Alberto Lerda

Curriculum vitae

BIO AND EDUCATION

- 1984: Laurea in Fisica - Università di Torino;
- 1987: M.A. – SUNY at Stony Brook (Stony Brook, NY, USA);
- 1988: Ph.D. – SUNY at Stony Brook (Stony Brook, NY, USA).

UNIVERSITY CAREER

2002-	Full Professor, Università del Piemonte Orientale
1995-2002	Associate Professor, Università del Piemonte Orientale
1993-1995	Associate Professor, Università di Salerno
1991-1993	Assistant Professor, ITP SUNY at Stony Brook, NY, USA
1990-1993	Researcher, Università di Torino
1988-1991	Research Associate, CTP at MIT, Cambridge, MA, USA

SCIENTIFIC POSITIONS

2011-	Chair of the National Scientific Committee 4 (CSN4) of INFN
2011-	Director of the Galileo Galilei Institute in Florence
2005-2011	Member of the National Scientific Committee 4 of INFN and national referee for the research in Sting and Field Theories

MAIN FIELDS OF INTEREST

1. High Energy Theoretical Physics
2. String Theory
3. Gauge Theories
4. Quantum Field Theories
5. Supersymmetry

CURRENT ISSUES OF RESEARCH

1. String Theory and D-branes

Study of string theory, of D-brane systems, of the corresponding geometry and of itsuse for the description of the dual gauge theories. Development of the formalism of the "boundary state" for the explicit description of D-branes , for the study of non-BPS D-branes and their geometry.

Analysis of theories of open strings in closed string background and of instanton effects using string methods.

2. Non-perturbative effects in string and gauge theories

Study of systems of magnetized D-branes with generalized fluxes and of the corresponding effective four-dimensional gauge theory, focusing in particular on the non-perturbative aspects and the instanton corrections obtained from string amplitudes with mixed boundary conditions. Development of a stringy instanton calculus to study non-perturbative effects in field theories using systems of D-branes, and application of the localization techniques in the gauge/gravity correspondence, and study of S-duality in various supersymmetric gauge theories.

CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
INFN	ST&FI – "String Theory & Fundamental Interactions". https://web2.infn.it/CSN4/IS/Linea1/ST_FI/index.html

TOP FIVE PAPERS

1. P. Di Vecchia, M. Frau, I. Pesando, S. Sciuto, A. Lerda and R. Russo, "Classical p-branes from boundary state'', Nucl. Phys. B507 (1997) 259 [hep-th/9707068]
2. M. Bertolini, P. Di Vecchia, M. Frau, A. Lerda and R. Marotta, "N=2 gauge theories on systems of fractional D3/D7 branes", Nucl. Phys. B621 (2002) 157 [hep-th/0107057]
3. M. Billo, M. Frau, I. Pesando, F. Fucito, A. Lerda and A. Liccardo, "Classical gauge instantons from open strings", JHEP 0302 (2003) 045 [hep-th/0211250]
4. M. Billo, M. Frau, F. Fucito and A. Lerda, "Instanton calculus in R-R background and the topological string", JHEP 0611 (2006) 012 [hep-th/0606013]
5. R. Argurio, M. Bertolini, G. Ferretti, A. Lerda and C. Petersson, "Stringy instantons at orbifold singularities", JHEP 0706 (2007) 067 [arXiv:0704.0262 [hep-th]].

AWARDS

1. Prize of the Italian Physical Society for yourg graduates, 1984