

Curriculum Vitae

Personal Details

Name: Olindo Corradini
Birth date: March 08, 1967
Nationality: Italian
Work Address: Dipartimento di Scienze Fisiche, Matematiche e Informatiche (FIM), Università degli Studi di Modena e Reggio Emilia (UniMoRe), Via Campi 213/A, I-41125 Modena, Italy
Phones: +39-0592058380, +39-3407355296
Email: olindo.corradini@unimore.it, olindo.corradini@gmail.com

Jobs

- November 2015 – present: Full Time Associate Professor at Dipartimento di Scienze Fisiche, Matematiche e Informatiche, Università degli Studi di Modena e Reggio Emilia, Italy
- November 2010 – November 2015: Full Time Associate Professor (*Profesor de Tiempo Completo Titular B*) of Physics at Facultad de Ciencias en Fisica y Matematicas (FCFM) – Universidad Autonoma de Chiapas (UNACH), Mexico.
- May 2002 – November 2010: Post Doc at the Department of Physics of the University of Bologna, Italy.
- May 2000 – May 2002: Research assistant at the C.N. Yang Institute for Theoretical Physics (YITP) of State University of New York (SUNY) at Stony Brook, New York, USA.
- August 1998 – May 2000: Teaching assistant at the Department of Physics and Astronomy of SUNY, Stony Brook, New York, USA.

Education

- 20 August 2002: PhD. in Physics – State University of New York at Stony Brook. Thesis title: Topics in brane world and quantum field theory. Advisor: Prof. Z. Kakushadze.
- 19 December 1997: Laurea in Fisica – Università di Modena, Italy Grade: 110/110 with honors. Thesis title: 't Hooft anomaly matching conditions. Supervisors: Prof. F. Bastianelli and Prof. C.M. Bertoni.

Other Titles

- 14 January 2014: habilitation for positions of *Professore di II Fascia* (associate professor) in Italy for the sector *Fisica delle Interazioni Fondamentali* (elementary particles), for the period January 2014 – January 2021.

Personal Awards and Fellowships

- September 2014: member of *Sistema Nacional de Investigadores* (National System of Researchers of Mexico) with rank *Investigador Nacional de Nivel II* (national researcher of level II), for the period January 2015 – December 2018.
- September 2011: member of *Sistema Nacional de Investigadores* (National System of Researchers of Mexico) with rank *Investigador Nacional de Nivel I* (national researcher of level I), for the period January 2012 – December 2014.
- November 2008: 3-month Marco Polo fellowship of the University of Bologna to sponsor a visit at the Laboratoire de Physique Theorique, Universite Paris-Sud, Orsay.
- November 2006: 3-month Marco Polo fellowship of the University of Bologna to sponsor a visit at the Institute of Cosmology and Gravitation, Portsmouth.
- November 2003: 4-month Marco Polo fellowship of the University of Bologna to sponsor a visit at the Centre de Physique Theorique, Ecole Polytechnique, Paris.
- February 1999: “T.A. Pond prize” for the best “PhD. comprehensive examination” from the Department of Physics and Astronomy of the State University of New York at Stony Brook.

Teaching Experience

- 2014: 1-month course titled “Feynman Path Integrals: Theory and Applications in the Fields of Quantum Mechanics, Statistical Mechanics and Quantum Field Theory”, for the PhD program at Department FIM-UniMoRe.

- 2013: 1-month course titled “Quantum Mechanical Path Integrals: from Transition Amplitudes to Worldline Formalism”, for the *Laurea Magistrale* program at Department FIM-UniMoRe.
- 2011 – 2015: 13 undergraduate-level courses given at FCFM-UNACH.
- Spring 2010: “Introduction to Particle Cosmology”, graduate course, University of Bologna.
- Spring 2008: “Introduction to the first-quantized approach to quantum field theory”, graduate course, University of Bologna.
- 1998-2000 Teaching assistant in the Department of Physics and Astronomy of SUNY, Stony Brook; entry undergraduate courses.

Postdocs and Students Supervision

- January 2015—November 2015: supervisor of post-doc Dr. Naser Ahmadiiaz, at FCFM-UNACH.
- 2015: co-supervisor for the *Laurea Magistrale* (Master's degree) of Matteo Puviani (University of Modena and Reggio Emilia). Thesis title: Studies of Correlated Electronic Systems in the Presence of External Driving Forces, using Floquet Theory.
- 2014: co-supervisor for the *Laurea Magistrale* (Master's degree) of Francesco Grandi (University of Modena and Reggio Emilia). Thesis title: Effects of Electronic Correlation in Topological Insulators.
- 2013: co-supervisor for the *Laurea Magistrale* (Master's degree) of Alfredo Bonini (University of Modena and Reggio Emilia). Thesis title: Electronic Structure of Graphene and Topological Insulators.
- 2011—present: supervisor of three undergraduate students at FCFM-UNACH.

Present Research Grants—as Principal Investigator

- January 2015—December 2015: CONACyT-MINCYT collaboration grant; 70,000 Mexican Pesos. Travel grant for a collaboration with P. Pisani of Universidad de La Plata, Argentina
- July 2012—December 2015: UC MEXUS – CONACyT grant; 25,000 USD. Travel grant for a collaboration with A. Waldron of University of California, Davis.

Past Research Grants

- 2011-2012: SEP-PROMEP grant; 398,834 Mexican Pesos. Multi-purpose personal grant that covered travel expenses, purchase of office materials and equipment, a student fellowship, and a personal fellowship.
- 2008-2011: Italian INFN grant PI14; €10k/year for the Bologna node (6 members).
- 2004-2008: Italian INFN grant TO12; €13k/year for the Bologna node (8 members).

Other Academic Activity

- December 2013—January 2014: invited visitor at the Università di Modena e Reggio Emilia.
- January 2013—March 2013: invited visitor at the Università di Modena e Reggio Emilia.
- January 2009—March 2009: visitor at the Laboratoire de Physique Théorique, Université Paris-Sud, Orsay.
- May 2007—July 2007: visitor at the Institute of Cosmology and Gravitation at the University of Portsmouth.
- March 2007: invited visitor at the Instituto de Física y Matemáticas of the Universidad Michoacana de San Nicolás de Hidalgo in Morelia, Mexico.
- February 2007: invited visitor at the Physics Department of UC Davis.
- October 2005: visitor at the Physics Department of McGill University, Montreal.
- November 2003 – March 2004: visitor at the Centre de Physique Théorique of the École Polytechnique in Paris.

Recent Seminars and Lectures

- August 2015—Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México, Mexico City. Title: A worldline approach to QCD amplitudes.
- August 2015—Instituto de Física y Matemáticas, Universidad Michoacana San Nicolas de Hidalgo, Mexico. Title: Tree-level amplitudes in QED, QCD and quantum gravity from the worldline formalism
- May 2015—Universidad Nacional de La Plata, Argentina. Short course titled: Feynman path integrals and the worldline formalism.
- November 2013 – Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México,

Mexico City. Title: The worldline approach to quantum field theory: new results and perspectives.

- November 2013 – Meeting on Extra Dimensions, MCTP – Universidad Autónoma de Chiapas, Mexico. Title: Z4 flavor model in Randall Sundrum I: a five-dimensional extension of the Standard Model.
- October 2013 – Instituto de Física y Matemáticas, Universidad Michoacana San Nicolas de Hidalgo, Mexico. Title: Z4 flavor model in Randall Sundrum I: a five-dimensional extension of the Standard Model.
- September 2013 – Facultad de Ciencias, Universidad de Colima, Mexico. Title: Calculation of Photon-graviton Amplitudes and the Worldline Formalism.
- August 2013 – VIII Escuela de Física Fundamental, Hermosillo, Mexico. Short course titled: Particle Physics in Curved Space (*Física de Partículas en Espacio Curvo*).

Recents Conferences

- January 2014 – Aspects of Supergravity, SCGP – Stony Brook, USA.
- November 2013 – Meeting on Extra Dimensions, MCTP – Universidad Autónoma de Chiapas, Mexico.
- November 2013 – Main organizer of: Workshop on Spinning Particles in Quantum Field Theory: Worldline Formalism, Higher Spins and Conformal Geometry.
- August 2013 – VIII Escuela de Física Fundamental, Hermosillo, Mexico.

Referee Activity

- I have served as a referee for Physical Review Letters, Physical Review D, Physics Letters B, Foundations of Physics, The European Physical Journal, ISRN Mathematical Physics, Revista Mexicana de Física E.

Language Skills

- Italian: native.
- English and Spanish: fluent.
- French: Intermediate (B2 level).

Publications

- 42 articles published on scientific journals (3 as single author) + 7 contributions to proceedings + 1 preprint submitted for publication. See [list of publications](#) for an updated list of publications and preprints.

Research Interests

- My research interests cover several aspects of Quantum Field Theory, String Theory and Cosmology. In particular, I have worked on:
 - First-quantized approaches to quantum field theory and worldline formalism in flat and curved backgrounds
 - Higher-spin field theory
 - Quantum field theory with extra dimensions
 - Anomalies in QFT's
 - Conformal geometry approach to quantum gravity
 - Topological aspects of the band structure of solids