

Dipartimento di Scienze e Innovazione Tecnologica  
Università del Piemonte Orientale  
via Teresa Michel, 11 15121 Alessandria, Italy

## CURRICULUM VITAE

Pietro Antonio Grassi

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**Present Address** Dipartimento di Scienze e Innovazione Tecnologica  
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**Personal Data** Birth Date: October, 7<sup>th</sup>, 1967  
Birth Place: Genova (GE), Italy  
Citizenship: Italian  
Fiscal Number: GRS PTR 67R07 D969G.

## Studies

Oct. 1981 – Jul. 1986	Scientific High School “L.B. Alberti” Valenza (AL) – Scientific Degree, High School 1986.
Oct. 1987 – Jul. 1993	Degree in Physics, Genoa University, Italy – mark 110/110 <i>summa cum laude</i> 21. July 1993
Nov. 1993 – Feb. 1997	“ <i>Dottorato di ricerca</i> ” (Ph.D.) in Physics, Milan University, Italy.

## Ph.D. and Master Thesis

Thesis Advisor: Prof. C. Becchi (University of Genoa).

Thesis Title: *Renormalization of Yang-Mills theory with the background field method.*

Ph. D. Advisor: Prof. L. Girardello (University of Milan).

External Ph. D. Advisors: Prof. C. Becchi and Prof. R. Ferrari (University of Milan).

Ph. D. Thesis: *Renormalization of the Standard Model in the 't Hooft-background gauge with symbolic automatic computations.*

## Ph.D. and post-doc positions

- Oct. 1987 – Jul. 1993, Master Student in Physics at University of Genoa, Italy.
- Nov. 1993 – Feb. 1997, Ph. D. Student in Physics at University of Milan, Italy.
- Sep. 1997 – Aug. 1999, Post-Doctoral fellow at Max-Planck-Institut für Physik, (Werner-Heisenberg-Institut), Munich, Germany.
- Oct. 1999 – Sep. 2001, Post-Doctoral fellow at New York University, Dip. of Physics, Theory Group, New York, NY, USA.
- Oct. 2001 – Nov. 2003, Post-Doctoral fellow at C.N. Yang Institute for Theoretical Physics, State University at Stony Brook, NY, USA.
- Nov. 2003 – Oct. 2005 Adjunct Professor at C.N. Yang Institute for Theoretical Physics State University at Stony Brook, USA.
- Jul. 2004 – Jul. 2005 contract for collaboration with Eastern Piedmont University Alessandria, Italy.
- Sep. 2004 – Sep. 2006 Scientific Associate at Th-Ph Unity CERN, Geneve, Switzerland.

- Jun. 2005 – May 2007 Senior Grant, Centro Studi E. Fermi at DISTA, University of Eastern Piedmont, Alessandria, Italy.
- Jun. 2006 – Jan. 2018 (Permanent Job Position) FIS/02 Researcher (Assistant Professor) at DISIT, Eastern Piedmont University Alessandria, Italy
- Feb. 2013 – Apr. 2013 Scientific Associate at Th-Ph Unity CERN, Geneve, Switzerland.
- Jan. 2014 **ABILITATION for Associate Professor (Professore di Seconda Fascia) and for Full Professor (Professore di Prima Fascia)** on the basis of selection of National Scientific Habilitation. ASN c/o <http://abilitazione.miur.it/>
- Apr. – July 2017 Scientific Associate, Yukawa Institute for Theoretical Physics Kyoto University, JAPAN
- Feb. 2018 FIS/02 Associate Professor (Professore di Seconda Fascia) at DISIT, Eastern Piedmont University Alessandria, Italy

## Visiting Professorships

- Jun. 2001 – Jul. 2001, Short-Term Visitor CERN, Theory Division, Switzerland.
- Jun. 2002 – Jul. 2002, Short-Term Visitor CERN, Theory Division, Switzerland.
- Jul. 2002 – Aug. 2002, Short-Term Visitor, Ecole Normale Supérieure, Paris, France.
- Jul. 2003 – Aug. 2003, Short-Term Visitor CERN, Theory Division, Geneve, Switzerland.
- Oct. 2003 – Dec. 2003, Eastern Piedmont, Alessandria, Italy.
- Mar. 2004 – Apr. 2004, Short Term Visitor CERN, Theory Division, Geneve, Switzerland.
- Apr. 2004 – Mag 2004, Short Term Visitor IHES, Bures-sur-Yvette, France.
- May 2005, Short Term visiting professor at Tel-Aviv university, Israel.
- Jan. 2006, Short Term visiting professor at Tel-Aviv university, Israel.
- Jun. 2006, Short Term visiting Scientist, ESI, Wien, Austria.
- Dec. 2006, Short Term visiting Scientist, Ecole Normale Superieure, Paris, France.
- Aug. 2007, Visiting Scientist, Newton Institute, Cambridge, UK.

- Jan. 2008, Short Term visiting Scientist, Institute for Theoretical Physics, Saclay, Paris, France.
- Jan. – Feb. 2009, Visitor at Kvali Institute for Theoretical Physics at Santa Barbara UC, USA.
- Nov. 2010, Short Term visiting Scientist, Institute for Theoretical Physics, Saclay, Paris, France.
- Nov. 2011, Short Term visiting Scientist, Institute for Theoretical Physics, Ecole Normale Superiure, Paris, France.
- Feb. 2013 – Apr. 2013 Paid Associate Scientist at CERN, Th-Ph Division, Geneve, Switzerland
- April. 2017 – Jul. 2017 Visiting Professor at Yukawa Institute, Kyoto University, JAPAN

## Elenco Titoli

1. **Laurea in Fisica** conseguita il 21 Luglio 1993 presso Università di Genova, Facoltà di Scienze Fisiche, Matematiche e Naturali con la discussione della tesi: *Rinormalizzazione della teoria di Yang-Mills con campi di Background* con il relatore: Prof. C. Becchi (Università di Genova). Allego certificato di Laurea con i relativi voti conseguiti negli esami.
2. **Dottorato di Ricerca in Fisica** conseguito il 7 Luglio 1997 presso Università Statale di Milano, Facoltà di Scienze Fisiche, Matematiche e Naturali con la discussione della tesi (presso l'università La Sapienza di Roma): *Rinormalizzazione del Modello Standard nel gauge di 't Hooft-background mediante tecniche di calcolo simbolico automatico* Relatore: Prof. L. Girardello (Università di Milano). Relatore esterni: C. Becchi (Università di Genova) e R.Ferrari (Università di Milano). Allego certificato di Dottorato rilasciato dall'università La Sapienza di Roma e copia della tesi di dottorato.
3. Certificato rilasciato dall'istituto Max-Planck-Institut (Werner-Heisenberg-Institut für Physik) di Monaco di Baviera, Germania, per l'attività di ricerca svolta in qualità di "postdoctoral fellow" a partire dal 1<sup>o</sup> Settembre 1997 fino al 31 Agosto 1999.
4. Lettera Prof. Porrati attestante la posizione di "postdoctoral fellow" presso il Gruppo di Fisica Teorica della New York University a partire dal 1<sup>o</sup> Ottobre 1999 fino al 30 Settembre 2001.
5. Lettera prof. G. Sterman attestante l'attività di "postdoctoral fellow" presso l'istituto di ricerca C.N.Yang Institute for Theoretical Phisycs (YITP) di Stony Brook (USA) a partire dal 1<sup>o</sup> Ottobre 2001 fino al 30 Settembre 2003.

6. Lettera del Prof. G. Sterman attestante conferimento posizione “Adjunct Assistant Professor” presso l’istituto di ricerca C.N.Yang Institute for Theoretical Physics (YITP) di Stony Brook (USA) a partire dal 1° Novembre 2003 fino al 31 Ottobre 2004.
7. Certificato rilasciato dal laboratorio CERN, Theory Unit, Physics Department, 1211 Geneva, Switzerland di associazione Paid Scientific Associate dal 1° Settembre 2004 al 31 Maggio 2005.
8. Certificato di collaborazione scientifica con l’Università degli studi del Piemonte Orientale dal 1° Luglio 2004 fino al 30 Giugno 2005.
9. Certificato di possesso di un Senior Grant del Centro Studi e Ricerche E. Fermi di Roma. Allego la dichiarazione del direttore del Centro.

## Schools

12 Jun. 1995 – 28 Jul. 1995,	Summer School in High Energy Physics and Cosmology, ICTP, Miramare (TS), Italy.
18 Mar. 2002 – 26 Mar. 2002,	Spring School in String Theory and Related Material, ICTP, Miramare (TS), Italy.
29 Aug. 2005 – 6 Sep. 2005,	International School of Subnuclear Physics, 43rd Course, Erice, TP, Italy.
21 Jan. 2008 – 25 Jan. 2008,	RTN Network School on Theoretical Physics, CERN, Switzerland.

## Conferences

Jun. 1994, *Quark confinement and Hadronic Spectrum*, Como, Italy;  
 Jul. 1996, *Gauge Theories, Applied Supersymmetry and Quantum Gravity*, London, UK;  
 Jun. 1996, *Italian Theoretical Conference*, Cortona (AR), Italy;  
 Mar. 1998 (*DPG*) *German Physics Society Conference*, Regensburg, Germany;  
 Jun. 1998, *Italian Theoretical Workshop*, Cortona (AR), Italy;  
 Jul. 1998, *Ringberg Symposium on Quantum Field Theory*, Ringberg Castle, Germany;  
 Sep. 1998, *RADCOR, Conference of Radiative Corrections*, Barcellona, Spain;  
 Oct. 1998, *Quantization, BRST and anomalies*, Wien, Austria;  
 Apr. 2000, *Theoretical Developements in lattice gauge theory*, Ringberg, Germany;  
 Sep. 2000, *RADCOR, Conference of Radiative Corrections*, Carmel, CA, USA;  
 Dec. 2000, *Sirlin’s Festival*, New York University, NY, USA;  
 Dec. 2001, *Supergravity at 25*, Stony Brook, NY, USA;  
 Mar. 2002, *School on Superstrings and related material*, ICTP, Trieste, It;  
 Jul. 2002, *STRING2002*, Cambridge, UK;

May 2003 *Wigner Symposium*, New York, USA;  
Jul./Aug. 2003 *Simons Workshop*, Stony Brook, USA;  
Jul. 2004 *String Workshop* CERN, Switzerland;  
Jul./Aug. 2004 *Simons Workshop*, Stony Brook, USA;  
Sep. 2004 *Italian Network for String and Quantum Field Theory*, Capri, Italy;  
Mar. 2005 *Problemi di Fisica Teorica*, Vietri sul Mare, SA, Italy;  
Jun. 2005 *The Legacy of Supergravity*, Villa Mondragone, Frascati, Italy;  
Jul. 2005 *Supersymmetry and Quantum Symmetries*, JNLR, BLTP, Dubna, Russia;  
Aug. 2005 *International School of Subnuclear Physics*, Erice (TP), Italy;  
Sep. 2005 *Inaugural Conference of the Galileo Galilei Institute*, Florence, Italy;  
Apr. 2006 *European Network Meeting*, Cambridge, UK;  
Jun. 2006 *Workshop on Gerbes and Non-commutative Geometry*, Vienna;  
Jul. 2006 *Pure Spinor String Theory Conference*, Sao Paulo, Brazil;  
Aug. 2006 *Young Research Symposium*, Rio de Janeiro, Brazil;  
Aug. 2006 *International Conference on Mathematical Physics*, Rio de Janeiro, Brazil;  
Oct. 2006 *RTN Meeting*, Naples, Italy;  
Dec. 2007, *Avogadro Meeting II*, Alessandria, Italy;  
Mag 2007, *M-theory and String theory*, Galileo Galilei Institute in Florence, Italy;  
Giu 2007, *Twistor, Pure Spinors and Superstring Workshop*, Munich, Germany;  
Aug./Sep. 2007, *Superstring at Strong Couplings and Integrability*,  
Newton Institute, Cambridge University, UK;  
Nov. 2007 *Girardello Fest* Milano Bicocca, Italy;  
Dec. 2007 *PRIN Meeting 2007*, Pisa, Scuola Normale Superiore, Italy;  
Dec. 2007 *III Avogadro Meeting on Theoretical Physics*, Alessandria, Italy;  
Jan. 2008 *Workshop on Theoretical Physics*, Saclay, Paris;  
Jun. 2008 *Wonders in Gauge and String Theories*, IHP and Saclay, Paris, France;  
Jun. 2008 *Fundamental Interactions*, INFN Meeting, Villa Mondragone, Roma, Italy.  
Aug. 2008 *String 2008*, CERN, Switzerland.  
Dec. 2008 *IV Avogadro Meeting on Theoretical Physics*, Trieste, Italy.  
Jan. 2009 Kvali Institute for Theoretical Physics Superstrings and Supergravity  
Dec. 2009 *IV Avogadro Meeting on Theoretical Physics*, Trieste, Italy.  
Jan. 2010 *Superstring on RR backgrounds* Stony Brook, (NY), USA  
May 2010 *Convegno Informale di Fisica Teorica*, Cortona, Italy  
Oct. 2010 *Italian Conference SIGRAV*, Scuola Normale di Pisa, Italy  
Dec. 2010 *LACES 2010*, Lectures of quantum field theory and Strings, GGI, Florence, Italy  
Dec. 2010 *V Avogadro Meeting on Theoretical Physics*, GGI, Florence, Italy  
Dec. 2011 *LACES 2011*, Lectures of quantum field theory and Strings, GGI, Florence, Italy  
Dec. 2011 *VI Avogadro Meeting on Theoretical Physics*, GGI, Florence, Italy.  
Jan. 2012 *INFN Conference in Theoretical Physics*, Trieste, Italy.  
May 2012 *Convegno Informale di Fisica Teorica*, Cortona, Italy  
Sep. 2012 *INFN Meeting on Theoretical Physics*  
Dec. 2012, *Round Table on Theoretical Physics*  
Feb. 2013 *Black Holes and Theoretical Physics at CERN*.

Jun. 2013 *Mathematical and Theoretical Physics Workshop*, Stony Brook, NY, USA  
 Jan. 2014 *Supergravity at Stony Brook*, Stony Brook, NY, USA.  
 Jul. 2014 *String Field Theory and Higher Spins*, SISSA, Trieste, Italy.  
 Sep. 2014 *String Theory Universe*, Euroconference, Mainz, Germany  
 Sep. 2014 *SIGRAV conference*, DISIT, Alessandria, Italy.  
 Oct. 2014 *Superfields, Gauge Completion and Inflation*, Arnold Sommerfeld Int. Munich, Germany.  
 Oct. 2014, Munich, *Fermionic Corrections to Supergravity Solutions*  
 Sep. 2015 *Physics on Riviera*, Santa Margherita Lig. Genova, Italy;  
 Nov. 2015 *Round Table on Supergravity*, Dubna, Russia;  
 Mar. 2016 *Progress in Theoretical Physics*, Vietri sul Mare, Italy;  
 Oct. 2016 *Supergravity at GGI*, Galileo Galilei Institute, Florence, Italy;  
 Nov. 2016 *Recontres de la physique*, Paris, France;  
 Feb. 2017 *Inaugural Conference of Arnold-Regge Center*, Turin, Italy.  
 Feb 2019 *Quantum SpaceTime*, Bratislava, Slovachia.  
 Apr. 2019 *Focus Week at GGI*, Florence, Italy  
 May, 2019 *Conference at GGI*, Florence, Italy.  
 Jul. 2019 *CERN, Conference*, Geneve, Switzerland.  
 Sept. 2019 *Two Days in Modena*, Modena, Italy.  
 Sept. 2019 *Conference on SuperModuli*, Trieste, Italy  
 Dec. 2019 *International Conference on Supergeometry*, Luxembourg.  
 Jan. 2020 *Abu Dhabi Conference on Theoretical Physics*, Emirates.  
 Sep. 2020 *Shrödinger Institute Conference*, Austria  
 May. 2021 *Sissa Conference on SuperModuli*, Trieste, Italy  
 Oct. 2021 *Heidelberg Univ. Conference on Supermanifolds*, Germany.  
 Dec. 2021 *Mainz Univ. Conference, Young Reserchers*, Mainz, Germany

## Seminars

24 Apr. 2002, New York University, NY, USA, *Berkovits' formalism and covariant superstrings*;  
 24 Dec. 2002, CERN Theory Division, Switzerland, *Covariant quantum superstrings*,  
 26 Feb. 2003, New York University, NY, USA, *Covariant quantum superstrings with/without pure spinors*  
 6 Mar. 2003, Harvard University, Theory Group, Cambridge, USA, *Covariant quantum superstrings with Ramond-Ramond fields*.  
 17 Mar. 2003, Tor Vergata, Rome University, Italy, *Covariant quantum superstrings with Ramond-Ramond fields*.  
 23 Mar. 2003, Institute Henri Poincarè, Paris, France, *Covariant quantum superstrings with Ramond-Ramond fields*.  
 3 Apr. 2003, Bruxelles University, Belgium, *Covariant quantum superstrings with Ramond-Ramond fields*.  
 23 Aug. 2003, Stony Brook, USA, *Covariant quantum superstrings with Ramond-Ramond fields*.

2 Oct. 2003, Chapel Hill and Duke University, USA, *Covariant quantum superstrings with Ramond-Ramond fields*.

Oct. 2003, ITP Ann Arbor, USA, *Covariant quantum superstrings*.

Feb. 2004, NYU, NY, USA, *Deformed Superspace and String Theory*

Mar. 2004, CERN, Theory Division, Switzerland, *Deformed Superspace and String Theory*

Apr. 2004, LAPTH, Annecy, France, *Harmonic and Deformed Superspace from String Theory*

Apr. 2004, IHES, Bures-sur-Yvette, France, *Recent Developements in Pure Spinor String Theory*

Aug. 2004, Stony Brook, USA, *11d Superparticles and Supergravity*.

Oct. 2004, (Institute Henri Poincare') IHP, Paris, *Covariant Superstrings*.

Oct. 2004, Saclay, France, *Supergeometry and Superstrings*.

Feb. 2005, Utrech, Holland, *Superstrings and Supergeometry*.

Feb. 2005, Amsterdam, *M-theory and topological Strings*,

Mar. 2005, Vietri sul Mare, *Superstrings and Supergeometry*,

Apr. 2005, CERN Theory Unit, *Pure Spinor String Theory*,

May 2005, Tel-Aviv University, *Pure Spinor String theory*,

Aug. 2005, BLTP, Dubna, *Harmonic Superspace from string theory*,

Sep. 2005, Erice, TR, *Non-commutative Structure of Spacetime*,

Dec. 2006, Lueven, Belgium, *Progresses in Pure Spinor String theory*

Jan. 2006, Univ. di Firenze, *Pure Spinor String theory*;

Jan. 2006, SISSA, Trieste, *Supermanifolds and String Theory*;

Feb. 2006, Weizmann Institute, Israel, *Progress in Pure Spinor String theory*;

Feb. 2006, Tel-Aviv Univ., *Partition Functions in Pure Spinor String theory*;

May 2006, Univ. Torino, *BRST for everybody*;

Jun. 2006, Vienna, *Supermanifolds and Supergeometry*;

Aug. 2006, Univ. of Sao Paolo (IFT), Brasile, *Supermembrane, FDA and Pure Spinors*;

Aug. 2006, Univ. of Sao Paolo (IFT), Brasile, *Partition Functions for Pure Spinor String theories*;

Sep. 2006, Univ. of Amsterdam, Theoretical Physics Institute, The Netherlands, *Partition Functions for Pure Spinor String theories*;

Oct. 2006, DESY, Hamburg *Partition Functions for Pure Spinor String theories and An introduction on pure spinor string theory*;

Oct. 2006, Queen Mary College, London, UK *Partition Functions for Pure Spinor String theories*;

Oct. 2006, RTN Meeting, Naples *Partition Functions for Pure Spinor String theories and Non-critical Strings*;

Feb. 2007, University of Tel-Aviv, Israel, *Partition Functions for Pure Spinor String theories and Non-critical Strings*;

Jul. 2007, University LMU, Munich, Germany, *Pure Spinor Non-critical Strings*;

Aug. 2007, Newton Institute, Cambridge University, UK. *Pure Spinor Non-critical Strings*;

Dec. 2007, Pisa, Scuola Normale Superiore, IT, *Pure Spinor Superstrings and AdS backgrounds*;

Dec. 2007, Alessandria, University of Eastern Piedmont, Avogadro Meeting, 2007, *Pure Spinor Superstrings and AdS backgrounds*.



Jan. 2008, Institute for Theoretical Physics, Saclay, Paris, France, *Pure Spinor Superstrings and AdS backgrounds*.

Apr. 2008, SISSA, Trieste, Italy, *Higher Loop Computations in Pure Spinor Formalism*

May 2008, Dipartimento di Fisica, Università di Padova, *From supergravity backgrounds to pure spinor sigma models*.

May 2008, Institute for Theoretical Physics, Utrecht, The Netherlands, *From supergravity backgrounds to pure spinor sigma models*.

May 2008, Department of Physics, Chalmers University, Goteborg, Sweden, *From supergravity backgrounds to pure spinor sigma models*.

May 2008, Department of Physics, Chalmers University, Goteborg, Sweden, *Partition Functions and Lower dimensional Pure spinors*.

May 2008, NBI, Copenhagen, Danmark, *From supergravity backgrounds to pure spinor sigma models*.

May 2008, Institute for Theoretical Physics, Amsterdam University, *From supergravity backgrounds to pure spinor sigma models*.

Jun. 2008, Institute Henri Poincaré Paris, France, *From supergravity backgrounds to pure spinor sigma models*.

Jun. 2008, INFN Meeting Villa Mondragone *From supergravity backgrounds to pure spinor sigma models*.

Jan. 2009, Kvali Institute for Theoretical Physics, Santa Barbara CA, USA *Non-critical Pure Spinor Superstrings*.

Feb. 2009, New York University, USA *Non-critical Pure Spinor Superstrings*.

Feb. 2009, SUNY at Stony Brook, USA *Non-critical Pure Spinor Superstrings*.

Apr. 2009, University of Parma, Italy *Lectures on Pure Spinor Superstrings*

Nov. 2009, ETH, Zurich, Switzerland. *Lectures on Pure Spinor Superstrings*

Jan. 2010, Stony Brook, *Lectures on Pure Spinor Superstrings*

Oct. 2010, Pisa, *Superstring Corrections to Supergravity*

Jan. 2012, Trieste, *Fermionic Corrections to Supergravity Solutions*

Jan. 2014, Stony Brook, USA *Fermionic Corrections to Supergravity Solutions*

Jul. 2014, SISSA, Trieste, *Fermionic Corrections to Supergravity Solutions*

Sep. 2015, S. Margherita Ligure, Genova, Italy *Integral Forms and Some Applications*

Nov. 2015, Genova, Italy *Integral Forms and Some Applications*

Nov. 2015, Pisa, Italy *Integral Forms and Some Applications*

Nov. 2015, Dubna, Russia *Integral Forms and Some Applications*

Mar. 2016, Vietri sul Mare, SA, Italy I *Integral Forms and Some Applications*

Apr. 2016, CERN, CH *Integral Forms and Some Applications*

May, 2016, Pisa, *Supergeometry Primer*

Feb. 2017 *Inaugural Conference of Arnold-Regge Center, Turin, Italy. Supergeometry Primer*

May, 2017 *Kyoto University Supergeometry Primer Series of Lectures*.

Dec. 2018 *Edinburgh Supergeometry Primer*

Feb 2019 *Quantum SpaceTime, Bratislava, Slovacchia. Supergeometry Applications*

Apr. 2019 *Focus Week at GGI, Florence, Italy, Supergeometry Applications*

May, 2019 *Conference at GGI, Florence, Italy. Supergeometry Applications*

Jul. 2019 *CERN, Conference, Geneve, Switzerland. Supergeometry Applications*

Sept. 2019 *Two Days in Modena*, Modena, Italy. *Supergeometry Applications*  
Sept. 2019 *Conference on SuperModuli*, Trieste, Italy *Supergeometry and  $A-\infty$  algebras*  
Dec. 2019 *International Conference on Supergeometry*, Luxembourg. *Supergeometry and  $A-\infty$  algebras*  
Jan. 2020 *Abu Dhabi Conference on Theoretical Physics*, Emirates. *Supergeometry and  $A-\infty$  algebras*  
Jun. 2021 *Seminar at Turin Group*, Turin, Italy.

## Awards

Award: *Best Original work on Theoretical Physics*, Erice, Aug, 2005.

## Teaching Activity

- Monographic Series of Lectures

- University of Milan, Lectures on Algebraic Renormalization of Ph. D. students. Student Advised for Ph.D.: A. Quadri.
- New York University; Lectures on String Theory in collaboration with M. Porrati. Student Advised: G. Policastro (Scuola Normale di Pisa).
- C.N.Yang Institute for Theoretical Physics: Lectures on String Theory and Superparticles. Student Advised: A. Iglesias, L. Anguelova (Stony Brook Univ.) e L. Tamassia (University of Pavia).
- C.N. Yang Institute: Lectures for Ph. D. students 1) Renormalization of Standard Model and Background Field Method 2) Covariant Quantization of 10d superstrings.
- University of Turin (Italy), Theoretical Physics Dep. Lectures for Ph. D. students: Covariant Quantization of 10d superstrings.
- Scuola Normale di PISA, Lectures on String Theory and Supermembranes in collaboration with M. Porrati.
- Lectures at Galileo Galilei Institute for Theoretical Physics (I am in the organiser board of the School): year 2008: Advanced Quantum Field Theory, year 2009: compactifications and Calabi-Yau spaces. Florence, Italy, year 2010: Conformal Field Theory, year 2011: Background Field Method and Sigma Models, year 2012: Conformal Field Theory, year 2014: Conformal Field Theory and Applications.
- Univ. of Turin, Lectures on *Pure Spinor String theory*.
- Kyoto University, Lectures on *Supergeometry*

- Teaching Courses at University of Eastern Piedmont in Alessandria

- Lectures on Mathematical Methods for Physics sec. A (40h) 2008/2009 - 2009/2010
- Lectures on Mathematical Methods for Physics sec. B (48h) 2008/2009 - 2009/2010
- Lectures on Mathematical Methods for Physics (Course on Mathematics and Applications) (48h) 2010/2011 - 2011/2012
- Lectures on General Relativity (48h), 2007/2008 - 2008/2009 - 2009/2010 - 2010/2011
- Lectures on Gauge Theories (48h), 2008/2009
- Lectures on Geometry and Linear Algebra (24h), 2008/2009 - 2009/2010
- Lectures on Physics II for Chemistry (48h), 2013/2014 - 2014/2015 - 2015/2016 - 2016/2017 - 2017/2018 - 2018/2019 - 2019/2020 - 2020/2021

- Lectures on Mathematical Methods in Theoretical Physics (48h), 2010/2011 - 2011/2012 - 2012/2013 - 2013/2014 - 2014/2015
- Lectures on Probability and Statistics for Computer Science (72h) 2015/2016 - 2016/2017 - 2017/2018 - 2018/2019 - 2019/2020 - 2020/2021

- Students (Undergraduate (Triennale), Graduate (Magistrale) and Ph.D.)

- V. Tamburello, (Undergraduate Thesis)
- A. Mezzalana, (Graduate Thesis and Ph. D.)
- G. Balbi, (Graduate Thesis)
- D. Bonzo, (Undergraduate Thesis)
- I. Guaschino, (Undergraduate Thesis)
- L. Gentile, (Graduate Thesis and Ph.D.)
- V. Formichella, (Undergraduate Thesis)
- E. Mortara (Undergraduate Thesis)
- C.A. Cremonini (Ph.D.)

- Books

**Esercizi di metodi matematici per fisici e ingegneri.**

P A Grassi, published by Casa Editrice Ambrosiana, (Zanichelli), ISBN-10: 8808880036  
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## Research Activity

My research concerns String Theory and Quantum Field Theory.

## Publications

- Metric: 3500 citations on HEP-SPIRES, 4050 citations on GOOGLE SCHOLAR, h-index (30 su HEP-SPIRES, 33 su GOOGLE SCHOLAR), 2500 citations on SCOPUS.
- Collaborators: 57 International Coauthors.
- All publications are on Scientific International Journals of Class A/B (first and the second quartile Q1/Q2). Those under review and those which are not published (conferences or seminars) are listed with the hep-th number as a preprint at [www.arXiv.org](http://www.arXiv.org).
- Journal Referee: Nucl. Physics B, Phys. Rev. D, JHEP, Comm. Math. Phys., EJPC, JMPA.
- [Link to publications on Spires](#)

1. C. A. Cremonini and P. A. Grassi, “Cohomology of Lie Superalgebras: Forms, Pseudoforms, and Integral Forms,” [arXiv:2106.11786 [hep-th]].
2. C. A. Cremonini and P. A. Grassi, “Power to Integral Forms,” [arXiv:2105.09196 [hep-th]].
3. C. A. Cremonini and P. A. Grassi, “Self-dual forms in supergeometry I: The chiral boson,” Nucl. Phys. B **973** (2021), 115596 doi:10.1016/j.nuclphysb.2021.115596 [arXiv:2012.10243 [hep-th]].
4. R. Catenacci, C. A. Cremonini, P. A. Grassi and S. Noja, “Cohomology of Lie Superalgebras: Forms, Integral Forms and Coset Superspaces,” [arXiv:2012.05246 [hep-th]].
5. C. A. Cremonini, P. A. Grassi and S. Penati, “Surface Operators in Superspace,” JHEP **11** (2020), 050 doi:10.1007/JHEP11(2020)050 [arXiv:2006.08633 [hep-th]].
6. R. Catenacci, C. A. Cremonini, P. A. Grassi and S. Noja, “On Forms, Cohomology, and BV Laplacians in Odd Symplectic Geometry,” [arXiv:2004.02890 [hep-th]].
7. C. A. Cremonini, P. A. Grassi and S. Penati, “Supersymmetric Wilson Loops via Integral Forms,” JHEP **04** (2020), 161 doi:10.1007/JHEP04(2020)161 [arXiv:2003.01729 [hep-th]].

8. L. Castellani, C. A. Cremonini and P. A. Grassi, “Chern-Simons Supergravity on Supergroup Manifolds,” JHEP **05** (2020), 110 doi:10.1007/JHEP05(2020)110 [arXiv:2002.09400 [hep-th]].
9. C. A. Cremonini and P. A. Grassi, “Super Chern-Simons Theory: BV-formalism and  $A_\infty$ -algebras,” Phys. Rev. D **102** (2020), 025009 doi:10.1103/PhysRevD.102.025009 [arXiv:1912.10807 [hep-th]].
10. C. A. Cremonini and P. A. Grassi, “Pictures from Super Chern-Simons Theory,” JHEP **03** (2020), 043 doi:10.1007/JHEP03(2020)043 [arXiv:1907.07152 [hep-th]].
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