CV PAOLO ASCHIERI

Prof. Paolo Aschieri is an expert in Noncommutative Geometry, and in symmetries and geometric structures in Physics: duality rotations, higher gauge theories, graded differential geometry. His works on noncommutative differential geometry and gravity (with metrics and connections treated dynamically) published during the last two decades have a major impact in the field and are cited and internationally recognized by both the mathematics and the physics communities. He is author of more than **90** pubblications (https://orcid.org/0000-0001-5477-6654) including the monograph "Noncommutative Spacetimes" (Springer) and gave more than **100** presentations in conferences and invited seminars. More than **4300** citations and H index **31** (Google Scolar).

After the **Laurea** in Fisica Teorica, UNITO (1991), the **Master of Science**, UCLA (1993) and the **Ph.D.** in Theoretical Physics at Scuola Normale Superiore, Pisa (1998), he spent **3** years in Berkeley (as post-doc at the university and the Laurence Berkeley Laboratory) and then **5** years at the Chair Mathematical-Physics Prof. J. Wess, U. Munich (LMU), with the prestigious **Alexander von Humboldt**, and **Marie-Curie** research fellowships. Back in Italy as Centro Enrico Fermi **New Talent** fellow, (2006-2009) and holding a a *Marie Curie European Reintegration Grant (ERG)* he won a tenured Researcher Position in Theoretical Physics at Università del Piemonte Orientale (UPO) (2010). **Associate professor** in Theoretical Physics at UPO since 2022.

Scientific responsibility roles:

- Vice-Chair of the COST Action network [QSPACE] *Quantum Structure of Spacetime* MP1405 5/2015-4/2019 supported by the EU Programme Horizon 2020.

- Management Committee Member of the COST Action network [CaLISTA] *Cartan geometry, Lie, Integrable Systems, quantum group Theories for Applications* 11/2022 - 10/2026, and Working Group 3 Vice Leader.

- UPO unit coordinator of the MSCA-SE Action [CaLIGOLA] *Cartan geometry, Lie and representation theory, Integrable Systems, quantum Groups and quantum computing towards the understanding of the geometry of deep Learning and its Applications*

- **Principal Investigator** of the MSCA-SE Action [MaGyQ] *Machine learning models via differential Geometry and Quantum theory* 2027-2030. Here noncommutative differential geometry is applied to deep learning.

Editor of the international "Journal of General Relativity and Gravitation" (Springer). 2009-2013
Editor of the "International Journal of Geometric Methods in Modern Physics" (World Scientific), since 2013.
Editor of the international journal "SIGMA (Symmetry, Integrability and Geometry: Methods and Applications)", since 2010.

Referee for the science foundations of different european union member states.
Referee for 10 Ph.D. thesis. Referee for 16 international journals.

Coorganizer of more than 30 conferences in Europe

Selected Publications

1. P. Aschieri and P. Schupp, *Vector fields on quantum groups* Int J. Mod. Phys. **A11** (1996) 1077-1100, p. 24.
2. P. Aschieri, L. Cantini and B. Jurco, *Nonabelian Bundle Gerbes, their Differential Geometry and Gauge Theory,* Commun. Math. Phys. **254** (2005) 367-400, 34 pp.
3. P. Aschieri, C. Blohmann, M. Dimitrijevic, F. Meyer, P. Schupp and J. Wess, *A gravity theory on noncommutative spaces,* Class. Quantum Grav. **22** (2005) 3511-3532, 22 pp.
4. P. Aschieri, M. Dimitrijevic, F. Meyer, and J. Wess, *Noncommutative Geometry and Gravity,* Class.Quant.Grav. **23** (2006) 1883-1912, 29 pp.
5. P. Aschieri, S. Ferrara, B. Zumino, *Duality Rotations in Nonlinear Electrodynamics and in Extended Supergravity* , invited contribution to Rivista del Nuovo Cimento in occasion of the 2005 Enrico Fermi Prize of the Italian Physical Society. **31**, (2009) 625-707, 83 pp.
6. P. Aschieri, L. Castellani and M. Dimitrijevic, *Dynamical noncommutativity and Noether theorem in twisted ϕ^{*4} theory,* Lett. Math. Phys. **85** (2008) 39, 15 pp [arXiv:0803.4325].
7. P. Aschieri and L. Castellani, *Noncommutative D=4 gravity coupled to fermions,* JHEP **0906** (2009) 086, 18 pp.
8. P. Aschieri, M. Dimitrijević, P. Kulish, F. Lizzi, J. Wess. NONCOMMUTATIVE SPACETIMES. Symmetries in Noncommutative Geometry and Field Theory. Springer Lecture Notes in Physics 774, 206 pp. ISBN 978-3-540-89792-7.
9. P. Aschieri and L. Castellani *Noncommutative Gravity Solutions,* J. Geom. Phys. **60** (2010) 275-393, 19pp.
10. P. Aschieri and A. Schenkel, *Noncommutative connections on bimodules and Drinfeld twist deformation,* Adv. Theor. Math. Phys. **18** (2014) 513-612, 100pp.
11. P. Aschieri, P. Bieliavsky, C. Pagani and A. Schenkel, *Noncommutative principal bundles through twist deformation,* Commun. Math. Phys. **352** (2017) 287, 58 pp.
12. P. Aschieri, R. Fioresi and E. Latini *Quantum principal bundles for quantum projective bases* Commun. Math. Phys. **382** (2021), 1691-1724, 34 pp.
13. P. Aschieri, F. Bonechi, A. Deser, *On Curvature and Torsion in Courant Algebroids* Annal. H. Poinc. **22** (2021) 2475-2496
14. P. Aschieri, R. Fioresi and E. Latini *Differential Calculi on Quantum Principal Bundles over Projective Bases* Commun. Math. Phys. **405** 136 (2024) 45 pp.
15. P. Aschieri, G. Landi and C. Pagani, *Atiyah sequences of braided Lie algebras and their splittings* J. Noncommut. Geom. **19** (2025) 337–381
16. P. Aschieri and T. Weber *Metric compatibility and Levi-Civita connections on quantum groups* J. of Algebra **661** (2025) 479-544
17. P. Aschieri, *Cartan structure equations and Levi-Civita connection in Noncommutative Geometry* J. Geom. Phys. 224 (2026), 105800