

List of publications

Alain VALETTE

September 25, 2011

1 Published papers

1.1 Papers in refereed journals

1. On simplicial tilings of the plane, Bull. Soc. Math. Belg. XXXII (1980), 11-19;
2. Tilings of the plane by topological disks, Geom. Dedicata 11 (1981), 447-454;
3. Direct sums of Tits geometries, Simon Stevin 56 (1982), 167- 180;
4. (with P. Masai) A lower bound for a counterexample to Carmichael's conjecture, Bollettino U. Mat. Ital. (6) 1-A (1982), 313-316;
5. Extensions of C^* -algebras: a survey of the Brown-Douglas-Fillmore theory, Nieuw Arch. voor Wisk. (3) XXX (1982), 41-69;
6. A remark on the Kasparov groups $\text{Ext}(A,B)$, Pac. Journ. Math. 109 (1983), 247-255;
7. (with P. Julg) K -moyennabilité pour les groupes opérant sur les arbres, C.R.Acad.Sci. Paris 296 (1983), Sér. I, 977-980;
8. Notes on the structure and the K -theory of the C^* -algebras associated to $SL_2(\mathbb{R})$, Bull. Soc. Math. Belg. XXXVI, Sér. B (1984), 29-56;
9. K -theory for the reduced C^* -algebra of a semi-simple Lie group with real rank 1 and finite centre, Quart.J. Math. Oxford (2) 35 (1984), 341-359;
10. (with P. Julg) K -theoretic amenability of $SL_2(\mathbb{Q}_p)$, and the action on the associated tree, Journ. Funct. Anal. 58 (1984), 194-215;

11. Minimal projections, integrable representations, and property (T), *Arch. der Math.* 43 (1984), 397-406;
12. Representations of minimally almost periodic groups, *J. Austral. Math. Soc. (Ser. A)* 41 (1986), 366-375;
13. (with P. Julg) Twisted coboundary operator on a tree, and the Selberg principle, *J. Operator Th.* 16 (1986), 285-304;
14. A global approach to spherical functions on rank 1 symmetric spaces, *Nieuw Arch. voor Wisk. (4)* 5 (1987), 33-52;
15. (with P. Julg) L'opérateur de co-bord tordu sur un arbre, et le principe de Selberg II, *J. Operator Th.* 17 (1987), 347-355;
16. The conjecture of idempotents: a survey of the C*-algebraic approach, *Bull. Soc. Math. Belg. Sér. A*, XLI (1989), 485-521;
17. Cocycles d'arbres et représentations uniformément bornées, *C.R.Acad.Sci. Paris*, 310 (1990), Sér. I, 703-708;
18. Les représentations uniformément bornées associées à un arbre réel, *Bull. Soc. Math. Belg. Sér. A*, XLII (1990), 747-760;
19. (with I. Pays) Sous-groupes libres dans les groupes d'automorphismes d'arbres, *L'Enseignement Math.* 37 (1991), 151-174;
20. (with P. Jolissaint) Normes de Sobolev et convoluteurs bornés sur $L^2(G)$, *Ann. Inst. Fourier (Grenoble)* 41 (1991), 797-822;
21. Projections in full C*-algebras of semisimple Lie groups, *Math. Annalen* 294 (1992), 277-287;
22. Short proofs for some residual properties of free groups, *Expo. Math.* 11 (1993), 65-71;
23. (with P. de la Harpe et A.G. Robertson) On the spectrum of the sum of the generators of a finitely generated group, *Israel J. Math.* 81 (1993), 65-96;
24. (with M. Bekka) Kazhdan's Property (T) and amenable representations, *Math. Z.* 212 (1993), 293-299;
25. (with M. Bekka) On duals of Lie groups made discrete, *J. für reine und angew. Math.* 439 (1993), 1-10;

26. (with P. de la Harpe et A.G. Robertson) On the spectrum of the sum of the generators of a finitely generated group II, *Colloquium Mathematicum* 65 (1993), 87-102;
27. Weak amenability of right angled Coxeter groups, *Proc. Amer. Math. Soc.* 119 (1993), 1331-1334;
28. (with D. Luminet) Faithful uniformly continuous representations of connected Lie groups, *J. London Math. Soc.* 49 (1994), 100-108
29. (with P. de la Harpe et A.G. Robertson) On exactness of group C^* -algebras, *Quart. J. Math. (Oxford)* (2) 45 (1994), 499-513;
30. (with A. Deutsch) On diameters of orbits of compact groups in unitary representations, *J. Austral. Math. Soc. (Ser. A)* 59 (1995), 308-312;
31. (with H. Bettaieb) Sur le groupe K_1 des C^* -algèbres réduites de groupes discrets, *C. R. Acad. Sci. Paris* 322 (1996), 925-928;
32. (with P.-A. Cherix) On spectra of simple random walks on one-relator groups (with an appendix by P. Jolissaint), *Pacific J. Maths.* 175 (1996), 417-438;
33. (with C. Béguin et A. Zuk) On the spectrum of a random walk on the discrete Heisenberg group and the norm of Harper's operator, *Journal of Geometry and Physics* 21 (1997), 337-356;
34. (with M. Bekka) Group cohomology, harmonic functions, and the first L^2 -Betti number, *Potential Analysis* 6 (1997), 313-326;
35. An application of Ramanujan graphs to C^* -algebra tensor products, *Discrete Math.* 167/168 (1997), 597-603;
36. Amenable representations and finite injective von Neumann algebras, *Proc. Amer. Math. Soc.* 125 (1997), 1841-1843;
37. On the Haagerup inequality and groups acting on \tilde{A}_n -buildings, *Ann. Institut Fourier (Grenoble)* 47 (1997), 1195-1208;
38. On Godement's characterization of amenability, *Bulletin Austral. Math. Soc.* 57 (1998), 153-158;
39. (with M. Burger) Idempotents in complex group rings: theorems of Zalesskii and Bass revisited, *J. Lie Theory* 8 (1998), 219-228;

40. (with C. Béguin et H. Bettaieb) K-theory for the C^* -algebras of one-relator groups, *K-theory*, 16 (1999), 277-298;
41. (with F. Martin) Markov operators on the solvable Baumslag-Solitar groups, *Experimental math.* 9 (2000), 291-300;
42. (with G. Troessaert) On values at integer points of some irrational, binary quadratic forms, *Monographie de l'Enseignement Math.* 38 (2001), 597-610;
43. (with Y. Stalder) Le lemme de Schur pour les représentations orthogonales, *Expositiones Math.* 20 (2002), 279-285;
44. (with P.-A. Cherix et F. Martin) Spaces with measured walls, Haagerup property and property (T), *Ergod. Th. & Dynam. Syst.* 24 (2004), 1895-1908.
45. (with N. Louvet et Y. Stalder) Fonctions conditionnellement de type négatif, représentations irréductibles et propriété (T), *L'Enseignement Math.*, 50 (2004), 239-266.
46. (with M. Bourdon and F. Martin), Vanishing and non-vanishing of the first L^p -cohomology for groups, *Commentarii Math. Helvetici* 80 (2005), 377-389.
47. Group pairs with property (T), from arithmetic lattices, *Geom. Dedicata* 112 (2005), 183-196.
48. (with H. Bettaieb and M. Matthey) Unbounded symmetric operators in K -homology, and the Baum-Connes conjecture, *J. Funct. Anal.* 229 (2005), 184-237.
49. Restricting cohomological representations of $SO(n, 1)$ and $SU(n, 1)$, *International J. of Algebra and Comput.* 15, Nos 5-6 (2005), 1235-1241.
50. (with F. Martin) Reduced 1-cohomology of representations, the first ℓ^p -cohomology and applications, *Groups Geom. Dyn.* 1 (2007), 81-100.
51. (with Y. Stalder) Wreath products with the integers, proper actions and Hilbert space compression, *Geom. Dedicata* 124 (2007), 199-211.
52. (with Y. de Cornulier and R. Tessera) Isometric group actions on Hilbert spaces: growth of cocycles, *Geometric and Functional Analysis (GAFA)* 17 (2007), 770-792.

53. Fractions continues et équivalence sous $GL_2(\mathbb{Z})$, appendix to *Fractions continues et action des groupes de congruence sur la droite réelle*, by C. Troessaert, Bull. Belgian Math. Soc. - Simon Stevin, 14 (2007), 669-680.
54. (with Y. de Cornulier and Y. Stalder) Proper actions of lamplighter groups associated with free groups, C. R., Math., Acad. Sci. Paris 346, No. 3-4, 173-176 (2008).
55. (with Y. de Cornulier et R. Tessera) Isometric group actions on Banach spaces and representations vanishing at infinity, Transformation Groups 13 (2008), 125-147.
56. (with Y. de Cornulier and R. Tessera) Isometric group actions on Hilbert spaces: structure of orbits, Canadian J. Math. 60 (2008), 1001-1009.
57. Characterizing finite or abelian compact groups, appendix to Samea, H.; Abolghasemi, M. *Derivations on certain matrix algebras with applications to compact groups*, Bull. Belg. Math. Soc. Simon Stevin 16 (2009), no. 2, 361-372.
58. (with T. Austin and A. Naor) The Euclidean distortion of the lamplighter group, Discrete and Computational Geometry 44 (2010), 55-74.
59. (with Y. de Cornulier and Y. Stalder) Proper actions of wreath products and generalizations, to appear in Trans. Amer. Math. Soc.
60. (with R. Cluckers, Y. Cornulier, N. Louvet and R. Tessera), The Howe-Moore property for real and p -adic groups, to appear in Math. Scand.
61. (with T. Fernos) Reduced 1-cohomology and relative property (T), to appear in Math. Z.

1.2 Papers in conference proceedings (refereed):

1. (with P. Julg) Group actions on trees and K-amenability, Proc. Conf. on Operator Algebras, Ergodic Theory & Topology, Busteni (Roumanie), 1983; Springer Lect. Notes in Math. 1132 (1985), 289-296;
2. Dirac induction for semi-simple Lie groups having one conjugacy class of Cartan subgroups, same Proceedings, Springer Lect. Notes in Math. 1132 (1985), 526-555;

3. (with P. Julg) Fredholm modules associated to Bruhat-Tits buildings, Proc. Centre for Math. Analysis (Australian Nat. Univ.) 16 (1988), 143-155
4. Negative definite kernels on trees, in Harmonic Analysis & Discrete Potential Theory, M. Picardello ed., Plenum Press, 1992, 99-105;
5. Old and new about Kazhdan's property (T); in Representations of Lie groups and quantum groups, V. Baldoni and M. Picardello eds, Pitman Research Notes in Math. Series, Longman, 1994, 271-333;
6. (with M.E.B. Bekka et P.-A. Cherix) Proper affine isometric actions of amenable groups, in Novikov conjectures, index theorems and rigidity (vol.2), ed. by S.C. Ferry, A. Ranicki & J. Rosenberg, London Math. Soc. Lecture Notes Series 226 (1995), 1-4;
7. (with M. Bekka) Lattices in semi-simple Lie groups and multipliers of group C^* -algebras, in Recent advances in Operator Algebras (Orléans 1992), Astérisque 232, Soc. Math. France (1995), 67-92;
8. (with S. Moon) Non-properness of amenable actions on graphs with infinitely many ends, Ischia Group Theory 2006, T. Hawkes, P. Longobardi, M. Maj eds., Proceedings, World Scientific 2007, 227-233.
9. Amenability and Margulis super-rigidity, in Representation theory and complex analysis, E. Casadio Tarabusi, A. D'Agnolo, M. Picardello eds., CIME Summer school (Venice, 10-17 June 2004), Springer Lecture Notes in Mathematics 1931 (2008), 233-256.
10. (with F. Martin) Free groups and reduced 1-cohomology of unitary representations, in Quanta of Maths (Conference in honor of Alain Connes), Clay Math. Proc. 11, Amer. Math. Soc. 2011, 459-463.
11. Affine isometric actions on Hilbert spaces and amenability, to appear in Proc. Special semester on amenability, Erwin Schrödinger Institute, Vienna, march 2007.

1.3 Seminar papers

1. Weak forms of amenability for split rank 1 p -adic groups, dans "p-adic methods and applications", Oxford University Press 1992, 143-165;
2. Can one hear the shape of a group?, Rendiconti Seminario Matematico e Fisico di Milano LXIV (1994), 31-44.

3. An application of Ramanujan graphs to C^* -algebra tensor products, II; Séminaire de théorie spectrale et géométrie, Grenoble (1995-96), 105-107;
4. Graphes de Ramanujan et applications, Séminaire Bourbaki, exposé 829, Astérisque 245, Soc. Math. France (1997), 247-276;
5. Nouvelles approches de la propriété (T) de Kazhdan, Séminaire Bourbaki, exposé 913, Astérisque 294, Soc. Math. France (2004), 97-124.

2 Books:

1. Les fibrés en théorie de Kasparov, Acad. Roy. Belg., Mém. Classe des Sciences, XLV-6, 1988;
2. (with P. de la Harpe) La propriété (T) de Kazhdan pour les groupes localement compacts, Astérisque 175, Soc. Math. France, 1989;
3. (with P.-A. Cherix, M. Cowling, P. Jolissaint et P. Julg) Groups with the Haagerup property (Gromov's a -T-menability), Progress in Maths 197, Birkhäuser, 2001;
4. Introduction to the Baum-Connes conjecture, ETHZ lecture notes, Birkhäuser, 2002;
5. (with G. Davidoff et P. Sarnak) Elementary number theory, finite group theory, and Ramanujan graphs, Cambridge Univ. Press, London Math. Soc. Students texts 59, 2003;
6. (with G. Mislin) Proper group actions and the Baum-Connes conjecture, Advanced courses CRM Barcelona, Birkhäuser, 2003
7. (with B. Bekka et P. de la Harpe) Kazhdan's property (T), Cambridge Univ. Press, 2008.

3 Book edition:

1. (with G. Arzhantseva) Limits of graphs in group theory and computer science, EPFL Press, 2009.
2. (with K. Dekimpe, P. Igodt) Discrete groups and geometric structures, Contemporary Math. 501, AMS, 2009.

4 Papers in preparation:

1. (with Y. de Cornulier and R. Tessera) The bounded/proper alternative for isometric actions on Hilbert spaces.
2. (with T. Fernos) Groups acting on trees, Mayer-Vietoris sequences and property (T).
3. (with P.-N. Jolissaint) ℓ^p -distortion and p -spectral gap of finite regular graphs.

5 Popularization papers:

1. La fonction ϕ d'Euler et la conjecture de Carmichael, Math. & Péd. 32 (1981), 13-19;
2. Pourquoi la variance?, Math. & Péd. 55 (1986), 25-30;
3. Histoire de noeuds, Math-Jeunes 37 (1987), 19-24;
4. Le point sur la conjecture de Fermat (novembre 1986), Bull. Soc. Math. Belg. Sér. A, XXXIX (1987), 23-47;
5. A quoi servent les mathématiques aujourd'hui?, Annales de l'Univ. de Neuchâtel, 1988-1989, 272-285;
6. L'efficacité des Mathématiques, (slightly modified version of the preceding item), Math. & Péd. 78 (1990), 5-20;
7. Pierre Deligne, un mathématicien belge contemporain, Math-Jeunes 46 (1989), 34-36;
8. L'efficacité des mathématiques, L'Impartial, Supplément Spécial du 1er Mars 1990;
9. Les conjectures de Weil, Math-Jeunes 47 (1990), 79-85;
10. On ne peut pas entendre la forme d'un tambour, Math. & Péd. 96 (1994), 67-69;
11. On ne peut pas entendre la forme d'un tambour (reprise du texte précédent) Bulletin de la Société des Enseignants Neuchâtelois de Sciences no 18 (1996), 3-4;

12. Le Grand Théorème de Fermat enfin démontré?, Math. & Péd. 97 (1994), 5-23;
13. Que penser des rumeurs autour de la preuve par Wiles du Grand Théorème de Fermat?, Math-Jeunes 63 (1994), 34-36;
14. Wat moeten we denken over de opschudding rond Wiles'bewijs van de Laatste Stelling van Fermat? (dutch translation of the preceding item), Wiskunde & Onderwijs 83 (1995), 311-314;
15. Quelques coups de projecteurs sur les travaux de Jacques Tits, Gazette des Mathématiciens 61 (1994), 61-78;
16. Graphes à grand tour de taille, Images des Maths. 2004, CNRS, 107-113.
17. (with Martin Raussen) An interview with Beno Eckmann, Eur. Math. Soc. Newsl. 66, 31-32 (2007).
18. Imagination et mathématiques: deux exemples, Bulletin de la Société des Enseignants Neuchâtelois de Sciences no 35 (juillet 2008).
19. Elon Lindenstrauss, médaille Fields 2010; Tangente no 137, 2010.
20. Les Médailles Fields 2010, Losanges, n° 12 - mars 2011 - p. 35-41.