

# Chiara Esposito

Curriculum Vitæ

September 28, 2022

## CONTACT DETAILS

University of Salerno  
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## ACADEMIC APPOINTMENTS

- **May 2021–present: Associate Professor**  
at the Department of Mathematics of the University of Salerno, Italy.
- **May 2018–April 2021: RTD-B (Rita Levi Montalcini)**  
Senior researcher at the Department of Mathematics of the University of Salerno, Italy.
- **October 2013–April 2018: Wissenschaftliche Mitarbeiterin**  
6 years research position at the Department of Mathematics of the University of Würzburg, Germany.
- **January 2013–September 2013: Postdoctoral position**  
1 years research position at the University Autònoma of Barcelona, Spain.
- **September 2012–November 2012: Leibniz fellow**  
Postdoctoral research position (up to 6 months) at the Oberwolfach Mathematical Institute, Germany.

## ACADEMIC DEGREES

- **Habilitation as Full professor**  
Geometry and Algebra
- **January 27, 2012: Ph.D. in Mathematics, University of Copenhagen, Denmark**  
Dissertation Title: *On the classical and quantum momentum map*.  
Thesis advisor: Prof. Ryszard Nest .
- **October 24, 2007: Laurea degree (equivalent to M.Sc.) in Physics, University of Naples "Federico II"**  
Final Rank: 110/110 *cum laude* (Italian highest honors). Dissertation Title: *L'evoluzione classica e quantistica nel formalismo di Weyl-Wigner-Moyal* (italian).  
Thesis Supervisor: Prof. Fedele Lizzi and Dr. Patrizia Vitale.

## TEACHING EXPERIENCE

### LECTURES

- **Winterterm 2020/21-2021/22-2022/23: Geometria I at the University of Salerno.**  
Bachelor course, 64 hours 8 CFU)

- **Summerterm 2021/22-2022/23: Matematica II at the University of Salerno.**  
Bachelor course, 30 hours
- **Summerterm 2018/19- 2019/20 - 2020/21: Geometria Superiore at the University of Salerno.**  
Master course, 48 hours (6 CFU)
- **Winterterm 2017/18: Differential Geometry at the University of Würzburg.**  
Master course, 4 hours per week
- **Summerterm 2017: Geometric Mechanics at the University of Würzburg.**  
Master course, 4 hours per week
- **Summerterm 2015: Algebraic Deformations at the University of Würzburg.**  
Research in Groups (Arbeitsgemeinschaften), 2 hours per week

## EXERCISE CLASSES

I gave exercise classes of many courses as Linear Algebra I, Analysis I, Mathematics for Physics, Lie groups, Lie algebra and representations.

## PHD STUDENTS

- **Andreas Kraft: Formality and Reduction**  
2018–2021, University of Salerno.
- **Marvin Dippell: Coisotropic triples**  
2018–2022, University of Würzburg (together with Prof. Stefan Waldmann).

## ADVISED THESIS

- **Jonas Schnitzer: A simple algebraic construction of Drinfel'd twists.**  
Master thesis at the University of Würzburg.
- **Thomas Weber: Star Products that can not be induced by Drinfel'd Twists.**  
Master thesis at the University of Würzburg.
- **Andrea Corcione: Hochschild complex.**  
Bachelor thesis at the University of Salerno.
- **Walter Bruno: Fibrati principali e azioni libere e proprie.**  
Master thesis at the University of Salerno.
- **Filomena Vitiello: Teoria delle rappresentazioni.**  
Master thesis at the University of Salerno.
- **Mattia Scaffeo: Gruppi risolubili.**  
Master thesis at the University of Salerno.
- **Sara Fonzo: La topologia di  $SO(3)$ .**  
Bachelor thesis at the University of Salerno.

## FULL LIST OF PUBLICATIONS

### BOOKS

[Book] C. ESPOSITO, *Formality theory: from Poisson structures to deformation quantization*. Springer-Verlag Heidelberg, Berlin, New York, 2015.

## PAPERS

- [1] C. ESPOSITO, N. DE KLEIJN, *Universal Deformation Formula, Formality and Actions*, Journal of Noncommutative Geometry (to appear)
- [2] M. DIPPELL, C. ESPOSITO, S. WALDMANN, *Deformation and Hochschild Cohomology of Coisotropic Algebras*, Annali di Matematica Pura e Applicata (to appear).
- [3] C. ESPOSITO, A. KRAFT, J. SCHNITZER, *The Strong Homotopy Structure of Poisson Reduction*. Journal of Noncommutative Geometry (to appear)
- [4] C. ESPOSITO, N. DE KLEIJN, *L-infinity-resolutions and twisting in the curved context*. Revista Matematica Iberoamericana **37** (2021), 4, 1581–1598
- [5] C. ESPOSITO, A. KRAFT, S. WALDMANN, *BRST Reduction of Quantum Algebras with \*-Involutions*, Communications in Mathematical Physics **378** (2020) 1391–1416 pages.
- [6] P. BIELIAVSKY, C. ESPOSITO, R. NEST, *Quantization of Hamiltonian coactions via twist*, Journal of Symplectic Geometry **18** (2020), 2, 385–408 pages.
- [7] M. DIPPELL, C. ESPOSITO, S. WALDMANN, *Coisotropic Triples, Reduction and Classical Limit*, Documenta Mathematica **24** (2019) 1811-1853 pages.
- [8] C. ESPOSITO, P. SCHMITT, S. WALDMANN, *Comparison and Continuity of Wick-type Star Products on certain coadjoint orbits*, Forum Mathematicum **31** (2019), 5, 1203-1223 pages.
- [9] C. ESPOSITO, A. G. TORTORELLA, L. VITAGLIANO, *Infinitesimal Automorphisms of VB-groupoids and algebroids*, Quarterly Journal of Mathematics **70** (2019), 3, 1039-1089 pages.
- [10] P. BIELIAVSKY, C. ESPOSITO, S. WALDMANN, T. WEBER, *Obstructions for Twist Star Products*, Letters in Mathematical Physics. **108** (2018), 5, 1341–1350 pages
- [11] C. ESPOSITO, J. SCHNITZER, S. WALDMANN, *A Universal Construction of Universal Deformation Formulas, Drinfel'd Twists and their Positivity*, Pacific Journal of Mathematics. **291** (2017), 2, 319–358 pages
- [12] C. ESPOSITO, E. MIRANDA, *Rigidity of infinitesimal momentum maps*, Israel journal of Mathematics. **219** (2017), 757–781.
- [13] A. DE NICOLA, C. ESPOSITO, *Reduction of pre-Hamiltonian actions*, Journal of Geometry and Physics. **115** (2017), 178–190.
- [14] C. ESPOSITO, P. STAPOR, S. WALDMANN, *Convergence of the Gutt star product*, Journal of Lie theory. **27** (2017), 2, 579–622.
- [15] C. ESPOSITO, R. NEST, *Uniqueness of the momentum map*, Journal of Geometry and Physics. **106** (2016), 342–351.
- [16] C. ESPOSITO, *Quantization of Poisson-Hamiltonian systems.*, Banach Center (2014) . Proceedings for 'From Poisson Brackets to Universal Quantum Symmetries', Eds: Nicola Ciccoli, Andrzej Sitarz.
- [17] C. ESPOSITO, *Poisson reduction*, Geom. Methods Phys **20** (2012). Proceedings for the XXXI Workshop, Bialowieza (2012).
- [18] J. ARVESÚ CARBALLO, C. ESPOSITO, *A high order q-difference equation for q-Hahn multiple orthogonal polynomials*, Journal of Difference Equations and Applications. **18** (2012).

## PREPRINTS

- [Pre1] C. ESPOSITO, N. DE KLEIJN, J. SCHNITZER, *A proof of Tsygan's formality conjecture for Hamiltonian actions*. 2018, 9 pages [arXiv:1812.00403].

# PROFESSIONAL ACTIVITIES

## INVITED TALKS

1. Global Poisson, online seminar, October 20, 2022.
2. Poisson CRM Days 2022, CRM Barcelona, July 14 - 15, 2022.
3. Workshop on Higher Spin Gauge theories, topological field theory and deformation quantization, Solvay institute, Bruxelles, February 17 - 21, 2020.
4. Poisson aan de Waal, Radboud University Nijmegen, December 12 - 14, 2018.  
<https://www.ru.nl/math/vm/events/@1180277/poisson-waal-12-14-december-2018/>
5. Poisson 2018. The Fields Institute Toronto (Canada), July 16 - 20, 2018.  
<http://www.fields.utoronto.ca/activities/18-19/Poisson-2018>
6. Mathematische Gesellschaft, Georg-August-Universität Göttingen, 6th July 2017.  
Title: *Drinfel'd twist: strength and limits*
7. jDPG 2017, January 2017.  
Title: *Symplectic geometry and Hamiltonian mechanics.*
8. Bayrischzell Workshop 2016, April 2016.  
Title: *Obstructions of Drinfel'd twist deformations.*
9. Incontri Romani 2015, Noncommutative Geometry and Higher Structures, Università La Sapienza di Roma, August 2015.  
Title: *Quantization of Poisson-Hamiltonian systems.*
10. WP3 DyGeSt Workshop, University of Luxembourg, June 2015.  
Title: *Coisotropic reduction for Poisson Lie actions.*
11. From Poisson Brackets to Universal Quantum Symmetries, Banach Center Warsaw, August 2014.  
Title: *Quantization of Poisson-Lie Hamiltonian systems.*
12. Advanced Course on Geometry and Dynamics of Integrable Systems, CRM Barcelona, September 2013.  
Title: *Deformation quantization of momentum map in Poisson geometry and Rigidity.*
13. Workshop of Reduction and Quantization 2013, FAU Erlangen, March 2013.  
Title: *Deformation quantization of momentum map in Poisson geometry and Rigidity.*
14. Minicourse (14 hours) in the Première École de Géométrie at the University of Ouargla (Algeria), May 2012  
Title: *Deformation quantization of Poisson manifolds.*

## LONG TERM VISITS

- October-December 2010 Visiting Prof. Alan Weinstein at the Department of Mathematics, *University of Berkeley* (California)
- April-May 2012 Visiting Prof. Eva Miranda at *Universitat Politecnica de Barcelona* (CAST Exchange grant)
- April 2013 Visiting *Riemann Center of Geometry and Physics*, Hannover (granted by Riemann fellowship)

## WORKSHOPS AND SEMINARS ORGANIZED

- *Qdays in Barcelona*  
CRM Barcelona, October 2013  
Organizers: C. Esposito, E. Miranda, F. Presas and R. Solha
- *Über seminar in Würzburg*  
Joint seminar for young researchers in Mathematics and Physics
- *Mini-Workshop Deformation Quantization: between formal to strict*  
Oberwolfach Mathematical Institute, February 2015  
Granted by MFO  
Organizers: P. Bieliavsky, C. Esposito, R. Nest, S. Waldmann

- *Working seminar in Louvain-la-Neuve*  
University of Louvain-la-Neuve, Belgium. March-September 2015  
Granted by BayInt  
Organizers: C. Esposito and S. Waldmann
- *Autumn school, From Poisson Geometry to Quantum Fields on Noncommutative Spaces*  
University of Würzburg, 05 - 10 October, 2015.  
Granted by Volkswagenstiftung  
Organizers: C. Esposito, S. Waldmann
- *Incontri Perugini 2016, Noncommutative Geometry and Higher Structures*  
Università di Perugia, July 2016  
Organizers: N. Ciccoli, F. D'Andrea, C. Esposito
- *Noncommutative Geometry and Higher Structures*  
University of Würzburg, September 2017  
Organizers: F. D'Andrea, C. Esposito, S. Waldmann
- *Poisson Geometry and Higher Structures*  
Università La Sapienza di Roma, September 2018  
Granted by InDAM  
Organizers: F. Bonechi, N. Ciccoli, C. Esposito, D. Fiorenza, L. Vitagliano
- *Bayrischzell workshop 2019*  
Bayrischzell, April 12 - 16, 2019  
Granted by COST  
Organizers: P. Aschieri, M. Dimitrijevic Ciric, C. Esposito, L. Jonke, B. Jurco, M. Wohlgenannt.
- *Winter school, Deformations and Rigidity in Algebra, Geometry and Analysis*  
University of Würzburg, 07 - 11 October, 2019.  
Granted by Volkswagenstiftung  
Organizers: C. Esposito, S. Waldmann
- *Poisson 2020*  
University of Salerno and University of Naples, 6 - 17 July, 2020.  
Organizers: C. Esposito, L. Vitagliano
- *Lie theory and Poisson geometry conference*  
CIRM Luminy  
Organizers: A. Balibanu, Á. del Pino Gómez, C. Esposito, M. Salazar

## MEMBER OF COMMITTEES

- Commissione Giudicatrice nella Procedura di selezione pubblica indetta ai sensi dell'art. 24, comma, 3 lett. b) Legge 240/2010 per la copertura di un posto di ricercatore presso il Dipartimento di Matematica per il Settore Scientifico-Disciplinare MAT/03 (Geometria) - Settore Concorsuale 01/A2 (Geometria e Algebra) - Codice Concorso BRIC/PS/206
- Member of the committee for the PhD of Lukas Miaskiowski, University of Delft.
- Member of the committee for the PhD of Emanuele Viviani, University of Florence.
- Member of the Evaluation board for a postdoctoral program at CRM, Barcelona.
- Member of the committee for a permanent position at the Institut Camille Jordan, Claude Bernard University Lyon 1.
- Commissione giudicatrice nella procedura per la proroga del contratto triennale RTDA - Dott. Niels KOWALZIG
- Advisory committee for *Poisson 2022*, international conference (will be held in Madrid at ICMAT)
- Member of the committee for the PhD of Anna Kiesenhofer, who defended her thesis on *Integrable systems on b-Poisson structures* on December 21, 2016 at UPC (Barcelona).
- Member of the committee for the PhD of Luca Simi, who defended his thesis on *Higher Structures in Deformation Theory* on January 29, 2019 at Università La Sapienza di Roma.

- Member of the committee for the PhD of Matteo Gardini , who defended his thesis on *Quantum vertex algebras* on January 29, 2019 at Università La Sapienza di Roma.
- Member of *Commissione Paritetica* at the University of Salerno, for evaluation of teaching.

## AWARDS AND HONORS

- DFG Grant (Principal investigator)
- Levi Montalcini position
- Referee for a grant submitted to the French National Research Agency (ANR)
- Riemann fellowship, granted by Leibniz University of Hannover
- Oberwolfach Leibniz fellowship, granted by MFO
- April 2012 Exchange grant, CAST
- 2009/2010 Marie Curie as Early Stage Researchers, RTN-NCG
- 2009 Graduate scholarship, University of Copenhagen
- 2007/2008 Graduate scholarship, University of Madrid "Carlos III"
- 2000-2003 Undergraduate scholarships, E.DI.SU., Naples
- Reviewer for *Mathematical Reviews*.
- Referee for DFG grant
- Referee for CMP, IJGMMP, SIGMA, DGA, RMI
- Qualified as Maître de conférences

## LANGUAGE SKILLS

- Italian: Mother tongue.
- English: Fluent.
- German: Basic.
- Spanish: Good.