

# Rafael Tiedra de Aldecoa

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Citizenship Spanish and Swiss

Languages French (native), English and Spanish (fluent)

## Education

June 2005 **PhD in Physics**, *University of Geneva*.

Title : Opérateurs conjugués et invariance de translation en théorie de la diffusion

Jury members : A. Alekseev, W. O. Amrein, J.-P. Eckmann, V. Georgescu

October 2001 **BSc in Mathematics**, *University of Geneva*.

July 2001 **MSc in Physics**, *University of Geneva*.

August 1996 **English Diploma**, *LSC International School, Vancouver*.

June 1995 **High School Diploma**, *Collège de Saussure, Geneva*.

## Academic Positions

01/2013 - present **Associate Professor**.

Mathematics Department, Pontifical Catholic University of Chile

02/2009 - 12/2012 **Assistant Professor**.

Mathematics Department, Pontifical Catholic University of Chile

09/2007 - 01/2009 **Advanced Fellowship (from the Swiss NSF)**.

Mathematics Department, University of Cergy-Pontoise

02/2007 - 08/2007 **Postdoctoral Fellowship (from the University of Cergy-Pontoise)**.

Mathematics Department, University of Cergy-Pontoise

10/2005 - 01/2007 **Postdoctoral Fellowship (from the Swiss NSF)**.

Mathematics Department, University of Paris-Sud

10/2001 - 09/2005 **Research Assistant**.

Theoretical Physics Department, University of Geneva

10/1999 - 07/2001 **Teaching Assistant**.

Physics Department, University of Geneva

## Teaching Experience

2019 Geometry

2019 Abstract Algebra II

2018 Calculus I

2011 - 2012, 2014 - 2016, 2018 Abstract Algebra I

2017 Complex Analysis I

2017 Real Analysis I

2009, 2012 - 2014, 2017, 2019 Calculus II

2016 Calculus III

*Facultad de Matemáticas, Pontificia Universidad Católica de Chile*

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1/11

- 2016 Introduction to Geometry
- 2015 Topology
- 2014 Qualifying Exams Tutorial
- 2013 Functional Analysis I
- 2013 Complex Analysis II
- 2010 - 2012 Precalculus
- 2010 Differential Geometry II
- 2009, 2011 Ordinary Differential Equations
- 2005 Group Theory and Quantum Mechanics Tutorial
- 2004 Selected Topics in Theoretical Physics Tutorial
- 2003 General Relativity Tutorial
- 2002 Mathematics for Physicists Tutorial
- 2001 Physics Laboratory
- 1999 - 2000 General Physics Tutorial

## Supervision

- 11/2016 - 03/2020 Diomba Sambou, Postdoc, Pontifical Catholic University of Chile
- 11/2016 - 09/2017 Ruben Soza, BSc Thesis, Pontifical Catholic University of Chile
- 09/2012 - 12/2013 Paulina Cecchi, MSc Thesis, University of Chile
- 09/2010 - 12/2010 Karen Corrales, MSc Tutorial, University of Chile

## Publications

### Articles

- [1] D. Krejčířík and R. Tiedra de Aldecoa, *The nature of the essential spectrum in curved quantum waveguides*, J. Phys. A : Math. Gen. **37** (2004), no. 20, 5449-5466
- [2] S. Richard and R. Tiedra de Aldecoa, *On perturbations of Dirac operators with variable magnetic field of constant direction*, J. Math. Phys. **45** (2004), no. 11, 4164-4173
- [3] R. Tiedra de Aldecoa, *Time delay and short-range scattering in quantum waveguides*, Ann. Henri Poincaré **7** (2006), no. 1, 105-124
- [4] M. Damak, M. Măntoiu and R. Tiedra de Aldecoa, *Toeplitz algebras and spectral results for the one-dimensional Heisenberg model*, J. Math. Phys. **47** (2006), no. 8, 082107
- [5] M. Măntoiu, S. Richard and R. Tiedra de Aldecoa, *Spectral analysis for adjacency operators on graphs*, Ann. Henri Poincaré **7** (2007), no. 7, 1401-1423
- [6] C. Gérard and R. Tiedra de Aldecoa, *Generalized definition of time delay in scattering theory*, J. Math. Phys. **48** (2007), no. 12, 122101
- [7] S. Richard and R. Tiedra de Aldecoa, *On the spectrum of magnetic Dirac operators with Coulomb-type perturbations*, J. Funct. Anal. **250** (2007), no. 2, 625-641
- [8] M. Măntoiu and R. Tiedra de Aldecoa, *Spectral analysis for convolution operators on locally compact groups*, J. Funct. Anal. **253** (2007), no. 2, 675-691
- [9] R. Tiedra de Aldecoa, *Anisotropic Lavine's formula and symmetrised time delay in scattering theory*, Math. Phys. Anal. Geom. **11** (2008), no. 2, 155-173

- [10] M. Măntoiu, S. Richard and R. Tiedra de Aldecoa, *The method of the weakly conjugate operator : Extensions and applications to operators on graphs and groups*, Petroleum - Gas University of Ploiesti Bulletin, Mathematics - informatics - physics Series **LXI** (2009), no. 1, 31-42
- [11] R. Tiedra de Aldecoa, *Time delay for dispersive systems in quantum scattering theory*, Rev. Math. Phys. **21** (2009), no. 5, 675-708
- [12] S. Richard and R. Tiedra de Aldecoa, *New formulae for the wave operators for a rank one interaction*, Integral Equations and Operator Theory **66** (2010), no. 21, 283-292
- [13] R. Tiedra de Aldecoa, *Asymptotics near  $\pm m$  of the spectral shift function for Dirac operators with non-constant magnetic fields*, Comm. Partial Differential Equations **36** (2011), no. 1, 10-41
- [14] S. Richard and R. Tiedra de Aldecoa, *Time delay is a common feature of quantum scattering theory*, J. Math. Anal. Appl. **387** (2012), no. 2, 618-630
- [15] S. Richard and R. Tiedra de Aldecoa, *A new formula relating localisation operators to time operators*, Spectral Analysis of Quantum Hamiltonians, 301-338, Operator Theory : Advances and Applications **224**, Birkhäuser/Springer Basel AG, Basel, 2012
- [16] A. Gournay and R. Tiedra de Aldecoa, *A formula relating sojourn times to the time of arrival in Hamiltonian dynamics*, J. Phys. A : Math. Gen. **45** (2012), 215204
- [17] A. Gournay and R. Tiedra de Aldecoa, *Time delay and Calabi invariant in classical scattering theory*, Rev. Math. Phys. **24** (2012), no. 9, 1250023
- [18] R. Tiedra de Aldecoa, *Spectral analysis of time changes of horocycle flows*, J. Mod. Dyn. **6** (2012), no. 2, 275-285
- [19] S. Richard and R. Tiedra de Aldecoa, *Spectral analysis and time-dependent scattering theory on manifolds with asymptotically cylindrical ends*, Rev. Math. Phys. **25** (2013), no. 2, 1350003
- [20] C. Fernández, S. Richard and R. Tiedra de Aldecoa, *Commutator methods for unitary operators*, J. Spectr. Theory **3** (2013), no. 3, 271-292
- [21] S. Richard and R. Tiedra de Aldecoa, *A few results on Mourre theory in a two-Hilbert spaces setting*, Anal. Math. Phys. **3** (2013), no. 2, 183-200
- [22] S. Richard and R. Tiedra de Aldecoa, *New expressions for the wave operators of Schrödinger operators in  $\mathbb{R}^3$* , Lett. Math. Phys. **103** (2013), 1207-1221
- [23] S. Richard and R. Tiedra de Aldecoa, *Explicit formulas for the Schrödinger wave operators in  $\mathbb{R}^2$* , C. R. Acad. Sci. Paris, Ser. I **351** (2013), no. 5, 209-214
- [24] R. Tiedra de Aldecoa, *Commutator methods for the spectral analysis of uniquely ergodic dynamical systems*, Ergodic Theory Dynam. Systems **35** (2015), no. 3, 944-967
- [25] R. Tiedra de Aldecoa, *The absolute continuous spectrum of skew products of compact Lie groups*, Israel J. Math. **208** (2015), no. 1, 323-350
- [26] S. Richard and R. Tiedra de Aldecoa, *Resolvent expansions and continuity of the scattering matrix at embedded thresholds : the case of quantum waveguides*, Bull. Soc. Math. France **144** (2016), no. 2, 251-277
- [27] P. A. Cecchi and R. Tiedra de Aldecoa, *Furstenberg transformations on Cartesian products of infinite-dimensional tori*, Potential Anal. **44** (2016), no. 1, 43-51
- [28] R. Tiedra de Aldecoa, *Commutator criteria for strong mixing*, Ergodic Theory Dynam. Systems **37** (2017), no. 1, 308-323

- [29] S. Richard and R. Tiedra de Aldecoa, *Spectral and scattering properties at thresholds for the Laplacian in a half-space with a periodic boundary condition*, J. Math. Anal. Appl. **446** (2017), no. 2, 1695-1722
- [30] R. Tiedra de Aldecoa, *Spectral properties of horocycle flows for compact surfaces of constant negative curvature*, Proyecciones **36** (2017), no. 1, 95-116
- [31] S. Richard and R. Tiedra de Aldecoa, *Commutator criteria for strong mixing II. More general and simpler*, preprint on arxiv
- [32] R. Tiedra de Aldecoa, *Degree, mixing, and absolutely continuous spectrum of co-cycles with values in compact Lie groups*, Far East J. Dyn. Syst. **30** (2018), no. 4, 135-209
- [33] D. Krejčířík and R. Tiedra de Aldecoa, *Ruled strips with asymptotically diverging twisting*, Ann. Henri Poincaré **19** (2018), no. 7, 2069-2086
- [34] S. Richard, A. Suzuki and R. Tiedra de Aldecoa, *Quantum walks with an anisotropic coin I : spectral theory*, Lett. Math. Phys. **108** (2018), no. 2, 331-357
- [35] S. Richard, A. Suzuki and R. Tiedra de Aldecoa, *Quantum walks with an anisotropic coin II : scattering theory*, Lett. Math. Phys. **109** (2019), no. 1, 61-88
- [36] D. Sambou and R. Tiedra de Aldecoa, *Quantum time delay for unitary operators : general theory*, to appear in Rev. Math. Phys.
- [37] G. De Nittis, M. Moscolari, S. Richard and R. Tiedra de Aldecoa, *Spectral and scattering theory of one-dimensional coupled photonic crystals*, in preparation

### Books

- [1] M. Măntoiu, G. Raikov, R. Tiedra de Aldecoa (Editors), *Spectral Theory and Mathematical Physics*, Operator Theory : Advances and Applications **254** (2016), Birkhäuser Basel

### Vulgarization

- [1] R. Tiedra de Aldecoa, *Métodos a conmutadores en teoría espectral y teoría del scattering*, Revista Joven Matemático **2** (2011), 36-42

## Theses

- [1] R. Tiedra de Aldecoa, *Éléments de cosmologie homogène au premier ordre de la théorie des cordes*, MSc Thesis, University of Geneva, 2001
- [2] R. Tiedra de Aldecoa, *Opérateurs conjugués et invariance de translation en théorie de la diffusion*, PhD Thesis, University of Geneva, 2005

## Grants

- 04/2017 - 03/2021 Fondecyt Grant 1170008 (\$180'000, principal investigator)
- 01/2014 - 12/2016 Milenio Grant ICM RC120002 (\$1'200'000, associate investigator)
- 03/2013 - 02/2017 Fondecyt Grant 1130168 (\$141'000, principal investigator)
- 01/2011 - 12/2013 ECOS/CONICYT Grant C10E01 (associate investigator)
- 03/2009 - 02/2013 Fondecyt Grant 1090008 (\$90'000, principal investigator)
- 12/2009 - 12/2012 Milenio Grant ICM P07-027-F (\$1'138'000, young investigator)
- 09/2007 - 01/2009 Swiss NSF Grant for Advanced Researcher (\$78'000)
- 02/2007 - 08/2007 University of Cergy-Pontoise Grant

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10/2005 - 01/2007 Swiss NSF Grant for Young Researcher (\$60'000)  
10/2001 - 10/2003 Fanny Wurth Grant  
10/2001 - 10/2003 Foundation Hans Wilsdorf (Rolex) Grant  
10/2000 - 10/2001 Geneva Special Cantonal Grant  
10/1999 - 10/2000 Geneva Cantonal Grant  
10/1998 - 10/1999 Geneva Cantonal Grant  
10/1997 - 10/1998 Geneva Cantonal Grant

## Invitations

29/12/2018 - 27/01/2019 University of Nagoya, Nagoya, Japan  
22/01/2018 - 17/02/2018 University of Nagoya, Nagoya, Japan  
10/12/2017 - 25/12/2017 Czech Technical University, Prague, Czech Republic  
21/11/2017 - 22/11/2017 University of Concepción, Concepción, Chile  
25/05/2017 - 27/05/2017 University of Talca, Talca, Chile  
02/04/2017 - 08/04/2017 University of Stuttgart, Stuttgart, Germany  
08/01/2017 - 10/02/2017 Nagoya University, Nagoya, Japan  
09/10/2016 - 14/10/2016 CIRM, Luminy, France  
05/06/2016 - 10/06/2016 Nuclear Physics Institute, Prague, Czech Republic  
22/11/2015 - 28/11/2015 Polish Academy of Sciences, Będlewo, Poland  
28/09/2015 - 02/10/2015 CIRM, Luminy, France  
15/06/2015 - 19/06/2015 LMU, Munich, Germany  
28/02/2015 - 11/04/2015 University of Nagoya, Nagoya, Japan  
21/02/2015 - 27/02/2015 Georgia Institute of Technology, Atlanta, USA  
04/01/2015 - 11/01/2015 Nuclear Physics Institute, Prague, Czech Republic  
08/06/2014 - 14/06/2014 CIRM, Luminy, France  
10/05/2014 - 17/05/2014 Nicolaus Copernicus University, Torún, Poland  
30/03/2014 - 06/04/2014 Federal University of Rio de Janeiro, Rio de Janeiro, Brazil  
13/01/2014 - 16/01/2014 University of Bordeaux, Bordeaux, France  
05/01/2014 - 08/01/2014 University of Grenoble, Grenoble, France  
14/01/2013 - 29/01/2013 Penn State University, State College, USA  
01/12/2012 - 15/12/2012 Mittag-Leffler Institute, Stockholm, Sweden  
21/11/2012 - 28/11/2012 University of Lyon 1, Lyon, France  
02/09/2012 - 10/09/2012 University of Lyon 1, Lyon, France  
06/02/2012 - 12/02/2012 Georgia Institute of Technology, Atlanta, USA  
22/07/2011 - 28/07/2011 University of Neuchâtel, Neuchâtel, Switzerland  
13/02/2011 - 20/02/2011 University of Neuchâtel, Neuchâtel, Switzerland  
12/07/2010 - 16/07/2010 Max Planck Institute for Mathematics, Bonn, Germany  
21/02/2010 - 26/02/2010 Centre Interfacultaire Bernoulli, EPFL, Switzerland  
12/11/2007 - 13/11/2007 University of Geneva, Geneva, Switzerland  
07/03/2007 - 14/03/2007 University of Sfax, Sfax, Tunisia  
25/09/2006 - 28/09/2006 University of Geneva, Geneva, Switzerland

10/07/2006 - 13/07/2006 TU, München, Germany  
30/05/2005 - 03/06/2005 University of Lyon 1, Lyon, France  
03/08/2003 - 10/08/2003 Instituto Superior Técnico, Lisboa, Portugal

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## Talks at scientific events

January 25-26, 2019 Workshop on Analysis in Kagurazaka 2019,  
Tokyo University of Science, Tokyo, Japan  
January 24, 2019 Special Mathematics Seminar, Nagoya University, Nagoya, Japan  
October 1, 2018 Vulgarization Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
September 28, 2018 Vulgarization Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
April 25-27, 2018 XXXI Jornada de Matemática de la Zona Sur, Valdivia, Chile  
April 4, 2018 Mathematical Physics Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
February 2, 2018 Operator Theory Seminar, Kyoto University, Kyoto, Japan  
December 12, 2017 MAFIA Seminar, Czech Technical University, Prague, Czech Republic  
November 22, 2017 Colloquium, University of Concepción, Concepción, Chile  
July 24-28, 2017 Mathematical Congress of the Americas 2017, Montreal, Canada  
May 25, 2017 Colloquium, University of Talca, Talca, Chile  
May 2-5, 2017 Top Math- $\Phi$  Workshop,  
Pontifical Catholic University of Chile, Santiago, Chile  
April 3-7, 2017 Spectral Days 2017, University of Stuttgart, Stuttgart, Germany  
March 23, 2017 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
February 9, 2017 Mathematical Physics Seminar,  
Shinshu University, Matsumoto, Japan  
January 27, 2017 Operator Theory Seminar, Kyoto University, Kyoto, Japan  
January 23, 2017 Differential Equations Seminar, Nagoya University, Nagoya, Japan  
October 10-14, 2016 Spectral Theory of Dynamical Systems and Related Topics,  
CIRM, Luminy, France  
June 23, 2016 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
June 16, 2016 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile  
June 6-9, 2016 Analytic and algebraic methods in physics, Prague, Czech Republic  
January 21, 2016 Mathematical Physics Seminar,  
University of São Paulo, São Paulo, Brazil  
November 22-28, 2015 Ergodic Theory of Dynamical Systems, Będlewo, Poland  
November 5, 2015 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile

- October 23, 2015 Vulgarization Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- September 29, 2015 Frontiers of linear dynamics, CIRM, Luminy, France
- September 21, 2015 Vulgarization Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- August 27, 2015 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- June 18, 2015 Seminar of PDE and Spectral Theory, LMU, Munich, Germany
- June 16, 2015 Seminar of PDE and Spectral Theory, LMU, Munich, Germany
- March 5-7, 2015 Himeji Conference on Partial Differential Equations,  
Himeji, Japan
- March 3-5, 2015 7th Nagoya Workshop on Differential Equations,  
University of Nagoya, Nagoya, Japan
- February 23, 2015 CDSNS Colloquium, Georgia Tech, Atlanta, USA
- January 6, 2015 Doppler Institute Seminar Doppler Institute,  
Prague, Czech Republic
- December 4, 2014 LXXXIII SOMACHI conference, Termas de Quinamávida, Chile
- November 6, 2014 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- June 10, 2014 Spectral Days 2014 conference, CIRM, Luminy, France
- May 12, 2014 Ergodic Theory and Dynamical Systems conference,  
Nicolaus Copernicus University, Torún, Poland
- April 10, 2014 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- April 4, 2014 EDAI Seminar of Dynamical Systems,  
Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
- April 2, 2014 Seminar of Mathematics,  
Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
- March 4, 2014 Seminar of Analysis and Differential Geometry,  
Emory University, Atlanta, USA
- January 14, 2014 PDE and Mathematical Physics Seminar,  
University of Bordeaux, Bordeaux, France
- January 6, 2014 Mathematical Physics Seminar,  
University of Grenoble, Grenoble, France
- December 20, 2013 Seminar Algebra & Geometrie,  
University of Basel, Basel, Switzerland
- December 17, 2013 Groups and Geometry Seminar,  
University of Geneva, Geneva, Switzerland
- November 9, 2013 LXXXII SOMACHI conference, Olmue, Chile
- September 26, 2013 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- September 20, 2013 Dynamical Systems Seminar,  
Universidad de la República, Montevideo, Uruguay

- August 29, 2013 Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- July 1-5, 2013 6th Pacific RIM Conference on Mathematics,  
Session on Spectral and Scattering Theory, Sapporo, Japan
- January 23, 2013 Center for Dynamics and Geometry Seminar,  
Penn State University, State College, USA
- January 14-29, 2013 Working Seminar : Dynamics and its Working Tools,  
Mini-Course, Penn State University, State College, USA
- December 6, 2012 Mittag-Leffler Seminar,  
Mittag-Leffler Institute, Stockholm, Sweden
- November 23, 2012 Seminar of Mathematical Physics,  
University of Lyon 1, Lyon, France
- November 21, 2012 Workshop on Spectral Theory and Mathematical Physics,  
University of Orsay, Paris, France
- November 19, 2012 Workshop on Mathematical Physics,  
University of Cergy-Pontoise, Paris, France
- October 29, 2012 Seminar on Dynamical Systems,  
Pontifical Catholic University of Chile, Santiago, Chile
- October 18, 2012 Seminar on PDE and Spectral Theory,  
Pontifical Catholic University of Chile, Santiago, Chile
- October 4, 2012 Seminar on PDE and Spectral Theory,  
Pontifical Catholic University of Chile, Santiago, Chile
- August 6-11, 2012 International Congress on Mathematical Physics ICMP2012,  
Session on Dynamical systems, Aalborg, Denmark
- February 6, 2012 Math Physics Seminar, Georgia Tech, Atlanta, USA
- November 16, 2011 Mathematics Seminar, Universidad de Chile, Santiago, Chile
- September 28, 2011 Mathematics Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- September 1, 2011 Seminar on PDE and Spectral Theory,  
Pontifical Catholic University of Chile, Santiago, Chile
- July 25, 2011 Seminar of Mathematics,  
University of Neuchâtel, Neuchâtel, Switzerland
- February 16, 2011 Seminar of Mathematics,  
University of Neuchâtel, Neuchâtel, Switzerland
- February 7, 2011 Seminar of Mathematical Physics,  
University of Grenoble, Grenoble, France
- December 15-18, 2010 First Joint Meeting of the AMS and the SOMACHI,  
Session on Spectral Theory and Mathematical Physics,  
Pucón, Chile
- February 22-26, 2010 Conference Spectral Problems for Quantum Hamiltonians,  
EPFL, Lausanne, Switzerland
- February 11, 2010 London Analysis and Probability Seminar,  
Imperial College, London, United Kingdom

- February 1, 2010 Seminar of Mathematical Physics,  
University of Grenoble, Grenoble, France
- November 23-28, 2009 30th Conference on Quantum Probability and Related Topics,  
Pontifical Catholic University of Chile, Santiago, Chile
- May 12, 2009 Seminar of Stochastic Analysis and Mathematical Physics,  
Pontifical Catholic University of Chile, Santiago, Chile
- May 7, 2009 Spectral and Scattering Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- October 8, 2008 Seminar of Mathematics, Universidad de Chile, Santiago, Chile
- September 26, 2008 Spectral and Scattering Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- July 7-11, 2008 Spectral and Scattering Theory for Quantum Magnetic Systems,  
CIRM, France
- June 26, 2008 Workshop in Noncommutative Geometry and Scattering Theory,  
University of Lyon 1, Lyon, France
- March 27, 2008 Workshop in Noncommutative Geometry and Scattering Theory,  
University of Lyon 1, Lyon, France
- March 14, 2008 Seminar of Mathematical Physics,  
University of Lyon 1, Lyon, France
- February 5, 2008 PhD Students' Seminar,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- February 1, 2008 Meeting Spectral Problems in Quantum Mechanics,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- January 29, 2008 PhD Students' Seminar,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- January 22, 2008 PhD Students' Seminar,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- December 4, 2007 Seminar of Mathematical Physics,  
University of Lille 1, Lille, France
- November 26, 2007 Seminar of Mathematical Physics,  
University of Grenoble, Grenoble, France
- November 12, 2007 Seminar of Mathematical Physics,  
University of Geneva, Geneva, Switzerland
- October 25, 2007 Workshop in Noncommutative Geometry and Scattering Theory,  
University of Lyon 1, Lyon, France
- October 17, 2007 Seminar of Geometry, PDE, and Mathematical Physics,  
University of Cergy-Pontoise, Cergy, France
- September 10-15, 2007 Conference QMath10, Moeciu, Romania
- April 30, 2007 Seminar of Mathematical Physics,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- March 19-22, 2007 Conference CSMT2007, Sousse, Tunisia
- February 28, 2007 Seminar of Mathematical Physics, IPNL, Lyon, France
- January 22, 2007 Seminar of Mathematical Physics, LPT, Orsay, France

- January 16, 2007 Seminar of Mathematical Physics and Geometry,  
University of Paris 7, Paris, France
- November 20, 2006 Seminar of Spectral Problems and Mathematical Physics,  
IHP, Paris, France
- October 3, 2006 Seminar of Mathematical Physics,  
University of Bordeaux 1, Bordeaux, France
- September 25, 2006 Seminar of Mathematical Physics,  
University of Geneva, Geneva, Switzerland
- July 11, 2006 Seminar of Mathematical Physics, TU, München, Germany
- April 14, 2006 Seminar of Analysis, University of Nantes, Nantes, France
- March 30, 2006 Seminar of Spectral Analysis and Mathematical Physics,  
University of Orsay, Paris, France
- January 25, 2006 Seminar of Geometry, PDE and Mathematical Physics,  
University of Cergy-Pontoise, Cergy-Pontoise, France
- December 1, 2005 Seminar of Spectral Analysis and Mathematical Physics,  
University of Orsay, Paris, France
- October 27, 2005 Seminar of Spectral Analysis and Mathematical Physics,  
University of Orsay, Paris, France
- June 27, 2005 Seminar of Theoretical Physics,  
University of Geneva, Geneva, Switzerland
- June 1, 2005 Seminar of Analysis and Topology,  
University of Lyon 1, Lyon, France
- September 12-16, 2004 Conference QMath9, Giens, France
- August 7, 2003 Seminar of Mathematical Physics,  
Instituto Superior Tecnico, Lisbon, Portugal

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## Academic Activities

- December 17-21, 2018 Results in Contemporary Mathematical Physics Conference,  
Santiago, Chile, member of the scientific committee
- December 2017 - present Member of the Teaching Assistants Commission,  
Pontifical Catholic University of Chile, Santiago, Chile
- December 2017 - present Member of the Equivalences Commission,  
Pontifical Catholic University of Chile, Santiago, Chile
- November 2017 - present Coordinator of the Mathematical Physics Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- August 3-7, 2015 Summer School on Current Topics in Mathematical Physics,  
Viña del Mar, Chile, member of the organising committee
- July 27-August 2, 2015 International Congress of Mathematical Physics,  
Santiago, Chile, member of the local organising committee
- November 24-28, 2014 Spectral Theory and Mathematical Physics Conference,  
Santiago, Chile, member of the organising committee
- July 2014 - June 2017 Hiring committee of the Mathematics Department,  
Pontifical Catholic University of Chile, Santiago, Chile

- August 2013 - October 2017 Co-organiser of the Spectral Theory Seminar,  
Pontifical Catholic University of Chile, Santiago, Chile
- December 15-18, 2010 First Joint Meeting of the AMS and the SOMACHI, Pucón,  
Chile, co-organiser of the Session on Spectral Theory and  
Mathematical Physics
- September 24, 2010 Co-founder of the International Spectral Network (ISN)
- September 20-24, 2010 Co-organiser of the conference Spectral Days, Santiago, Chile
- 08/2010 - 03/2017 Academic Coordinator of the Mathematics Library,  
Pontifical Catholic University of Chile, Santiago, Chile
- 09/2007 - 06/2008 Co-organiser of the workshop on Noncommutative Geometry  
and Scattering Theory, Lyon, France
- 10/2001 - 09/2005 Co-organiser of the seminar of Mathematical Physics,  
Geneva, Switzerland
- September 15-19, 2003 Co-organiser of the Colloque Charles François Sturm,  
Geneva, Switzerland
- 10/2000 - 07/2001 Co-organiser of the workshop on String Theory,  
Geneva, Switzerland