-August 2017)
- Master 1 internship of Rohit Agarwal (Univ. Nice-Sophia) (July- August 2016)
- Undergraduate intern. of Simon Nivelles (ENS Cachan) (June-July 2016) **Work in progress**
- Master 2 internship of Vladyslav Zaika (Univ. Nice-Sophia) (march-August 2016)
- “post”-Master 2 internship of Theodore Karagkioulos (October 2015-March 2016)
- Undergraduate intern. of Matthieu Hilaire (ENS Cachan) (06-07 2015) led to [publication \[Ci6\]](#)
- Visit of Nicolas A. Martins (Ph.D. at UFC, Brasil) (May-July 2015). led to [publication \[Cn2,Ci6,J9\]](#)
- Master 2 internship of Juan Doldan (April-August 2014)
- Undergraduate internship of Klaus Jaschan (Univ. Adolfo Ibanez, Chile) (Dec 2013-Feb 2014)
- M1 intern. of Ioannis Lamprou, co-sup. with S. Pérennes (04/06 2013) led to [publication \[J20\]](#)
- Master 1 internship of Christos Papageorgakis (March-July 2013)
- Undergraduate internship of Mélanie Ducoffe (Polytech Nice) (June-July 2012)
- “sandwich thesis year” of Bi Li (Academy of Mathematics and Systems Science, China), (2010-11). She then did a **PhD** with under my co-supervision.
- Master 2 internship of Dang Dinh Khanh (Univ. Nice-Sophia (Mar.-Aug 2011)
- Undergr. intern. of Henry Wei Cheng HSU (Polytechnique), co-sup. with D. Coudert (04-08 2010)
- Undergraduate intern. of Sonia Belhareth, co-sup. with D. Coudert (01-05 2010) led to [pub. \[Cn10,Ci22\]](#)
- Undergraduate internship of Saber Bennejma, co-sup. with D. Coudert (Sept-Dec. 2009)
- M2 of Ronan Soares (UFC, Brazil), co-sup. with D. Coudert (03-05 2009) He then did a **PhD** with under my co-supervision.
- Undergr. intern. of Matthieu Rajoelison (Univ. Paris 11), co-sup. with P. Berthomé (03-05 2007)

Participation to conference Program Committees / Organisation

Program Committees

2019	3	- 11 th Int. Conference on Algorithms and Complexity (CIAC'19) - 10 th Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS'19) - 45 th Int. Workshop on Graph-Theoretic Concepts in Computer Science (WG'19)
2018	2	- 17 th Int. Symposium on Experimental Algorithms (SEA'18) - 3 rd Rencontres Francophones sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication (CoRes'18)
2017	1	21 st Int. Symp. on Fundamentals of Computation Theory (FCT'17)
2016	2	- 18 th Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel'16) - 1 st Rencontres Francophones sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication (CoRes'16)
2015	2	- 8 th Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS'15) - 14 th Int. Conference on Ad Hoc Networks and Wireless (Ad Hoc Now'15)
2014	1	16 th Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel'14)
2013	1	15 th Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel'13) (co-chair) [E5]
2011	1	2 nd workshop Toward Evolutive Routing Algorithms for scale-free/internet-like NETworks (TERA-NET'11)
2010	3	- 1 st workshop Toward Evolutive Routing Algorithms for scale-free/internet-like NETworks (TERA-NET'10) (co-chair), - 11 th Journées Doctorales en Informatique et Réseaux (JDIR'10), - MAnifestation des JEunes Chercheurs en Sciences et Technologies de l'Information et de la Communication (MajeSTIC'10)
2007	1	1 st Int. workshop on Mobility, Algorithms and Graph theory In dynamic NETworks (IMAGINE'07), Lemesos, Cyprus (co-chair)

Organizing Committees

2017	1	École de printemps en informatique théorique CNRS : Calcul distribué (EPIT'17), Porquerolles, France
2015	1	7 th Workshop on GRAPh Searching, Theory and Applications (GRAS-TA'15), Montréal, Canada (co-organizing-chair)
2014	1	6 th Workshop on GRAPh Searching, Theory and Applications (GRAS-TA'14), Cargèse, Corse (organizing-chair)
2013	1	17 th International Conference On Principles Of DIstributed Systems (OPO-DIS'13), Nice, France (conference chair) [E4]
2011	1	13 th Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel'11), Agay, France (co-organizing chair)
2007-09	3	1 st au 3 rd Int. workshop on Mobility, Algorithms and Graph theory In dynamic NETworks (IMAGINE), Lemesos, Cyprus ('07) (co-organizing chair), Reykjavik, Iceland ('08), Piran, Slovenia ('09)

Selection Committees

- Member of Comité de sélection 27 MdC 195, Univ. de la Méditerranée, 2014.
- Member of Comité de sélection 27 MCF 0532, Univ. de la Méditerranée, 2011.
- Member of Comité de sélection 27 MCF 0695, Univ. de Montpellier 2, 2011.

Other administrative responsibilities

- Member of Comité Scientifique et Pédagogique (CSP) de l'EUR DS4H (Académie 1 *UCA^{jedi}*). (2018-)
- Member of the Bureau du GT [CoA](#) (Complexité et Algorithms) du GdR IM (2018-)
- substitute (elected) in “[Comité de Centre](#)” at Inria Sophia (since June 2016).
- Member of [MASTIC](#) (Médiation et Animation des MATHématiques, des Sciences et Techniques Informatiques et des Communications) at Inria Sophia Antipolis (since June 2016).
- Member of [CPRH](#) of I3S (2015).
- Member of “Commission de Documentation” at Inria (2013-2014).

Participation to national and international projects

- 2019 - **Coordinator** of **Stic-AmSud** project [GALOP](#), UFC (Brazil) and UAI (Chile).
- 2018 - Member of the project [GALEJADE](#)
- 2018 - Member of the project ANR MultiMod
- 2018 - Member of the project SNIF
- 2004 - Member of GdR CNRS ”IM”
- 2004 - Member of ResCom, GdR CNRS “RSD” (former GdR “ASR”)
- 2018 - 2018 Member of the project COSIT (UCA Jedi)
- 2013 - 2018 **Coordinator** of Inria [Equipe associée AIDyNet](#), Univ. Adolfo Ibáñez (Chile).

2013 - 2017	Member of the project ANR STINT
2013 - 2015	Coordinator of Action ECOS-SUD , Chile
2010 - 2014	Member of the European project FP7 STEP EULER
2009 - 2013	Member of the project ANR AGAPE
2009 - 2012	Member of the project ANR DIMAGREEN
2006 - 2010	Member of the project ANR ALPAGE
2009 - 2010	Member of the DCR-project (Collaboration Alcatel-Lucent belgium/ Inria)
2008 - 2010	Involved in the project AEOLUS IST/FET Project
2005 - 2009	Involved in the Action COST 295 "DYNAMO"
2007 - 2008	Member of the project Anillo en Redes
2004 - 2007	Member of the ACI FRAGILE
2004 - 2006	Member of the ACI PairAPair

Reviews

Reviews for journals

Journal of Combinatorial Theory (Series A and B), Theory of Computing Systems, Theoretical Computer Science, Distributed Computing, Discrete Mathematics, Discrete Applied Mathematics, SIAM Journal on Computing, SIAM Journal on Discrete Mathematics, Journal of Combinatorial Optimization, Computer Networks, Transactions on Parallel Distributed Systems, Techniques et Science Informatiques, Transactions on Algorithms...

Conference Reviews

- 2019 : CIAC (**PC member**), LAGOS (**PC member**), WG (**PC member**)
- 2018 : LATIN, MFCS, SEA (**PC member**), CoRes (**PC member**), WG
- 2017 : LAGOS, COCOON, EuroCG, ICCP, OPODIS, STACS, WADS, WAOA, AlgoTel, FCT (**PC member**)
- 2016 : DISC, LATIN, SODA, AlgoTel (**PC member**), CoRes (**PC member**)
- 2015 : CIAC, EUROCOMB, STACS, STOC, FOCS, LAGOS (**PC member**), AdHoc-Now (**PC member**), AlgoTel
- 2014 : ESA, IWOCA, MFCS, PODC, STACS, SIROCCO, AlgoTel (**PC member**)
- 2013 : CIAC, SEA, SIROCCO, SOFSEM, WG, AlgoTel (**chair**)
- 2012 : MFCS, SEA
- 2011 : EUROCOMB, SIROCCO, AlgoTel
- 2010 : ESA, FUN, SIROCCO, WG, MajecSTIC, JDIR (**PC member**), AlgoTel
- 2009 : OPODIS, MFCS, SIROCCO, WG, AlgoTel
- 2008 : COCOA, OPODIS, SODA, WG
- 2007 : STACS, AlgoTel
- 2006 : DISC, SSS, STACS, AlgoTel
- 2005 : DISC, WG

Presentations

In brief : at least 85 (research) talks in International or national Conferences/Workshops/Seminars...

International meetings

Invited Talks

- 2nd Workshop Franco-brésilien de Graphes et Optimisation Combinatoire (GCO), Praia de Redonda, Brazil, March 31st, 2016
- GRASTA 2015, Montréal, Canada, October 19th, 2015.
- EURO 2013, Roma, Italia, July 4th, 2013.
- GRASTA 2012, Banff, Canada, October 11th, 2012
- IMSA Workshop on Algorithms and Randomness, Santiago, Chile, January 18th, 2011
- EURO 2010, Lisbon, Portugal, July 14th, 2010
- GRASTA 2008, Redonda, Ceara, Brasil, February 27th, 2008
- GRASTA 2006, Anogia, Crete, October 10th, 2006

Conferences

- ISAAC'17, Phuket, France, December, 2018.
- LAGOS'17, Marseille, France, September 11st, 2017.
- FUN'16, La Maddalena, Maddalena Islands, Italy, June 8th, 2016.
- LAGOS 2015, Praia das Fontes, Ceara, Brasil, May 12th, 2015.
- STACS 2014, Lyon, France, March 6th, 2014
- ICDCN 2014, Coimbatore, India, January 5th, 2014
- SIROCCO 2013, Ischia, Italia, July 1st, 2013
- FCC 2010, Orsay, France, June 28th, 2010
- AGT 2009, Warwick, Great Britain, March 24th 2009
- Workshop COST 293 GRAAL, Arcachon, France, Sept. 25th 2008 (selection on abstract)
- WG 2007, Dornburg, Germany, June 21st, 2007
- SIROCCO 2006, Chester, Great Britain, July 3rd, 2006
- WG 2006, Bergen, Norway, June 23rd, 2006
- LATIN 2006, Valdivia, Chile, March 21st, 2006
- MFCS 2005, Gdansk, Poland, September 1st, 2005

Seminaries

- Seminar Univ. Adolfo Ibanez, Santiago, Chile, November 21st, 2017.
- Seminar Univ. Adolfo Ibanez, Santiago, Chile, November 4th, 2016.
- Seminar at JAIST Institute, Kanazawa, Japan, August 2014
- AlDyNet Seminar, Univ. Adolfo Ibanez, Santiago, Chile, November 21st, 2013
- IMSA Seminar, Univ. Adolfo Ibanez, Santiago, Chile, August 10th, 2012
- Plenary meeting EULER, Ghent, Belgium, June 6th, 2012
- Seminar team ParGO, Univ. federal do Ceara, Fortaleza, Brazil, April 9th, 2010
- Seminar of the project Anillo en Redes (DIM), Santiago, Chile, August 22nd, 2008
- Seminar of the project Anillo en Redes (DIM), Santiago, Chile, October 12th, 2007

Meetings

- Workshop Moving and Computing (MAC), UPMC, Paris, September 26th, 2016
- Workshop on Search Games : Theory and Algorithms, Leiden, Netherlands, June 28th, 2016
- MAC 2014, Hida Takayama, Japan, July 26th 2014
- GRASTA 2014, Cargèse, France, March 31th, 2014
- GRASTA 2011, Dagstuhl, Germany, February 17th, 2011
- GROW 2005, Prague, Czech Republic, October 19th, 2005

National meetings

Invited talks

- Journées Graphes et Algorithmes 2015, Orléans, November 4th, 2015
- Réunion ANR Displexity, Arcachon, September 3rd, 2015
- Journées nationales du GDR IM, Bordeaux, February 2nd, 2015.

Conferences

- AlgoTel 2015, Beaune, June 3rd, 2015
- AlgoTel 2012, La Grande Motte, May 31st, 2012
- AlgoTel 2010, Belle Dune, 3 juin 2010
- AlgoTel 2008, Saint Malo, 14th May 2008
- AlgoTel 2007, Ile d'Oléron, 30th May 2007
- AlgoTel 2006, Trégastel, 11th May 2006
- AlgoTel 2005, Presqu'île de Giens, 11th May 2005

Seminaries

- Seminar of ACRO team, LIF, Marseille, July 10th, 2017
- Seminar of ACRO team, LIF, Marseille, July 18th, 2016
- Seminar project COATI, Sophia Antipolis, June 21st, 2016
- Seminar of LIMOS, Univ. Blaise Pascal, Clermont-Ferrand, January 28th, 2016
- Seminar of the project COATI, Inria Sophia Antipolis, July 7th, 2015
- Seminar of ACRO team, LIF, Marseille, June 28th, 2015
- Seminar of the project COATI, Inria Sophia Antipolis, October 8th, 2014.
- Seminar of the project COATI, Inria Sophia Antipolis, February 11th, 2014.
- Seminar of the project COATI, Inria Sophia Antipolis, July 16th, 2013.
- Seminar of the project COATI, Inria Sophia Antipolis, March 5th, 2013.
- Seminar of the team CRO, LIF, Marseille, Feb. 20th, 2012
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, October 25th, 2011
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, July 12th, 2011
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, March 15th, 2011
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, November 2nd, 2010
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, January 12th, 2010
- Seminar of the team Graphes et applications, LaBRI, Bordeaux, March 13th 2009
- Seminar of the LIFL, Lille, March 5th 2009
- Seminar of the team CRO, LIF, Marseille, Dec. 15th, 2008
- Seminar of the team MoVe, LIF, Marseille, Octobre 30th, 2008
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, France, October 9th, 2008
- Seminar of the team GraphComb, LRI, Orsay, May 25th, 2007
- Seminar of the team Graphes et applications, LaBRI, Bordeaux, May 11th, 2007
- Seminar of the project MASCOTTE, Inria Sophia Antipolis, December 19th, 2006
- Seminar of the team MC2, LIP, Lyon, April 12th, 2006
- Seminar of the team GrafComm, LRI, Orsay, January 13th, 2006
- Seminar of the team GrafComm, LRI, Orsay, February 18th, 2005

Meetings

- JCALM 2015, Sophia Antipolis, France, March 10th, 2015
- Réunion ADR Network science, LINCS, Paris, February 28th, 2013.
- Journées Graphes et Algorithmes 2011, Sophia Antipolis, November 18th, 2011
- Réunion Inria/Alcatel Lucent Bel/LaBRI, Bordeaux, December 3rd, 2009
- Réunion ALADDIN, Bordeaux, November 27th, 2009
- JCALM 2009, Sophia Antipolis, France, October 19th, 2009
- Réunion Inria/Alcatel Lucent Bel/LaBRI, Carry-le-Rouet, June 15th, 2009
- Journées Graphes et Algorithmes 2008, Sophia Antipolis, November 6th 2009
- Réunion FRAGILE, Paris, 19 juin 2007

- JCALM 2007, Montpellier, France, April 27th, 2007
- Journées Graphes et Algorithmes 2006, Orléans, November 9th, 2006
- Réunion FRAGILE, Oléron, September 7th, 2006
- Journées ResCom, Lille, March 6th, 2006
- Journées Graphes et Algorithmes 2005, Bordeaux, November 3rd, 2005
- Réunion FRAGILE, Aussois, March 23rd, 2005
- Réunion TAROT, Lyon, October 14th, 2004
- Journées Graphes et Algorithmes 2004, Grenoble, September 29th, 2004