

PIERRE-ALAIN JACQMIN

PERSONAL DETAILS

Family Name: Jacqmin
First name: Pierre-Alain
Date of Birth: 11 April 1991
Citizenship: Belgian
Affiliation: University of Ottawa
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RESEARCH INTERESTS

Category theory, categorical algebra, universal algebra, categorical logic.

EDUCATION

- 2013–2016: Ph.D. in Sciences, Université catholique de Louvain, ‘Embedding theorems in non-abelian categorical algebra’. Supervisors: Prof. E.M. Vitale and Prof. Z. Janelidze.
- 2012–2013: Master in Mathematical Sciences, Université catholique de Louvain.
Final grade: La plus grande distinction.
Dissertation: ‘Classification of cat-groups’. Supervisor: Prof. E.M. Vitale.
- 2011–2012: Part III of the Mathematical Tripos, University of Cambridge, King’s College.
Final grade: Distinction.
Dissertation: ‘Homology in semi-abelian categories’. Supervisor: Dr. J. Goedecke.
- 2008–2011: Bachelor in Mathematical Sciences, Université catholique de Louvain.
Final grade: La plus grande distinction.
Dissertation: ‘Sous-groupes normaux de groupes de matrices’. Supervisor: Prof. P.-E. Caprace.

RESEARCH EXPERIENCE

- 2017–present: Postdoctoral researcher at the University of Ottawa under the supervision of R. Blute, T. Giordano, P. Hofstra, P.-E. Parent, A. Savage and Ph. Scott.
- May 2017: Invited researcher by the University of Cambridge.
- Sep.–Dec. 2014: Visit of Stellenbosch University for a collaboration with Z. Janelidze.
- 2013–2016: Ph.D. at the Université catholique de Louvain supervised by E.M. Vitale and Z. Janelidze.

PUBLICATIONS

Journal articles

- An embedding theorem for regular Mal’tsev categories, *J. Pure Appl. Algebra*, **222** (2018), 1049–1068.
- [with D. Rodelo]: Stability properties characterising n -permutable categories, *Theory Appl. Categ.*, **32** (45) (2017), 1563–1587.

- [with E.M. Vitale]: Bicatagories of fractions for groupoids in monadic categories, *Tbilisi Math. J.*, **8** (2) (2015), 85–105.

Submitted for publication

- Partial Mal'tsev algebras and an embedding theorem for (weakly) Mal'tsev categories, *submitted to Cah. Topol. Géom. Différ. Catég.*
- Embedding theorems for Janelidze's matrix conditions, *submitted to J. Pure Appl. Algebra.*
- [with S. Mantovani, G. Metere and E. M. Vitale]: Bipullbacks of fractions and the snail lemma, *submitted to J. Pure Appl. Algebra.*
- [with S. Mantovani, G. Metere and E. M. Vitale]: On fibrations between internal groupoids, *submitted to Appl. Categ. Structures.*

In preparation

- Syntactic characterisation of protomodular essentially algebraic categories.
- [with Z. Janelidze]: Unconditional exactness properties.

TALKS

- February 2018, Ottawa-Carleton Logic Seminar, Ottawa, *Stability properties characterising n -permutable categories.*
- February 2018, Ottawa-Carleton Logic Seminar, Ottawa, *Functorial exactness properties.*
- September 2017, Ottawa-Carleton Joint Algebra Seminar, Ottawa, *Where the snake is just a snail.*
- July 2017, International Conference on Category Theory and its Applications, Vancouver, *An embedding theorem for regular Mal'tsev categories.*
- May 2017, Category Theory Seminar, Cambridge, *Embedding theorems for (regular) Mal'tsev categories.*
- May 2016, 4th Workshop on Categorical Methods in Non-Abelian Algebra, Coimbra, *An embedding theorem for regular Mal'tsev categories.*
- March 2016, UCL-ULB-VUB Category Theory Seminar, Brussels, *An embedding theorem for regular Mal'tsev categories.*
- September 2015, Workshop in Category Theory and Algebraic Topology, Louvain-la-Neuve, *Bicatagories of fractions for groupoids in monadic categories.*
- January 2015, 97th Peripatetic Seminar on Sheaves and Logic, Louvain-la-Neuve, *Exactness properties and cofiltered limit completion.*
- November 2014, Brümmer 80 Seminar, Cape Town, *Embedding theorem for regular subtractive categories.*
- October 2014, 57th South African Mathematical Society annual congress, Johannesburg, *Bicatagories of fractions for groupoids in monadic categories.*
- October 2014, Seminar of the Centre for Mathematical Structure, Stellenbosch, *An introduction to bicatagories.*

TEACHING EXPERIENCE

- Winter 2018: Mathematical Methods II (MATH1302B) at uOttawa, Instructor.
- Fall 2017: Mathematical Methods I (MATH1300D) at uOttawa, Instructor.
- Spring 2017: Mathématiques générales 1 (LMAT1111G) at UCL, Teaching Assistant.
- Spring 2015: Mathématiques : algèbre et calcul matriciel (LINGE1121) at UCL, Teaching Assistant.
- Autumn 2013: Mathématiques générales 1 (LMAT1111D) at UCL, Teaching Assistant.
- 2013–2017: Taught in the olympiad training sessions for high school Belgian students.

SERVICE

- Co-organised the ‘UCL Math PhD Seminar 2017’ in Leuven.
- Co-organised the ‘UCL Math PhD Seminar 2016’ in Namur.
- 2012–2017: Deputy Leader of the Belgian team for the European Girl’s Mathematical Olympiad (Cambridge, Luxembourg, Antalya, Minsk, Busteni and Zurich).
- 2014–2016: Deputy Leader of the Belgian team for the Benelux Mathematical Olympiad (Brugge, Mersch and Soest).
- 2013 and 2014: Animation of a stand at the ‘Printemps des Sciences’ at UCL, for popularisation of Mathematics to 10–18 year old children.

AWARDS–GRANTS

- Doctoral fellowship from the National Scientific Fund of Belgium F.R.S.-FNRS (2013).
- Second prize in the International Mathematical Competition for University Students 2011 (Bulgaria).
- Two bronze medals in the International Mathematical Olympiad 2007 (Vietnam) and 2008 (Spain).
- Two first, two second and two third prizes in the ‘Olympiade Mathématique Belge’ (2003–2008).