Luca Vitagliano

Curriculum Vitae

DipMat, Università di Salerno
via Giovanni Paolo II, n°123
84084 Fisciano (SA) Italy
☎ *(+39) 089 96 3331*
FAX *(+39) 089 96 3303*
✉ *lvitagliano@unisa.it*
www.dipmat2.unisa.it/people/vitagliano/www

Research Interests

Differential Geometry and Mathematical Physics: Differential Geometry of PDEs. Differential Geometric Methods in Classical Mechanics and Field Theory. Homological Methods in Geometry and Mathematical Physics. Graded Geometry. Homotopy Algebras. Differential Calculus and Commutative Algebra. Poisson Geometry. Lie Algebroids/Groupoids. Differentiable Stacks.

Positions

Current

2023–Present **Full Professor**, *Department of Mathematics*, Università di Salerno, Italy.

Past

2020–2023 **Associate Professor**, *Department of Mathematics*, Università di Salerno, Italy.

2008–2020 **Researcher (Tenured)**, *Department of Mathematics*, Università di Salerno, Italy.

2004–2008 **Research Fellow**, *Department of Mathematics and Computer Science*, Università di Salerno, Italy.
Research group of Prof. A. M. Vinogradov.

Education

2004 **Ph.D. in Physics**, *Department of Physics*, University of Rome "La Sapienza", Italy.
Advisor: Prof. R. Ruffini.
Thesis Title: *Electromagnetic Black Holes as Astrophysical Energy Sources*.

2000 **M.Sc. in Physics**, *Faculty of Sciences*, University of Napoli "Federico II", Italy.
Advisors: Prof. G. Marmo, Dr. G. Bimonte.
Thesis title: *Moto di una Sorgente Estesa del Campo Elettromagnetico su uno Spazio-Tempo Curvo (Motion of an Extended Source of the Electromagnetic Field in a Curved Space-Time)*.

Awards and Honours

2022 **Plenary speaker**, *Poisson 2022*, Madrid, Spain.

2018 **Italian National Scientific Habilitation (ASN)**, *Full Professor 01/A2 (Algebra and Geometry)*, expiration date: September 18, 2028.

2017 **Foreign faculty - approved course**, *GIAN Initiative of the Indian Government*, IIT Kanpur, Kanpur, Uttar Pradesh, India.

2016 **Shapiro visiting professor**, *Department of Mathematics*, Penn State University, State College (PA), USA.

2013 **Plenary speaker**, *Differential Geometry and its Applications*, Brno, Czech Republic.

Grants

Research grants

2010–2012 **PRIN 2008**, *Grant of the Italian Ministry of Education, University and Research.*.
Role: Participant.
Project leader: Prof. A. M. Vinogradov.
Project title: *Geometria delle equazioni differenziali non lineari alle derivate parziali e applicazioni alla fisica teorica*.

Fellowships

2004–2008 **Research Fellowship**, *Department of Mathematics and Computer Science*, Università di Salerno, Italy.

2000–2003 **Ph.D. Fellowship**, *Department of Physics*, University of Rome "La Sapienza", Italy.

Conference Fundings

2018 **INdAM Grant**, *INdAM Workshop*, Poisson Geometry and Higher Structures.
Role: Scientific Manager.
Amount awarded: 15.000 EUR.

2012 **ESF Grant**, *ESF Follow-up Strategic Meeting*.
Role: Convenor.
Amount awarded: 5.000 EUR.

2011 **ESF Grant**, *ESF Exploratory Workshop EX10-078*, Current Problems In Differential Calculus Over Commutative Algebras, Secondary Calculus, And Solution Singularities Of Nonlinear PDEs.
Role: Convenor.
Amount awarded: 15.000 EUR.

Mathematical Publications

Books

2024 • *A Primer on Smooth Manifolds*,
World Scientific, Singapore,
ISBN: 978-981-12-8394-9.

2021 • *The Linear Algebra of (Dirac-)Jacobi Geometry*,
Aula Magna - Editura Universitatii de Vest, West University of Timișoara, Timișoara, Romania,
ISBN: 978-973-125-821-8
(with E. M. Cioroianu, A. G. Tortorella, and C. Vizman).

Research papers

2024 • *Shifted Contact Structures on Differentiable Stacks*,
Int. Math. Res. Not. 2024, No. 16, 11933–11976,
e-print: arXiv:2306.17661
(with A. Maglio, and A. G. Tortorella).

2023 • *Integrating Nijenhuis Structures*,
Ann. Mat. Pura Appl. 202, 1907–1930,
e-print: `arXiv:2203.09469`
(with F. Pugliese, and G. Sparano).

• *Multiplicative Connections and Their Lie Theory*,
Commun. Contemp. Math. 25, 2150092 (36 pages),
e-print: `arXiv:2011.04597`
(with F. Pugliese, and G. Sparano).

2022 • *Deformations of Vector Bundles over Lie Groupoids*,
Rev. Mat. Compl. 36 (2022), 933–971,
e-print: `arXiv:1907.05670`
(with P. P. La Pastina).

2021 • *Fiberwise Linear Differential Operators*,
Forum Math. 33, 1445–1469,
e-print: `arXiv:2011.13192`
(with F. Pugliese, and G. Sparano).

• *Strongly Homotopy Lie Algebras and Deformations of Calibrated Submanifolds*,
Asian J. Math. 25, 341–368,
e-print: `arXiv:1804.05732`
(with D. Fiorenza, H. V. Lê, and L. Schwachhöfer).

2020 • *Homogeneous G-Structures*,
Ann. Mat. Pura Appl. 199, 2357–2380,
e-print: `arXiv:1907.06449`
(with A. G. Tortorella, and O. Yudilevich).

• *Holomorphic Jacobi Manifolds and Holomorphic Contact Groupoids*,
Math. Z. 294, 1181–1225,
e-print: `arXiv:1710.03300`
(with A. Wade).

• *The Local Structure of Generalized Contact Bundles*,
Int. Math. Res. Not. 2020, No. 20, 6871–6925,
e-print: `arXiv:1711.08310`
(with J. Schnitzer).

2019 • *Holomorphic Jacobi Manifolds*,
Int. J. Math. 2050024 (39 pages),
e-print: `arXiv:1609.07737`
(with A. Wade).

• *Deformations of Linear Lie Brackets*,
Pacific J. Math. 303, 265–298,
e-print: `arXiv:1805.02108`
(with P. P. La Pastina).

• *Infinitesimal Automorphisms of VB-Groupoids and Algebroids*,
Quart. J. Math. 70, 1039–1089,
e-print: `arXiv:1611.06896`
(with C. Esposito, and A. G. Tortorella).

- *Higher Omni-Lie Algebroids*,
J. Lie Theory 29 (2019), 881–899,
e-print: `arXiv:1812.09496`
(with Y. Bi, and T. Zhang).

2018
- *Deformations of Coisotropic Submanifolds in Jacobi Manifolds*,
J. Sympl. Geom. 16, 1051–1116,
e-print: `arXiv:1410.8446`
(with H. V. Lê, Y.-G. Oh, and A. G. Tortorella).

- *Dirac-Jacobi Bundles*,
J. Sympl. Geom. 16, 485–561,
e-print: `arXiv:1502.05420`.

- *Deformation Cohomology of Lie Algebroids and Morita Equivalence*,
C. R. Acad. Sci. Paris, Ser. I 356, 376–381,
e-print: `arXiv:1801.10052`
(with G. Sparano).

- *Representations up to Homotopy from Weighted Lie Algebroids*,
J. Lie Theory 28, 715–737,
e-print: `arXiv:1705.02114`
(with A. J. Bruce, and J. Grabowski).

2017
- *Jacobi Bundles and the BFV-Complex*,
J. Geom. Phys. 121, 347–377,
e-print: `arXiv:1601.04540`
(with H. V. Lê, and A. G. Tortorella).

2016
- *Vector Bundle Valued Differential Forms on NQ-manifolds*,
Pacific J. Math. 283, 449–482,
e-print: `arXiv:1406.6256`.

- *Generalized Contact Bundles*,
C. R. Acad. Sci. Paris, Ser. I, 354, 313–317,
e-print: `arXiv:1507.03973`
(with A. Wade).

2015
- *Tulczyjew Triples in Higher Derivative Field Theory*,
J. Geom. Mech. 7, 1–33,
e-print: `arXiv:1406.6503`
(with K. Grabowska).

- *L_∞-algebras from Multicontact Geometry*,
Diff. Geom. Appl. 39, 147–165,
e-print: `arXiv:1311.2751`.

- *On the Strong Homotopy Associative Algebra of a Foliation*,
Commun. Contemp. Math. 17, 1450026 (34 pages),
e-print: `arXiv:1212.1090`.

- *Representations of Homotopy Lie-Rinehart Algebras*,
Math. Proc. Camb. Phil. Soc. 158, 155–191,
e-print: `arXiv:1304.4353`.

2014 • *Characteristics, Bicharacteristics, and Geometric Singularities of Solutions of PDEs*,
Int. J. Geom. Meth. Mod. Phys. 11, 1460039 (35 pages),
e-print: `arXiv:1311.3477`.

• *On the Strong Homotopy Lie-Rinehart Algebra of a Foliation*,
Commun. Contemp. Math. 16, 1450007 (49 pages),
e-print: `arXiv:1204.2467`.

2013 • *Partial Differential Hamiltonian Systems*,
Canad. J. Math. 65, 1164–1200,
e-print: `arXiv:0903.4528`.

2012 • *Geometric Hamilton-Jacobi Field Theory*,
Int. J. Geom. Meth. Mod. Phys. 9, 1260008 (8 pages),
e-print: `arXiv:1109.1677`.

2011 • *On Higher Derivatives as Constraints in Field Theory: a Geometric Perspective*,
Int. J. Geom. Meth. Mod. Phys. 8, 1687–1693,
e-print: `arXiv:1009.6054`.

• *Hamilton-Jacobi Diffieties*,
J. Geom. Phys. 61, 1932–1949,
e-print: `arXiv:1104.0162`.

2010 • *The Hamilton-Jacobi Formalism for Higher Order Field Theories*,
Int. J. Geom. Meth. Mod. Phys. 7, 1413–1436,
e-print: `arXiv:1003.5236`.

• *The Lagrangian-Hamiltonian Formalism for Higher Order Field Theories*,
J. Geom. Phys. 60, 857–873,
e-print: `arXiv:0905.4580`.

2009 • *Secondary Calculus and the Covariant Phase Space*,
J. Geom. Phys. 59, 426–447,
e-print: `arXiv:0809.4164`.

2007 • *Iterated Differential Forms: The $\Lambda_{k-1}\mathcal{C}$-Spectral Sequence on Infinite Prolonged Equations*,
Dokl. Math. 76, n° 2, 692–695,
e-print: `arXiv:math/0703761`
(with A. M. Vinogradov).

• *Iterated Differential Forms: The $\Lambda_{k-1}\mathcal{C}$-Spectral Sequence on Infinite Jets*,
Dokl. Math. 76, n° 2, 673–677,
e-print: `arXiv:math/0703661`
(with A. M. Vinogradov).

• *Iterated Differential Forms IV: C-Spectral Sequence*,
Dokl. Math. 75, n° 3 (2007) 403–406,
e-print: `arXiv:math/0610917`
(with A. M. Vinogradov).

• *Iterated Differential Forms III: Integral Calculus*,
Dokl. Math. 75, n° 2 (2007) 177–180,
e-print: `arXiv:math/0610914`
(with A. M. Vinogradov).

2006 • *Iterated Differential Forms: Riemannian Geometry Revisited*,
Dokl. Math. 73, n° 2 (2006) 182–184,
e-print: `arXiv:math/0609287`
(with A. M. Vinogradov).

• *Iterated Differential Forms: Tensors*,
Dokl. Math. 73, n° 2 (2006) 169–171,
e-print: `arXiv:math/0605113`
(with A. M. Vinogradov).

Conference proceedings

2023 • *Vinogradov's Cohomological Geometry of Partial Differential Equations*,
in: The Diverse World of Partial Differential Equations, Proceedings of "Diffieties, Cohomological Physics, and Other Animals, Alexandre Vinogradov Memorial Conference", December 13–17, 2021, (Eds. I. Krasil'shchik, A. B. Sossinsky, A. M. Verbovetsky), Contemp. Math. 789 (2023), 157–182.

2009 • *On the Geometry of Partial Differential Hamiltonian Systems*,
in: Proceedings of the XI International Conference on "Geometry, Integrability and Quantization", June 5–10, 2009, Varna, Bulgaria (Eds. I. Mladenov, G. Vilasi, A. Yoshioka), Avangard Prima, Sofia, 2010, pp. 221–230.

Pre-prints

2022 • A_∞ *Algebras from Lie Pairs*,
e-print: `arXiv:2210.16769`
(with M. Stiénon, and P. Xu).

Talks, Minicourses and Short Visits

Invited talks at conferences

2024 • *Shifted Contact Structures on Differentiable Stacks*,
DG Manifolds in Geometry and Physics, Sanya, China.

2023 • *Shifted Contact Structures on Differentiable Stacks*,
X Workshop on Poisson Geometry and Related Topics, São Paulo, Brazil.

• *Homogeneous Boundaries of Geometric Structures*,
Poisson Geometry and Applications, Naples, Italy.

2022 • *Integrating Nijenhuis Structures*,
Poisson 2022, Madrid, Spain (**plenary lecture**).

2021 • *Multiplicative Connections on Lie Groupoids*,
Geometry for Higher Spin Gravity: Conformal Structures, PDEs, and Q-manifolds, Vienna, Austria (*online*).

2019 • *The Deformation Cohomology of VB Algebroids*,
Supergeometry, Supersymmetry and Quantization, Luxembourg City, Luxembourg.

- *Products in Jacobi Geometry*,
  International Conference on Poisson Geometry, Rio de Janeiro, Brazil.
- *Representations of Homotopy Lie Algebroids*,
  Workshop on Singular Foliations, Leuven, Belgium.
- *Homological Reduction in Contact Geometry*,
  Quantum Structure of Space-Time: Generalized Geometry and Symmetries, Bayrischzell, Germany.

2017
- *Homotopy Algebras and PDEs*,
  Lie Pseudogroups: Old and New, Driebergen, The Netherlands.
- *The Deformation L_∞-algebroid of a Foliation*,
  Noncommutative Geometry and Higher Structures, Würzburg, Germany.
- *Holomorphic Jacobi Manifolds*,
  Joint Symplectic Seminar Cornell University – PSU, Ithaca (NY), USA.

2016
- *L_∞-algebroids and BV_∞ Algebras*,
  GAP XIV - "Graded Geometry", Sheffield, UK.
- *Dirac-Jacobi Bundles and Their Local Structure*,
  Poisson Geometry and Mathematical Physics, Tianjin, China.

2015
- *Vector Bundle Valued Differential Forms on NQ-manifolds*,
  Geometry of Jets and Fields, Bedlęwo, Poland (**plenary lecture**).

2013
- *Homotopy Algebras and the Geometry of PDEs*,
  Differential Geometry and its Applications, Brno, Czeck Republic (**plenary lecture**).
- *Left/Right Representations of Homotopy Lie-Rinehart Algebras*,
  Higher Algebra and Lie-infinity Homotopy Theory, Luxembourg City, Luxembourg.

2012
- *The Diffiety of Initial Data*,
  3rd Iberoamerican Meeting on Geometry, Mechanics and Control, Salamanca, Spain.
- *A Very General Hamilton-Jacobi Theorem*,
  The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA.

2011
- *Hamilton-Jacobi Diffieties*,
  Folding and Unfolding: Interactions from Geometry, Ischia (NA), Italy.

2010
- *Hamiltonian Formalism in Higher Derivative Calculus of Variations*,
  XXV International Workshop on Differential Geometric Methods in Theoretical Mechanics, Levico Terme (TN), Italy.

2008
- *On the Generalization of the $\mathcal{C}$-Spectral Sequence to Tensors and Iterated Differential Forms*,
  XXIII International Workshop on Differential Geometric Methods in Theoretical Mechanics, Balatonföldvár, Hungary.

2007
- *Secondary Calculus*,
  XXII International Workshop on Differential Geometric Methods in Theoretical Mechanics, Bedlęwo, Poland.

2006 • *Iterated Differential Forms*,
XXI International Workshop on Differential Geometric Methods in Theoretical Mechanics, Madrid, Spain.

• *What Really are Tensors*,
Current Geometry, Naples, Italy.

Other Invited talks

2025 • *Homogeneous Boundaries of Geometric Structures*,
University of São Paulo, São Paulo, Brazil.

• *The Symplectic-to-Contact Dictionary*,
University of Toledo, Toledo (OH), USA (online).

2024 • *Cohomological Geometry of PDEs*,
Babeș-Bolyai University, Cluj-Napoca, Romania (online).

2023 • *Shifted Contact Structures*,
University of Coimbra, Coimbra, Portugal.

• *Characteristics and Fold-Type Singularities of Solutions of PDEs*,
Seminar "Geometric Methods of Physics", University of Warsaw, Warsaw, Poland (online).

• *Characteristics and Geometric Singularities of Solutions of PDEs*,
KMMF Seminar "Theory of Duality", University of Warsaw, Warsaw, Poland (online).

2022 • *Homogeneous G-Structures*,
Georg-August-Universität Göttingen, Göttingen, Germany.

• *Homogeneous G-Structures*,
Albert-Ludwigs-Universität Freiburg, Freiburg, Germany (*online*).

• *Integrating Nijenhuis Structures*,
Geometry, Mechanics and Control Seminar, ICMAT, Madrid, Spain (*online*).

2021 • *Homogeneous G-Structures*,
Virginia Commonwealth University, Richmond (VA), USA (*online*).

• *Multiplicative Connections on Lie Groupoids*,
Jilin University, Changchun, China (*online*).

2020 • *Calculus up to Homotopy on the Space of Solutions of a PDE*,
Global Poisson Webinar (*online*).

2019 • *Homotopy Algebras and PDEs*,
University of Napoli "Federico II", Napoli, Italy.

• *Homogeneous G-Structures*,
Utrecht University, Utrecht, The Netherlands.

• *The Deformation L_∞-Algebroid of a Foliation*,
University of Angers, Angers, France.

2018 • *Generalized Geometry in Odd Dimensions*,
Charles University, Prague, Czech Republic.

2017 • *The Symplectic-to-Contact Dictionary*,
Utrecht University, Utrecht, The Netherlands.

- *Multiplicative Derivations of VB Groupoids*,
  Penn State University, State College (PA), USA.
- *Holomorphic Jacobi Manifolds*,
  University of Firenze, Firenze, Italy.

2016
- *Generalized Geometry in Odd Dimensions*,
  Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.
- *Homotopy Algebras and PDEs*,
  UPenn, Philadelphia (PA), USA.
- *Jacobi Manifolds and Their Coisotropics*,
  Penn State University, State College (PA), USA.

2015
- *Homotopy Algebras and PDEs*,
  Sapienza University of Rome, Rome, Italy.

2014
- *Higher Contact Geometry and L_∞-algebras*,
  Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.

2013
- *Homotopy Lie-Rinehart Algebras*,
  INdAM, Rome, Italy.

2011
- *Higher Derivative Hamiltonian Field Theory*,
  Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.

2009
- *Covariant Phase Space and Secondary Calculus*,
- *The Lagrangian-Hamiltonian Formalism for Higher order Field Theories*
  Institut de Mathématiques de Jussieu, Paris, France.

Invited (mini-)courses

2021
- *The Symplectic-to-Contact Dictionary* (2 hours),
  University of La Laguna, Tenerife, Spain.

2018
- *Calculus up to Homotopy on Leaf-Spaces* (4 hours),
  GAAG IV, IME-USP, São Paulo, Brazil.

2017
- *Differential Geometry and PDEs* (14 hours),
  GIAN Initiative of the Indian Government, IIT Kanpur, Kanpur, India.

2013
- *Characteristics, Bicharacteristics, and Geometric Singularities of Solutions of PDEs* (3 hours),
  XXII International Fall Workshop on Geometry and Physics, Évora, Portugal.

2011
- *Covariant Phase Space* (3 hours),
  Workshop on Covariant Field Theory, Luxembourg City, Luxembourg.

2008
- *Geometry and Algebra of Smooth Lines (an Introduction to Conceptual 1-Dimensional Differential Calculus)* (16 hours),
  Voronezh State University, Voronezh, Russia.

Invited Visits

2023 Department of Mathematics, University of Coimbra, Coimbra, Portugal.

2022 Mathematisches Institut, Georg-August-Universität Göttingen, Göttingen, Germany.

2021 Departamento de Matemáticas, Estadística e IO, Sección de Matemáticas y Física, Universidad de la Laguna, La Laguna, Tenerife, Canary Islands, Spain.

2018 Department of Mathematics, KU Leuven, Leuven, Belgium.

2018 Institute of Mathematics, Academy of Sciences of the Czech Republic, Prague, Czech Republic.

2017 Utrecht Geometry Center, University of Utrecht, Utrecht, The Netherlands.

Shapiro Visitor, Department of Mathematics, Penn State University, State College (PA), USA.

2016 Working group on *Graded Manifolds and Homotopy Algebras*, Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.

Shapiro Visitor, Department of Mathematics, Penn State University, State College (PA), USA.

2014 Working group on *Geometrical Mechanics and Field Theory*, Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.

2011 Working group on *Geometry of Mechanics*, Stefan Banach International Mathematical Center, IMPAN, Warsaw, Poland.

2009 Voronezh State University, Voronezh, Russia.

Institut de Mathématiques de Jussieu, Paris, France.

Teaching and Advising

Teaching: regular lectures

2024/2025 **Geometry II (64 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Homology and Cohomology (48 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Higher Geometry (16 hours), *M.Sc. in Mathematics*, Università di Salerno.

2023/2024 **Geometry II (64 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Homology and Cohomology (48 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

2022/2023 **Geometry II (64 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Homology and Cohomology (48 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Geometry of Partial Differential Equations (20 hours), *Ph.D. in Mathematics*, Università di Salerno.

2021/2022 **Geometry II (64 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Homology and Cohomology (48 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Homological Methods in Differential Geometry (20 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2020/2021 **Geometry I (8 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Geometry II (64 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Differential Calculus and Commutative Algebra (10 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2019/2020 **Geometry I (24 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Geometry II (24 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Algebra and Geometry in the Calculus of Variations (20 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2018/2019 **Geometry I (24 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Geometry II (24 hours), *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Foliated Cohomology (20 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2017/2018 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Elements of Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

An Introduction to de Rham Cohomology (20 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2016/2017 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Differential Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Differential Geometry and PDEs (20 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2015/2016 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Lie Groups and Lie Algebras (24 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2014/2015 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Higher Geometry (48 hours), *M.Sc. in Mathematics*, Università di Salerno.

Symplectic Geometry and Hamiltonian Mechanics (24 hours), *Ph.D. in Mathematics, Physics and Applications*, Università di Salerno.

2013/2014 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Higher Geometry (48 hours), *B.Sc. in Mathematics*, Università di Salerno.

2012/2013 **Geometry I/II (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Mathematics I (35 hours), *B.Sc. in Engeneering*, Università di Salerno.

An Introduction to Homological Algebra (18 hours), *Ph.D. in Mathematics*, Università di Salerno.

2011/2012 **Geometry IV (48 hours)**, *B.Sc. in Mathematics*, Università di Salerno.

Discrete Mathematics and Mathematical Logic (48 hours), *B.Sc. in Computer Science*, Università di Salerno.

Geometry I (24 hours), *B.Sc. in Mathematics*, Università di Salerno.

Differential Calculus over Commutative Algebras (20 hours), *Ph.D. in Mathematics*, Università di Salerno.

2010/2011 **Discrete Mathematics and Mathematical Logic (48 hours)**, *B.Sc. in Computer Science*, Università di Salerno.

Geometry I (24 hours), *B.Sc. in Mathematics*, Università di Salerno.

2009/2010 **Discrete Mathematics and Mathematical Logic (48 hours)**, *B.Sc. in Computer Science*, Università di Salerno.

Geometry I (24 hours), *B.Sc. in Mathematics*, Università di Salerno.

Geometria (24 hours), *B.Sc. in Computer Science*, Università di Salerno.

2008/2009 **Discrete Mathematics and Mathematical Logic (48 hours)**, *B.Sc. in Computer Science*, Università di Salerno.

Advising Ph.D.

2021-2024 Ph.D. Thesis Advisor of *Antonio Maglio*, Ph.D. in Mathematics, Physics and Application, Università di Salerno. Thesis Title: *Shifted Contact Structures on Differentiable Stacks*.

2016-2019 Ph.D. Thesis Advisor of *Pier Paolo La Pastina*, Ph.D. in Mathematics, University of Rome "La Sapienza". Thesis title: *Deformations of VB Groupoids and Algebroids* (defended: Februrary 2020).

2016-2019 Ph.D. Thesis Advisor of *Jonas Schnitzer*, Ph.D. in Mathematics, Physics and Applications, Università di Salerno. Thesis title: *Local and Global Properties in Jacobi Related Geometries* (defended: December 2019).

2013-2016 Ph.D. Thesis Advisor of *Alfonso G. Tortorella*, Ph.D. in Mathematics, University of Florence. Thesis title: *Deformations of Coisotropic Submanifolds in Jacobi Manifolds* (defended: March 2017).

Advising M.Sc.

2024 M.Sc. Thesis Co-Advisor of *Armando Patrizio*, M.Sc. in Mathematics, Sapienza Università di Roma. Thesis title: G*-Strutture*.

M.Sc. Thesis Co-Advisor of *Francesco Scavella*, M.Sc. in Mathematics, Sapienza Università di Roma. Thesis title: *Geometria su Stack Differenziabili*.

M.Sc. Thesis Advisor of *Maria Rosaria Grimaldi*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Gruppi di Lie Compatti e Coomologie di de Rham*.

2021 M.Sc. Thesis Advisor of *Antonio Maglio*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Gruppoidi e Algebroidi di Lie*.

2020 M.Sc. Thesis Co-Advisor of *Andrea Guadagno*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Il Teorema di de Rham*.

M.Sc. Thesis Advisor of *Annunziata Russo*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Geometria Simplettica*.

2019 M.Sc. Thesis Advisor of *Maria Garofalo*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Fibrati Vettoriali e Classi Caratteristiche*.

2016 M.Sc. Thesis Advisor of *Pier Paolo La Pastina*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *I Teoremi di Lie*.

2013 M.Sc. Thesis Adivisor of *Alfonso G. Tortorella*, M.Sc. in Mathematics, Università di Salerno. Thesis title: *Sui Metodi Geometrici della Meccanica Hamiltoniana*.

2003 M.Sc. Thesis Co-Adivisor of *Federico Mattei*, M.Sc. in Physics, University of Rome "La Sapienza". Thesis title: *Campi Magnetici in Collassi Gravitazionali*.

Advising B.Sc.

2024 B.Sc. Thesis Advisor of *Sabrina Spinelli*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Complessi Simpliciali, Δ-Complessi e CW Complessi*.

B.Sc. Thesis Advisor of *Alessia Zollo*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Complessi Simpliciali e Omologia Persistente*.

B.Sc. Thesis Advisor of *Federica Scuotto*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Teoria dei Nodi*.

B.Sc. Thesis Advisor of *Giovanni Romaniello*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Categorie Omotopiche, Spazi di Lacci e Sospensioni*.

B.Sc. Thesis Advisor of *Alfonso Esposito*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Il Prodotto Cup in Coomologia Singolare*.

2023 B.Sc. Thesis Advisor of *Gennaro Porpora*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Oggetti Simpliciali in Topologia Algebrica*.

B.Sc. Thesis Advisor of *Maria Assunta Squillante*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Funtori Derivati, Coomologie dei Gruppi ed Estensioni*.

B.Sc. Thesis Advisor of *Ivan Niglio*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Teorema delle Sizigie e Funzione di Hilbert*.

2022 B.Sc. Thesis Advisor of *Armando Patrizio*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Teoria Elementare delle Deformazioni*.

B.Sc. Thesis Advisor of *Francesco Scavella*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Gruppi di Omotopia e CW Complessi*.

2021 B.Sc. Thesis Advisor of *Rolando Sapone*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Un'Introduzione alla Geometria Riemanniana*.

2020 B.Sc. Thesis Advisor of *Erica Tini Brunozzi*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *La Topologia di Zariski*.

2019 B.Sc. Thesis Advisor of *Antonio Maglio*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Classificazione dei Rivestimenti Topologici*.

B.Sc. Thesis Advisor of *Girolamo Perna*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Un'Introduzione all'Omologia Singolare*.

B.Sc. Thesis Advisor of *Generoso Martusciello*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Algebra Omologica nelle Categorie Abeliane: un'Introduzione*.

2018 B.Sc. Thesis Advisor of *Walter Bruno*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Il Teorema di Seifert-Van Kampen*.

B.Sc. Thesis Advisor of *Nicola De Feo*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *G-Strutture Lineari*.

B.Sc. Thesis Advisor of *Tommaso Peluso*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Algebra Tensoriale*.

B.Sc. Thesis Advisor of *Irene Scaldaferri*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Proprietà Globali delle Curve Piane*.

B.Sc. Thesis Advisor of *Anna Turi*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Proprietà Locali delle Curve negli Spazi Euclidei*.

2017 B.Sc. Thesis Advisor of *Maria Garofalo*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Algebra Lineare dello Spazio-Tempo di Minkowki*.

2016 B.Sc. Thesis Advisor of *Federica Galdieri*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Spazi Vettoriali Simplettici*.

2015 B.Sc. Thesis Advisor of *Stefano Palessandro*, B.Sc. in Mathematics, Università di Salerno. Thesis title: *Teoria di Galois dei Rivestimenti*.

Administrative Service

Meeting Organizing

2026 • International Poisson Conference, Leuven, Belgium (advisory committee).

2025 • Differential Geometry and its Applications, Brno, Czech Republic (program commitee).

• Higher Structures in Pavia, Pavia, Italy (scientific committee).

2024 • Poisson 2024 - International Conference, Napoli, Italy.

• Poisson 2024 - Summer School, Napoli, Italy.

• INdAM Intensive Period on Poisson Geometry and Mathematical Physics, Napoli, Italy.

• Higher Structures in Caprarola, Caprarola, Italy (scientific committee).

2023 • Higher Structures in Caprarola, Caprarola, Italy (scientific committee).

2022 • International Poisson Conference, Madrid, Spain (advisory committee).

2021 • Diffieties, Cohomological Physics, and Other Animals - Alexandre Vinogradov Memorial Conference, Moscow, Russia (program committee).

2019 • Workshop on Contact and Poisson Geometry, Timișoara, Romania.

2018 • INdAM Workshop on Poisson Geometry and Higher Structures, Rome, Italy.

• XXI Diffiety School, Lizzano in Belvedere (BO), Italy.

2017 • Micro-workshop on the Formal Theory of PDEs, Fisciano (SA), Italy.

- XX Diffiety School, Lizzano in Belvedere (BO), Italy.

2016
- XIX Diffiety School, Lizzano in Belvedere (BO), Italy.

2015
- XVIII Diffiety School, Lizzano in Belvedere (BO), Italy.

2014
- XVII Diffiety School, Lizzano in Belvedere (BO), Italy.

2013
- XVI Diffiety School, Gdynia, Poland.

2012
- XV Diffiety School, Gdynia, Poland.
- XII (Winter) Diffiety School, Gdynia, Poland.
- ESF Follow-up Strategic Meeting, Warsaw, Poland.

2011
- XIV Diffiety School S. Stefano del Sole (AV), Italy.
- ESF Exploratory Workshop on Current Problems in Differential Calculus over Commutative Algebras, Secondary Calculus, and Solution Singularities of Nonlinear PDEs, Vietri sul Mare (SA), Italy.
- XI (Winter) Diffiety School, St. Petersburg, Russia.

2010
- XIII Diffiety School, S. Stefano del Sole (AV), Italy.
- Inauguration of the Foundation "Istituto T. Levi-Civita", Napoli, Italy.
- International Conference "Current Geometry", Vietri sul Mare (SA), Italy.
- X (Winter) Diffiety School, St. Petersburg, Russia.

2009
- XII Diffiety School, S. Stefano del Sole (AV), Italy.
- International Conference "Current Geometry", Vietri sul Mare (SA), Italy.
- IX (Winter) Diffiety School, Kostroma, Russia.

2008
- XI Diffiety School, S. Stefano del Sole (AV), Italy.
- International Conference "Current Geometry", Vico Equense (NA), Italy.
- VIII (Winter) Diffiety School, Kostroma, Russia.

2007
- X Diffiety School, S. Stefano del Sole (AV), Italy.
- VII (Winter) Diffiety School, Kostroma, Russia.

2006
- X Diffiety School, S. Stefano del Sole (AV), Italy.
- VI (Winter) Diffiety School, Kostroma, Russia.

2005
- VIII Diffiety School, S. Stefano del Sole (AV), Italy.

2004
- VII Diffiety School, S. Stefano del Sole (AV), Italy.

2000
- IV Diffiety School, July 17-29, 2000, Forino (AV), Italy.

Examinations and Assessments

2025 Ph.D. defense committee of *Ilias Ermeidis*, Ph.D. in Mathematics, University of Göttingen.

2024 Ph.D. defense committee of *Fabricio Valencia*, Ph.D. in Mathematics, University of São Paulo.

2022 Ph.D. reading committee of *Marvin Dippel*, Ph.D. in Mathematics, University of Würzburg.

Ph.D. reading committee of *Luca Schiavone*, Ph.D. in Mathematics and Applications, Università di Napoli "Federico II".

Ph.D. reading and defense committee of *Jérémie Pierard de Maujouy*, Ph.D. in Mathematics, Université Paris Cité.

2021 Ph.D. reading and defense committee of *Eugen-Mihăiță Cioroianu*, Ph.D. in Mathematics, West University of Timișoara.

2019 Ph.D. reading and defense committee of *Francesco Cattafi*, Ph.D. in Mathematics, Utrecht University.

Ph.D. reading and defense committees of *Arjen Baarsma*, Ph.D. in Mathematics, Utrecht University.

2014 Ph.D. defense committee of *Ruggero Bandiera*, Ph.D. in Mathematics, University of Rome "La Sapienza".

Project Reviewing

2023 Junior Researcher High Quality Research Program, University of Parma, Italy.

2020 ESI Junior Research Fellowship, Austria.

2019 NWO Veni Program, The Netherlands.

2017 FWO Fellowship Program, Belgium.

2015 MIUR "Rita Levi Montalcini" Program for young researchers, Italy.

2014 FNR PostDoc Program, Luxembourg.

Journal Editing

2021-Present *Differential Geometry and its Applications* (Elsevier).

Journal of Nonlinear Mathematical Physics (Springer).

2019-Present *International Journal of Geometric Methods in Modern Physics* (World Scientific).

2021-2024 *Axioms* (MDPI).

2021-2023 *Hacettepe Journal of Mathematics and Statistics* (Hacettepe University).

2018-2023 *International Journal of Mathematics and Mathematical Sciences* (Hindawi).

2013-2017 *ISRN Geometry* (Hindawi).

Chinese Journal of Mathematics (Hindawi).

Journal Refereeing

Referee for: *Advances in Analysis (AAN)*. *Advances in Geometry*. *Advances in Mathematics*. *AIMS Proceedings*. *Annales Henri Poincaré*. *Annales Scientifiques de l'École Normale Supérieure*. *Annali di Matematica Pura e Applicata*. *Archivum Mathematicum*. *Axioms*. *Banach Center Publications*. *Canadian Journal of Physics*. *Central European Journal of Mathematics*. *Communications in Algebra*. *Communications in Analysis and Mechanics*. *Communications in Contemporary Mathematics*. *European Physical Journal Plus*. *Il Nuovo Cimento B*. *IMRN*. *International Journal of Geometric Methods in Modern Physics*. *International Journal of Mathematics and Mathematical Sciences*. *International Journal of Partial Differential Equations*. *Journal of Algebra*. *Journal of Geometric Mechanics*. *Journal of Geometry and Physics*. *Journal of Homotopy and Related Structures*. *Journal of Lie Theory*. *Journal of Mathematical Physics*. *Journal of Nonlinear Mathematical Physics*. *Journal of Physics A: Mathematical and Theoretical*. *Journal of Symplectic Geometry*. *Mathematical Physics, Analysis and Geometry*. *Mathematische Zeitschrift*. *Mediterranean Journal of Mathematics*. *Physics Letters A*. *Publicationes Mathematicae Debrecen*. *Qualitative Theory of Dynamical Systems*. *RACSAM*. *Reports on Mathematical Physics*. *Revista Matemática Iberoamericana*. *SIGMA*. *Symmetry SpringerPlus*. *Transactions of the AMS*.

Reviewer for: *MathSciNet* and *zbMATH*.

Other Activities as Reviewer

2021 External Reviewer for VQR 2015–2019, Italy.

Other Academic Activities

2013/2014 Laboratory "*Geometria della Quarta Dimensione*" for high school students, within the National Project "Piano Lauree Scientifiche", Università di Salerno (3 meetings, 2.5 hours each).

2012/2013 Laboratory "*Geometria della Quarta Dimensione*" for high school students, within the National Project "Piano Lauree Scientifiche", Università di Salerno (4 meetings, 2 hours each).

2011/2012 Lecture for high school students: "Geometria e Algebra delle Coniche", within the National Project "Piano Lauree Scientifiche", Università di Salerno.

Laboratory "*Geometria della Quarta Dimensione*" for high school students, within the National Project "Piano Lauree Scientifiche", Università di Salerno (3 meetings, 2.5 hours each).

2010/2011 Lecture for high school students: "Riconoscere le Coniche", within the National Project "Piano Lauree Scientifiche", Università di Salerno.

2009/2010 Lecture for high school students: "Riconoscere le Coniche", within the National Project "Piano Lauree Scientifiche", Università di Salerno.