

Arnaud de Mesmay

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Born on December 21st, 1988
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FORMATION

- 2015-Present** *Gipsa-Lab*, Saint-Martin d'Hères : Junior researcher (Chargé de recherche CR2) at CNRS.
- 2014-2015** *IST Austria*, Vienna : Post-doc in the groupe of Uli Wagner, with an ISTFELLOW fellowship (Marie Curie COFUND).
- 2011-2014** *École normale supérieure* (ENS), Paris : PhD thesis : “Topics in Low Dimensional Computational Topology” under the supervision of Éric Colin de Verdière. Date of defense : July 7, 2014.
- Awarded with the best mention *Très honorable avec félicitations du jury*.
 - Reviewers :
 - Frédéric Chazal (CS, INRIA Saclay - Île de France)
 - Jeff Erickson (CS, University of Illinois at Urbana-Champaign, USA)
 - Eric Sedgwick (CS, DePaul University, USA)
 - Examiners :
 - Cyril Gavoille (CS, Université de Bordeaux)
 - Pierre Pansu (Math, Université Paris-Sud)
 - Jorge Ramírez-Alfonsín (Math, Université Montpellier 2)
 - Monique Teillaud (CS, INRIA Sophia-Antipolis - Méditerranée)
- 2010-2011** *École normale supérieure* (ENS), Paris : *Parisian Masters of Research in Computer Science (MPRI)*, awarded with summa cum laude, ranked first.
- 2009-2010** *École normale supérieure* (ENS), Paris :
- First semester : *Master 1*, in Computer Science at the ENS
 - Second Semester : *Master 2*, in Mathematical Logic and Foundations of Computer Science, University Paris VII, awarded with summa cum laude.
- 2008 - 2009** *École normale supérieure* (ENS), Paris :
- *Agrégation* in Mathematics (Competitive examination conducted by the state for admission to teaching positions). Admitted with rank 5.
- 2007 - 2008** *École normale supérieure* (ENS), Paris :
- *Master 1 (Master of Science)*, in Mathematics at the ENS, awarded with 2nd class (Mention bien).
 - *Licence 3 (Bachelor of Science)*, in Mathematics at the ENS, awarded with 1st class (Mention très bien).
- 2005 - 2007** Preparatory years for the nationwide competitive examination to the elite French 'Grandes Écoles' for scientific studies (France's leading schools of science and engineering). Admitted into all of these schools.
- 2005** *French and German Baccalauréat (high school diploma)*, with specialty in Mathematics, awarded with high honors (Mention Très Bien)

PUBLICATIONS

Articles in refereed journals

- [J4] *On the Complexity of Immersed Normal Surfaces*, with Éric Colin de Verdière and Benjamin Burton. To appear in *Geometry & Topology*, 2015. <http://arxiv.org/abs/1412.4988>.
- [J3] *Discrete systolic inequalities and decompositions of triangulated surfaces*, with Éric Colin de Verdière and Alfredo Hubard. *Discrete and Computational Geometry*, April 2015, Volume 53, Issue 3, pp 587–620. <http://arxiv.org/abs/1408.4036>.
- [J2] *Testing graph isotopy on surfaces*, with Éric Colin de Verdière. *Discrete and Computational Geometry*, January 2014, Volume 51, Issue 1, Pages 171–206. <http://arxiv.org/abs/1310.2745>.
- [J1] *Dimension reduction for finite trees in ℓ_1* , with James R. Lee and Mohammad Moharrami. *Discrete and Computational Geometry*, December 2013, Volume 50, Issue 4, Pages 977–1032. <http://arxiv.org/abs/1108.2290>.

Articles in proceedings of flagship conferences

- [C6] *Shortest path embeddings of graphs on surfaces*, with Alfredo Hubard, Vojtěch Kaluža and Martin Tancer. Proceedings of the 32nd International Symposium on Computational Geometry (SOCG), 2016, to appear.
- [C5] *Finding non-orientable surfaces in 3-manifolds*, with Benjamin A. Burton and Uli Wagner. Proceedings of the 32nd International Symposium on Computational Geometry (SOCG), 2016, to appear.
- [C4] *A fixed parameter tractable approximation scheme for the optimal cut graph of a surface*, with Vincent Viallat Cohen-Addad. Proceedings of the 23rd Annual European Symposium on Algorithms (ESA), 2015.
- [C3] *Discrete systolic inequalities and decompositions of triangulated surfaces*, with Éric Colin de Verdière and Alfredo Hubard. Proceedings of the 30th Annual Symposium on Computational Geometry (SOCG), ACM, pages 335–344, 2014. Conference version of [J3].
- [C2] *Testing graph isotopy on surfaces*, with Éric Colin de Verdière. Proceedings of the Twenty-Eighth Annual Symposium on Computational Geometry (SOCG), ACM, pages 141–150, 2012. Conference version of [J2].
- [C1] *Dimension reduction for finite trees in ℓ_1* , with James R. Lee and Mohammad Moharrami. Proceedings of the Twenty-Third Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), pages 43–50, 2012. Conference version of [J1].

Other reviewed publications

- [O1] *De la carte au territoire?* with Éric Colin de Verdière. *Images des Mathématiques*, CNRS, 2014. Vulgarization article around *Testing graph isotopy on surfaces*. <http://images.math.cnrs.fr/De-la-carte-au-territoire.html>

PRESENTATIONS

International venues

- Computational Geometric and Algebraic Topology, Oberwolfach, Germany (2015).
- European Symposium on Algorithms, Patras, Greece (2015).
- ACM Symposium on Computational Geometry, Kyoto, Japan (2014).
- European Workshop on Computational Geometry, Ein Gedi, Israel (2014).
- ACM Symposium on Computational Geometry, Chapel Hill, North Carolina, USA (2012).
- Summer school on Analysis and Geometry in the Theory of Computation, Bloomington, Indiana, USA (2009).

Conferences in France

- Journées Graphes et surfaces, France (2016).
- Journée du GDR-IM, Bordeaux, France (2015).
- Journées de Géométrie Algorithmique, Luminy (2013).
- École Jeunes Chercheurs en Informatique Mathématique, Université de Perpignan (2013).
- Journées de Géométrie Algorithmique, Cluny, France (2012).

Seminars

- Séminaire de Théorie spectrale et Géométrie, Institut Fourier, Grenoble, France (2016).
- Computational and Combinatorial Geometry Seminar, Institut Henri Poincaré, France (2015).
- GT Combi du LIX, Ecole Polytechnique, Palaiseau, France (2015).
- Images et Signal Seminar, Gipsa-Lab, Grenoble, France (2015).
- Geometry and Topology Seminar, IST Austria, Autriche (2014).
- Séminaire Complexité et Algorithmes du LIAFA, Paris, France (2014).
- Geometry Processing, Shapes and Images Workgroup, Saclay, France (2014).
- Groupe de Travail Complexité et Algorithmes, Paris (2013).
- Pure Mathematics Seminar, University of Queensland, Australia (2012).

LONG VISITS

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| 2013 | 2-months visit in Jerusalem, Israel at the Hebrew University to work with Nati Linial on extremal problems for simplicial complexes. |
| 2012 | 18-days stay in Brisbane, Australia at the University of Queensland to work with Benjamin Burton, leading to an article under submission. |
| 2010 | 5-months internship in Seattle, USA at the University of Washington, under the supervision of James R. Lee, leading to a published article. |

TEACHING

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| 2011-2014 | Teaching assistant (192h) at the University Paris VII (Denis Diderot). Courses : Introduction to programming, Data types and objects, Automata. |
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REFEREEING

External reviewer for SOCG 2013, 2014 and 2016, MFCS 2014, ICALP 2015 and SODA 2016. Reviewer for the journal Discrete and Computational Geometry and for MathSciNet.