

# DAVID SMITH

## ACADEMIC BACKGROUND

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Ph.D. in Mathematics (Algebra), Université de Sherbrooke, Canada,  
January 2004 to December 2006.

Advisor : Ibrahim Assem

Master in Mathematics (Algebra), Université de Sherbrooke, Canada  
January 2002 to December 2003.

Advisor : Ibrahim Assem

Bachelor degree in Mathematics, Université de Sherbrooke, Canada  
September 1998 to December 2001.

## POSTDOCTORAL STUDIES AND WORKTERMS

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Postdoctoral studies at the Université de Sherbrooke, Sherbrooke, Canada, January to August 2009. (Advisor: Thomas Brüstle)

Postdoctoral studies at the Bishop's University, Sherbrooke, Canada, January to December 2008. (Advisors: Thomas Brüstle and François Huard)

Postdoctoral studies at the Norwegian University of Sciences and Technology, Trondheim, Norway, January 2007 to December 2007. (Advisor: Idun Reiten)

Workterm at the Universidad de la República Oriental del Uruguay, Montevideo, Uruguay, March and April 2006.

## ACADEMIC EXPERIENCES

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### BISHOP'S UNIVERSITY

- Assistant Professor, Bishop's University, Sherbrooke, August 2009 to May 2011.
- Adjunct Professor, Bishop's University, Sherbrooke, March 2008 to February 2012.

### **Teaching Experiences at Bishop's University:**

#### **2011 – 2012:**

MAT191: Enriched Calculus I

MAT197: Calculus for Business

#### **2010 – 2011:**

MAT192/199: Calculus II for Sciences,

MAT196: Linear Algebra for Business

MAT191/198: Calculus I for Sciences,

MAT108: Matrix Algebra

#### **2009 – 2010:**

MAT109: Linear Algebra,

MAT195: Calculus II for Business

MAT108: Matrix Algebra,

MAT193: Calculus I for Business

#### **2008 – 2009:**

ESG261: Quantitative Methods

MAT108: Matrix Algebra

#### **2007 – 2008:**

MAT222: Modern Algebra II

### **UNIVERSITÉ DE SHERBROOKE**

- Adjunct Professor, Université de Sherbrooke, Sherbrooke September 2009 to August 2012.
- Teaching Auxiliary (7 courses), Université de Sherbrooke, Canada, 2002 to 2006.
- Research assistant in algebra, Université de Sherbrooke, Canada, Summer 2001.

### **CÉGEP DE SHERBROOKE**

- Professor, Cégep de Sherbrooke, Sherbrooke, Canada, March 2009 to July 2010.

### **Teaching Experiences at Cégep de Sherbrooke:**

#### **Summer 2009, Winter 2009 and Summer 2010:**

201-NYB-05: Integral Calculus

## **SUPERVISION OF STUDENTS**

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### Postdoctoral students:

Co-supervisor (with S. Liu and F. Huard) of Puiman Ng, September 2011 -

### Master's students:

Co-supervisor (with I. Assem, Université de Sherbrooke) of Philippe Dompierre, September 2009 – April 2011

### Undergraduate students (NSERC):

Supervisor of Jean-François Marceau, May 2001 – August 2011.

## **GRANTS, FELLOWSHIP AND AWARDS**

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2010 – 2015	Natural Sciences and Engineering Research Council of Canada Operating grant \$100,000 (\$20,000 per year for 5 years)
2010 – 2013	Fonds québécois de la recherche sur la nature et les technologies Team research project program (I. Assem, F. Bergeron, C. Reutenauer, D. Smith) \$132,000 (\$44,000 per year for 3 years)
2007 – 2008	Natural Sciences and Engineering Research Council of Canada Postdoctoral grant (NTNU, Norway and Bishop's University, Canada) (\$40,000 per year for two years)
2006	Fonds québécois de la recherche sur la nature et les technologies Ph.D. scholarship (\$13,333 for 8 months)
2004 – 2006	Natural Sciences and Engineering Research Council of Canada Canada Ph.D. Scholarship (\$70,000 for two years)
2006	Ministère de l'Éducation, du Loisir et du Sport du Québec Scholarship for short stay outside the province of Quebec (\$1,500 for two months)
2004 – 2005	Institut des sciences mathématiques du Québec Carl Herz Prize (\$3,000)
2002 – 2004	Natural Sciences and Engineering Research Council of Canada NSERC Postgraduate Scholarship (\$17,300 per year for two years)

- 2002                      Université de Sherbrooke  
                                 Institutional scholarship (\$6,000 for four months)
- 2001                      Natural Sciences and Engineering Research Council of Canada  
                                 Undergraduate Student Research Award (\$5,000 for 4 months)

## **PUBLICATIONS**

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### **PUBLISHED AND ACCEPTED PAPERS**

1. I. Assem, G. Dupont, R. Schiffler and **D. Smith**, Friezes, strings and cluster variables, to appear in Glasgow Mathematical Journal.
2. A. Buan, O. Iyama, I. Reiten and **D. Smith**, *Mutation of cluster-tilting objects and potentials*, Amer. J. Math., 133 (2011), no. 4, 835-887.
3. I. Assem, C. Reutenauer and **D. Smith**, *Friezes*, Adv. Math. 225 (2010), no. 6, 3134-3165.
4. J.C. Bustamante, J. Dionne and **D. Smith**, *(Co)homology theories for oriented algebras*, Comm. Algebra, 27 (2009), no.5, 1516-1544.
5. J. Dionne, M. Lanzilotta and **D. Smith**, *Skew group algebras of piecewise hereditary algebras are piecewise hereditary*, J. Pure Appl. Algebra, 213 (2009), 241-249.
6. **D. Smith**, *On tilting modules over cluster-tilted algebras*, Illinois J. Math. 52 (2008), no. 4, 1223-1247.
7. **D. Smith**, *Almost lura algebras*, J. Algebra, 319 (2008), no. 1, 432-456.
8. M. Lanzilotta and **D. Smith**, *Laura algebras and quasi-directed components*, Colloq. Math., 105 (2006), no. 2, 179-196.
9. J. Dionne and **D. Smith**, *Articulations of algebras and their homological properties*, J. Algebra Appl., 5 (2006), no. 3 1-15.
10. I. Assem, F. U. Coelho, M. Lanzilotta, **D. Smith** and S. Trepode, *Algebras determined by their left and right parts*. Algebraic structures and their representations, 13-47, Contemp. Math., 376, Amer. Math. Soc., Providence, RI, 2005.
11. **D. Smith**, *On generalized standard Auslander-Reiten components having only finitely many non-directing modules*, J. Algebra, 279 (2004), no. 2, 493-513.

12. J-C. Bustamante, J. Dionne and **D. Smith**, *Ordonnés de chaînes et algèbres d'incidence*, Ann. Sci. Math. Québec 27 (2003), no. 1, 1-11.

#### **OTHER PUBLICATIONS**

13. **D. Smith**, *Algèbres de type laura, algèbres de groupes gauches et groupes de (co)homologie*, Ph.D. Thesis (2006), Université de Sherbrooke.
14. **D. Smith**, *Articulation d'algèbres et propriétés homologiques*, Master Thesis (2003), Université de Sherbrooke.

#### **CONFERENCES AND COLLOQUIUMS**

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##### **CONFERENCES ON INVITATION**

1. Homologie et déformations en algèbre, géométrie et représentations, Luminy, **France**, September 2006.  
Title : *Algèbres de groupes gauches héréditaires par morceaux*.
2. Métodos homológicos y representaciones de álgebras no conmutativas (CIMPA), Mar del Plata, **Argentina**, March 2006.  
Title : *Hochschild (co)homology of oriented pullbacks of algebras*.

##### **CONFERENCES ON PROPOSITION**

3. XXII<sup>nd</sup> Meeting of Representation theory of Algebras, Université de Sherbrooke, Canada, October 2010.  
Title : *Friezes, strings and cluster variables*.
4. XXI<sup>st</sup> Meeting of Representation theory of Algebras, Université de Sherbrooke, Canada, October 2009.  
Title : *Frisés and cluster variables*.
5. International Conference on Cluster Algebras and Related Topics, Morelia and Mexico City, **Mexico**, December 2008.  
Title: *Nearly Morita equivalence for neighboring Jacobian algebras*
6. Colloquium of Non Commutative Algebra  
Université de Sherbrooke, Bishop's University, Sherbrooke, Canada, June 2008  
Title: *Mutation of cluster-tilting objects and potentials*

7. XIX<sup>th</sup> Meeting of Representation theory of Algebras,  
Bishop's University, Sherbrooke, Canada, October 2007.  
Title : *On tilting modules over cluster-tilted algebras.*
8. XII International Conference on Representation of Algebras and Workshop,  
Toruń, **Poland**, August 2007.  
Title : *On tilting modules over cluster-tilted algebras.*
9. Winter Meeting of the Mathematical Society of Canada 2006,  
University of Toronto, Toronto, Canada, December 2006.  
Title : *Piecewise hereditary skew group algebras.*
10. XVIII<sup>th</sup> Meeting of Representation theory of Algebras,  
Université de Sherbrooke, Sherbrooke, Canada, September 2006.  
Title : *Piecewise hereditary skew group algebras.*
11. XVI<sup>to</sup> Coloquio Latinamericano de Algebra,  
Colonia, **Uruguay**, August 2005.  
Title : *Laura algebras and quasi-directed Auslander-Reiten components.*
12. XVI<sup>th</sup> Meeting of Representation theory of Algebras,  
Bishop's University, Sherbrooke, Canada, October 2004.  
Title : *Laura algebras and quasi-directed Auslander-Reiten components.*
13. ISM Conference «On the Road» 2004,  
Université de Sherbrooke, Sherbrooke, Canada October 2004,  
Title : *Introduction aux algèbres laura.*
14. 61<sup>st</sup> Quebec Mathematics Colloquium,  
University of Montreal, Montreal, Canada, April 2004.  
Title : *Un mot sur les composantes quasi-dirigées.*
15. XV<sup>th</sup> Meeting of Representation theory of Algebras,  
Université de Sherbrooke, October 2003.  
Title : *Quasi-directed Auslander-Reiten components.*
16. Summer Meeting of the Mathematical Society of Canada 2002,  
University Laval, Québec, June 2002.  
Title : *From simplicial complexes to partially ordered sets and back.*
17. 57<sup>th</sup> Quebec Mathematics Colloquium,  
Université du Québec à Montréal, Montreal, April 2002.  
Title : *Ensembles ordonnés et complexes simpliciaux.*

## OTHER COMMUNICATIONS

18. Algebra Seminar, Norwegian University of Science and Technology, Trondheim, Norway, January 2007.  
Title : Piecewise hereditary skew group algebras.
19. Algebra Seminar, Norwegian University of Science and Technology, Trondheim, Norway, January 2007 and September 2007.  
Titles: *Skew group algebras of piecewise hereditary algebras are piecewise hereditary, From quasitilted algebras to almost lura algebras : the history of a decade.*
20. Seminar of algebra and algebraic geometry, Universidad de la República Oriental del Uruguay, Montevideo, Uruguay. April 2006.  
Titles : Introduction to cluster algebras I, Introduction to cluster algebras II.
21. Seminar on derived categories, Universidad de la República Oriental del Uruguay, Montevideo, Uruguay. March 2006.  
Title : The homotopy category.
22. Predoctoral oral examination,  
Université de Sherbrooke, Sherbrooke, Canada, January 2005.  
Title : Algèbres de lura, composantes quasi-dirigées et distance.
23. Algebra seminar, Université de Sherbrooke, Sherbrooke, Canada. Many talks.

## PARTICIPATION TO INTERNATIONAL CONFERENCES

24. Encuentro Sudamericano de Representaciones de Álgebras y Temas Afines, Mar del Plata, **Argentina**, March 2010.
25. Perspectives in Auslander-Reiten theory, Norwegian University of Science and Technology, Trondheim, Norway, May 2007.
26. Algèbre non commutative artinienne, représentations et cohomologies. Centre International de Rencontres Mathématiques, Luminy, France. September 2004.
27. XV<sup>to</sup> Coloquio Latinoamericano de Algebra, Cocoyoc, Morelia, Mexique. Juillet 2003.

## **ORGANIZATION OF CONFERENCES AND SEMINARS**

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1. Organizer of the reading seminar on Modules of infinite length, Université de Sherbrooke, 2009.
2. Organizer of the reading seminar on covering theory, Norwegian University of Sciences and Technology, Trondheim, Norway. Spring/Fall 2007.
3. Co-organizer of the ISM Conference « On the Road» 2004 and 2005, Université de Sherbrooke, October 2004 and 2005.

## **MISCELLANEOUS**

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1. Managing Editor of the *Annales des sciences mathématiques du Québec*, November 2007 to present.
2. Referee for papers submitted to Journal of Pure and Applied Algebra, 2010.
3. Reviewer for *Mathematical Reviews* since January 2007.  
([www.ams.org/mathscinet](http://www.ams.org/mathscinet)).