

FABIO DI COSMO

Dipartimento di Fisica E.Pancini, Università degli Studi di Napoli Federico II
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EDUCATION

Università degli Studi di Napoli Federico II *March 2014 - October 2017*
Ph.D. in Physics - XXIX Cycle
Ph.D. Thesis: Hamilton-Jacobi methods in Fields, Particles and Information Geometry
Tutor: Prof. Giuseppe Marmo

Università degli Studi di Napoli Federico II *September 2011 - December 2013*
M.Sc. in Theoretical and Mathematical Physics
Master Thesis Project: Topologia e Meccanica Quantistica
Supervisor: Prof. Giuseppe Marmo
Vote: 110/110 e lode

Università degli Studi di Napoli Federico II *September 2008 - July 2011*
B.Sc in Physics
Bachelor Thesis Project: Gli stati metastabili: la regola d'oro di Fermi
Supervisor: Prof. Rodolfo Figari
Vote: 110/110 e lode

TEACHING ACTIVITY

- May 2016 : Exercise Session for Course “Teoria Quantistica dei Campi” (8 hours)
- January 2015 - April 2015 : Tutor of Mathematics at Dipartimento di Scienze Biologiche - Università degli Studi di Napoli Federico II (50 hours)

PUBLICATIONS

- Ciaglia, F. M., **Di Cosmo, F.**, Ibort, A., Laudato, M., and Marmo, G., *Dynamical Vector Fields on the Manifold of Quantum States*. Open Systems & Information Dynamics, 24(03), 1740003, 2017.
- Ciaglia, F. M., **Di Cosmo, F.**, Laudato, M., and Marmo, G., *Differential Calculus on Manifolds with Boundary. Applications..* Int. J. Geom. Methods Mod. Phys. 14(8), 1740003, 2017.
- **Di Cosmo, F.**, Marmo, G. and Zampini, A., *Topology and Quantum States: the Electron-Monopole System*, Il Nuovo Cimento C ,38(5), 2015.
- Aniello,P., Ciaglia, F.M., **Di Cosmo, F.**, Marmo, G. and Perez-Pardo, J.M., *Time, Classical and Quantum*, Annals of Physics 373:532-543, 2016.
- **Di Cosmo, F.** and Zampini, A., *Dirac operators on the S^3 and S^2 Spheres*, Int. J. Geom. Methods Mod. Phys. 14(8), 1740005, 2017.
- Ciaglia, F.M., **Di Cosmo, F.**, Felice, D., Mancini, S., Marmo, G. and Perez-Pardo, J.M., *Hamilton-Jacobi approach to potential functions in information geometry*, J.Math.Phys. 58, 063506, 2017.
- Asorey, M., Ciaglia. F.M., **Di Cosmo, F.** and Ibort, A., *Covariant Brackets for Particles and Fields*, Mod. Phys. Lett. A 32, 1750100, 2017.

- Asorey, M., Ciaglia, F.M., **Di Cosmo, F.**, Ibort, A. and Marmo, G., *Covariant Jacobi Brackets for Test Particles*, Mod. Phys. Lett. A 32, 1750122, 2017.
- Ciaglia, F.M., **Di Cosmo, F.**, Ibort, A. and Marmo, G., *Dynamical Aspects in the Quantizer-Dequantizer Formalism*, Annals of Physics 385:769-781, 2017.

TALKS AND POSTERS AT INTERNATIONAL CONFERENCES

- “Covariant Brackets”, at Conference *Quantum Physics and Information Geometry*, organized by INFN, San Rufo (Salerno), Italy, 03/08/2017.
Website: <https://agenda.infn.it/conferenceDisplay.py?ovw=True&confId=1381>
- “Topology and Quantum States: Electron-Monopole System” at *8th Italian Quantum Information Science Conference 2015*, organized by INFN, Monopoli (Bari), Italy, 11/09/2015.
Website: <https://agenda.infn.it/conferenceDisplay.py?confId=9324>
- “Hamilton-Jacobi Approach to Canonical Contrast Functions in Information Geometry” at Conference *Geometria Fisica: A Geometrical Vision of Physics*, organized by INFN, Policeta-San Rufo (Salerno), Italy, 13/07/2016.
Website: <https://agenda.infn.it/conferenceDisplay.py?confId=11190>
- “Some Remarks on Dirac-Kähler Operator: Lie Groups and Homogeneous Spaces” at the *XXV International Fall Workshop on Geometry and Physics*, organized by CSIC-IEM-ICMAT, Madrid, Spain, 02/09/2016.
Website: <https://www.icmat.es/congresos/2016/XXVIFWGP>

RESEARCH VISITS

- ICMAT, Madrid (Spain) from 28/08/2016 to 22/01/2017 and from 29/01/2017 to 31/03/2017 and from 14/05/2017 to 06/06/2017. Invited by Prof. Alberto Ibort.
- University of Zaragoza, Zaragoza (Spain) from 23/01/2017 to 28/01/2017. Invited by Prof. Manuel Asorey.

DOCTORAL SCHOOLS

- *XVIII Training Course on the Physics of Strongly Correlated Systems*, I.I.A.S.S. Vietri Sul Mare (Salerno), Italy, 4-17 October 2014.
- *Lectures on Statistical Field Theories*, G.G.I., Firenze, Italy, 2-13 February 2015.
- *Training School “Quantum Structure of Spacetime and Gravity”*, University of Belgrade, Belgrade (Serbia), 21-28 August 2016.

WORKSHOPS AND CONFERENCES

- *Geometria Fisica-A Geometrical Vision of Physics*, Policeta-San Rufo (Salerno), Italy, 11-13 July 2016.
- *Quantum Physics: Foundations and Applications*, Indian Institute of Science, Bangalore, India, 31 January - 13 February 2016.
- *8th Italian Quantum Information Science Conference 2015*, Monopoli (Bari), Italy, 10-12 September 2015.
- *XXV International Fall Workshop on Geometry and Physics*, CSIC-IEM-ICMAT, Madrid, Spain, 29 August - 2 September 2016.
- *Quantum Physics: Foundations and Applications*, ICMAT, Madrid, Spain, 30 January - 10 February 2017.