

Patrick LE MEUR

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Born October 16, 1979  
French citizenship  
Two children (2012, 2015)  
Foreign languages: English and  
Spanish

## Present situation

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Associate Professor (maître de conférences, HDR), Université de Paris

## Affiliations

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- Institut de Mathématiques de Jussieu - Paris Rive Gauche (UMR-CNRS 7586)
- U.F.R. de Mathématiques, Université de Paris

## Research topics

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Non-commutative algebra:

- representations of finite-dimensional algebras, Auslander-Reiten theory, tilting theory, Galois coverings of algebras,
- homological algebra, Calabi-Yau duality in non-commutative algebra, Hochschild cohomology.

## Accountabilities

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Université de Paris	- elected board member - chair of the financial commission of the university - member of the disciplinary section for users and students
UFR de mathématiques IMJ-PRG	member of the teaching duties allocation commission elected member of the laboratory council

## Previous professional appointments

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2010–2014	Associate Professor, Université Blaise Pascal.
2005–2010	Assistant Professor ( <i>agrégé préparateur</i> ), Department of Mathematics, École normale supérieure de Cachan.
2003–2005	Teaching assistant, Department of Mathematics, Université Montpellier 2.

## Education

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June 2019	Habilitation diploma (“Habilitation à diriger des recherches”)
2003–2006	Ph.D in Mathematics at Université Montpellier 2
1999–2003	Student ( <i>élève normalien</i> ) at École normale supérieure de Cachan 02-03: Agrégation externe de Mathématiques (ranking: 16), 00-02: Master Degree in Mathematics at Université Paris 7, 99-00 Bachelor Degree in Mathematics at École normale supérieure de Cachan.

## Articles and preprints

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### ARTICLES IN INTERNATIONAL JOURNALS WITH REFEREE

- [1] Patrick Le Meur. The fundamental group of a triangular algebra without double bypasses. *C. R. Math. Acad. Sci. Paris*, 341(4):211–216, 2005.
- [2] Patrick Le Meur. The universal cover of an algebra without double bypass. *J. Algebra*, 312(1):330–353, 2007.
- [3] Patrick Le Meur. On Galois coverings and tilting modules. *J. Algebra*, 319(12):4961–4999, 2008.
- [4] Patrick Le Meur. The universal cover of a monomial triangular algebra without multiple arrows. *J. Algebra Appl.*, 7(4):443–469, 2008.
- [5] Ibrahim Assem, Juan Carlos Bustamante, and Patrick Le Meur. Coverings of Laura algebras: the standard case. *J. Algebra*, 323(1):83–120, 2010.
- [6] Patrick Le Meur. Galois coverings of weakly shod algebras. *Comm. Algebra*, 38(4):1291–1318, 2010.
- [7] Patrick Le Meur. On maximal diagonalizable Lie subalgebras of the first Hochschild cohomology. *Comm. Algebra*, 38(4):1325–1340, 2010.
- [8] Ibrahim Assem, Juan Carlos Bustamante, and Patrick Le Meur. Special biserial algebras with no outer derivations. *Colloq. Math.*, 125(1):83–98, 2011.
- [9] Claudia Chaio, Patrick Le Meur, and Sonia Trepode. Degrees of irreducible morphisms and finite representation type. *J. Lond. Math. Soc. (2)*, 84(1):35–57, 2011.
- [10] Patrick Le Meur. Topological invariants of piecewise hereditary algebras. *Trans. Amer. Math. Soc.*, 363(4):2143–2170, 2011.
- [11] Edson Ribeiro Alvares, Patrick Le Meur, and Eduardo N. Marcos. The strong global dimension of piecewise hereditary algebras. *J. Algebra*, 481:36–67, 2017.
- [12] Thierry Lambre and Patrick Le Meur. Duality for Differential Operators of Lie-Rinehart Algebras. *Pacific Journal of Mathematics*, 297(2):405–454, 2018.
- [13] Ibrahim Assem, Juan Carlos Bustamante, Julie Dionne, Patrick Le Meur, and David Smith. Representation theory of partial relation extensions. *Colloq. Math.*, 155(2):157–186, 2019.
- [14] Claudia Chaio, Patrick Le Meur, and Sonia Trepode. Covering techniques in Auslander-Reiten theory. *J. Pure Appl. Algebra*, 223(2):641–659, 2019.
- [15] Claudia Chaio, Patrick Le Meur, and Sonia Trepode. Degrees of Irreducible Morphisms over Perfect Fields. *Algebr. Represent. Theory*, 22(2):495–515, 2019.
- [16] Patrick Le Meur. Smash Products of Calabi-Yau Algebras by Hopf Algebras. *J. Noncommut. Geom.*, 13:887–961, 2019.
- [17] Patrick Le Meur. Crossed-products of Calabi-Yau algebras by finite groups. *Journal of Pure and Applied Algebra*, 224(10):106394, 2020.
- [18] Patrick Le Meur. On the Morita reduced versions of skew group algebras of path algebras. *Q. J. Math.*, 71(3):1009–1047, 2020.
- [19] Edson Ribeiro Alvares, Diane Castonguay, Patrick Le Meur, and Tanise Carinieri Pierin.  $(m, n)$ -Quasitilted and  $(m, n)$ -almost hereditary algebras. *Colloq. Math.*, 163(2):295–316, 2021.

### PREPRINTS AND TEXTS IN PREPARATION

- [20] Thierry Lambre, Patrick Le Meur, and Anne Pichereau. BV Isomorphisms for Calabi-Yau and Poisson Algebras. In preparation.
- [21] Juan Carlos Bustamante and Patrick Le Meur. The Gerstenhaber bracket and cycles in the module category of a monomial quadratic algebra. arXiv:1908.08851, 2019.

## Co-organisation of conferences

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July 15-19, 2019	Special session <i>Representation Theory of Algebras, Homological and Geometrical Methods</i> , in the <b>First Joint Meeting Brazil-France in Mathematics</b> , IMPA (Rio de Janeiro, Brazil).
Sept. 4-8, 2017	ARTA VI conference <b>Advances in Representation Theory of Algebras: Geometry and Homology</b> , CIRM (Luminy, France).
Mar. 7-16, 2015	CIMPA school <b>Homological Methods, Representation Theory and Cluster Algebras</b> , Universidad Nacional de Mar del Plata (Argentina).
Apr. 13-28, 2015	African Mathematical School <b>Algebraic Structures, Cryptography, Number Theory and Applications</b> , Universidade de Cabo Verde (Praia, Cabo Verde).

Jun. 20-21, 2013	<b>Dualité et algèbre non-commutative</b> , Université Blaise Pascal (Clermont-Ferrand, France).
Feb. 25 - Mar. 9, 2013	CIMPA school <b>Algebraic and Geometric aspects of Representation Theory</b> (Curitiba, Brazil).
Jun. 16-17, 2011	<b>Journées d'Algèbre non-commutative, homologie et théorie des nombres</b> , Université Blaise Pascal (Clermont-Ferrand, France).

### Visits to other universities

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Institution	Period of time	Collaborators
Université de Sherbrooke (Québec, Canada)	2019 (one week)	I. Assem
Universidade Federal do Paraná (Brazil)	2019 (2 weeks)	E. R. Alvares
Universidade de São Paulo (Brazil)	2017 (2 weeks)	E. R. Alvares, E. N. Marcos
Université de Sherbrooke (Québec, Canada)	2017 (two weeks)	J. C. Bustamante
Université de Sherbrooke (Québec, Canada)	2015 (1 week)	I. Assem, J. C. Bustamante
Université de Sherbrooke (Québec, Canada)	2014 (2 weeks)	I. Assem, J. C. Bustamante
Universidade Federal do Paraná (Brazil)	2013 (1 week)	E. R. Alvares
Universidade de São Paulo (Brazil)	2012 (2 weeks)	E. R. Alvares, E. N. Marcos
Universidade de São Paulo (Brazil)	2011 (2 weeks)	E. R. Alvares, E. N. Marcos
Universidad de Buenos Aires (Argentina)	2011 (1 month)	A. Solotar, M. S. Álvarez
Université de Sherbrooke (Québec, Canada)	2010 (6+2 weeks)	I. Assem, J. C. Bustamante
Université de Sherbrooke (Québec, Canada)	2009 (2 months)	I. Assem, J. C. Bustamante
Universidad Nacional de Mar del Plata (Argentina)	2008 (1 month)	C. Chaio, S. Trepode
Université de Sherbrooke (Québec, Canada)	2008 (6 weeks)	I. Assem, J. C. Bustamante
Université de Sherbrooke (Québec, Canada)	2007 (2 months)	I. Assem, J. C. Bustamante

### Invited talks at international conferences

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Aug. 2019	<b>XXIII Colloquio Latinoamericano de Álgebra</b> , UNAM (Mexico, Mexico): <i>Skew Calabi-Yau Algebras.</i>
Aug. 2019	<b>XXIII Colloquio Latinoamericano de Álgebra</b> , UNAM (Mexico, Mexico): <i>Group Actions and Calabi-Yau Duality.</i>
Mar. 2016	Advances in Representation Theory of Algebras (5th ed.), Universidad Nacional de Mar del Plata (Argentina): <i>Representation Theory of Partial Relation Extensions.</i>
Dec. 2015	Encuentro Rioplatense de Álgebra y Geometría, Universidad de la República (Montevideo, Uruguay).
Jul. 2015	<b>Advances in Representation Theory of Algebras (4th ed.)</b> , CIMAT (Guanajuato, Mexico): <i>Calabi-Yau Duality and Hopf Algebras.</i>
Dec. 2014	<b>Conference in Ring Theory - A meeting to celebrate the 60th anniversary of Pr. Eduardo Marcos</b> , Universidade Federal de Espírito Santo (Brazil): <i>The Strong Global Dimension of Piecewise Hereditary Algebras.</i>
Sep. 2013	<b>Advances in Representation Theory of Algebras (2nd ed.)</b> , Nicolaus Copernicus University (Toruń, Poland): <i>Unimodularity and Calabi-Yau Duality for the Algebras of Differential Operators.</i>
Apr. 2013	<b>Meeting Lyon - São Paulo Algebra, Groups and Logic</b> , Université de Lyon (France): <i>Unimodularity and Calabi-Yau Duality for the Algebras of Differential Operators.</i>
Dec. 2013	Encuentro Rioplatense de álgebra y geometría algebraica, (Montevideo, Uruguay).
Apr. 2011	<b>Maurice Auslander Distinguished Lectures and International Conference</b> , (Woods Hole, MA, U.S.A.):

- Febr. 2011 *Interactions between Hopf Algebras and Calabi-Yau Algebras.*  
ESARA 2011, (Goiânia, Goiás, Brazil).
- Jun. 2010 **CMS Summer Meeting**, (Fredericton, New Brunswick, Canada):  
*Crossed-products of Calabi-Yau Algebras by Finite Groups.*
- Mar. 2010 South-American meeting on representation of algebras and related topics (Mar del Plata, Argentina):  
*Crossed-products of Calabi-Yau Algebras by Finite Groups.*
- Aug. 2009 XVIII Coloquio Latinoamericano de Algebra (Sao Pedro, Brazil):  
*Coverings of Laura Algebras.*
- Jun. 2008 **Colloque d'algèbre non commutative** (Université de Sherbrooke, Québec, Canada):  
*Topological Invariants of Piecewise Hereditary Algebras.*
- Oct. 2007 XIXe Rencontre de Théorie des Représentations des Algèbres (Bishop's University, Lennoxville, Québec, Canada).
- Mar. 2006 CIMPA school **Méthodes homologiques et représentations d'algèbres non commutatives** (Mar del Plata, Argentina):  
*On the Universal Cover and the Fundamental Group of Finite Dimensional Algebras.*

## Lectures

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- Jul. 2019 Universidade Federal do Paraná (Curitiba, Brazil):  
*Derived Categories and Applications* (20 hours).
- Feb. 2013 CIMPA school **Algebraic and geometric aspects of representation theory**, (Curitiba, Brazil):  
*Introduction to Representation Theory* (5 hours).
- sep. 2008 Universidad Nacional de Mar del Plata (Argentine):  
*Galois Coverings of Algebras.* (5 hours).

## Communications in conferences

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- Jul. 2012 *Groups, Rings and Group Rings* (Ubatuba, Brazil).
- Aug. 2010 *International Conference on Representations of Algebras XIII* (Tokyo, Japan).
- Aug. 2007 *International Conference on Representations of Algebras XII* at Nicolaus Copernicus University (Torún, Poland).
- Jun. 2004 *MuPAD-Combinat first Developers and Users Meeting* at Université de Rouen (France).

## Attended conferences (with no communication)

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- June 2014 *Advances in Representation Theory of Algebras (3rd ed.)*, (Université du Québec à Montréal, Montréal, Québec, Canada).
- Dec. 2008 *International Conference on Cluster Algebras and Related Topics* (Morelia and Mexico city, Mexico).
- Dec. 2008 *Homologie des algèbres: structures et applications* at CIRM (Marseille, Luminy).
- Nov. 2006 *Développement récent de la théorie des algèbres de Hall* at CIRM (Marseille, France).
- Sept. 2006 *Homologie et déformations en algèbre, géométrie et représentations* at CIRM (Marseille, France).

- Sept. 2005 *Compact course* on derived categories and elliptic algebras at Aarhus University (Denmark).
- May 2005 *Algèbres à clusters* at CIRM (Marseille, France).
- Jan. 2005 *Semaine dérivée* at Institut de Mathématiques de Jussieu (Paris, France).
- Sept. 2004 *Algèbre non commutative artinienne, représentations et cohomologies* at CIRM (Marseille, France).
- Aug. 2004 *International Conference on Representations of Algebras XI* (Queretaro and Patzcuaro, Mexico).
- May 2004 Summer school *Carquois et représentations géométriques* at CIRM (Marseille, France).
- Mar. 2004 *Algèbres de Hopf et quantification et topologie en petite dimension* at CIRM (Marseille, France).

### Talks in seminars

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- Jul. 2020 Lie and Jordan Algebras and their Representations (Universidade de São Paulo, Brazil).
- Feb. 2020 Colloque Tournant du GDR *Théorie de Lie algébrique et géométrie* (Institut Henri Poincaré, France).
- Jan. 2020 AGATA seminar (Université de Montpellier, France).
- Nov. 2019 Algebra seminar (University of Sherbrooke, Québec, Canada).
- Jun. 2019 Algebra seminar (Uppsala University, Sweden).
- May 2019 Séminaire *Géométrie, Algèbre, Algèbres d'Opérateurs* (université de Clermont Auvergne, France).
- Nov. 2017 Lie and Jordan Algebras and their Representations (Universidade de São Paulo, Brazil).
- Apr. 2017 Séminaire d'algèbre (Université de Sherbrooke, Québec, Canada).
- Dec. 2014 Séminaire d'algèbre (Université Paris Diderot, France).
- Oct. 2014 Séminaire Chevalley (Université Paris Diderot, France).
- Oct. 2014 Séminaire d'algèbre (Université de Sherbrooke, Québec, Canada).
- Jun. 2013 Séminaire de Théorie des Groupes (Université de Picardie, Jules Verne, France).
- Oct. 2012 Séminaire Algèbre et Géométries (Université de Grenoble, France).
- Jul. 2010 Séminaire d'algèbre (Université de Sherbrooke, Québec, Canada).
- May 2010 Séminaire de Théorie des Groupes (Université de Picardie, Jules Verne, France).
- Nov. 2009 Séminaire de mathématiques pures (Université Blaise Pascal).
- Jul. 2009 Séminaire d'algèbre (Université de Sherbrooke, Québec, Canada).
- May 2009 Séminaire AGATA (Université Montpellier 2).
- Apr. 2009 Séminaire de topologie algébrique (Université Paris 13).
- Mar. 2009 Séminaire d'algèbre (Université Paris 7).
- Mar. 2009 Groupe de travail d'algèbre (Université de Picardie - Jules Verne).
- Mar. 2009 Séminaire d'algèbre (Université de Saint-Étienne, France).
- Aug. 2008 Séminaire d'algèbre (Universidad de la Republica, Montevideo, Uruguay).
- Aug. 2008 Séminaire d'algèbre (Universidad de Buenos Aires, Argentine).
- Aug. 2008 Séminaire d'algèbre (Universidad Nacional de Mar del Plata, Argentine).
- Dec. 2007 Séminaire de Théorie des groupes (Université de Picardie - Jules Verne, France).
- Dec. 2007 Séminaire de Mathématiques Pures (Université Blaise Pascal, France).
- Nov. 2007 Séminaire d'algèbre (Université de Sherbrooke, Québec, Canada).
- Feb. 2007 Séminaire d'algèbre (Université Paris 7).
- Jan. 2006 Séminaire de Topologie Algébrique (Université Paris 13).
- Jun. 2005 Séminaire AGATA (Université Montpellier II).

### Talks in reading seminars

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- $A_\infty$ -algebras (Université de Sherbrooke, Québec, Canada), talk given in November 2019
- *Higher Auslander-Reiten Theory* (Université Paris Diderot, France), series of talks given in March 2018
- Groupe de Travail Interuniversitaire d'Algèbre (GTIA, IHP, Paris, France):
  - *Catégorie des singularités sur les surfaces de Klein*, talk given in March 2016,
  - *Modules de Cohen-Macaulay sur les anneaux Gorenstein*, talk given in February 2016,
  - *Une approche de la résolution des singularités de Klein par l'algèbre homologique et l'algèbre non commutative (survol)*, talks given in November 2015, December 2015 and January 2016,
  - *Autours de la correspondance de McKay*, talks given in February 2014, April 2014, and May 2014,
  - *Quadriques lisses non commutatives (d'après Smith et Van den Bergh)*, talk given in March 2012,
  - *Cohomologie de Hochschild des produits croisés (d'après Anno, Halbout-Tang, Siegel-Witherspoon, Witherspoon)*, talks given in January and February 2009.

### Supervision of PhD students

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- 2019– Marina Masselot.
- 2011–2015 Tanise Carnieri Pierin (co-supervision with Edson Ribeiro Alvares), *Álgebras  $m$ -quase inclinadas e  $m$ -quase hereditárias*, PhD on June 2015 (now Assistant Professor at Universidade Federal do Paraná, Brazil).

### Member of dissertation committees of PhD students

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- Jun. 2019 Andrea Pasquali, *Constructions in higher-dimensional Auslander-Reiten theory*, Uppsala University.
- Apr. 2017 Hipolito Treffinger, *Sur la théorie de  $\tau$ -inclinasion*, Université de Sherbrooke (**external referee**).
- Jul. 2015 Alfredo Najera Chavez, *Sur les algèbres amassées à coefficients*, Université Paris Diderot.
- Jul. 2014 Ndouné Ndouné, *Des algèbres amassées de rang fini aux algèbres amassées provenant de l'infini-gone*, Université de Sherbrooke (**external referee**).
- Jun. 2008 Julie Dionne, *Algèbres de cordre de type laura et conjecture de Skowroński*, Université de Sherbrooke (**external referee**).

### Previous administrative accountabilities

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- 2011–2019 In charge (with Alvaro Rittatore) of the *Algebra and Algebraic Geometry* axis at the “Institut Franco-Uruguayen de Mathématiques” (CNRS International Research Laboratory, [ifum.org](http://ifum.org))

### Reviewing - refereeing

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- Reviewer for Mathscinet.
- Referee for
  - Documenta Mathematica,
  - International Mathematics Research Notices,
  - Journal of Algebra,
  - Journal of Noncommutative Algebra,
  - Journal of Pure and Applied Algebra,
  - Mathematische Zeitschrift,

– Transactions of the American Mathematical Society.