

Employment

- 2025– ○ **Humboldt University of Berlin**
Postdoctoral Research Fellow – Prof. Farkas' group
- 2020–2024 ○ **Heidelberg University**
Postdoctoral Research Fellow – Prof. Walcher's group
- 2020 ○ **Università del Piemonte Orientale**
Postdoctoral Research Fellow
- 2018–2019 ○ **Università degli Studi dell'Insubria**
Postdoctoral Research Fellow
- 2018 ○ **Università del Piemonte Orientale**
Research Fellow

Habilitation

- 2023 ○ **Italian National Scientific Habilitation**
Associate Professor - Algebra and Geometry (01/MATH-02)

Education

- 2018 ○ **Ph.D. in Mathematics**, *Università degli Studi di Milano*
Advisor: Prof. L. van Geemen, Co-advisor: Prof. S. Cacciatori
- 2014 ○ **M.Sc. in Theoretical Physics**, *Università degli Studi di Milano, 110/110 cum laude*
Advisor: Prof. L. van Geemen, Co-advisor: Prof. S. Cacciatori, Prof. D. Klemm
- 2011 ○ **B.Sc. in Physics**, *Università degli Studi di Milano, 110/110 cum laude*
Advisor: Prof. B. Vacchini, Co-advisor: Prof. L. Lanz

Grants: Principal Investigator

- 2023–2026 ○ **Deutsche Forschungsgemeinschaft (DFG)**, ~ 218.400 €
Project title: *Homological Algebra of Supersymmetry: Locality, Unitarity, Duality*
Principal investigators: *S. Noja, I. Saberi, J. Walcher*
- 2022–2023 ○ **STRUCTURES – Cluster of Excellence**, ~ 108.000 €
Project title: *Homological Algebra of Supersymmetry*
Principal investigators: *S. Noja, J. Walcher*

Other Grants and Fundings

- 2022 ○ **Pacific Institute for the Mathematical Sciences (PIMS)**, 20.000 \$
Grant for workshops organization in the year 2023
Proposers: *C. Doran, S. Noja, J. Walcher*
- 2022 ○ **Istituto Nazionale di Alta Matematica (INdAM)**, 2.500 €
Grant for conferences, school and workshops in the year 2023
Proposer: *S. Noja*
- 2022 ○ **COST Action CA211009**, 1 million €
Project title: *CaLISTA: Cartan Geometry, Lie, Integrable Systems, Quantum Groups Theories for Applications*
Principal Investigator: *R. Fiorese*
Role: *member of the managing committee*
- 2015 ○ **Fondazione Angelo Della Riccia**, 3.000 €
Grant for research abroad in the year 2015

| Honors

- 2014 ○ **Rank 1st at the Ph.D. Admission Exam**
Università degli Studi di Milano – Academic year 2014/2015
- 2014 ○ **Best Graduate INFN Scholarship, 4.800 €**
Awarded in the research topic class *Quantum Field Theory and String Theory*

| Preprints

- *Adinkras and Pure Spinors* (with R. Eager, R. Senghaas, J. Walcher)
ArXiv:2404.07167, 91 pp.
- *Poincaré Duality on Supermanifolds, Higher Cartan Geometry and Geometric Supergravity* (with K. Eder, J. Huerta)
ArXiv:2312.05224, 49 pp.

| Publications

- *Six-Dimensional Supermultiplets from Bundles on Projective Spaces* (with F. Hahner, I. Saberi, J. Walcher)
Communications in Mathematical Physics, 406, 31 (2025), 52 pp.
DOI:10.1007/s00220-024-05176-3 ArXiv:2206.08388
- *Cohomology of Lie Superalgebras: Forms, Integral Forms and Coset Superspaces* (with C.A. Cremonini, P.A. Grassi)
Journal of Lie Theory, 33, 2 (2023), 41 pp.
DOI:JLT332/jlt33024 ArXiv:2012.05246
- *On the Geometry of Forms on Supermanifolds*
Differential Geometry and its Applications, 88 101999 (2023), 71 pp.
DOI:10.1016/j.difgeo.2023.101999 ArXiv:2111.12841
- *On BV Supermanifolds and the Super Atiyah Class*
European Journal of Mathematics, 9, 19 (2023), 36 pp.
DOI:10.1007/s40879-023-00603-6 ArXiv:2202.08136
- *The Universal de Rham / Spencer Double Complex on a Supermanifold* (with S.L. Cacciatori, R. Re)
Documenta Mathematica, 27, 489-518 (2022), 29 pp.
DOI:10.25537/dm.2022v27.489-518 ArXiv:2004.10906
- *A Note on Super Koszul Complex and the Berezinian* (with R. Re)
Annali di Matematica Pura e Applicata (1923–), 201, 403-421 (2022), 18 pp.
DOI:10.1007/s10231-021-01121-6 ArXiv:2012.02739
- *On Forms, Cohomology, and BV Laplacians in Odd Symplectic Geometry* (with R. Catenacci, C.A. Cremonini, P.A. Grassi)
Letters in Mathematical Physics, 111, 4 (2021), 32 pp.
DOI:10.1007/s11005-021-01384-3 ArXiv:2004.02890
- *Superstring Field Theory, Superforms and Supergeometry* (with R. Catenacci, P.A. Grassi)
Journal of Geometry and Physics, 148, 103559 (2020), 30 pp.
DOI:10.1016/j.geomphys.2019.103559 ArXiv:1807.09563
- *A_∞ -Algebra from Supermanifolds* (with R. Catenacci, P.A. Grassi)
Annales Henri Poincaré, 20 (12), 4163-4195 (2019), 32 pp.
DOI:10.1007/s00023-019-00854-8 ArXiv:1901.00818
- *Non Projected Calabi-Yau Supermanifolds over \mathbb{P}^2* (with S.L. Cacciatori, R. Re)
Mathematical Research Letters, 26 (4) 1027-1058 (2019), 31 pp.
DOI:10.4310/MRL.2019.v26.n4.a4 ArXiv:1706.01354
- *Non Projected Supermanifolds and Embeddings in Super Grassmannians*
Universe, 4 (11), 114 (2018), 23 pp.
DOI:10.3390/universe4110114 ArXiv:1808.09817

- *Projective Superspaces in Practice* (with S.L. Cacciatori)
Journal of Geometry and Physics, 130 40-62 (2018), 22 pp.
DOI:10.1016/j.geomphys.2018.03.021 ArXiv:1708.02820
- *Supergeometry of II-projective Spaces*
Journal of Geometry and Physics, 124 286-299 (2018), 13 pp.
DOI:10.1016/j.geomphys.2017.11.010 ArXiv:1706.01359
- *One-Dimensional Super Calabi-Yau Manifolds and their Mirrors* (with A. Marrani, S.L. Cacciatori, F. Dalla Piazza, R. Re)
Journal of High Energy Physics, 1704 (2017) 094, 13 pp.
DOI:10.1007/JHEP04(2017)094 ArXiv:1609.03801

| Thesis

- *Topics in Algebraic Supergeometry over Projective Spaces*, Ph.D. Thesis
hdl.handle.net/2434/554352

| Conference Talks

- 2024 ○ **Non Commutative Geometry & Higher Structures**, *Aristotle University of Thessaloniki*
September 17 – 21, 2024
- 2023 ○ **Emergent Geometry from Strings and Quantum Fields**, *Galileo Galilei Institute - Arcetri*
June 19 – 24, 2023
- 2023 ○ **CaLISTA - Kick-off Meeting**, *Università degli Studi di Bologna*
June 5-9, 2023
- 2023 ○ **SuperGeometry and SuperModuli**, *Simons Center for Geometry and Physics - Stony Brook*
March 27 – 31, 2023
- 2022 ○ **Workshop on Supermoduli and Superstrings**, *SISSA - Trieste*
June 27 – 30, 2022
- 2021 ○ **CP7 - STRUCTURES Kick-off Event**, *Heidelberg University*
October 22 – 23, 2021
- 2021 ○ **Workshop on Algebraic Geometry and Physics: Supermoduli & Superstrings**, *Institute for Geometry and Physics (ICTP / SISSA) - Trieste*
July 8 – 9, 2021
- 2020 ○ **Super Days in Alessandria - Virtual Edition**, *Università del Piemonte Orientale*
May 5 – 7, 2020
- 2019 ○ **Workshop on Supermoduli**, *SISSA & ICTP - Trieste*
September 23 – 26, 2019
- 2018 ○ **Giornate di Geometria Algebrica ed Argomenti Correlati XIV**, *Università degli Studi di Genova*
May 29 – June 2, 2018
- 2017 ○ **An Algebraic Geometry Day in Como**, *Università degli Studi dell'Insubria*
July 6, 2017

| Seminars and Colloquia

- 2025 ○ **Harvard University - Center of Mathematical Sciences and Applications (CMSA)**
Boston, February, 2025
- 2024 ○ **NYUAD - New York University at Abu Dhabi**
Abu Dhabi (UAE), December 11, 2024
- **MPIM - Max Plank Institute für Mathematik**
Bonn, May 31, 2024
- **LMU - Ludwig Maximilian Universität**
Munich, April 4, 2024
- **University of Alberta**
Edmonton, March 11, 2024

- 2023 **University of Maryland**
College Park, March 3, 2024
- 2023 **KIT - Karlsruhe Institute of Technology**
Karlsruhe, October 20, 2023
- Charles University**
Prague, October 12, 2023
- Hamburg Universität**
Hamburg, September 18, 2023
- Università degli Studi dell'Insubria**
Como, February 23, 2023
- 2022 **Università di Pavia**
Pavia, December 22, 2022
- Center for Quantum Mathematics - University of Southern Denmark**
Odense, June 13, 2022
- University of Lisbon (TQFT Club)**
Lisbon, May 25, 2022
- ETH - Eidgenössische Technische Hochschule**
Zürich, May 19, 2022
- Università del Piemonte Orientale**
Alessandria, March 1, 2022 (*on line*)
- 2021 **JGU - Johannes Gutenberg Universität**
Mainz, November 11, 2021 (*on line*)
- Heidelberg University**
Heidelberg, June 6, 2021 (*on line*)
- Università degli Studi di Bologna**
Bologna, April 24, 2021 (*on line*)
- Università degli Studi di Bologna**
Bologna, April 16, 2021 (*on line*)
- 2020 **Universität Mannheim**
Mannheim, October 10, 2020 (*on line*)
- Heidelberg-Munich-Wein Joint Seminar**
Wien, June 22, 2020 (*on line*)
- 2019 **University of Pennsylvania**
Philadelphia, May 23, 2019
- Heidelberg-Munich-Wein Joint Seminar**
Philadelphia, May 22, 2019
- 2019 **Universitat de Valencia**
Valencia, November 18, 2018
- Università di Torino**
Torino, May 15, 2018
- 2017 **Università del Piemonte Orientale**
Alessandria, October 18, 2017

I Conferences and Schools Organization

- 2024 **Domoschool: International School of Mathematics and Physics**
Intersecting Feynman Integrals - Domodossola, July 15 – 19, 2024
Organizers: S. Cacciatori, S. Noja, S. Pigola
- 2023 **Domoschool: International School of Mathematics and Physics**
Einstein Equations in the Dark Side of the Universe - Domodossola, July 17 – 21, 2023
Organizers: S. Cacciatori, S. Noja, S. Pigola

- 2023 ○ **Hodge Theory, Mirror Symmetry and Physics of Calabi-Yay Moduli**
Workshop at Heidelberg University - Heidelberg, June 12 – 16, 2023
Organizers: C. Doran, S. Noja, J. Walcher
- 2022 ○ **Domoschool: International School of Mathematics and Physics**
Gauge Theory and the Langlands Program - Domodossola, July 18 – 22, 2022
Organizers: S. Cacciatori, S. Noja, S. Pigola
- 2021 ○ **Pure Spinors, Superalgebras and Holomorphic Twists**
Workshop at Heidelberg University - Heidelberg, October 4 – 8, 2021
Organizers: S. Noja, I. Saberi, J. Walcher
- 2019 ○ **Domoschool: International School of Mathematics and Physics**
Einstein Equations: Physics and Mathematical Aspects of General Relativity II - Domodossola, July 15 – 19, 2019
Organizers: S. Cacciatori, S. Noja, S. Pigola
- 2018 ○ **Domoschool: International School of Mathematics and Physics**
Einstein Equations: Physics and Mathematical Aspects of General Relativity I - Domodossola, July 16 – 20, 2018
Organizers: S. Cacciatori, S. Noja, S. Pigola

| Visiting Positions (more than a week)

- 2023 ○ **Galileo Galilei Institute, Arcetri, Italy**
June 2023, invited by R. Donagi and P.A. Grassi
- 2023 ○ **Simons Center for Geometry and Physics, Stony Brook, USA**
March – April 2023, invited by A. Polishchuck, S. Grushevsky
- 2022 ○ **University of Pennsylvania, Philadelphia, USA**
September 2022, invited by R. Donagi
- 2022 ○ **ETH, Zürich, Swiss**
May 2022, invited by G. Felder and M. Schiavina
- 2019 ○ **University of Pennsylvania, Philadelphia, USA**
May 2019, invited by R. Donagi
- 2018 ○ **Universitat de Valencia, Valencia, Spain**
November 2018, invited by M. Lledó
- 2015 ○ **University of Pennsylvania, Philadelphia, USA**
January – February 2015, invited by R. Donagi (while graduate student)

| Teaching

Ph.D. Courses

- Spring 2019 ○ **Algebraic and Geometric Structures and some of their Use in Contemporary Physics**
Università degli Studi dell'Insubria – *teacher in charge*
Front lectures (16 hours)

Graduate Courses

- Winter 2023 ○ **Twists on Strings (Pro-Seminar)**
Heidelberg University – *teacher in charge*
Front lectures (20 hours) and tutoring (40 hours) – 5 ECTS
- Spring 2023 ○ **Mathematical Aspects of String Theory II**
Heidelberg University – *teacher in charge*
Front lectures (56 hours) – 6 ECTS
- Fall 2022 ○ **Mathematical Aspects of String Theory I**
Heidelberg University – *teacher in charge*
Front lectures (56 hours) – 6 ECTS
- Fall 2021 ○ **Complex Geometry**
Heidelberg University – *teacher in charge (with L. Battistella)*
Front lectures (56 hours) and exercise sessions (28 hours) – 9 ECTS

- Spring 2021 ○ **Supergeometry Pro-Seminar**
Heidelberg University – *teacher in charge (with J. Walcher)*
Front lectures (56 hours) and exercise sessions (28 hours) – 9 ECTS
[Undergraduate Courses](#)
- Spring 2024 ○ **Representations of Classical Groups**
Heidelberg University – *teacher in charge*
Front lectures (56 hours) – 6/8 ECTS
- Fall 2022 ○ **Symmetric Functions Pro-Seminar**
Heidelberg University – *teacher in charge (with J. Walcher)*
Front lectures (20 hours) and tutoring (40 hours) – 5 ECTS
- Spring 2022 ○ **Mathematical Quantum Mechanics Pro-Seminar**
Heidelberg University – *teacher in charge (with J. Walcher)*
Front lectures (20 hours) and tutoring (40 hours) – 5 ECTS
- Fall 2019 ○ **Laboratorio di Matematica di Base**
Università degli Studi di Milano – *teacher in charge for Earth Sciences*
Front lectures (20 hours) and tutoring (30 hours) – Coordinator: N. Bressan
- Spring 2019 ○ **Metodi Matematici per la Fisica**
Università degli Studi dell'Insubria – *teacher assistant*
Exercise sessions (30 hours)
- Fall 2018 ○ **Istituzioni di Matematica**
Università degli Studi di Milano – *teacher assistant*
Exercise sessions (40 hours)
- Spring 2018 ○ **Calcolo - Progetto Lauree Scientifiche**
Università degli Studi di Milano – *teacher in charge for Chemistry*
Exercise sessions and tutoring (41 hours) – Coordinator: G. Bini
- Fall 2017 ○ **Laboratorio di Matematica di Base**
Università degli Studi di Milano – *teacher in charge for Chemistry*
Front lectures (20 hours) and tutoring (35 hours) – Coordinator: G. Bini
- Fall 2016 ○ **Laboratorio di Matematica di Base**
Università degli Studi di Milano – *teacher in charge for Bioscience*
Front lectures (20 hours) and tutoring (35 hours) – Coordinator: G. Bini

| Thesis Supervision and Mentoring

- **Raphael Senghaas**, Heidelberg University
Ph.D. thesis co-advisor – Expected: 2026
- **Erik Fink**, Heidelberg University
M.Sc. thesis co-advisor – Expected: Summer 2025
- **Charles Praum**, Heidelberg University
B.Sc. thesis co-advisor: *An alternative approach to the covariant quantisation of the bosonic string*, 2023
- **Erik Fink**, Heidelberg University
B.Sc. thesis co-advisor: *Localization theorems in supergeometry*, 2023
- **Andrea Grossutti**, Heidelberg University and Università degli Studi di Padova
M.Sc. thesis co-advisor (informal): *Formulation of supersymmetric theories using integral forms*, 2021
- **Enea Riva**, Università degli Studi dell'Insubria
M.Sc. thesis co-advisor (informal): *Super particles on a simple superspace*, 2019

| Service to the Profession

- Hiring Committee for two full professorships (W3) in algebraic and arithmetic geometry at the Heidelberg University
- Hiring Committee for the Doctoral School in Mathematics and Computer Sciences at the Heidelberg University
- Local organizer of the joint seminar *Heidelberg - Mainz - Munich - Wien* (RHIND seminar)
<https://web.mathi.uni-heidelberg.de/physmath/rhind>

- Referee activity: *Adv. Math.*, *J. Alg.*, *Adv. Theor. Math. Phys.*, *Ann. H. Poincaré*, *J. Geom. Phys.*, *J. Math. Phys.*, *Int. J. Geom. Methods Mod. Phys.* *J. Lie Theory*

| Affiliations

- Istituto Nazionale di Alta Matematica *Francesco Severi* - INdAM
GNSAGA - Gruppo Nazionale per le Strutture Algebriche Geometriche e le loro Applicazioni
- STRUCTURES - Cluster of Excellence (DFG)
Young Researcher Convent

| Languages

Italian Native speaker
English Fluent (C2)
German Basic (A2)

| References

- Ugo Bruzzo, *SISSA*, bruzzo@sissa.it
- Sergio Cacciatori, *Università degli Studi dell'Insubria*, sergio.cacciatori@uninsubria.it
- Ron Donagi, *University of Pennsylvania*, donagi@math.upenn.edu
- Gavril Farkas, *Humboldt University of Berlin*, farkas@math.hu-berlin.de
- Pietro Antonio Grassi, *Università del Piemonte Orientale*, pietro.grassi@uniupo.it
- Lambertus van Geemen, *Università degli Studi di Milano*, lambertus.vangeemen@unimi.it
- Johannes Walcher, *Heidelberg University*, walcher@mathi.uni-heidelberg.de