

SIMONE NOJA

PERSONAL DATA

PLACE AND DATE OF BIRTH: Milano | 1 October 1987
NATIONALITY: Italian
ADDRESS: Rufinusplatz 1, 69120, Heidelberg, Germany
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EMPLOYMENT

OCT 2020 -	Heidelberg University <i>Postdoctoral Research Fellow</i>
MAY 2020 - OCT 2020	Università del Piemonte Orientale <i>Postdoctoral Research Fellow</i>
SEP 2018 - SEP 2019	Università degli Studi dell'Insubria <i>Postdoctoral Research Fellow</i>
MAR 2018 - SEP 2018	Università del Piemonte Orientale <i>Research Fellow</i>

HABILITATION

JAN 2023	Italian National Scientific Habilitation <i>Associate Professor level - Algebra and Geometry (mat02/03)</i>
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EDUCATION

MAR 2018	Università degli Studi di Milano <i>PhD in Mathematics</i> Supervisor: Prof. Lambertus van Geemen Co-Supervisor: Prof. Sergio Luigi Cacciatori
APR 2014	Università degli Studi di Milano <i>Laura Magistrale / Master in Theoretical Physics</i> Final grade: 110/110 cum laude Supervisor: Prof. Lambertus van Geemen Co-Supervisors: Prof. Sergio Cacciatori, Prof. Dietmar Klemm
JUL 2011	Università degli Studi di Milano <i>Laurea Triennale / Bachelor in Physics</i> Final grade: 110/110 cum laude Supervisor: Prof. Bassano Vacchini Co-Supervisor: Ludovico Lanz

GRANTS, FUNDINGS AND RESEARCH RESPONSIBILITIES

JAN 2023	DFG Research Grant – ~218.400 € Project Title: <i>Homological Algebra of Supersymmetry: Locality, Unitarity, Duality</i> Principal Investigators <i>S. Noja, I. Saberi & J. Walcher</i>
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DEC 2022	Pacific Institute for Mathematical Sciences (PIMS) – 20.000 \$ Grant for Workshop Organization in the year 2023 Proposers: <i>C. Doran, S. Noja & J. Walcher</i>
DEC 2022	Istituto Nazionale di Alta Matematica (INdAM) – 2.500 € Grant for Conferences, Schools and Workshop Organization in the year 2023
JUL 2022	Managing Committee COST Action CA211009 – 1 million € “CaLISTA” Cartan Geometry, Lie, Integrable System, Quantum Groups Theories for Application” https://www.cost.eu/actions/CA21109/
JAN 2022	STRUCTURES - Cluster of Excellence – ~108.000 € Project Title: <i>Homological Algebra of Supersymmetry: Locality, Unitarity, Duality</i> Principal Investigators: <i>S. Noja & J. Walcher</i>
NOV 2014	Fondazione Angelo Della Riccia Research Grant – 3000 € Fondazione Angelo Della Riccia Research Grant Competition Assigned for the year 2015

HONORS AND FURTHER ACADEMIC COMPETITIONS

JAN 2024	Shortlisted - Università di Pisa Tenure track researcher (RTD-b) - Interview: 24/1/2024
DEC 2023	Shortlisted - Università di Napoli Tenure track researcher (RTD-b) - Interview: 14/12/2023
NOV 2023	Shortlisted - Politecnico di Milano Tenure track researcher (RTD-b) - Interview: 9/11/2023
SEP 2023	Shortlisted - Università di Trento Tenure track researcher (RTD-b) - Interview and talk: 27/9/2023 & 26/9/2023 Declared eligible <i>ex-aequo</i> by the hiring committee
APR 2023	Shortlisted - Politecnico di Torino Tenure track researcher (RTD-b) - Interview: 18/4/2023
JUL 2014	Best Recent Graduate INFN Scholarship – 4800 € INFN Public Competition 16506/2014 Awarded in the research topic class “ <i>Quantum Field Theory and String Theory</i> ”

PUBLICATIONS AND PREPRINTS

1. K. Eder, J. Huerta, S. Noja, *Poincaré Duality on Supermanifolds, Higher Cartan Structures and Geometric Supergravity*, [ArXiv:2312.05224](https://arxiv.org/abs/2312.05224)
2. F. Hahner, S. Noja, I. Saberi, J. Walcher, *Six-Dimensional Supermultiplets from Bundles on Projective Spaces*, [ArXiv:2206.08388](https://arxiv.org/abs/2206.08388)
3. C.A. Cremonini, P.A. Grassi, S. Noja, *Cohomology of Lie Superalgebras: Forms, Integral Forms and Coset Superspaces*, *J. Lie Theory*, **33**, 2 (2023) 567–608 [JLT332/jlt33024](https://doi.org/10.1007/s40879-023-00603-6)
4. S. Noja, *On the Geometry of Forms on Supermanifolds*, *Diff. Geom. Appl.*, **88** 101999 (2023) [10.1016/j.difgeo.2023.101999](https://doi.org/10.1016/j.difgeo.2023.101999)
5. S. Noja, *On BV Supermanifolds and the Super Atiyah Class*, *Eur. J. Math.*, **9** (1), 19 (2023) [10.1007/s40879-023-00603-6](https://doi.org/10.1007/s40879-023-00603-6)

6. S.L. Cacciatori, S. Noja, R. Re, *The Universal de Rham / Spencer Double Complex on a Supermanifold*, Doc. Math. **27**, 489-518 (2022) [10.25537/dm.2022v27.489-518](#)
7. S. Noja, R. Re, *A Note on Super Koszul Complex and the Berezinian*, Ann. Mat. Pura Appl. (1923 -) **201** (1), 403-421 (2022) [10.1007/s10231-021-01121-6](#)
8. R. Catenacci, C.A. Cremonini, P.A. Grassi, S. Noja, *On Forms, Cohomology, and BV Laplacians in Odd Symplectic Geometry*, Lett. Math. Phys., **111**, 44 (2021) [10.1007/s11005-021-01384-3](#)
9. R. Catenacci, P.A. Grassi, S. Noja, *Superstring Field Theory, Superforms and Supergeometry*, J. Geom. Phys., **148**, 103559 (2020) [10.1016/j.geomphys.2019.103559](#)
10. R. Catenacci, P.A. Grassi, S. Noja, *A_∞ -Algebra from Supermanifolds*, Ann. Henri Poincaré **20** (12) 4163–4195 (2019) [10.1007/s00023-019-00854-8](#)
11. S.L. Cacciatori, S. Noja, R. Re, *Non Projected Calabi-Yau Supermanifolds over \mathbb{P}^2* , Math. Res. Lett., **26** (4) (2019) 1027–1058 [10.4310/MRL.2019.v26.n4.a4](#)
12. S. Noja, *Non-Projected Supermanifolds and Embeddings in Super Grassmannians*, Universe **4** (11), 114, (2018) - Special Issue “*Super Geometry for Super Strings*” [10.3390/universe4110114](#)
13. S. Noja, *Topics in Algebraic Supergeometry over Projective Spaces*, Ph.D. Thesis, Università degli Studi di Milano, (2018) [phd-unimi-R11006](#)
14. S.L. Cacciatori, S. Noja, *Projective Superspaces in Practice*, J. Geom. Phys., **130** (2018) 40–62 [10.1016/j.geomphys.2018.03.021](#)
15. S. Noja, *Supergeometry of Π -Projective Spaces*, J. Geom. Phys., **124** (2018) 286–299 [10.1016/j.geomphys.2017.11.010](#)
16. S. Noja, S. L. Cacciatori, F. Dalla Piazza, A. Marrani, R. Re, *One-Dimensional Super Calabi-Yau Manifolds and their Mirrors*, JHEP **1704** (2017) 094 [10.1007/JHEP04\(2017\)094](#)

INVITED SPEAKER TO CONFERENCES

19 JUNE 2023	Emergent Geometries from Strings and Quantum Fields Galileo Galilei Institute - Arcetri
6 JUNE 2023	CaLISTA Kick-off Meeting Università degli Studi di Bologna
27 MARCH 2023	SuperGeometry and SuperModuli Simons Center for Geometry and Physics - Stony Brook
27 JUNE 2022	Workshop on Supermoduli and Superstrings SISSA - Trieste
22 OCT 2021	CP7 - “STRUCTURES Exzellenzcluster” Kick-Off Event University of Heidelberg

9 JUL 2021	Workshop on Algebraic Geometry and Physics: Supermoduli & Superstrings Institute for Geometry and Physics (ICTP / SISSA)
5 MAY 2020	Super Days in Alessandria - Virtual Edition Università del Piemonte Orientale - Alessandria
23 SEP 2019	Workshop on Supermoduli SISSA and ICTP - Trieste
29 MAY 2018	Giornate di Geometria Algebrica ed Argomenti Correlati XIV Università degli Studi di Genova
6 JUL 2017	An Algebraic Geometry Day in Como Università degli Studi dell'Insubria

INVITED SEMINARS AND COLLOQUIA

20 OCT 2023	RTG Colloquium in Heidelberg Karlsruhe Institute of Technology & Heidelberg University
12 OCT 2023	Mathematical Physics Research Seminar Charles University - Prague
23 FEB 2023	Geometry in Como Università degli Studi dell'Insubria
19 DEC 2022	Mathematical Physics Research Seminar Università di Pavia
13 JUNE 2022	Center for Quantum Mathematics Research Seminar University of South Denmark - Odense
25 MAY 2022	TQTF Club Online - Hosted at University of Lisbon
19 MAY 2022	Joint ETH - UZH Seminar ETH & UZH Universität - Zürich
4 MAR 2022	Seminar on Algebra, Geometry and Physics Max Plank Institute - Bonn
1 MAR 2022	Local Research Seminar Università del Piemonte Orientale - Alessandria
9 NOV 2021	Local Research Seminar University of Mainz
2 JUN 2021	CP7 Seminar - "Structures Exzellenzcluster" University of Heidelberg
6 MAY 2021	Local Research Seminar University of Heidelberg - invited by Arthur Hebecker & Manfred Salmhofer
23 APR 2021	Supergeometry Meeting II (Hosted in) Università degli Studi di Bologna
16 APR 2021	Supergeometry Meeting I (Hosted in) Università degli Studi di Bologna

5 NOV 2020	“Structures” Exzellenzcluster Meeting (Hosted in) University of Heidelberg
22 JUN 2020	Joint Heidelberg-Munich-Wien (HMW) Seminars (Hosted in) University of Wien
23 MAY 2019	Geometry and Mathematical Physics Group Seminar II University of Pennsylvania
22 MAY 2019	Geometry and Mathematical Physics Group Seminar I University of Pennsylvania
18 NOV 2018	Local Research Seminar Universitat de Valencia
15 MAY 2018	Local Research Seminar Università degli Studi di Torino
18 OCT 2017	Local Research Seminar Università del Piemonte Orientale

CONFERENCES AND SCHOOLS ORGANIZATION

JUL 17 - 21, 2023	Domoschool: International School of Mathematics and Physics “Einstein Equations in the Dark Side of the Universe” Domodossola - Italy
JUN 12 - 16, 2023	Workshop “Hodge Theory, Mirror Symmetry, and Physics of Calabi-Yau Moduli” Heidelberg Universität - Germany (in collaboration with PIMS)
JUL 18 - 22, 2022	Domoschool: International School of Mathematics and Physics “Gauge Theories and the Langlands Program” Domodossola - Italy
OCT 4 - 8, 2021	Workshop “Pure Spinors, Superalgebras and Holomorphic Twists” Heidelberg Universität - Germany
JUL 15 - 19, 2019	Domoschool: International School of Mathematics and Physics “Einstein Equations: Physical and Mathematical Aspects of General Relativity II” Domodossola - Italy
JUL 16 - 20, 2018	Domoschool: International School of Mathematics and Physics “Einstein Equations: Physical and Mathematical Aspects of General Relativity I” Domodossola - Italy

VISITING (MORE THAN 2 WEEKS)

JUNE 2023	Galileo Galilei Institute <i>Invited by Prof.'s Ron Donagi and Antonio Grassi</i>
APRIL 2023	Simons Center for Geometry and Physics <i>Invited by Prof.'s Alexander Polishchuk and Samuel Grushevsky</i>
SEP 2022	University of Pennsylvania (UPenn) <i>Invited by Prof. Ron Donagi</i>

MAY 2022	ETH - Zürich <i>Invited by Prof. Giovanni Felder</i>
MAY 2019	University of Pennsylvania (UPenn) <i>Invited by Prof. Ron Donagi</i>
NOV 2018	Universitat de Valencia (UV) <i>Invited by Prof. Marian Lledó</i>
JAN 2015	University of Pennsylvania (UPenn) <i>Guest Graduate Student of Prof. Ron Donagi</i>

TEACHING

PH.D. COURSE

SPRING 2019	Algebraic and Geometric Structures and Some of Their Use in Contemporary Physics Ph.D. Course Università degli Studi dell'Insubria Front Lectures
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GRADUATE LEVEL COURSES

WINTER 2023	Twists on Strings Pro-Seminar Master Course Heidelberg Universität Front Lectures / Student Tutoring
SPRING 2023	Mathematical Aspects of String Theory II Master Course Heidelberg Universität Front Lectures
FALL 2022	Mathematical Aspects of String Theory I Master Course Heidelberg Universität Front Lectures
FALL 2021	Complex Geometry Advanced Bachelor / Master Course Heidelberg Universität Front Lectures / Exercise Sessions
SPRING 2021	Supergeometry Pro-Seminar Advanced Master / Ph.D. Seminar Heidelberg Universität Front Lectures / Students Tutoring

UNDERGRADUATE COURSES

SPRING 2024	Representations of Classical Groups Advanced Bachelor Heidelberg Universität Front Lectures
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FALL 2022	Symmetric Functions Pro-Seminar Advanced Bachelor Heidelberg Universität Front Lectures / Students Tutoring
SPRING 2022	Mathematical Quantum Mechanics Pro-Seminar Advanced Bachelor Heidelberg Universität Front Lectures / Students Tutoring
FALL 2019	Teaching Assistant: Laboratory of Basic Mathematics Università degli Studi di Milano Front Lectures and E-Learning Tutoring <i>Head of Course:</i> Prof. Nicoletta Bressan
SPRING 2019	Teaching Assistant: Mathematical Methods for Physics Università degli Studi dell'Insubria Front Lectures and Tutoring <i>Head of Course:</i> Prof. Sergio Cacciatori
FALL 2018 SPRING 2018	Teaching Assistant: Calculus Università degli Studi di Milano E-Learning Tutoring <i>Head of Course:</i> Prof. Gilberto Bini
FALL 2017 FALL 2016	Teaching Assistant: Laboratory of Basic Mathematics Università degli Studi di Milano Front Lectures and E-Learning Tutoring <i>Head of Course:</i> Prof. Gilberto Bini

THESIS SUPERVISIONS AND MENTORING

RAPHAEL SENGHAAS	Heidelberg Universität Co-Supervisor of Ph.D. thesis - Expected ~2026
CHARLES PRAUM	Heidelberg Universität Co-Supervisor of B.Sc. thesis - "An Alternative Approach to the Covariant Quantisation of the Bosonic String" - 2023
ERIK FINK	Heidelberg Universität Co-Supervisor of M.Sc. thesis - "Localization Theorems in Supergeometry" - 2023
ANDREA GROSSUTTI	Heidelberg Universität & Università di Padova Co-Supervisor of M.Sc. thesis (informal) - "Formulation of Supersymmetry Theories Using Integral Forms" - 2021
ENEA RIVA	Università degli Studi dell'Insubria Co-Supervisor of M.Sc. thesis (informal) - "Super Particles on a Simple Superspace" - 2019

SERVICE TO THE PROFESSION

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- HIRING COMMITTEE FOR TWO FULL PROFESSORSHIP (W3) IN ALGEBRAIC & ARITHMETIC GEOMETRY - HEIDELBERG UNIVERSITY
 - HIRING COMMITTEE FOR THE DOCTORAL SCHOOL - HEIDELBERG UNIVERSITY
 - ORGANIZER OF JOINT SEMINAR "HEIDELBERG - MAINZ - MÜNCHEN - WIEN" - HEIDELBERG UNIVERSITY <https://web.mathi.uni-heidelberg.de/physmath/physmath>
 - REFEREE - Adv. Math., Commun. Math. Phys., J. Geom. Phys. (multiple times), J. Math. Phys., Adv. Theor. Math. Phys., Int. J. Geom. Methods Mod. Phys. (multiple

times), J. Alg., J. Lie Theory

AFFILIATIONS

- ISTITUTO NAZIONALE DI ALTA MATEMATICA “FRANCESCO SEVERI” - INDAM
GNSAGA - Gruppo Nazionale per le Strutture Algebriche Geometrie e le loro Applicazioni
- “STRUCTURES” - CLUSTER OF EXCELLENCE
Young Researcher Convent

LANGUAGES

ENGLISH: Fluent (Level C2), TOEFL[®] *ibt* 110/120

ITALIAN: Native Speaker

REFERENCES

UGO BRUZZO - SISSA	bruzzo@sissa.it
SERGIO CACCIATORI - Università dell'Insubria	sergio.cacciatori@uninsubria.it
RON DONAGI - University of Pennsylvania	donagi@math.upenn.edu
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 - Universität Heidelberg	walcher@mathi.uni-heidelberg.de

16/1/2024