

Boulos El Hilany

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Born: 01 March 1990
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Work and Education

2017–2018 Dec. – Nov	Postdoc. with Gaetan BOROT <i>Max-Planck-Institut für Mathematik, Bonn.</i>
2016–2017 May–Nov.	Postdoc. with Johannes RAU <i>Eberhard Karls Universität Tübingen, Fachbereich Mathematik.</i> “Real Hurwitz numbers”
2013–2016	PhD defended on 21 Septembre 2016. Under supervision of Frédéric BIHAN. <i>LAMA, Université Savoie Mont Blanc, Le Bourget-du-Lac, France</i> “Tropical Geometry and Polynomial Systems”
2013 (2 months)	Masters thesis supervised by Frédéric BIHAN, <i>LAMA, Le Bourget-du-Lac, France.</i> “Tropical Curves and Amoebas”
2012–2013	2nd masters year in pure mathematics, option: Riemannian Geometry, <i>Lebanese University, École Doctorale de Sciences et Technologies.</i>
2011–2012	1st masters year in pure mathematics, <i>Lebanese University, Faculty of Science 2.</i>
2008–2011	Bachelor degree in pure mathematics, <i>Lebanese University, Faculty of Science 2.</i>
2007–2008	High School diploma, option: General Sciences, <i>Deddeh Official High school, North Lebanon.</i>

Research Topics

Tropical Geometry, Fewnomial Theory, Real Algebraic Geometry,
Real Hurwitz Numbers.

Papers

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| 2017
(Dec.) | B. El Hilany, J. Rau.
<i>Signed counts of real simple rational functions</i> (32 pages)
Submitted, arXiv:1712.05639 . |
| 2017
(March) | B. El Hilany.
<i>Constructing polynomial systems with many positive solutions using tropical geometry.</i> (17 pages)
Accepted in Revista Matematica Complutense. |
| 2016
(March) | B. El Hilany.
<i>Characterization of circuits supporting polynomial systems with the maximal number of positive solutions.</i> (13 pages)
Journal of Discrete & Computational Geometry. |
| 2015
(Dec.) | B. El Hilany.
<i>Counting positive intersection points of a trinomial and a t-nomial curves via Groethendieck's dessin d'enfant.</i> (32 pages)
Submitted, arXiv:1512.05688. |
| 2015
(June) | F. Bihan, B. El Hilany.
<i>A sharp bound on the number of real intersection points of a sparse plane curve with a line.</i> (14 pages)
Journal of Symbolic Computations. |

Talks

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| 2017
(Dec.) | <i>Signed counts of real simple rational functions (joint work with J. Rau).</i>
Algorithmic algebra group weekly seminar, <i>Technische Universität Berlin</i> . |
| 2017
(Aug.) | <i>Constructing polynomial systems with many positive solutions using tropical geometry.</i>
Nonarchimedean and Tropical Geometry conference, <i>Universität Regensburg, Germany</i> . |
| 2017
(July) | <i>The equations for the moduli space of n points on the line.</i>
Image Processing and Computer Vision conference, <i>Eberhard Karls Universität Tübingen, Germany</i> . |
| 2017
(July) | <i>Real Hurwitz numbers and simple rational functions.</i>
<i>(a joint work with Johannes Rau)</i>
Algebra group seminar, <i>Eberhard Karls Universität Tübingen, Germany</i> . |
| 2017
(July) | <i>Topology of real $K3$ surfaces.</i>
Reading Group on Real Algebraic Geometry, <i>Max Plank Institute MIS, Leipzig, Germany</i> . |
| 2017
(June) | <i>Nombres de Hurwitz réels et fonctions rationnelles simples.</i>
<i>(travaux communs avec Johannes Rau)</i>
Geometry group seminar, <i>LAMA, Université Savoie Mont Blanc, France</i> . |
| 2016
(Nov.) | <i>Constructing polynomial systems with many positive solutions using tropical geometry.</i>
Algebra group seminar, <i>Eberhard Karls Universität Tübingen, Germany</i> . |
| 2016
(March) | <i>Constructing polynomial systems with many positive solutions using tropical geometry.</i>
Geometry group seminar, <i>Universität des Saarlandes, Saarbrücken, Germany</i> . |

Conferences and Workshops

2017 (Nov.)	<i>Young Researchers in String Mathematics.</i> Max Planck Institute Für Mathematik, Bonn.
2017 (Sept.)	<i>Perspectives in Real Geometry.</i> CIRM, Marseilles, France.
2017 (Aug.)	<i>Nonarchimedean and Tropical Geometry.</i> Universität Regensburg, Germany.
2017 (July)	<i>Reading Group on Real Algebraic Geometry.</i> Max Planck Institute MIS, Leipzig, Germany.
2017 (July)	<i>Image Processing and Computer Vision.</i> Eberhard Karls Universität Tübingen, Germany.
2017 (May)	<i>Geometric aspects of singularities.</i> Université de Lille, France.
2017 (March)	<i>Tropical curve counts, Motivic integration and Nonarchimedean Geometry.</i> Eberhard Karls Universität Tübingen, Germany.
2017 (Mar.)	<i>Workshop on Enumerative Geometry.</i> IHP, Paris, France.
2016 (Jan.)	<i>Singularity Workshop Meeting.</i> CIRM, Marseille, France.
2015 (Oct.)	<i>Singularities and Tropical Geometry.</i> IMJ-PRG, Paris, France.
2015 (June)	<i>Algebraic Complexity Meeting.</i> ENS Lyon, France.
2015 (June)	<i>Effective Methods in Algebraic Geometry (MEGA).</i> Povo center, Trento, Italy.
2015 (Feb.)	<i>Jeunes Chercheurs en Singularité.</i> CIRM, Marseille, France.
2014 (Jan.)	<i>Tropical Geometry in its Complex and Symplectic Aspects.</i> Bernoulli Center, EPFL, Switzerland.

Completed courses

2016–2017	<i>Tropical Geometry II</i> , with Hannah Markwig Eberhard Karls Universität Tübingen, Germany.
2016–2017	<i>Tropical Hodge Theory</i> , with Johannes Rau. Eberhard Karls Universität Tübingen, Germany.

Conferences co-organized

2017 (July)	<i>Image Processing and Computer Vision</i> . Eberhard Karls Universität Tübingen, Germany.
2015 (May)	<i>Colloque Inter'Actions</i> . Université Grenoble Alpes, France.

Teaching activity

	Université Savoie Mont Blanc.
2015-2016	<i>Reinforcement math courses</i> , 20 hrs. Math 326, <i>Fourrier Series</i> , 25 hrs. Math 226, <i>Linear Algebra I</i> , 15 hrs. Math 121b, <i>Basic Calculus</i> , 55 hrs.
2014-2015	Math 611, <i>Inferential Statistics</i> , 30 hrs. Math 401, <i>Statistics and Probability</i> , 12 hrs.

Skills

SAGE	Intermediate
Maple	Basic

Languages

Arabic	Reading, Writing, Speaking: 1 st Native language.
Russian	Reading, Writing, Speaking: 2 nd Native language.
English	Reading, Writing, Speaking: Fluent.
French	Reading, Writing, Speaking: Fluent.
German	Reading, Writing, Speaking: Basic.