RALF SCHIFFLER

CURRICULUM VITAE

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EDUCATION

2002 Ph.D. (Mathematics), Université du Québec à Montréal
Advisor: Robert Bédard

1997 M.Sc. (Mathematics), Universität Köln, Germany

ACADEMIC POSITIONS

Aug 08 – to date	Assistant Professor University of Connecticut
Sep 05 – Aug 08	Visiting Assistant Professor University of Massachusetts at Amherst
Apr 05 – Aug 05	Postdoctoral Fellow Université Sherbrooke
Jan 03 – Apr 05	NATEQ Post-doctoral Fellow Carleton University, Ottawa
Jun 02 – Dec 02	FCAR Post-doctoral Fellow CRM Université de Montréal
1998 – 1999	Lecturer in Mathematics Université du Québec à Montréal

HONORS AND AWARDS

2007 – 2010	NSF Grant, DMS-0700358 and DMS-0908766, $87,048, "Cluster algebras and tilting theory".
2003 – 2005	NATEQ Canada, Post-doctoral fellowship
2002	FCAR Canada, Post-doctoral fellowship
2002	Governor General's Academic Gold Medal (Canada).
2000 – 2002	FCAR Canada, Doctoral scholarship
1998 – 2000	ISM Canada, Doctoral scholarship
1993 – 1994	BAFÖ Germany, scholarship

INVITED RESEARCH VISITS

Jun. 09	Université Sherbrooke, Canada (one week)
Feb. 09	Université Sherbrooke, Canada (one week)
Jan. 09	Universität Bonn, Germany (two weeks)
Jun. 07	Université Sherbrooke, Canada (three weeks)
Feb. 07	Universidad de la Republica, Montevideo, Uruguay (one week)
Jan. 07	Université Lyon, France (four weeks)
Jun. 06	Université Sherbrooke, Canada (one week)
Jun. 06	North Carolina State University, Raleigh, USA (one week)
May 06	Universität Bielefeld, Germany, (one week)
May 06	Université Sherbrooke, Canada (one week)
Jan. 06	Université Sherbrooke, Canada (one week)
Apr. 04	Université Lyon, France (three weeks)

PUBLICATIONS

1. G. Musiker, R. Schiffler and L. Williams. "Positivity for cluster algebras from surfaces", (preprint 2009), 67 pages.

2. K. Igusa and R. Schiffler. "Exceptional sequences and clusters", (preprint 2009), 12 pages.

3. G. Musiker and R. Schiffler. "Cluster expansion formulas and perfect matchings", (preprint 2008), 19 pages.

4. R. Schiffler. "On cluster algebras arising from unpunctured surfaces II", (preprint 2008), 36 pages.

5. R. Schiffler and H. Thomas: "On cluster algebras arising from unpunctured surfaces", *Int. Math. Res. Not.* **17** (2009), 3160–3189.

6. I. Assem, T. Brüstle and R. Schiffler. "On the Galois covering of a cluster-tilted algebra", *J. Pure Appl. Alg.* **213** (7) (2009), 1450–1463.

7. R. Schiffler. "A cluster expansion formula (A_n case)", Electron. J. Combin. 15 (2008), #R64 1.

8. I. Assem, T. Brüstle and R. Schiffler. "Cluster-tilted algebras and slices", *J. Algebra* **319** (2008), 3464–3479.

9. I. Assem, T. Brüstle and R. Schiffler. "Cluster-tilted algebras as trivial extensions", *Bull. London Math. Soc.* **40** (2008), 151–162.

10. R. Schiffler. "A geometric model for cluster categories of type D_n", *J. Alg. Comb.* **27** (1) (2008), 1–21.

11. I. Assem, T. Brüstle, R. Schiffler and G. Todorov. "m-cluster categories and m-replicated algebras", *J. Pure Appl. Alg.* **212** (4) (2008), 884-901.

12. I. Assem, T. Brüstle, R. Schiffler and G. Todorov. "Cluster categories and duplicated algebras", *J. Algebra* **350** (1) (2006), 548–561.

13. P. Caldero, F. Chapoton and R. Schiffler. "Quivers with relations and cluster tilted algebras", *Algebras and Representation Theory* **9**, no. 4, (2006), 359–367.

14. P. Caldero, F. Chapoton and R. Schiffler. "Quivers with relations arising from clusters (A_n case)", *Trans. Amer. Math. Soc.* **358** (2006), no. 3, 1347–1367.

15. R. Schiffler. "On the multiplication in the quantized enveloping algebra of type A", in Representations of Algebras and Related Topics, Fields Institute Communications **45**, (2005), 357–361.

16. P. Caldero and R. Schiffler. "Rational smoothness of varieties of representations for quivers of Dynkin type", *Annales de l'Institut Fourier* **54(2)** (2004), 295–315.

17. R. Schiffler. "Projective rational smoothness of varieties of representations for quivers of type A", *Representation Theory* **7** (2003), 549–586.

18. R. Bédard and R. Schiffler. "Rational smoothness of varieties of representations for quivers of type A", *Representation Theory* **7** (2003), 481–548.

19. R. Schiffler. *Variétés de carquois et homologie d'intersection* (book), Publications LACIM 30, Montréal (2003).

COLLOQUIUM TALKS

1. Quiver representations: basic facts and some recent developments, University of Maine, 2008.

2. Quiver representations: basic facts and some recent developments, Loyola University, 2008.

3. Quiver representations: basic facts and some recent developments, University of Connecticut, 2008.

4. Quiver representations: basic facts and some recent developments, University of Waterloo, 2008.

5. Quiver representations: basic facts and some recent developments, Kansas State University, 2007.

6. Quiver representations: basic facts and some recent developments, Brandeis-Harvard-MIT-Northeastern Joint Mathematics Colloquium, Brandeis University, Boston 2005.

TALKS AT INTERNATIONAL MEETINGS

1. Cluster-tilted algebras without clusters, Sectional Meeting of the American Mathematical Society, Riverside, CA, USA, 2009.
2. Cluster-tilted algebras without clusters, XXIth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2009.
3. Minicourse on Cluster Algebras and Cluster Categories (four lectures), XVIII Latin-American Algebra Colloquium, Sao Pedro, Brazil, 2009:
   (a) Cluster algebras
   (b) Cluster categories
   (c) Cluster-tilted algebras
   (d) Cluster algebras from surfaces
4. Clusters, exceptional sequences and reduced expressions, International Conference on Representations of Algebras and Related Topics, Woods Hole, USA, 2009.
5. Positivity for cluster algebras associated to surfaces, International Conference on Cluster Algebras and Related Topics, Mexico City, Mexico, 2008
6. Positivity for cluster algebras associated to surfaces, XXth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2008.
7. Positivity for cluster algebras associated to surfaces, Colloquium of non commutative algebra, Sherbrooke, Canada, 2008.
8. Positivité dans les algèbres amassées associées aux surfaces, Second Canada-France Congress, Montreal, Canada, 2008.
9. Cluster-tilted algebras and slices, International Conference on Representations of Algebras and Related Topics, Woods Hole, USA, 2008.
10. Cluster-tilted algebras, XIXth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2007.
11. A cluster expansion formula, International Conference on Representations of Algebras and Related Topics, Northeastern University, Boston, USA, 2007.
12. Geometric realizations of cluster categories, International Conference on Representations of Algebras, Torun, Poland, 2007.
13. Formules de développement dans les algèbres amassées, Colloquium on Representation Theory of Algebras, Sherbrooke, Canada, 2007.

14. Mini-course on cluster categories (three lectures), Workshop on Representation Theory and Related Areas, Universidad de la Republica, Montevideo, Uruguay, 2007.
    (a) Cluster algebras
    (b) Cluster categories
    (c) Geometric realizations of cluster categories
15. m-replicated algebras and m-cluster categories, Winter Meeting of the Canadian Mathematical Society, Toronto, Canada, 2006.
16. Geometric models for cluster categories of type A and D, International Conference on Representations of Algebras and Related Topics, Northeastern University Boston, USA, 2006.
17. Les catégories amassées et les algèbres répliquées, Colloque Homologie et Déformation en Algèbre, Géométrie et Représentations, Centre International de Rencontres Mathématiques, Luminy, France, 2006.
18. Geometric models for cluster categories, XVIIIth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2006.
19. Introduction to cluster categories, Conference on Cluster Algebras and Applications, North Carolina State University, Raleigh, USA, 2006.
20. From tilted algebras to cluster-tilted algebras, Workshop on cluster algebras and cluster-tilted algebras, Bielefeld, Germany, 2006.
21. Cluster-tilted algebras, Sectional Meeting of the American Mathematical Society, Durham NH, USA, 2006.
22. Algèbres amassées inclinées, IVe Colloque sur la Théorie des Modules et Sujets Connexes. Université du Québec à Montréal, Canada, 2006.
23. Cluster categories and duplicated algebras, International Conference on Representations of Algebras and Related Topics, Northeastern University Boston, USA, 2005.
24. Quivers with relations arising from clusters, XVIth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2004.
25. Quivers with relations arising from clusters, International Conference on Representations of Algebras and Related Topics, Northeastern University Boston, USA, 2004.
26. Quantized enveloping algebras and rational smoothness, XVth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2003.
27. On the multiplication in the quantized enveloping algebra of type A, XIVth Meeting on Representation Theory of Algebras, Sherbrooke, Canada, 2002.

28. On the multiplication in the quantized enveloping algebra of type A, International Conference on Representations of Algebras and Related Topics (ICRA X), Toronto, Canada, 2002.

29. Singularités des variétés de carquois de type A, Summer Meeting of the Canadian Mathematical Society, Québec, Canada, 2002.

SEMINAR TALKS

1. What is a path algebra? SIGMA Graduate Seminar, University of Connecticut, Storrs, USA, 2009.

2. Clusters in terms of reduced expressions in Weyl groups, Algebra Seminar, University of Connecticut, Storrs, USA, 2009.

3. Algèbres amassées, suites exceptionnelles et expressions réduites, Séminaire d'Algèbre, Université Sherbrooke, Canada, 2009.

4. On cluster algebras arising from unpunctured surfaces II, Representation Theory Seminar, Universität Bonn, Germany, 2009.

5. On cluster algebras arising from unpunctured surfaces I, Representation Theory Seminar, Universität Bonn, Germany, 2009.

6. Positivity for cluster algebras associated to surfaces, Combinatorics Seminar, Massachusetts Institute of Technology, Cambridge, USA 2008.

7. Cluster algebras from triangulated surfaces, Algebra Seminar, University of Connecticut, Storrs, USA, 2008.

8. Cluster algebras, Algebra Seminar, University of Connecticut, Storrs, USA, 2008.

9. Positivity for cluster algebras associated to surfaces, Algebra and Combinatorics Seminar, University of New Brunswick, Fredericton, Canada, 2008.

10. Positivity for cluster algebras associated to surfaces, Representation Theory Seminar, University of Massachusetts, Amherst, USA, 2008.

11. Sur la Structure Combinatoire des Algèbres Amassées, Colloquium on Modules and Related Topics, Université du Québec à Montréal, Canada, 2008.

12. Cluster-tilted algebras, Geometry-Algebra-Singularities-Combinatorics Seminar, Northeastern University Boston, USA, 2007.

13. Algèbres amassées et surfaces triangulées, Séminaire d'Algèbre, Sherbrooke, Canada, 2007.

14. What is a path algebra?, The "What Is..." Graduate Seminar, University of Massachusetts, Amherst, USA, 2007.

15. Des modèles géométriques pour les algèbres amassées, Séminaire d'Algèbre, IGD Université Claude Bernard Lyon 1, France, 2007.

16. Varieties of representations of quivers, Quiver Varieties Seminar, University of Massachusetts, Amherst, USA, 2006.

17. Développements récents dans les algèbres inclinées amassées , Séminaire d'Algèbre, Université Sherbrooke, Canada, 2006.

18. Quivers with relations arising from clusters, Representation Theory Seminar, University of Massachusetts, Amherst, USA, 2005.

19. Introduction aux algèbres clusters 2, Séminaire d'Algèbre, Université Sherbrooke, Canada, 2005.

20. Introduction aux algèbres clusters 1, Séminaire d'Algèbre, Université Sherbrooke, Canada, 2005.

21. More examples of cluster algebras, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2004.

22. Cluster tilted algebras, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2004.

23. Introduction to cluster algebras, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2004.

24. Sur la multiplication dans l'algèbre enveloppante quantique de type A, Séminaire d'Algèbre, IGD Université Claude Bernard Lyon 1, France, 2004.

25. Quantum groups and rational smoothness, Algebra Seminar, Carleton University, Ottawa, Canada, 2003.

26. Explicit results in type A, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

27. Geometric interpretation of base change II, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

28. Geometric interpretation of base change I, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

29. Bases of quantized enveloping algebras II, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

30. Bases of quantized enveloping algebras I, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

31. Quantized enveloping algebras and Hall algebras, Representation Theory Seminar, Carleton University, Ottawa, Canada, 2003.

32. Algèbres enveloppantes quantiques et algèbres de Hall, Séminaire de Combinatoire, Université du Québec à Montréal, Canada, 2002.

33. On quiver varieties of type A, Quebec Mathematical Science Colloquium, Sherbrooke, Canada, 2001.

34. On quiver varieties of type A, Student Colloquium of the Institut des Sciences Mathématiques, McGill University, Montréal, Canada, 2001.

COURSES TAUGHT

At the University of Connecticut:
Calculus I, Multivariable Calculus, Applied Linear Algebra, Linear Algebra, Precalculus, Graduate Abstract Algebra.

At the University of Massachusetts:
Basic Math Skills (twice), Calculus I (three times), Calculus II (twice),
Honors Calculus I, Honors Calculus II,
Abstract Algebra I, Abstract Algebra II,
Honors Abstract Algebra I, Honors Abstract Algebra II.

At the Université du Québec à Montréal
General Mathematics, Calculus.

At the University of New Brunswick
Quiver representations, Graduate Summer School, 2008.

OTHER

Referee for the following journals:
Advnces in Mathematics
Journal of Algebraic Combinatorics (three times),
Proceedings of the LMS,
Annals of Combinatorics,
International Mathematics Research Notices,
Communications in Algebra,
Journal of Pure and Applied Algebra
International Electronic Journal of Algebra,
Operators and Matrices,
Annales des Sciences Mathématiques du Québec.

External committee member for PhD-thesis at Université Sherbrooke
for Bertrand Nguefack, 2009.
External committee member for undergraduate thesis at Université Sherbrooke
for Pierre-Guy Plamondon

REFERENCES

Ibrahim Assem	Université Sherbrooke Ibrahim.Assem@USherbrooke.ca
Robert Bédard	Université du Québec à Montréal bedard@math.uqam.ca
Vlastimil Dlab	Carleton University vdlab@math.carleton.ca
George Lusztig	Massachusetts Institute of Technology gyuri@math.mit.edu
Idun Reiten	NTNU Trondheim idunr@math.ntnu.no
Andrei Zelevinsky	Northeastern University andrei@neu.edu
George Avrunin (teaching)	University of Massachusetts Amherst avrunin@math.umass.edu