CURRICULUM VITAE

ALBERTO S. CATTANEO

Contents

Biographical Data

Name:	Alberto Sergio Cattaneo
Place of birth:	Milan, Italy
Date of birth:	June 26, 1967
Citizenship:	Italian
Marital status:	Married; one child
Languages:	Italian, English, German, French
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Date: September 5, 2019.

Education

- High-school degree (*maturità scientifica*)
  - Liceo scientifico "A. Volta," Milan, July 1986.
  - Score: 60/60 (top score)
- Degree in physics (*laurea*)
  - Università degli Studi di Milano, March 22, 1991.
  - Score: 110/110 cum laude.
  - Thesis: *Studio delle proprietà di localizzazione su catene quasiperiodiche mediante gruppo di rinormalizzazione nello spazio reale.* (A Study of the Localization Properties on Quasiperiodic Chains via Renormalization Group in Real Space.)
  - Advisor: Prof. Luciano Girardello
- Ph. D. in theoretical physics
  - Università degli Studi di Milano, November 16, 1995.
  - Final evaluation: Excellent
  - Thesis: *Teorie topologiche di tipo BF ed invarianti dei nodi.* (Topological BF Theories and Knot Invariants.)
  - Advisor: Prof. Maurizio Martellini

Employment Record

Positions held.

- Harvard University: Post-doc at the Physics Department (Prof. Arthur Jaffe), September 1, 1995—August 31, 1997.
- Milan University: Post-doc at the Mathematics Department (Prof. Paolo Cotta-Ramusino), September 1, 1997—August 31, 1998.
- Zurich University: *Assistenzprofessor* (Assistant Professor) at the Mathematics Department, September 1, 1998—May 31, 2003.
- Zurich University: Deputy Director of the Institute of Mathematics, August 2013–July 2015.
- Zurich University: Director of the Institute of Mathematics, August 2015–July 2017.

Long term scientific stays.

- Harvard University: Guest at the Mathematics Department (Prof. Raoul Bott), September 10—December 9, 2001.
- IHES: March 1–May 31, 2005.

Current position.

- Zurich University: *Professor ordinarius* (Full Professor) at the Mathematics Department since June 1, 2003.

Honors.

- ICM invited speaker (Section Mathematical Physics), Madrid 2006.
- Fellow of the American Mathematical Society

Teaching Experience

Undergraduate and graduate courses. For classes and lecture notes, see http://www.math.uzh.ch/cattaneo/teach.html

Invited lectures. In the winter semester 1999-2000, I have given a short course on *The BRST and BV Formalisms* at the Institute for Theoretical Physics of ETH Zurich (organized by J. Fröhlich).

In the Fall Term 2001, I have given a short course on *The BV Formalism, Topological Theories and Deformation Quantization* at the Harvard Mathematics Department (organized by D. Kazhdan).

In March 2002, I have given a minicourse on *The Path Integral Formulation of Kontsevich Product* at the Mathematics Department of Paris 7 (organized by B. Keller [Paris 7] and C. Torossian [ENS]).

In June 2002, I have given a minicourse on *Poisson Sigma Models and Deformation Quantization*, at the Institute for Theoretical Physics of ETH Zurich (organized by J. Fuchs).

At the International Euroschool "Poisson Geometry, Deformation Quantisation and Group Representation," Brussels, June 13–17, 2003, I have given a minicourse on *Formality and Star Products*.

At the third international workshop "Geometry and Physics" held in Perugia, July 25–29, 2005, I have given a minicourse on *Superformality and Quantization*.

At the "Winter School in Mathematical Physics" held in Les Diablerets, March 26–31, 2006, I have given a minicourse on *Deformation Quantization and Topological Quantum Field Theory*.

At Arhus University on December 14-15, 2009, I have given a minicourse on *The AKSZ formalism.*

At Strassburg University on March 22-23, 2010, I have given a minicourse on *Graded Manifolds and Applications.*

At the school "Topics in Riemannian and Poisson Geometry" held at UQÀM, Montreal, on April 9, 2010, I have given a minicourse on *Poisson Geometry and Symplectic Groupoids.*

At the "Poisson 2010" school held at IMPA, Rio de Janeiro, July 20–23, 2010, I have given a minicourse on *Introduction to Supergeometry.*

At Bologna University on April 3-7, 2011, I have given a minicourse on *Supergeometria*.

At Florence University on October 13-14-17-20, 2011, and at Athens University on December 15-16, 2011, I have given a minicourse on *Classical and quantum Lagrangian field theories with boundary.*

At the Winter School in Mathematical Physics held in Les Houches in the week January 29–February 3, 2012, I have given a minicourse *On semiclassical topological field theories* (joined with P. Mnev).

At Northwestern University in March 2012, I have given a minicourse on *Classical and quantum Lagrangian field theories with boundaries* (joined with P. Mnev).

At UC Berkeley in April 2013, I have given a *Chern–Simons Research Lecture* on *Classical and quantum Lagrangian field theories with boundaries.*

At the Galileo Galilei Institute for Theoretical Physics (GGI) in Florence on October 16-17, 2013, during the program "Geometry of strings and fields," I have given the lectures *BV around the corner* (available on YouTube).

At the "Research School on Configuration and Moduli Spaces in Math and Physics" in Rabat on June 4-5, 2014, I have given lectures on *Configuration Spaces.*

At the conference "Noncommutative Geometry and Mathematical Physics in Scalea on June 16–19, 2014, I have given a minicourse on *Classical and quantum Lagrangian field theories with boundaries*.

At the meeting "Noncommutative Geometry and Higher Structures" in Rome on August 31–September 4, 2015, I have given a minicourse on *Perturbative quantum gauge theories on manifolds with boundary*.

At Florence University on October 5, 6 and 9, 2015, I have given a minicourse on *Perturbative quantum gauge theories on manifolds with boundary*.

At the 2018 QSPACE Training School held at the Centro de Ciencias de Benasque Pedro Pascual, Spain, on September 25, 26, 27, 2018, I have given a minicourse on *The BV-BFV formalism*.

Academic Activity

Professional service.

- Member of the international Scientific Advisory Board of the Max Planck Institute for Mathematics in Bonn from March 2017 to December 31, 2022.
- Member of the ESF College of Expert Reviewers from from 20 October 2016 to 19 October 2019.
- Member of the jury of the "André Lichnerowicz Prize in Poisson Geometry" since its first edition (2008) until 2016.
- Member of the international Peer Review Committee (PRC) that evaluated the research of the Mathematics Departments of Dutch Universities in 2015.
- Member of the Mathematical Physics committee for the Italian National Scientific Qualification for the years 2013-2014: http://abilitazione.miur.it/public/index.php?lang=eng
- Referee for several science foundations, including the US National Science Foundation (NSF), the European Science Foundation (ESF), the Istituto Nazionale d'Alta Matematica (INDAM), the Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR), the Netherlands Organisation for Scientific Research (NWO), the Deutsche Forschungsgemeinschaft (DFG), the Belgian Fonds Wetenschappelijk Onderzoek (FWO), and the Swiss National Science Foundation (SNF).
- Referee for a number of top mathematics and physics journals as well as for scientific book publishers (AMS, Cambridge University Press).
- Member of the evaluation panel of the Dutch clusters of mathematics on behalf of the council for the physical sciences of the Netherlands Organisation for Scientific Research (NWO) in the Fall 2010.
- Member of the ESF Pool of Reviewers from May 2008 to April 2011.
- Member of the Academic Career Development Committee of the Faculty of Science at U. Zurich, 2007–2013.
- Member of several hiring and habilitation committees.
- Member of the Editorial Board of
  - Tbilisi Mathematical Journal (TMJ): http://ncst.org.ge/Journals/TMJ/
  - Int. J. Geom. Methods Mod. Phys. (until 2015): http://www.worldscinet.com/ijgmmp/ijgmmp.shtml

Supervision. Some theses supervised in my group can be found here:
http://user.math.uzh.ch/cattaneo/theses.html

Graduate students.

(1) Advisor of Carlo A. Rossi for his Ph. D. thesis in mathematics, successfully defended on June 18, 2002. Title: *Invariants of Higher-Dimensional Knots and Topological Quantum Field Theories.*
(2) Advisor of Luca Stefanini for his Ph. D. thesis in mathematics, successfully defended on March 17, 2008. Title: *On Morphic Actions and Integrability of $\mathcal{LA}$-Groupoids.*
(3) Advisor of Michael Bächtold for his Ph. D. thesis in mathematics (double doctorate with Prof. A. Vinogradov, U. Salerno) successfully defended on March 9, 2009. Title: *Fold-Type Solution Singularities and Characteristic Varieties of Non-Linear PDEs.*
(4) Advisor of Florian Schätz for his Ph. D. thesis in mathematics, successfully defended on April 27, 2009. Title: *Coisotropic Submanifolds and the BFV Complex.*
(5) Advisor of Ivan Contreras for his Ph. D. thesis in mathematics, successfully defended on June 7, 2013. Title: *Relational Symplectic Groupoids and Poisson Sigma Models with Boundary.*
(6) Advisor (together with Ashkan Nikeghbali) of Nicolas Martinez Robles for his Ph. D. thesis in mathematics, successfully defended on May 29, 2015. Title: *Twisted second moments and explicit formulae of the Riemann zeta-function.*
(7) Advisor of Michele Schiavina for his Ph. D. thesis in mathematics, successfully defended on December 11, 2015. Title: *BV-BFV Approach to General Relativity.*
(8) Advisor of Vincent Braunack-Mayer for his Ph. D. thesis in mathematics, successfully defended on April 18, 2018. Title: *Rational Parametrised Stable Homotopy Theory.*
(9) Advisor of Konstantin Wernli for his Ph. D. thesis in mathematics, successfully defended on December 17, 2018. Title: *Perturbative Quantization of Split Chern–Simons Theory on Handlebodies and Lens Spaces by the BV-BFV Formalism.*

(10) Co-advisor of Bill Pedrini for his Ph. D. thesis in physics at ETHZ, successfully defended on June 3, 2002. Advisor: Jürg Fröhlich. Title: *Two Applications of Topological Field Theory in Mathematics and Physics.*
(11) Co-advisor of Benoît Dherin for his Ph. D. thesis in Mathematics at ETHZ, successfully defended on September 20, 2004. Advisor: Giovanni Felder. Title: *Star Products and Symplectic Groupoids.*
(12) Co-advisor of Markus Engeli for his Ph. D. thesis in Mathematics at ETHZ, successfully defended on April 14, 2008. Advisor: Giovanni Felder. Title: *Traces in Deformation Quantization and a Riemann–Roch–Hirzebruch Formula for Differential Operators.*
(13) Co-advisor of Thomas Willwacher for his Ph. D. thesis in Mathematics at ETHZ, successfully defended on November 25, 2009. Advisor: Giovanni Felder. Title: *Cyclic Formality.*

Postdocs.

(1) Marco Zambon (Ph. D. at UC Berkeley, 2004, with Alan Weinstein), September 2004–December 2007.
(2) Iakovos Androulidakis (Ph. D. at the University of Sheffield, UK, 2001, with Kirill Mackenzie), September 2005–October 2006.
(3) Pavel Mnëv (Ph. D. at PDMI RAS, Russia, 2008, with Ludwig Faddeev), January–October 2008; October 2009–September 2010; January 2011.
(4) Camilo Arias Abad (Ph. D. at Utrecht University, 2008, with Ieke Moerdijk and Marius Crainic), January 2009—August 2013.
(5) Paolo Rossi (Ph. D. at SISSA, 2008, with Boris Dubrovin), December 2011—September 2012.
(6) Yaël Frégier (Ph. D. at U. of Méditerranée, 2005, with Valentin Ovsienko), January 2012–December 2014 (Marie Curie fellow).
(7) Samuel Monnier (Ph. D. at U. of Geneva, 2008, with Anton Alekseev), September 2012—September 2015.
(8) Emanuele Latini (Ph. D. at U. of Bologna, 2008, with Fiorenzo Bastianelli), September 2012—June 2015.
(9) Santosh Kandel (Ph. D. at U. Notre Dame, 2014, with Stephan Stolz), August 2016—April 2018.
(10) Alessandro Valentino (Ph. D. at Heriot-Watt University, Edinburgh, 2008, with Richard Szabo), September 2016—January 2019.

Seminars. I am one of the organizers of the Mathematical Physics Seminar in Zurich.

Organization of conferences, schools and scientific programs

Organization of conferences.

(1) "Quantization in algebra and geometry" FIM, Zurich, January 6–9, 2003; with G. Felder (ETHZ): http://www.math.ethz.ch/ felder/Workshop2003/
(2) "Groupoids and Stacks in Physics and Geometry" Mathematisches Forschungsinstitut Oberwolfach, June 29–July 5, 2003; with P. Xu (PSU): http://www.mfo.de/cgi-bin/tagungsdb?type=21&tnr=0327a
(3) "Mathematical Aspects of String Theory" Centro Stefano Franscini on Monte Verità (Ascona, Switzerland), July 18–23, 2004; with A. Alekseev (Geneva), G. Felder (ETHZ) and J. Fröhlich (ETHZ): http://www.math.uzh.ch/string-theory
(4) "Random Matrices and Other Random Objects," FIM, Zurich, May 17–21, 2005; with G. Felder (ETHZ) and T. Kappeler (Zurich): http://www.math.ethz.ch/u/felder/Research/RandomMatrices/
(5) "Higher Structures in Geometry and Physics: Conference in Honor of Murray Gerstenhaber's 80th and Jim Stasheff's 70th Birthdays," IHP, Paris, January 15–19, 2007; with P. Xu (PSU) (over 130 participants): http://www.math.psu.edu/ping/IHP07/
(6) "Poisson 2008 Conference," Bernoulli Center, EPFL, Lausanne, July 7–11, 2008; with A. Alekseev and T. Ratiu (over 200 participants): http://www.math.uzh.ch/poisson2008/

(7) "Higher Structures 2008," Bernoulli Center, EPFL, Lausanne, November 3–7, 2008; with A. Alekseev and P. Xu: http://www.math.uzh.ch/higherstructures2008/
(8) "Higher Structures 2009," Zurich University, November 16–20, 2009; with A. Alekseev, C. Arias Abad and P. Xu: http://www.math.uzh.ch/higherstructures2009
(9) "Geometry of Strings and Fields", September 8–13, 2013; with F. Bonechi, S. Gukov, M. Rocek, D. Seminara and M. Zabzine.
(10) "Noncommutative Geometry and Higher Structures", Rome, August 31–September 4, 2015; with Francesco Bonechi, Alberto Cattaneo, Nicola Ciccoli, Francesco D'Andrea, Chiara Esposito, Domenico Fiorenza, Marco Manetti, Martin Schlichenmaier, Ping Xu.
(11) "Poisson 2016," Geneva–Zurich, June 27–July 8, 2016; with Anton Alekseev, Giovanni Felder, Maria Podkopaeva, Pavol Ševera, Thomas Willwacher.

Organization of schools.

(12) "Poisson 2008 School," Bernoulli Center, EPFL, Lausanne, July 1–4, 2008; with A. Alekseev (over 90 participants): http://cib.epfl.ch/hosted/programs/poisson2008/cms/index87f1.php?id=14
(13) "Winter School in Mathematical Physics," Les Diablerets, January 31–February 5, 2010; with A. Alekseev, D. Calaque, G. Felder, M. Podkopaeva, T. Strobl, A. Szenes: http://www.unige.ch/math/folks/podkopaeva/diablerets2010/index.html
(14) "Winter School in Mathematical Physics," Les Diablerets, January 30–February 4, 2011; with A. Alekseev, D. Calaque, G. Felder, M. Podkopaeva, T. Strobl, A. Szenes: http://www.unige.ch/math/folks/podkopaeva/diablerets2011/
(15) "Winter School in Mathematical Physics," École de Physique des Houches, January 29–February 3, 2012; with A. Alekseev, D. Calaque, G. Felder, M. Podkopaeva, T. Strobl, A. Szenes: http://www.unige.ch/math/folks/podkopaeva/leshouches2012/
(16) "Winter School in Mathematical Physics," Les Diablerets, January 13–18, 2013; with A. Alekseev, D. Calaque, G. Felder, M. Podkopaeva, T. Strobl, A. Szenes: http://www.unige.ch/math/folks/podkopaeva/diablerets2013/
(17) "Winter School in Mathematical Physics," Les Diablerets, January 12–17, 2014; with A. Alekseev, D. Calaque, G. Felder, M. Podkopaeva, T. Strobl, A. Szenes: http://www.unige.ch/math/folks/podkopaeva/diablerets2014/

Organization of scientific programs.

(18) With A. Alekseev and T. Ratiu, I have organized a semester on Poisson Geometry at the Bernoulli Center in 2008 during which the school (12) and the conferences (6) and (7) have taken place: http://cib.epfl.ch/hosted/programs/poisson2008/index.html
(19) With F. Bonechi, S. Gukov, M. Rocek, D. Seminara and M. Zabzine, I have organized the program "Geometry of strings and fields," at the Galileo Galilei Institute for Theoretical Physics (GGI) in Florence from August 26 to October 18, 2013; during this program conference (9) has taken place.

Future activities.

(1) In collaboration with P. Aschieri, R. Donagi, A. Grassi, C. Meusburger, F. Bonechi and R. Szabo, from March 30 to May 8, 2020, I will organize the program "Emergent Geometries from Strings and Quantum Fields" at the Galileo Galilei Institute for Theoretical Physics (GGI) in Florence.
(2) In collaboration with P. Mnev, N. Reshetikhin and K. Wernli, I will organize a conference in Scalea, Italy, from June 22 to 26, 2020.

Research Stays

Invitation to conferences.

(1) "Perturbative Quantum Invariants of 3-Manifolds," *Borel Seminar*, Bern University, Summer Semester 1999.
(2) "Séminaire Groupes Quantiques," Institut Henri Poincaré, Paris, June 17, 1999.
(3) "Deformationsquantisierung singulärer reduzierter Räume," RiP-Workshop, Mathematisches Forschungsinstitut Oberwolfach, August 2–7, 1999.
(4) "Non-Commutative Gauge Theory," Lorentz Center, Leiden, November 22–26, 1999.
(5) "Nichtkommutative Geometrie," Mathematisches Forschungsinstitut Oberwolfach, March 26–April 1, 2000.
(6) "Influence of Physics on Topology," UCSD, August 14–18, 2000.
(7) "Conférence Moshé Flato 2000," Dijon, September 11–14, 2000.
(8) "BRANE NEW WORLD and Noncommutative Geometry," Turin, October 2–7, 2000.
(9) "International Workshop on Noncommutative Geometry and String Theory," Keio University, Yokohama, Japan, March 16–22, 2001.
(10) "Journées Solstice d'été 2001: *Théorie des Groupes*," Institut de Mathématiques de Jussieu, Paris, June 20–22, 2001.
(11) "Journée de Physique pour l'Institut de Mathématique," Institut de Mathématiques de Jussieu, Paris, May 3, 2002.
(12) "Poisson 2002," IST Lisbon, September 2–7, 2002.
(13) "Renormalization," IHES Paris, October 14–18, 2002.
(14) Miniworkshop on "Quantization of Poisson Spaces with Singularities," Mathematisches Forschungsnstitut Oberwolfach, January 19–25, 2003.
(15) International Euroschool and Euroconference "Poisson Geometry, Deformation Quantisation and Group Representation," Brussels, June 13–22, 2003.
(16) "Noncommutative Geometry in Mathematics and Physics," CIRM, Luminy, February 16–20, 2004.
(17) "The Interplay of Representation Theory, Poisson Geometry and Quantization," Rome II, April 28-29, 2004.
(18) "Au delà des algebroïdes de Lie," École Polytechnique, Paris, November 2–4, 2004.
(19) "Geometry and Physics III," Perugia, July 25–29, 2005.
(20) "Riemann–Hilbert Problems, Integrability and Asymptotics," SISSA, Trieste, September 20–24, 2005.
(21) "Deformations and Contractions in Mathematics and Physics," Mathematisches Forschungsinstitut Oberwolfach, January 15–21, 2006.

(22) "Winter School in Mathematical Physics," Les Diablerets, March 27–31, 2006.
(23) "Semaine spéciale DEA: Groupes quantiques et quantification par déformations," IRMA, Strasburg, May 9–12, 2006.
(24) "Poisson 2006," Tokyo, June 5–9, 2006.
(25) "ICM 2006," Madrid, 22–29, 2006.
(26) "Poisson Geometry and Applications," Mathematisches Forschungsinstitut Oberwolfach, April 29–May 5, 2007.
(27) "Poisson Geometry and sigma models," Erwin Schrödinger International Institute for Mathematical Physics, Vienna, August 20–24, 2007.
(28) "Random and integrable models in mathematics and physics," Paleis der Academieën, Brussels, September 11–15.9, 2007.
(29) "London Mathematical Society Northern Region Meeting, 2007," Sheffield, UK, October 24
(30) "Lie algebroids and Lie groupoids in Differential Geometry," Bakewell, UK, October 25–27, 2007.
(31) "Swiss-Russian Seminar on Moduli Spaces and Physics," Zurich University, December 5–7, 2007.
(32) "Current Geometry," Vico Equense, Italy, June 24–26, 2008.
(33) "Topological Field Theories," Northwestern University, May 25–29 , 2009.
(34) "XXVIII Workshop on Geometric Methods in Physics," Białowieża, Poland, June 28–July 4, 2009.
(35) "Noncommutative geometry in representation theory and integrable systems," SISSA, Trieste, Italy, July 20–23, 2009.
(36) "Representation Theory and Quantization," ETH Zurich, January 25–29, 2010.
(37) "Topics in Riemannian and Poisson Geometry," UQÀM, Montreal, Canada, April 8-9, 2010.
(38) "Generalized complex and holomorphic Poisson geometry," BIRS, Banff, Canada, April 11–16, 2010.
(39) "Poisson 2010: School and Conference," IMPA, Rio de Janeiro, Brasil, July 20–30, 2010.
(40) "Higher Structures in mathematics and physics 2010," ESI, Vienna, Austria, October 25–29, 2010.
(41) "Workshop on Noncommutative Field Theory and Gravity," Corfu Summer Institute, Greece, September 7–11, 2011.
(42) "Bi-Hamiltonian Systems and All That," Milan–Bergamo, Italy, September 27–October 1, 2011.
(43) "Higher Structures in mathematics and physics 2011," Göttingen, Germany, November 28–December 2, 2011.
(44) "Winter School in Mathematical Physics," École de Physique des Houches, January 29–February 3, 2012.
(45) "Quantum Geometry," 10th Geometry and Physics Conference, Anogia, Greece, August 6–10, 2012.
(46) "New Perspectives in Topological Field Theories," Center for Mathematical Physics, Hamburg, August 29–31, 2012.
(47) "Workshop on Quantization and Reduction 2013," Erlangen, March 17–20, 2013.

(48) "Higher Structure 2013: Operads and Deformation Theory," Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, April 2–5, 2013.
(49) "Configuration and moduli spaces in Math and Physics," UIR-CRMEF Rabat, Morocco, June 3–6, 2014.
(50) "Noncommutative geometry and mathematical physics," Scalea, Italy, June 16–20, 2014.
(51) "Higher Structures," Geneva, October 27–31, 2014.
(52) AMS-EMS-SPM International Meeting, Session 28: "Higher Dimensional Algebra in Geometry and Quantum Field Theory," Porto, 10–13 June, 2015.
(53) "Noncommutative Geometry and Higher Structures", Rome, August 31–September 4, 2015.
(54) "Relativity and Geometry. In Memory of André Lichnerowicz", Paris, December 14–16, 2015.
(55) "Homotopical methods in quantum field theory," IBS Center for Geometry and Physics, Pohang, Korea, January 11–14, 2016.
(56) "Current Problems in Theoretical Physics," Vietri sul Mare, Italy, March 18–23, 2016.
(57) "Geometry and Quantum Theory (GQT) Colloquium," Woudschoten, Netherlands, June 9-10, 2016.
(58) "Estate Quantistica 2016," Scalea, Italy, June 13–17, 2016.
(59) "New interactions between homotopical algebra and quantum field theory," Oberwolfach, December 18–23, 2016.
(60) "Current Problems in Theoretical Physics," Vietri sul Mare, Italy, April 7–11, 2017.
(61) "Gone Fishing," Notre Dame, May 4–8, 2017.
(62) "Quantum Field Theory on Manifolds with Boundary and the BV Formalism," Perimeter Institute, May 8–12, 2017.
(63) "Field Theories and Higher Structures in Mathematics and Physics," BIRS-CMO, Oaxaca, Mexico, June 4–9, 2017.
(64) "Modern mathematics of Quantum Theory," University of York, September 5–7, 2017.
(65) "100e rencontre entre mathématiciens et physiciens théoriciens : Géométrie, dynamique et physique," University of Strasbourg, September 7–9, 2017.
(66) "A Lie Day in Bologna, 2017," University of Bologna, October 13, 2017.
(67) "Higher Structures II," University of Pennsylvania, Philadelphia, March 5–8, 2018.
(68) "Interfaces between Geometric Analysis and Mathematical Physics," Institute Mittag-Leffler, May 7–11, 2018.
(69) "Representation Theory, Mathematical Physics and Integrable Systems," CIRM, Marseille, June 4–8, 2018.
(70) "Estate Quantistica 2018," Scalea, Italy, June 11–15, 2018.
(71) INdAM workshop on "Poisson Geometry and Higher Structures," Rome, Italy, September 10–14, 2018.
(72) "2018 QSPACE Training School," Centro de Ciencias de Benasque Pedro Pascual, Spain, September 23–30, 2018.
(73) Workshop "Symplectic Geometry and Higher Structures," Soochow University, China, February 24–March 2, 2019.

(74) "Deformation Quantization, Batalin–Vilkovisky Formalism and Index," University of Geneva, March 18–21, 2019.
(75) "Deformation Theory and Homotopy Algebra," Emei campus of Southwest Jiaotong University, May 6–11, 2019.
(76) "New Trends in Geometry and Mathematical Physics," at CSF, Ascona, August 18–23, 2019.

Research

My fields of interest are in mathematical physics, differential geometry and algebraic topology. In particular, my research activity includes deformation quantization, symplectic and Poisson geometry, topological quantum field theories, and the mathematical aspects of perturbative quantization of gauge theories.

Research Grants.

Past grants.

(1) April 1, 1999—March 31, 2001: Swiss National Science Foundation; title of the project: *Integral invariants of knots and manifolds. Differential geometry of loop and path spaces, and topological BF theories.* 10'000 CHF.
(2) Swiss National Science Foundation, title of the project: *Integral invariants of knots and manifolds. Loop and path spaces and topological BF theories. Deformation quantization and Poisson sigma models.*
    (a) April 1, 2001—March 31, 2003; 16'000 CHF;
    (b) April 1, 2003—March 31, 2005; 15'000 CHF;
    (c) April 1, 2005—September 30, 2006; 153'072 CHF;
    (d) October 1, 2006—September 30, 2008; 196'937 CHF;
    (e) October 1, 2008—September 30, 2010; 282'046 CHF;
    (f) October 1, 2010—September 30, 2013; 387'387 CHF;
    (g) October 1, 2013—September 30, 2016; 470'391 CHF;
(3) January 1, 2012—December 31, 2015: Swiss National Science Foundation; title of the project: *Topological Field Theories.* 172'295 CHF.
(4) January 1, 2012—December 31, 2014: FP7 Grant, Marie Curie Fellowship (International Outgoing Fellowship) for Yaël Frégier. Title of the project: *Homotopy quantum symmetries, monoidal categories and formality.* Part 1 (outgoing phase) at MIT by Prof. Pavel Etingof (January 1, 2012—December 31, 2013); part 2 (return phase) at Zurich University (January 1, 2014—December 31, 2014). 225'233 EUR
(5) January 2007: MISGAM network of the European Science Foundation: partial support for the organization of the conference "Higher Structures in Geometry and Physics: Conference in Honor of Murray Gerstenhaber's 80th and Jim Stasheff's 70th Birthdays," IHP, Paris, January 15–19, 2007, with P. Xu: http://www.math.psu.edu/ping/IHP07/
(6) July 2008: MISGAM network of the European Science Foundation: partial support for the organization of the school and conference "Poisson 2008" July 1–11, 2008, with A. Alekseev and T. Ratiu: http://www.math.uzh.ch/poisson2008/
(7) November 2009: MISGAM network of the European Science Foundation: partial support for the organization of the conference "Higher Structures in Geometry and Physics 2009," Zurich, November 16–20, 2009, with P. Xu and A. Alekseev: http://www.math.uzh.ch/conferences/index.php?higherstructures2009

Past networks. I have been a member of the following research networks:

(1) 2005–2009. *ENIGMA: European Network in Geometry, Mathematical Physics and Applications,* a Marie Curie Research Training Network, supported by the European Commission under the Sixth Framework Programme (FP6).
(2) 2005–2009. *MISGAM: Methods of Integrable Systems, Geometry, Applied Mathematics,* a European Science Foundation (ESF) Scientific Programme.
(3) October 1, 2011—September 30, 2014: Swiss National Science Foundation, Prodoc Training Module; title of the project: *Geometry, algebra and mathematical physics.*

(4) July 1, 2014—June 30, 2018: National Centre of Competence in Research (NCCR): The Mathematics of Physics. *SwissMAP*
(5) April 30, 2015—April 29, 2019: COST Action MP1405, *Quantum structure of spacetime (QSPACE)*.

Current grant.

April 1, 2017–March 31, 2020: Swiss National Science Foundation; title of the project: *TQFTs via Cut and Paste Techniques.* 450'000 CHF.

Current networks.

(1) July 1, 2018—June 30, 2022: National Centre of Competence in Research (NCCR): The Mathematics of Physics. *SwissMAP*

Publications

See here http://www.math.uzh.ch/cattaneo/allpub.pdf
or here
http://www.math.uzh.ch/index.php?id=publikationen&L=1%2Fpublications&key1=116