

Curriculum Vitæ

Jean V. BELLISSARD¹

Name: BELLISSARD Jean Vincent
Permanent home address: 1798, North Holly Lane NE, Atlanta, GA 30329
 Tel: (404) 327-5674
Date and place of birth: March 1, 1946, Lyon, France
Current Institution: Georgia Institute of Technology
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Academic degrees :

Doctor of Philosophy Degree:

Doctorat d'Etat: Theoretical Physics
 University of Provence, Marseille, June 1974

Master Degree:

DEA Theoretical Physics : June 1970, University of Provence, Marseille
 DEA Wave Mechanics : Oct. 1968, University of Lyon

Bachelor Degree:

Licence de Mathématiques : Oct. 1967, University of Lyon
 Licence de Physique : Oct. 1967, University of Lyon

Other Degree:

Agrégation de Physique : June 1969, rank : 7th / 64

Honors :

1989 Langevin Prize, French Physical Society
 1996 Chevalier Ordre des Palmes Académique (France)
 1995-2005 **Senior Member** Institut Universitaire de France
 2013 **Fellow** of the American Mathematical Society

¹Revised on February 8, 2013

Employment :

August 2002 - present

Full Professor of Mathematics and Physics
Georgia Institute of Technology, Atlanta GA**Memberships :**

American Mathematical Society
 American Physical Society
 International Association of Mathematical Physics
 European Mathematical Society
 European Physical Society
 Société Mathématique de France
 Société Française de Physique
 Société de Mathématiques Industrielles et Appliquées

Leadership and Academic commitments :**Editorial Board Positions**

2006-present Associate Editor of the *Journal of Noncommutative Geometry*
 2002-present Associate Editor of the *Mathematical Physics Electronic Journal*
 2000-present Associate Editor of *Annales Henri Poincaré*
 1988-present Associate Editor of the *Reviews of Mathematical Physics*

Refereing Activities

The applicant is reviewing papers from the following scholarly Journals

- Physical Review Letters
- Physical Review
- Europhysics Letters
- Communications in Mathematical Physics
- Letters in Mathematical Physics
- Journal of Physics A
- Journal de Physique (Paris)
- Journal of Functional Analysis
- Reviews of Mathematical Physics
- Philosophical Magazine
- Duke Mathematical Journal
- Ergodic Theory and Dynamical Systems
- Mathematical Physics Electronic Journal

Recent Organization of Conferences

- *Random Schrodinger Operators: Universal Localization, Correlations, and Interactions*, Project # 09w5116, April 19-24, 2009 Banff International Research Station, Alberta, Canada,
Organizers: Jean Bellissard (Georgia Institute of Technology), Peter Hislop (University of Kentucky), Abel Klein (University of California, Irvine), Gunter Stolz (University of Alabama at Birmingham)
- *4th East Coast Operator Algebra Symposium (ECOAS06)*, at GATECH, Atlanta, September 30-October 1, 2006, funded by the NSF (50 participants)
- with Peter Hislop (Univ Kentucky), *Transport Properties of Random Schrödinger Operators*, University of Kentucky, Lexington KY, March 17-19, 2006, sponsored by IMA and GATECH (25 participants)

Advisorship

- Previous thesis advisor of 12 students, (with 7 of them in a tenured academic position in France), three of them got their PhD thesis at Georgia Institute of Technology (John Pearson and Jean Savinien, April 2008, Ian Palmer, May 2010). John Pearson is presently a school teacher in Atlanta. Jean Savinien is a tenured Assistant Professor in Metz, France since September 2011. Ian Palmer is presently employed at the NSA, Washington DC.
- Presently thesis advisor of 1 student at Georgia Institute of Technology (Robert Parada, School of Physics, since September 2010)

Academic Committee Member or Chair

1. GATECH, School of Phys.: Colloquium Committee 2005-2006.
2. GATECH, School of Math. committees: Faculty Advisory Committee (FAC), 2003-2004, **Chair** of this Committee 2004-2005, Senior Promotion and Tenure 2005-2006 and **Chair** Senior Promotion and Tenure 2006-2008, Colloquium Committee 2004-2005. Graduate Committee (Chair) 2010-2011, Hiring Committee 2012-2013.
3. GATECH, College of Science, Promotion and Tenure Committee 2012-2013
4. Member of the Program Committee of the Banff International Research Station (PIMS, Vancouver, BC, Canada) 2004-2008.
5. Member of three NSF panels in 2004, 2005 and 2009.
6. Member of a panel committee on *Random Matrix Theory*, NSF, Washington D.C., Nov. 12-13, 2002.

7. Member of the Scientific Evaluation Committee of the project *MaPhySto* for the Danish National Research Foundation, Aarhus, Denmark, 14-16 January 2002.
8. Member of the Program Committee Centre Émile Borel, (Institut Henri Poincaré), Paris 2000-2004.

Recent Funding and Awards :

1. **NSF grant # DMS-1160962** *Spectral Properties of Aperiodic Solids*, September 2012-August 2015, Awarded amount \$200,000 (expected, depending upon availability of funds)
2. **NSF grant # DMS-0901514** *Mathematical Aspects of Aperiodic Solids*, September 2009-August 2012, Awarded amount \$238,305.00
3. **NSF grant # 0600956** *Theory of Aperiodic Solids, II*, August 2006-August 2009, Awarded amount \$199,984.00
4. **NSF grant # 0300398** *Theory of Aperiodic Solids*, July 2003-July 2007, Awarded amount \$ 246,700.00

Publications :

Book Chapters

1. **J. Bellissard**, *Noncommutative Geometry of Aperiodic Solids*, in *Geometric and Topological Methods for Quantum Field Theory*, (Villa de Leyva, 2001), pp. 86-156, World Sci. Publishing, River Edge, NJ, (2003).
2. **J. Bellissard**, *Coherent and dissipative transport in aperiodic solids*, in *Dynamics of Dissipation*, Garbaczewski, P.; Olkiewicz, R. (Eds.), Lecture Notes in Physics, **597**, 413-486, (2003).
3. **J. Bellissard**, D. Hermmann, M. Zarrouati, *Hull of Aperiodic Solids and Gap Labelling Theorems*, in *Directions in Mathematical Quasicrystals*, CRM Monograph Series, Volume **13**, (2000), 207-259, M.B. Baake & R.V. Moody Eds., AMS Providence.
4. **J. Bellissard**, *Non Commutative Methods in Semiclassical Analysis*, course given at the CIME (1991). Published in *Transition to Chaos in Classical and Quantum Mechanics*, Lecture Notes in Mathematics, n° **1589**, Springer, (1994).
5. **J. Bellissard**, *Renormalization Group Analysis and Quasicrystals*, in *Ideas and Methods in Mathematical Physics-in Memory of Raphael Høegh-Kröhn*, S. Albeverio, J. E. Fenstad, H. Holden, T. Lindstrøm, Editors, Cambridge University Press, Cambridge, 1992.
6. **J. Bellissard**, *Gap Labelling Theorems for Schrödinger's Operators*, in *From Number Theory to Physics*, pp.538-630, Les Houches March 89, Springer, J.M. Luck, P. Moussa & M. Waldschmidt Eds., (1993).
7. **J. Bellissard**, *C^* -Algebras in Solid State Physics*, in *Operator Algebras and Application*, D. Evans & M. Takesaki Eds., Vol. II Cambridge Univ. Press (1988).
8. **J. Bellissard**, R. Lima, D. Testard, *Almost Periodic Schrödinger Operators*, in *Mathematics and Physics, Lectures on Recent Results*, L. Streit Ed., World Scientific Pub.Co., Singapore, (1985).
9. **J. Bellissard**, *Stability and Instability in Quantum Mechanics*, in *Trends and developments in the Eighties*, S. Albeverio & Ph. Blanchard Eds, World Scientific Pub. Co., Singapore (1985).

Publications

In Preparation

1. **J. Bellissard**, *Real Solids and Transverse Geometry of Tiling Spaces*, a contribution to a book on Tiling Theory.
2. **J. Bellissard**, S. Ulgren-Yildirim, S. Weinberger, *The Hull and the C^* -algebra of a Riemannian Manifold with Bounded Geometry*, paper in preparation.
3. **J. Bellissard**, G. De Nittis, V. Milani, *Wannier Transform for Aperiodic Solids*, 2 papers in preparation.

Submitted to Refereed Journals

1. **Bellissard J.**, A. Julien, “Embedding Ultrametric Cantor Sets in a Euclidean Space”, arXiv:1202.4330, (Feb. 20, 2012)
2. **Bellissard J.**, Marcolli M., Reihani K., “Dynamical Systems on Spectral Metric Spaces” arXiv: 1008.4617, (August 30 2010), submitted to *J. Noncommutative Geometry*. Still under revision.

Published in Refereed Journals

1. **Bellissard J.**, H. Schulz-Baldes, “Scattering theory for lattice operators in dimension $d \geq 3$ ”, arXiv:1109.5459v1, *Rev. Math. Phys.*, **24**, (2012), no. 8, 1250020 1-51.
2. G. Androulakis, **J. Bellissard**, C. Sadel, “Dissipative Dynamics in Semiconductors at Low Temperature”, arXiv:1107.1248, *J. Stat. Phys.*, **147**, (2012), no. 2, 448-486.
3. **Bellissard J.**, Julien A., Savinien J., “Tiling Groupoids And Bratteli Diagrams”, *Annales Henri Poincaré*, **11**, (2010), 69-99.
4. **Bellissard J.**, Radin C., Shlosman S., “The characterization of ground states”, *J. Phys. A: Math. Theor.*, **43**, (2010), 305001.
5. Pearson J., **Bellissard J.**, “Noncommutative Riemannian Geometry and Diffusion on Ultrametric Cantor Sets”, arXiv: 0802.1336v1 [math.OA], *Journal of Noncommutative Geometry*, **3**, (2009), 447-480.
6. Savinien J., **Bellissard J.**, “A spectral sequence for the K-theory of tiling spaces”, *Erg. Th. Dyn. Syst.*, **29**, (2009), 997–1031.
7. **J. Bellissard**, P.Hislop, G. Stolz, *Correlations Estimates in the Lattice Anderson Model*, *J. Stat. Phys.*, **129**, 649-662, (2007).

8. **J. Bellissard**, P. Hislop, *Smoothness of correlations in the Anderson model at strong disorder*, *Ann. Henri Poincaré*, **8** (2007), 1-28.
9. **J. Bellissard**, J. Geronimo, A. Volberg, P. Yuditskii, *If they are limit periodic ?*, *Complex Analysis and Dynamical Systems*, pp. 43-53, *Contemp. Math.*, **382**, Amer. Math. Soc., Providence, RI, 2005.
10. **J. Bellissard**, *Random Matrix Theory and the Anderson Model*, *J. Stat. Phys.*, **116** (1-4): 739-754, (2004), (special issue at the occasion of Elliott Lieb's 70th birthday).
11. **J. Bellissard**, J. Magnen, V. Rivasseau, *Supersymmetric Analysis of a Simplified Two Dimensional Anderson Model at Small Disorder*, in *Inhomogeneous Random Systems*, (Cergy Pointoise, 2002), *Markov Processes and Related Fields*, **9**, (2003), 261-278.
12. **J. Bellissard**, R. Benedetti, J.-M. Gambaudo, *Spaces of Tilings, Finite Telescopic Approximations and Gap-labelling*, *Comm. Math. Phys.*, **261**, (2006), 1-41.
13. **J. Bellissard**, I. Guarneri, H. Schulz-Baldes, *Phase-Averaged Transport for Quasi-Periodic Hamiltonians*, *Commun. Math. Phys.*, **227**, (2002) 3, 515-539.
14. **J. Bellissard**, J. Kellendonk, A. Legrand, *Gap-labelling for three-dimensional aperiodic solids*, *C. R. Acad. Sci. (Paris)*, **t.332**, Série I, p. 521-525, (2001).
15. D. Spehner, **J. Bellissard**, *A Kinetic Model for Quantum Jumps*, *J. Stat. Phys.*, **104**, 525-572, (2001).
16. **J. Bellissard**, *Anomalous Transport: results, conjectures and Applications to Quasicrystals*, *Materials Science and Engineering*, **A 294-296**, 450-457, (2000).
17. H. Schulz-Baldes, **J. Bellissard**, *Subdiffusive quantum transport for 3D-Hamiltonians with absolutely continuous spectra*, *J. Stat. Phys.*, **99**, 587-594 (2000).
18. J. Vidal, R. Mosseri, **J. Bellissard**, *Spectrum and diffusion for a class of tight-binding models on hypercubes*, *J. Phys.*, **A 32**, 2361-67, (1999).
19. **J. Bellissard**, E. Contensou, A. Legrand, *K-théorie des quasi-cristaux, image par la trace: le cas du réseau octogonal*, *C. R. Acad. Sci. (Paris)*, **t.327**, Série I, p. 197-200, (1998).
20. **J. Bellissard**, A. Barelli, F. Claro, *Magnetic field induced directional localization in a 2D rectangular lattice*, *Phys. Rev. Letters*, **83**, 5082-5085, (1999).
21. **J. Bellissard**, H. Schulz-Baldes, *A Kinetic Theory for Quantum Transport in Aperiodic Media*, *J. Stat. Phys.*, **91**, 991-1026, (1998).

22. C. Camacho, A. Barelli, F. Claro, **J. Bellissard**, *Exact Random Walk Distribution using Noncommutative Geometry*, *J. Phys. A Math. Gen.*, **30**, L707-L709, (1997).
23. J.-Y. Fortin, M. Gusmão, T. Ziman, **J. Bellissard**, *de Haas-van Alphen oscillations and magnetic breakdown: semiclassical calculation of multi-band orbits*, *Phys. Rev.*, **B57**, (3), 1484-1497 (1998).
24. **J. Bellissard**, H. Schulz-Baldes, *Anomalous transport: a mathematical framework*, *Rev. Math. Phys.*, **10**, 1-46 (1998).
25. A. Barelli, **J. Bellissard**, P. Jacquod, D. L. Shepelyansky, *Two interacting Hofstadter butterflies*, *Phys. Rev.*, **B55**, 9524-9533, (1997).
26. A. Barelli, **J. Bellissard**, P. Jacquod, D. L. Shepelyansky, *Double butterfly spectrum for two interacting particles in the Harper model*, *Phys. Rev. Lett.*, **77**, 4752-4755, (1996).
27. J. X. Zhong, R. Mosseri, **J. Bellissard**, *Green's function analysis of energy spectra scaling properties*, *J. Phys: Condens. Matter*, **7**, 3507-3514, (1995).
28. **J. Bellissard**, A. van Elst, H. Schulz-Baldes, *The Non Commutative Geometry of the Quantum Hall Effect*, *J. Math. Phys.*, **35**, 5373-5471, (1994).
29. **J. Bellissard**, *Lipshitz Continuity of Gaps Boundaries for Hofstadter-like Spectra*, *Comm. Math. Phys.*, **160**, 599-614, (1994).
30. D. Poilblanc, T. Ziman, F. Mila, G. Montambaux, **J. Bellissard**, *Poisson versus GOE statistics in integrable and non-integrable quantum Hamiltonians*, *Europhys. Lett.*, **22**, 537-542, (1993).
31. A. Barelli, **J. Bellissard**, *Semiclassical Methods in Solid State Physics: two examples*, *J. de Physique I (France)*, **3**, 471-500, (1993).
32. G. Montambaux, D. Poilblanc, C. Sire, **J. Bellissard**, *Quantum Chaos in Strongly Correlated Fermions*, *Phys. Rev. Letters.*, **70**, 497, (1993).
33. **J. Bellissard**, *Le Papillon de Hofstadter, d'après B. Helffer et J. Sjöstrand*, Séminaire Bourbaki, 44^e année, 1991-92, # 745, (novembre 1991). In *Astérisque*, **206**, 7-40, (1992).
34. **J. Bellissard**, A. Bovier, J.-M. Ghez, *Gap labelling Theorems for One Dimensional Discrete Schrödinger Operators*, *Rev. of Math. Phys.*, **4**, 1-37, (1992).
35. **J. Bellissard**, S. Vaienti, *Rigorous diffusion properties for the sawtooth map*, *Commun. Math. Phys.*, **144**, 521-536, (1992).
36. **J. Bellissard**, B. Iochum & D. Testard, *Continuity properties of electronic spectrum of 1D quasicrystals*, *Commun. Math. Phys.*, **141**, 353-380, (1991).

37. **J. Bellissard**, C. Kreft, R. Seiler, *Analysis of the Spectrum of a Particle on a Triangular Lattice with two Magnetic Fluxes by Algebraic and Numerical Methods*, *J. of Phys. A*, **24**, 2329-2353, (1991).
38. **J. Bellissard**, C. Miniatura, C. Sire, J. Baudon, *Geometrical Phase Factor for Non Hermitian Hamiltonians*, *Europhys. Letters*, **13**, 199-203, (1990).
39. **J. Bellissard**, A. Bovier, J.-M. Ghez, *Spectral Properties of a tight binding Hamiltonian with Period Doubling Potential*, *Comm. Math. Phys.*, **135**, 379-399, (1991).
40. A. Barelli, **J. Bellissard**, R. Rammal, *Spectrum of 2D Bloch Electrons in a Periodic Magnetic Field: Algebraic Approach*, *J. de Phys. France*, **51**, 2167-2185, (1990).
41. R. Rammal, **J. Bellissard**, *Ground State of the Fermi Gas on 2D Lattices with a Magnetic Field*, *J. de Phys. France*, **51**, 2157-2166, (1990).
42. R. Rammal, **J. Bellissard**, *An Algebraic Semi-Classical Approach to Bloch Electrons in a Magnetic Field*, *J. de Phys. (France)*, **51**, (1990), 1803-1830.
43. R. Rammal, **J. Bellissard**, *Ground State of a Fermi Gas on 2D Lattices with a Magnetic Field : New exact results*, *Europhys. Lett.*, **13**, 205-210, (1990).
44. C. Sire, **J. Bellissard**, *Renormalization group for the octagonal quasiperiodic tiling*, *Europhys. Lett.*, **11**, 439-443, (1990).
45. **J. Bellissard**, S. Nakamura, *Low energy bands do not contribute to quantum Hall effect*, *Comm. Math. Phys.*, **131**, 283-305, (1990).
46. **J. Bellissard**, M. Vittot, *Heisenberg's Picture and Non Commutative Geometry of the Semiclassical Limit*, *Ann. Inst. H. Poincaré*, **52**, 175-235, (1990).
47. **J. Bellissard**, B. Iochum, E. Scoppola, D. Testard, *Spectral Properties of One-Dimensional Quasicrystals*, *Comm. Math. Phys.*, **125**, 527-543, (1989).
48. G. Giraud, J.-P. Clerc, J.-M. Laugier, R. Faure, C.-D. Essoh, **J. Bellissard**, *Some problems on current noise in resistor networks*, *Physica A*, **157**, 204-209, (1989).
49. C.D. Essoh, **J. Bellissard**, *Resistance and fluctuations of a fractal network of random resistors : a non linear law of large numbers*, *J. Physics A*, **22**, 4537-4548, (1989).
50. J.M. Ghez, W. Wang, R. Rammal, B. Pannetier, **J. Bellissard**, *Band Spectrum for an Electron on a Sierpinsky Gasket in a Magnetic Field*, *Solid State Comm.*, **64**, 1291-1294, (1987).
51. **J. Bellissard**, *Stability and Chaotic Behavior of Quantum Rotators*, in *Stochastic Processes in Classical and Quantum Systems*, Lecture Notes in Physics, **262**, 24-38, (1986).

52. **J. Bellissard**, *K-Theory of C^* -algebras in Solid State Physics*, in *Statistical Mechanics and Field Theory, Mathematical Aspects*, T.C. Dorlas, M.N. Hugenholtz & M. Winnink, Lecture Notes in Physics, **257**, 99-156, (1986).
53. **J. Bellissard**, D. Grempel, F. Martinelli, E. Scoppola, *Localization of Electrons with Spin-Orbit or Magnetic Interactions in 2D Disordered Crystals*, *Phys. Rev. B*, **33**, 641-644, (1986).
54. **J. Bellissard**, M. Samuelidès, R. Fleckinger, L. Touzillier, *The Rise of Chaotic Behavior in Quantum Systems and Spectral Transition*, *Europhys. Lett.*, **1**, 203, (1986).
55. **J. Bellissard**, *Stability and Instability in Quantum Mechanics*, in *Schrödinger Operators*, Lecture Notes in Mathematics, **1159**, 204-229, (1985).
56. **J. Bellissard**, R. Lima, E. Scoppola, *Localization in n-dimensional Incommensurate Structures*, *Comm. Math. Phys.*, **88**, 465, (1983).
57. **J. Bellissard**, P. Moussa, D. Bessis, *Chaotic States of Almost Periodic Schrödinger Operators*, *Phys. Rev. Lett.*, **49**, 701-704, (1982).
58. **J. Bellissard**, B. Simon, *Cantor Spectrum for the Almost Mathieu Equation*, *J. Funct. Anal.*, **48**, 408-419, (1982).
59. **J. Bellissard**, R. Lima, D. Testard, *A Metal Insulator Transition for The Almost Mathieu Equation*, *Comm. Math. Phys.*, **88**, 207, (1983).
60. **J. Bellissard**, E. Scoppola, *The Density of States for Almost Periodic Schrödinger Operators and the Frequency Module: a Counter Example*, *Comm. Math. Phys.*, **85**, 301-308, (1982).
61. **J. Bellissard**, A. Formoso, R. Lima, D. Testard, *A Quasi Periodic Interaction with a Metal Insulator Transition*, *Phys. Rev. B*, **26**, 3024, (1982).
62. **J. Bellissard**, R. Høegh-Krohn, *Compactness and the Maximal Gibbs State for Random Gibbs Fields on a Lattice*, *Comm. Math. Phys.*, **84**, 297-327, (1981).
63. **J. Bellissard**, B. Iochum, *L'Algèbre de Jordan d'un Cône Autopolaire Homogène*, *C. R. A. S.*, **A288**, no 4, 229-232, (1979).
64. **J. Bellissard**, *A Remark about Duality for Non Abelian Lattice Gauge Fields*, *J. Math. Phys.*, **20**, 1490-1493, (1979).
65. **J. Bellissard**, B. Iochum, *Spectral Theory for Homogeneous Symmetric Self Dual Cones*, *Math. Scand.*, **45**, 118-127, (1979).

66. **J. Bellissard**, J. Fröhlich, B. Gidas, *Soliton Mass and Surface Tension in the $(\phi^4)_2$ Quantum Field Theory*, *Comm. Math. Phys.*, **60**, 37-72, (1978).
67. **J. Bellissard**, J. Fröhlich, B. Gidas, *Soliton Mass and Surface Tension in the $(\phi^4)_2$ Quantum Field Theory*, *Phys. Rev. Lett.*, **38**, 619-622, (1977).
68. **J. Bellissard**, B. Iochum, *Homogeneous Self Dual Cones Versus Jordan Algebras*, *Ann. Inst. Fourier*, **28**, 1 (1978).
69. **J. Bellissard**, B. Iochum, R. Lima, *Homogeneous and Facially Homogeneous Self Dual Cones*, *Lin. Alg. Appl.*, **19**, 1-16, (1978).
70. **J. Bellissard**, B. Iochum, R. Lima, *Cônes autopolaires dans un espace de Hilbert*, *C.R.A.S.*, **282A**, 1363, (1976).
71. **J. Bellissard**, *Quantized Fields in External Fields II- The Existence Theorems*, *Comm. Math. Phys.*, **46**, 53-74,
72. **J. Bellissard**, *Quantized Fields in Interaction with External Fields I*, *Comm. Math. Phys.*, **41**, 235, (1975).
73. **J. Bellissard**, R. Holtz. *On Coherent Spin States*, *J. Math. Phys.*, **15**, 1275, (1974).
74. **J. Bellissard**, R. Seiler, *On the Fierz-Pauli Equations for Particles with Spin 3/2*, *Lettere al Nuovo Cimento*, **5** (3), 221, (1972).

Refereed Conference Proceedings

1. D. Spehner, **J. Bellissard**, *The Quantum Jumps approach for infinitely many states*, published in *Proceedings of the International Conference on Quantum Optics of Santiago*, (August 2000), M. Orszag and J.C. Retamal Eds., Lectures Notes in Physics, Springer-Verlag, (2001).
2. **J. Bellissard**, H. Schulz-Baldes, *Anomalous transport in Quasicrystals*, in *Proceedings of the 5th International Conference on Quasicrystals*, Editors C. Janot, R. Mosseri, World Scientific, Singapore, (1995).
3. **J. Bellissard**, *Non Commutative Geometry and Quantum Hall Effect*, Published in the *Proceedings of the International Conference of Mathematic (Zürich 94)*, Birkhäuser (1995).
4. **J. Bellissard**, *The Gap Labelling Theorem: the case of automatic sequences*, in *Quantum and non-commutative analysis* (Kyoto, 1992), pp. 179-181, Math. Phys. Stud., 16, Kluwer Acad. Publ., Dordrecht, (1993).

5. A. Barelli, **J. Bellissard**, *Dynamical localization: a Mathematical Framework*, in *Quantum Chaos, Quantum Measurements*, P. Cvitanovic, I.C. Percival & A. Wirzba Eds., Kluwer Publ. (1992), pp.105-129.
6. **J. Bellissard**, *Spectral Properties of Schrödinger's Operator with a Thue-Morse Potential*, in *Number Theory and Physics*, pp.140-150, Les Houches Mars 89, Springer Proc. in Physics, vol.47, J.M. Luck, P. Moussa & M. Waldschmidt Eds., (1989).
7. F. de Pasquale, S. Ciuchi, D. Feinberg, **J. Bellissard**, *Anomalous lattice fluctuations and polaron localization*, in *High Tc super conductivity*, Int. Workshop Srinagar, India 2-4 May 1988, World Sc. Pub.(1988).
8. **J. Bellissard**, *Almost Periodicity in Solid State Physics and C*-Algebras*, in *The Harald Bohr Centenary Conference*, C. Berg & B. Fuglede Eds., the Royal Danish Acad. of Sci. and Lett., Copenhagen (1989).
9. **J. Bellissard**, *Ordinary Quantum Hall Effect and Non Commutative Differential Geometry*, in *Localization in Disordered Systems*, W. Weller & P. Ziesche Eds, Teubner, Leipzig (1988).
10. **J. Bellissard**, *Quantum Systems Periodically Perturbed in Time*, in *Fundamental Aspects of Quantum Theory*, pp. 163-170, V. Gorini & A. Frigerio Eds., Plenum Press, New-York, London, (1986).
11. **J. Bellissard**, *Small Divisors in Quantum Mechanics*, in *Chaotic Behavior in Quantum Systems*, G. Casati Ed., Plenum Press, New York, (1985).
12. **J. Bellissard**, *Schrödinger's operators with an almost periodic potential : an overview*, in *Lecture Notes in Phys.*, **153**, Springer Verlag, Berlin Heidelberg, New-York, (1982).
13. **J. Bellissard**, B. Iochum, *Homogeneous Self Dual Cones*, in *Operator Algebras and Applications*, Coll. AMS, Vol.2, 297, Providence, Rhode Island, (1982).
14. **J. Bellissard**, D. Testard, *Quasi Periodic Hamiltonians : a Mathematical Approach*, in *Operator Algebras and Applications*, Coll. AMS, Vol.2, 579, Providence, Rhode Island, (1982).
15. **J. Bellissard**, G.F. de Angelis, *Gaussian Limit of Compact Spin Systems*, in *Random Fields*, Coll. Math. Soc. Janos Bolyai 27, 95-108, (1979).
16. B. Iochum, **J. Bellissard**, *Homogeneous Self Dual Cones and Jordan Algebras*, in *Quantum Fields, Algebras and Processes*, L. Streit Ed., Springer, Wien New-York, (1980).

Other Publications

1. **J. Bellissard**, R. Rebolledo, D. Spehner, W. von Waldenfels,
The Quantum Flow of Electronic transport I: The finite volume case, mp_arc 02-212,
(2002) http://www.ma.utexas.edu/mp_arc/index.html .
2. M.Vittot, **J. Bellissard**, *Invariant Tori for an Infinite Lattice of Coupled Rotators*,
Preprint Marseille Juillet 1985; Published in M.Vittot's thesis (1986).

Even though it has been never published, this paper has been cited in: S. Kuskin, *Nearly Integable
Infinite-Dimensional Hamiltonian Systems*, Lecture Notes in Math., **1556**, Springer, (1991).
3. **J. Bellissard**, *Le chaos quantique Existe-t-il ?*, in *le Courrier du CNRS*, Septembre 1985.
4. **J. Bellissard**, *Lecture on Lattice Gauge Theory*, Course given at the Autumn school of
Theoretical Physics, (Lisbonne October 1980), Preprint CPT, (Marseille), 1981.
5. **J. Bellissard**, D. Testard, *Almost Periodic Hamiltonians : an Algebraic Approach*,
Preprint CPT (Marseille), 1981.

This paper has never been published because of a mistake in one statement, but it has been cited by
many authors due to the use of Connes non commutative integration theory and spectral duality.
6. P. Picco, **J. Bellissard**, *Lattice Quantum Fields : Uniqueness and Markov Property*,
Preprint Marseille Dec. 1978. Published in P. Picco's *thèse de 3ème Cycle* (Master
Thesis).
7. **J. Bellissard**, *A l'assaut du point critique: 1920-1976*, Conférence SFP (French Physical
Society), Les Embiez, 28 Septembre 1978.
8. **J. Bellissard**, *Champs quantifiés dans un Champ Extérieur*, Thèse d'État, Université de
Provence, Marseille, June 28th, 1974 (Ph D. Thesis).
9. **J. Bellissard**, *Irreducible Covariant Fields*, Preprint Marseille 1974, published in 8.
above, (1976).

Conferences, Invited Talks, Visits

Conferences prior to 1991 or seminars prior to 1994 are not presented here.

Symposium Presentations (2006-2012)

1. *Theory of Aperiodic Solids: from 1980 to present*, The 2012 WPI-AIMR Annual Workshop, Cutting-edge Functional Materials for Green Innovation, Tohoku University, Sendai, Japan, Feb 20-23, 2012
2. *Dynamical Systems on Spectral Metric Spaces*, West Coast Operator Algebra Symposium, Pachuca, U. Autonomia de Hidalgo, Mexico, September 7th, 2010.
3. *The topology of tiling spaces*, East Coast Operator Algebra Symposium, Wellesley College, Wellesley, MA, Sept. 29-30, 2007
4. *Bloch Electrons in a Uniform Magnetic Field, a Review*, conference “Spectral theory: Riemannian, semi-classical and combinatorial aspects”, at the occasion of the 60th birthday of Y. Colin de Verdière, University of Grenoble, France, May 29-June 2, 2006.

Invited Lectures in Workshops (2006-2012)

1. *Modeling Liquid Metals & Bulk Metallic Glasses*, Workshop on Mathematics and Glass Physics, Joint Institute for Neutron Science, Oak Ridge, January 18th, 2013
2. *Atomic Motion in Aperiodic Solids*, WPI-AIMR Workshop “Structure and Dynamics of Glass-Bridging mathematics and material science”, June 27th, 2012, Tohoku University, Sendai, Japan
3. *Atomic Motion and Transverse Geometry of Tiling Spaces*, WPI-AIMR Mini Workshop, “Mathematical approach to emerging topics in material science”, February 18, 2012, Tohoku University, Sendai, Japan
4. *Dissipative Dynamics for Electrons in Semiconductors*, Workshop, “Correlations and Interactions for Random Quantum Systems”, Mathematisches Forschungsinstitut Oberwolfach, October 24, 2011.
5. *Riemannian Geometry on Compact Metric Spaces*, at “Wave and Quantum Fields”, Technion, Physics, Haifa, Israel, June 26-30, 2011.
6. *Transverse Geometry for Tiling Spaces*, Mini-course, delivered at SISSA, Trieste, Italy within the workshop “Trails in a Non Commutative Land”, May 18-20, 2011.

7. (i) J. Bellissard: *Riemannian Geometry of Compact Metric Spaces*
 (ii) G. De Nittis: *Wannier Transform for Quasicrystals*,
 “Challenge in Aperiodic Media” and workshop “ANR SubTile”, Institut Camille Jordan,
 Lyon, Feb. 28-Mars 4, 2011.
8. *1D-quantum systems (1983-1990): a review*, mini-workshop “Dynamics of Trace Maps
 and Applications to Spectral Theory”, Mathematisches Forschungsinstitute Oberwolfach,
 January 16-20, 2011.
9. *Wannier transform for aperiodic solids: preliminary results*, Spectral and Dynamical
 Properties of Quantum Hamiltonians, Random Schrödinger Operators, Centre Interfac-
 ultaire Bernoulli, Lausanne EPFL May 31 June 4, 2010
10. *On Topological Aspects of Aperiodic Solids*, lectures at the workshops “Topological Meth-
 ods for Aperiodic Tilings”, BIRS, Banff, Alberta, Canada, October 12-17, 2008.
11. *Riemannian Geometry of Metric Cantor Sets and their Brownian Motion*, Workshop
 Aspects of Aperiodic Order, July 3-5, 2008, Bielefeld, Germany.
12. *Groupoids in Low Energy Physics*, three Lectures at the Workshop “Groupoids and
 Stacks” (Spring 2007), Centre Émile Borel, Institut Henri Poincaré, Paris, 11-26 Mars
 2007.
13. *Topics on the Mathematical Theory of Quantum Transport*, Workshop “Complex Quan-
 tum and Classical Systems and Effective Equations”, Erwing Schrödinger Institute, July
 8-15, 2006

Invited Talks in Conferences (2006-2013)

1. *Computational Noncommutative Geometry, the work of Emil Prodan*, “Trails in Quantum
 Mechanics and Surrounding”, INFN, Frascati National Lab, January 29-February 2, 2013.
2. *Wannier Transform for Aperiodic Solids*, Conference “Modern Trends in PDE’s, Ge-
 ometric Analysis and Mathematical Physics”, University of Cergy-Pontoise September
 5-6, 2011.
3. *Mathematical Aspects of Electronic Transport in Aperiodic Solids*, International Congress
 on Industrial and Applied Mathematics (ICIAM 2011), July 21, 2011 in Vancouver,
 Canada.
4. *Riemannian Geometry on Metric Cantor Sets*, Quantum Dynamics, a Conference in honor
 of Pierre Duclos, CIRM, Marseille-Luminy, France, November 26th, 2010,
5. *Wannier transform for aperiodic tilings*, Workshop “The Mathematics of Aperiodic Or-
 der”, KIAS, Seoul, September 27-October 1st, 2010.

6. *A mathematical model for Mott's variable range hopping*, in "30th Conference on Quantum Probability and Related Topics", Pontificia Universidad Catolica de Chile, Santiago, Chile, November 27th, 2009.
7. *The Topology of Tiling Spaces*, Conference "MECCANICA", in honor of Sandro Graffi for his 65th birthday, Aula Absidale Santa Lucia, Bologna Italy, August 27-30, 2008.
8. *The Topology of Tiling Spaces*, 5th annual East Coast Operator Algebra Symposium, Sept. 29-30 2007, Wellesley College, MA.
9. *The thermodynamical structure of groundstates in solids*, at "Statistical Mechanics and Quantum Field Theory", Satellite Conference of IAMP 2006, July 31-August 4, 2006, Institute of Physics, University of São Paulo, Brasil.
10. *Topics in Quantum Transport Theory*, XXIst Max Born Symposium, Wroclaw, Poland, June 26-28, 2006.
11. *Quantum Dissipative Systems and Kubo's Formula*, IMA06 Workshop "Transport Properties of Random Schrodinger Operators", Lexington, KY, March 17-19, 2006.
12. *Random Matrices and Physics*, workshop "Mathematical aspects of quantum adiabatic approximation", Perimeter Institute in Waterloo, Ontario, Canada, February 9-11, 2006.

Public Lectures (2006-2013)

1. *Quantum Computing: a challenge for engineers*, Undergraduate Recruitment Event, Georgia Institute of Technology, March 11th, 2006.

Seminars (2006-2013) :

1. *Modeling Liquid Metals & Bulk Metallic Glasses*, Yeshiva University, College of Women, Physics, New-York City, December 4th, 2012
2. (a) Colloquium Talk, *Transverse Geometry of Tiling Spaces*, Mathematics University of Connecticut, November 29th, 2012,
 (b) Seminar *Cantorization and Reconnection Cohomology*, Mathematics University of Connecticut, November 30th, 2012.
3. *Hull and Tiling Space in Aperiodic Solids*, Joint Institute for Neutron Science, Oak Ridge, October 4th, 2012.
4. *Atomic Motion in Aperiodic Solids*, Polygone Scientifique, Maison des Magistères, Grenoble, Theoretical Physics Colloquium, June 1st, 2012.

5. *The Transverse Geometry of Tiling Spaces*, CRM-University of Ottawa Distinguished Lecture Series, Department of Mathematics, University of Ottawa, Ontario, Canada, April 13 2012.
6. *Atomic Motion and Transverse Geometry of Tiling Spaces*, LPTMS, Physique, Orsay, France, March 13, 2012.
7. *Laplaceans on compact metric spaces*, Talk at the Institut Henri Poincaré, Paris, France, March 12, 2012.
8. *Mathematical Aspects of the Theory of the Integer Quantum Hall Effect*, Department of Physics, Tohoku University, Sendai June 26th, 2012.
9. *Atomic Motion and Transverse Geometry of Tiling Spaces*, Department of Mathematics, Gakushuin University, Tokyo, Japan, Feb. 23, 2012.
10. *Atomic Motion and Transverse Geometry of Tiling Spaces*, Colloquium talk, Department of Mathematics, University of Victoria, BC, Canada October 6, 2011.
11. *Embeddability of Ultrametric Cantor Sets*, University of Bielefeld, December 6th, 2011.
12. *Laplacians on Cantor Sets*, University of Bielefeld, July 26, 2011.
13. *Riemannian Geometry on Metric Cantor Sets*, (i) Math Department, Tsinghua University, Beijing, June 1st, 2011 and (ii) Math Department, Fudan University, Shanghai, June 15, 2011.
14. *Wannier transform for aperiodic solids*, Georgia Tech, School of Math., Mathematical Physics Seminar, March 16th, 2011.
15. *The Topology of Tiling Spaces*, Math Colloquium, U. South Carolina, October 14th, 2010.
16. *Noncommutative aspects of compact metric spaces*, Math Colloquium, U. Bremen, Germany, July 6th, 2010.
17. *The Mathematics of Aperiodic Solids, a Review*, Colloquium in Mathematical Physics, U. Bielefeld, Germany, July 2nd, 2010.
18. *Riemannian Geometry of Metric Cantor Sets*, Math., UC Irvine, May 13th, 2010.
19. *Riemannian Geometry of Compact Metric Spaces*, Geometry/Physics seminar, Northwestern University, Mathematics, April 29th, 2010.
20. *Metrics on tiling spaces and Riemannian Geometry of Metric Spaces*, Math Colloquium, U. Kansas, Lawrence KS, February 5th, 2010.

21. *Topological aspects in the theory of aperiodic solids and tiling spaces*, Research Horizon graduate seminar, School of Mathematics, Georgia Tech, November 11th, 2009
22. *Topological aspects in the theory of aperiodic solids and tiling spaces*, Colloquium talk “Science at the Edge seminar at MSU”, Michigan State University, East Lansing MI, October 16th, 2009.
23. *The Gap Labeling Theorem: history and present*, Colloquium Talk, Department of Mathematical Sciences, Montana State University, Bozeman MT, April 29, 2009.
24. *Riemannian Geometry of Metric Cantor Sets and their Brownian Motion*, Department of Mathematics, University of Lyon, June 20, 2008.
25. *The Noncommutative Geometry of Aperiodic Solids*, Colloquium Talk, SISSA, May 26, 2008.
26. *An Introduction to Quantum Computing*, Colloquium Talk, School of Mathematics, Georgia Institute of Technology, Atlanta, GA, March 6, 2008.
27. *An Introduction to Quantum Computing*, Society of Physics Students, Georgia Institute of Technology, Atlanta, GA, October 24, 2007.
28. *The topology of tiling spaces*, Department of Mathematics, University of Göttingen, July 9th, 2007.
29. *La topologie des espaces de pavages*, Ecole Normale Supérieure, Paris, France, Jul. 4th, 2007.
30. *The topology of tiling spaces*, Department of Mathematics, University of Bielefeld, Germany, June 28, 2007
31. *The topology of tiling spaces*, Department of Mathematics, University of Erlangen, June 26, 2007.
32. *The groundstate of solids: rigorous results*, Technische Universität, Math., Berlin, Germany, June 29, 2006.
33. Two lectures delivered at the Center for Theoretical Physics, Marseille, Luminy, France, June 5-16, 2006
 - (a) *On Quantum Transport Theory Solids*
 - (b) *The groundstate of solids: rigorous results*
34. *Mathematical Problems in Quantum Transport Theory*, Department of Mathematics, University of Erlangen, Germany, Mai 18th, 2006.

35. *The groundstate of solids: rigorous results*, Centre de Physique Théorique, Marseille, Luminy, May 7th, 2006.
36. *Quantum Dissipative transport in Aperiodic Solids and Kubo's formula*, Department of Mathematics, UC Berkeley, Jan. 29-Feb.04, 2006.

Specialized Courses (2006–2011) :

This a list of specialized courses delivered in various places in the world with an audience of students and experts.

1. *On the Noncommutative Geometry of Aperiodic Solids*, INDAM Meeting “Noncommutative Geometry, Index Theory and Applications”, Cortona, Italy, June 11-15 2012.
Four lectures: (June 11,12,13,14, 2012)
 - (a) Gap Labeling Theorems
 - (b) The Hull
 - (c) Cohomology
 - (d) Transverse Geometry
2. *Aperiodic Solids and their Noncommutative Geometry*, The University of Chicago, Graduate School of Mathematics
Four lectures: (Apr 17, 19, 24, 26, 2012)
 - (a) Aperiodic Solids: a review
 - (b) The Hull
 - (c) The C*-algebra and its K-Theory
 - (d) The Gap Labeling Theorem
3. *Metrics on tiling spaces and Riemannian Geometry of Metric Spaces*, four lectures delivered at the Winter School *Operators and Fractals*, Siegmunsburg, (University of Jena, Germany), March 8-12, 2010
4. *Introduction to Quantum Computing*, 12 hours course delivered at the International Graduate College ”Stochastics and Real World Models”, Bielefeld Germany, June 2009.
5. *Riemanian Geometry of Metric Cantor Sets*, four lectures delivered at the Instituto de Matemáticas, UNAM, Cuernavaca, Mexico, March 15-28, 2009.
6. *The Noncommutative Geometry of Aperiodic Solids*”, three lectures delivered at SISSA, Trieste, Italy, May 27-28-29, 2008
 - (a) Lecture 1: *Construction of the Noncommutative Brillouin zone*

- (b) Lecture 2: *Coherent and Dissipative Transport*
 - (c) Lecture 3: *The Riemannian Geometry of the Atomic Surfaces*
7. *Physical Aspects of Aperiodic Order*, two courses in the Workshop, “Aperiodic Order”, CIRM, Luminy, Marseille, Sept. 10-14, 2007
 8. *Transport Theory in Dissipative Quantum Systems*, four lectures delivered at the Pan American Advanced Studies Institute “Analysis and Probability in Quantum Physics”, Santiago, Chile July 22-August 3, 2006
 - (a) *Phenomenology, Macroscopic Aspects and Kubo’s formula*,
 - (b) *Coherent transport*,
 - (c) *Dissipative Transport: the Relaxation Time Approximation*,
 - (d) *N-body aspects and Infinite Volume Limit*.

Short & Long Term Visits (2006-2013) :

1. University of Bielefeld, Faculty of Mathematik, Collaborative Research Centre 701, *Spectral Structures and Topological Methods in Mathematics*, May 10, 2011-July 31, 2012.
2. *Almost periodic order: spectral, dynamical, and stochastic approaches*, September 25-30 2011, Banff International Research Station, Banff, Alberta, Canada
3. May 10th 2011-July 31st 2012, SFB *Spectral Structures and Topological Methods in Mathematics*, CRC701, Faculty of Mathematics, University of Bielefeld, Germany,
4. May 11th, July 23rd, 2010, SFB *Spectral Structures and Topological Methods in Mathematics*, CRC701, Faculty of Mathematics, University of Bielefeld, Germany,
5. May 14th, July 22nd, 2009, SFB *Spectral Structures and Topological Methods in Mathematics*, CRC701, Faculty of Mathematics, University of Bielefeld, Germany,
6. May 7th, July 18th, 2008, SFB *Spectral Structures and Topological Methods in Mathematics*, CRC701, Faculty of Mathematics, University of Bielefeld, Germany,
7. March 9-26, 2007, workshop “Groupoids and Stacks”, Centre Émile Borel, Institut Henri Poincaré, Paris, France.
8. July 8-15 2006, workshop “Complex quantum and classical systems and effective equations”, Erwin Schrödinger Institute, Vienna, Austria.
9. June 3-16, 2006, Centre de Physique Théorique Marseille, France.

10. May 17th, July 18, 2006, SFB *Spectral Structures and Topological Methods in Mathematics*, Faculty of Mathematics, University of Bielefeld, Germany,
11. March 20-31, 2006, (2 weeks) Pontificia Universidad Catolica de Santiago, Chile, Mathematics Department, CONYCIT.