

NANCY ABDALLAH

PERSONNAL INFORMATION

Address : Hus B, Rum 2A :649, Campus Vall, SE-581-83 Linköping, Sweden
Nationality : Lebanese
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CURRENT POTISION

Postdoctoral Research Fellow, Linköping University, Sweden

EDUCATION

2011 – 2014 **Ph.D. in algebraic geometry, grant from CNRS-L**
University of Nice, Laboratoire J.-A. Dieudonné, Nice, France
Supervisor: Alexandru DIMCA

2008 – 2010 **Master of Science in mathematics**
American University of Beirut, Hamra, Lebanon

2004 – 2008 **Maîtrise in pure mathematics, Teaching Diploma in Science**
Lebanese University, Fanar, Lebanon

RESEARCH EXPERIENCE

Current **Postdoctoral research fellow**, Linköping University, Sweden
Keywords: Coxeter Groups, Kazhdan-Lusztig Polynomial, Bruhat Order.

2014 – 2015 **Postdoctoral research fellow**, University of Nice, Nice, France.
Keywords: Hodge Filtration, Polar Order Filtration, Milnor algebra, Milnor fiber, Syzygies of the Jacobian ideal.
Coxeter Groups, Kazhdan-Lusztig Polynomial, Bruhat Order, Zircons.

2011 – 2014 **Ph.D. in algebraic geometry**, University of Nice, Nice, France.
Thesis Title: Cohomology of algebraic plane curves.
Keywords: Singularities of algebraic curves, Milnor algebras, syzygies of the Jacobian ideal, Hodge Structures of plane curve complements.

2010 **Master Thesis in Complex Analysis**, American University of Beirut, Hamra, Lebanon.
Thesis Title: Valency of Harmonic Mappings onto Bounded Convex Domains".
Keywords: Harmonic Mappings, p-valent functions.

TEACHING EXPERIENCE

2015 **Part-time Lecturer**
American University of Beirut, Hamra, Lebanon
- Fall 2015: Calculus I (2 Lectures)
Lebanese American University, Byblos, Lebanon
- Fall 2015: Calculus I (1 section)
Biostatistics (1 section)
Holy Spirit University of Kaslik, Kaslik, Lebanon
- Fall 2015: Discrete Algebra for Engineering I (2 sections)

2013 – 2015 **Part-time Lecturer**
Skema Business School, Sophia-Antipolis, France
- Summer 2015: College algebra (1 section)
- Fall 2014: College algebra (2 sections)
Applied Calculus with Matrices (1 section)
- Summer 2014, Spring 2014, Fall 2013: College algebra (1 section)

Part-time Lecturer

- 2012 – 2014 University of Nice, Nice, France
- Fall 2014: *Discrete Mathematics (solving, 1 section)*
Mathematics for Biology (1 section)
Mathematics for first year bachelor in business and economy (solving, 2 sections)
Applied Quantitative Techniques (solving, 2 sections)
 - Spring 2014: *Mathematics for second year bachelor in business and economy (solving, 2 sections)*
 - Fall 2013: *Applied Quantitative Techniques (solving, 2 sections)*
Mathematics for first year bachelor in business and economy (solving, 1 sections)
Mathematics for second year bachelor in business and economy (solving, 1 sections)
 - Spring 2013: *Mathematics for second year bachelor in business and economy (solving, 2 sections)*
 - Fall 2012: *Applied Quantitative Techniques (solving, 2 sections)*
Mathematics for first year bachelor in business and economy (solving, 2 sections)
- 2009 – 2010 **Graduate Assistant**
 American University of Beirut, Hamra, Lebanon

MASTER STUDENTS

- 2015 – 2016 Jean-Pierre Abi Baroud, University of Holy-Spirit of Kaslik
Thesis Title: Coxeter Groups and Kazhdan-Lusztig Polynomials

SKILLS

- Mathematics: Expertise: Plane Curves, Hypersurface Singularities, Hodge Theory, Line Arrangements, Coxeter Groups, Kazhdan-Lusztig Theory.
 General knowledge: Group Theory, Algebraic Topology, Linear Algebra, Commutative Algebra, Real and Complex Analysis, Calculus, Ordinary and Partial Differential Equations, Logic, Probability and Statistics.
- Computer: Singular, Maccaulay2, SPSS, R, Geogebra, Mathematica, Matlab, C.
- Languages: Fluent: English, French, Arabic
 Intermediate: Italian

PUBLICATIONS AND PREPRINTS

- N. Abdallah, “On Hodge Theory of Singular Plane Curves”, arxiv: 1404.7254v2 7 Apr 2015, to appear in Canadian Mathematical Bulletin.
- N. Abdallah, “On Plane Curves with Double and Triple Points”, arXiv: 1401.6032v2, 3 Apr 2014, to appear in Mathematica Scandinavica.

BOOKS

- N. Abdallah, A. Dalmaso, S. Rochow, “Fundamental Mathematics for Future Managers”, (*still in process*).
- N. Abdallah, A. Dalmaso, S. Rochow, “Applied Mathematics and Firm Strategy”, (*still in process*).

CONFERENCE AND SCHOOLS ATTENDED

- “Computational Geometric Topology in Arrangement Theory”, ICERM, Providence, USA, July 2015.
- “Conference On Differential Geometry”, Notre Dame University, Lebanon, April 2015.
- “Perspective In Lie Theory: Algebraic topology, geometric and combinatorial group theory”, Pisa, Italy, February 2015.
- “Applications of Artin Approximation in Singularity Theory 2015”, CIRM, Marseille, France, February 2015.
- “Commutative Algebra and Singularity Theory”, Toyama, Japan, July 2014.
- “Pragmatic 2014: Local Cohomology and Syzygies of Affine Algebras”, Catania, Italy, June 2014.

- “Geometry and Topology of Singular Varieties, Theory and Applications”, Hanoi, Vietnam, December 2013.
- “First Franco-Japanese-Vietnamese Symposium on Singularities”, Nice, France, September 2013.
- “Geometry and Topology of Complex Singularities”, CIRM, Marseille, France, April 2013.
- “Chern Classes”, Porquerolles, France, October 2012.

TALKS

- “The Mathematical Colloquium”, Linköping University, Linköping, Sweden, May 2016.
- “Seminar of Mathematics”, Lebanese University, Tripoli, Lebanon, January 2016.
- “Computational Geometric Topology in Arrangement Theory”, ICERM, Providence, USA, July 2015.
- “Seminar of Singularities”, Aix-Marseille University, Marseille, France, May 2015.
- “Conference On Differential Geometry”, Notre Dame University, Lebanon, April 2015.
- “Seminar of Analysis and Geometry”, American University of Beirut, Beirut, Lebanon, March 2015.
- “Perspective In Lie Theory: Algebraic topology, geometric and combinatorial group theory”, Pisa, Italy, February 2015.

ACTIVITIES

- Member of “European Women in Mathematics”.
- Member of the “Lebanese Society for the Mathematical Sciences”.
- Organized the doctoral seminar of the Mathematics and Interactions Department of University of Nice, May 2015 (Saint Etienne de Tinée, France), June 2014 and June 2013 (Fréjus, France).