

1. Curriculum Vitae

PROFESSIONAL INFORMATION

Name: Robert YUNCKEN
Position: Maître de Conférences (Lecturer, tenured)
Institution: Laboratoire de mathématiques,
Université Blaise Pascal, Clermont-Ferrand II
Work address: Campus des Cézeaux
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EDUCATION

2006 **Ph.D. in mathematics**, Penn State University, USA
Thesis adviser: Nigel Higson
Title: Analytic structures for the index theory of $SL(3, \mathbb{C})$.

1999 **Cert. Adv. Stud. Math. (Part III of the tripos)**, with distinction,
University of Cambridge.

1997 **B.Sc.(Hons)/B.E.(Hons)**
pure & applied mathematics/mechanical engineering,
University of Western Australia.

EMPLOYMENT

Sep 2011–present Maître de Conférences (Lecturer, tenured in June 2012),
Université Blaise Pascal, Clermont-Ferrand II, France.

Apr 2010– Aug 2011 Post-doctoral researcher,
Université Blaise Pascal, Clermont-Ferrand II, France.

Jan 2008–Mar 2010 PIMS postdoctoral fellow
(Pacific Institute for the Mathematical Sciences)
University of Victoria, Canada.

Jun 2006–Dec 2007 Post-doctoral researcher,
Universität Münster, Germany.

DISTINCTIONS / FUNDING

- 2017 Prime d'Encadrement Doctoral et de Recherche
4-year bonus from the *Ministère de l'Enseignement Supérieur et de la Recherche*, France.
- 2016 Projet de Recherche Inter-laboratoire (project leader):
K-Homologie Analytique et Isolants Topologiques
Grant of 2000€ from the *Fédération de Recherche en Mathématiques Rhône-Alpes-Auvergne*.
- 2014 Member of ANR project "SINGSTAR"
Group research grant funded by the *Agence Nationale de la Recherche*, France.
- 2012 Prime d'Excellence Scientifique
Same as Prime d'Encadrement Doctoral et de Recherche above.
- 2011 Discovery Early Career Researcher Award
Australian Research Council.
Grant of AU\$375,000 over three years, declined.
- 2008 PIMS (Pacific Inst. for Mathematical Sciences) Postdoctoral Fellowship
Two-year fellowship tenable at universities in Western Canada.

DÉLÉGATIONS

- 2014 Délégation au CNRS
Six-month research position funded by the *Centre National de la Recherche Scientifique*, France.

2. Publications

PUBLISHED ARTICLES

[Click journal reference for internet link.](#)

1. E. van Erp, R. Yuncken, “A groupoid approach to pseudodifferential operators,”
J. Reine Agnew. Math., to appear. (32 pages)
2. E. van Erp, R. Yuncken, “On the tangent groupoid of a filtered manifold,”
Bull. London Math. Soc., 49 (2017) 1000–1012. (13 pages)
3. H. Emerson, R. Yuncken, “Equivariant correspondences and the Borel-Bott-Weil theorem,”
Münster J. of Math. 10 (2017), 59–74. (16 pages)
4. C. Voigt & R. Yuncken, “Equivariant Fredholm modules for the full quantum flag manifold of $SU_q(3)$,”
Doc. Math., 20 (2015), 433–490. (58 pages)
5. J. Bichon & R. Yuncken, “Quantum subgroups of the compact quantum group $SU_{-1}(3)$,”
Bull. London Math. Soc., 46 (2014), no. 2, 315–328. (14 pages)
6. R. Yuncken, “Foliation C^* -algebras on multiply fibred manifolds,”
J. Funct. Anal., 265 (2013), no. 9, 1829–1839. (10 pages)
7. R. Yuncken, “On coarse spectral geometry in even dimension,”
C. R. Math. Acad. Sci. Soc. R. Can. 33 (2011), no. 2, 57–64. (8 pages)
8. R. Yuncken, “The Bernstein-Gelfand-Gelfand complex and Kasparov Theory for $SL(3, \mathbb{C})$,”
Adv. Math., 226 (2011) 1474–1512. (39 pages)
9. R. Yuncken, “Products of longitudinal pseudodifferential operators on flag varieties,”
J. Funct. Anal. 258 (2010), no. 4, 1140–1166. (27 pages)
10. R. Yuncken, “Regular tessellations of the hyperbolic plane by fundamental domains of a Fuchsian group,”
Mosc. Math. J., 3 (2003), no. 1, 249–252. (4 pages)

PREPRINTS

11. M. Matassa, R. Yuncken, “Regularity of twisted spectral triples and pseudodifferential calculus,” (21 pages)
Accepted, *J. Noncommut. Geom.*
<http://arxiv.org/abs/1705.04178>
12. C. Voigt, R. Yuncken, “Complex semisimple quantum groups and representation theory,” (214 pages)
<http://arxiv.org/abs/1705.05661>

THESIS

13. R. Yuncken, “Analytic structures for the index theory of $SL(3, \mathbb{C})$,”
Thesis (Ph.D.) The Pennsylvania State University. 2006. (253 pages).
ISBN 978-0542-84399-0.

OTHER PUBLICATIONS

14. R. Yuncken, “Foreign mathematics in the Auvergne,”
in T. Lambre (ed.), *Des Mathématiques en Auvergne: Histoire, Progrès, et Interactions, Vol. 2*, Clermont-Ferrand, Revue d’Auvergne (2014),
255–258.

3. Invited conference and seminar talks

1. Catégories Tensorielles et Analyse, Université de Caen, 5–6 March 2018
2. Analysis Seminar, University of Glasgow, UK, 31 October 2017.
3. Analysis, Noncommutative Geometry, and Operator Algebras, Gothenburg, Sweden, 12–16 June 2017.
4. Index Theory and Singular Structures, Toulouse, France, 29 May–2 June 2017.
5. Spectral Theory and Mathematical Physics, Metz, France, 16–18 May 2017.
6. Geometric Structures on Lie Groupoids, Banff, Canada, 16–21 April 2017.
7. Arbre de Noël, Géométrie non commutative, Albi, France, 1–3 December 2016.
8. Topological Quantum Groups and Hopf Algebras, Warsaw, Poland, 14–18 November 2016.
9. Séminaire Physique Mathématique, Université Claude Bernard Lyon I, 27 May 2016.
10. Quantum groups: Geometry, Representations, and Beyond, Oslo, Norway, 9–13 May 2016.
11. Geometric Functional Analysis Seminar, Penn State University, 12 April 2016.
12. Penn State-Cornell Joint Symplectic Seminar, Cornell University, USA, 9 April 2016.
13. Analysis seminar, University of Glasgow, 25 February 2016.
14. C^* -académie, Université d'Orléans, 12 February 2016.
15. Séminaire algèbres d'opérateurs, Université Paris VI/VII, Jussieu, 11 February 2016.
16. C^* -algebra seminar, University of Oslo, 6 May 2015.
17. Séminaire Analyse, Géométrie et Algèbre, Université de Lorraine (Metz), 27 November 2014.
18. Géométrie Noncommutative, Albi, France, 4–5 September, 2014.

19. Non-commutative geometry's interactions with mathematics (part of the Trimester on Noncommutative Geometry), Hausdorff Research Institute for Mathematics, Bonn, Germany, 15–19 September 2014.
20. Quantum Groups and Operator Algebras, Universität Münster, Germany, 7–9 May, 2014.
21. Séminaire d'analyse harmonique non commutative, Université de Caen, 19 February 2014.
22. Noncommutative Geometry and Operator Algebras Spring Institute, Vanderbilt University, Nashville, 3–9 May 2013.
23. Analysis Seminar, University of Glasgow, 12 March 2013.
24. Arbre de Noël (The Annual Christmas Conference of the Non Commutative Geometry GDR), Université de Lorraine, Metz, 6–8 December 2012.
25. Pure Mathematics Seminar, University of Western Australia, 29 August, 2012.
26. Noncommutative Geometry, Fudan University, Shanghai, 23–27 July 2012.
27. Noncommutative Geometry and Quantum Groups, University of Oslo, 11–15 June 2012.
28. Noncommutative Geometry, Joint Meeting of the Isaac Newton Institute for Mathematical Sciences and the Wales Institute for Mathematical and Computational Sciences, Cardiff, 16–20 April 2012.
29. Oberseminar Funktionalanalysis, Operatoralgebren und Nichtkommutative Geometrie, Universität Münster, 10 May 2011.
30. Séminaire géométrie-topologie dynamique, Université d'Orsay, 5 May 2011.
31. Fourth annual meeting of the European Non Commutative Geometry Network, Bucharest, 25–30 April 2011.
32. Séminaire géométrie non commutative, Université Toulouse III, 21 March 2011.
33. C^* -académie, Université d'Orléans, 18 March 2011.
34. Séminaire algèbres d'opérateurs, Université Paris VI/VII, 17 March 2011.

35. Séminaire Analyse, Géométrie et Algèbre, Université Metz, 14 January 2011.
36. Functional Analysis Seminar, Dartmouth College, 27 October 2010.
37. East Coast Operator Algebras Symposium, Dartmouth College, 23–24 October 2010.
38. Noncommutative Geometry Seminar, Penn State University, 21 October 2010.
39. Conference on Selected Topics in Noncommutative Geometry, University of Victoria, 27 June–2 July 2010.
40. BIRS Northwest Functional Analysis Seminar, Banff, 16–18 October 2009.
41. Mathematics Department Colloquium, University of Western Australia, 26 June 2009.
42. AMS Special Session on Noncommutative Geometry, Vancouver, 4–5 October 2008.
43. Sixth Annual Noncommutative Geometry and Operator Algebras Spring Institute, Vanderbilt University, May 2008.
44. Noncommutative Geometry Seminar, Université de Provence, Aix-Marseille I, Luminy, 30 November 2007.
45. Oberwolfach Workshop on Noncommutative Geometry, 2–8 September 2007.
46. Séminaire algèbres d'opérateurs, Université Paris VI/VII, Jussieu, 24 May 2007.
47. K-Theory Day, University of Southampton, 18 May 2007.
48. Geometric Functional Analysis Seminar, Penn State University, February 2007.
49. International Conference on Harmonic Analysis and Applications, Sousse, Tunisia, 6–11 November 2006.
50. Noncommutative Geometry, Kyoto, 12–16 June 2006.
51. Mathematics Department Colloquium, Vanderbilt University, 25 January 2005.
52. Workshop on Dynamical Systems and Related Topics, Penn State University, 26–29 October 2000.

LECTURE COURSES AT SPECIAL PROGRAMMES

March 2011
Clermont-Ferrand,
France

Introduction à la théorie de l'indice
(Introduction to index theory)
Course of 6h, given in collaboration with
Prof. H. Oyono-Oyono (Université de Metz).