

# CURRICULUM VITAE

**Angel M. Uranga**

## **Personal data**

**Name:** Angel M. Uranga

**Born:** Andoain, Guipúzcoa (Spain), March 20th, 1970

**Sex:** Male

**Marital status:** Married, two daughters

**Nationality:** Spanish

## **Education**

**High School:** Colegio Antoniano, Zarauz, Guipúzcoa (Spain).

### **Undergraduate Studies:**

Universidad del País Vasco, Bilbao (Spain), October 1988-June 1991.

Universidad Autónoma de Madrid, Madrid (Spain), October 1991-June 1993.

### **Postgraduate Studies:**

Universidad Autónoma de Madrid, Madrid (Spain), Sept. 1993-Sept. 1997.

Supervisor: L. E. Ibáñez.

### **Ph. D. in Theoretical Physics:**

“New heterotic vacua in four dimensions with  $N = 1$  and  $N = 2$  supersymmetry”, January 1997.

### **Positions:**

- 1997-99 Postdoc at Institute for Advanced Study, Princeton USA
- 1999-2001 CERN Fellow, Theory Division, Geneva
- 2001-02 Ramón y Cajal Researcher at the Departamento de Física Teórica, Universidad Autónoma de Madrid, Spain
- 2001-present: Permanent member of the Instituto de Física Teórica UAM/CSIC, Madrid.
- 2005-09 Junior Staff in the TH group at CERN, Geneva

### **Present Position:**

Permanent member of the Instituto de Física Teórica UAM/CSIC, Madrid, since 2002.

Director of the Instituto de Física Teórica UAM/CSIC, from Sept. 2015-  
Research activity officially acknowledged with 2 sexenios, 2001-2006 and 2007-2012.

## Awards

Ph. D. Award, 1997 (*Premio Extraordinario de Doctorado 1997*), awarded by the Universidad Autónoma de Madrid.

## Teaching experience

- Teaching assistant at the Universidad Autónoma de Madrid, academic year 1996-1997
- Teaching duties during my appointment as ‘Ramón y Cajal’ researcher at the Universidad Autónoma de Madrid, academic year 2001-2002
- Postgraduate course Introduction to string theory, 24 hours, at the Solvay Doctoral School, Univ. Libre of Brussels, October 2008.
- Graduate course ‘Introduction to string theory’, in the postgraduate program of the Theoretical Physics Department at the Universidad Autónoma de Madrid, academic years 2002-3 to 2005-6.
- Postgraduate lectures ‘Introduction to string theory, with 2 credits (10 hours) within the master course Seminarios de Física Teórica, of the Theoretical Physics Department at the Universidad Autónoma de Madrid, academic year 2006-07.
- Graduate course ‘Introduction to string theory’, in the master program of the Theoretical Physics Department at the Universidad Autónoma de Madrid, academic years 2007-8 to 2013-14.
- PhD course ‘Introduction to string theory’, in the postgraduate program of the Theoretical Physics Department at the Universidad Autónoma de Madrid, academic year 2014-15.

## Ph. D. Thesis and other postgraduate supervision programs

- Juan Francisco García Cascales, ‘Flux Compactifications: Theory and Model Building’  
Universidad Autónoma de Madrid, *apto cum laude*, April 2005.
- Fouad Saad, ‘Dynamical supersymmetry breaking from Branes in String Theory’  
Universidad Autónoma de Madrid, *apto cum laude*, May 2007.

- Supervisor of Davide Forcella under the CERN Marie Curie student grant, 2007-08
- Supervisor of Christoffer Petersson under the CERN Marie Curie student grant, 2008-09
- Inaki García Etxebarria, ‘Dynamics of D-branes at local Calabi-Yau geometries’  
Universidad Autónoma de Madrid, *apto cum laude* March 2008.
- Pablo Soler, ‘Non-perturbative aspects of type II string compactifications’, Universidad Autónoma de Madrid, *apto cum laude* June 2012.
- Mikel Berasaluce ‘Discrete gauge symmetries in field theory and string theory’, June 2014
- Supervision of Master thesis of Nicolo Piazzalunga, Erasmus student from the Master program at Univ. Padova, Italy 2013
- Guillermo Ramírez, master thesis, October 2012-October 2014
- Miguel Montero, PhD student, started in October 2012
- Ander Retolaza, PhD student, started in October 2012
- Nicolo Piazzalunga, PhD student, started in 2012
- Eduardo García-Valdecasas, PhD student, started in 2015

### **Research Contracts and grants**

#### **Research Contracts:**

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|-----------|--|
| 1992-1993 | Research grant ‘Beca de colaboración del Gobierno Vasco’.  |
| 1993-1994 | Postgraduate grant ‘Ayuda a estudiantes del Tercer Ciclo’ of the Universidad Autónoma de Madrid.               |
| 1994-1996 | Research grant of the ‘Becas para formación de investigadores’ program, Gobierno Vasco.                        |
| 1997-1999 | Postdoctoral Fellowship by Ramón Areces Foundation (Spain)   |
| 1999-2001 | CERN Fellow, Theory Division.  |
| 2001-2002 | Research grant ‘Ramón y Cajal’, jointly financed by the Spanish Government and Universidad Autónoma de Madrid. |

#### **Participation in some recent Grants:**

- FPA2012-32828, Teorías de campos y cuerdas: teoría y fenomenología en la frontera de la física de partículas, by Ministerio de Economía y competitividad, Spain. Host: IFT UAM-CSIC, January 2013 - December 2015. Participation: Principal Investigator.  
Funding: 314.730,00 euros.
- FPA2009-07908, Teoría de cuerdas como herramienta para el estudio de teorías de campos a acoplo fuerte y fenomenología, by Ministerio de Ciencia e Innovación Spain. Host: IFT UAM-CSIC, January 2010 - December 2012. Participation: Participant in original application.  
Funding: 264.400,00 euros
- FPA2006-05485, Teorías de campos y cuerdas: aspectos teóricos y fenomenológicos, by Ministerio de Educación y Ciencia, Spain. Host: IFT UAM-CSIC, October 2006 - September 2009. Participation: Participant in original application.  
Funding: 213.448,84 euros
- ERC Advanced Grant, ERC-2012-ADG-20120216-320421, String phenomenology in the LHC era by European Research Council. Host: UAM, 2013-2017. Participation: Participant in original application  
Funding: 1.500.000 euros
- COST Action MP1210, The String Theory Universe, by European Union. Host: CSIC, 2013-16. Participation: Principal Investigator of IFT node

### **Participation in other Grants:**

- AEN93-0673, Física de partículas elementales: fenomenología del modelo standard y sus extensiones, by CICYT. PI: Dr. Enrique Alvarez Vazquez.
- AEN96-1664, Física de Altas Energías: Modelo Standard y más allá, by CICYT. PI: Belén Gavela Legazpi.
- FPA2000-0980, Física de partículas: el modelo standard y sus extensiones, from Ministerio de Ciencia y Tecnología. PI: Dr. Luis E. Ibáñez Santiago.
- Collaboration Grant UAM - University of Pennsylvania, of National Science Foundation, EEUU, 2002- 2005. PI: Prof. Mirjam Cvetič.

- Spain-Germany Collaboration Grant HA02-117 Teoría y Fenomenología de Construcciones de Cuerdas Modernas, 2003-2004, by Dirección General de Investigación del MCyT.
- Red Temática de Relatividad y Gravitación, .2004, from Ministerio de Ciencia y Tecnología, PI: Tomás Ortín.
- RTN European Program MRTN-CT-2004-503369 The Quest For Unification: Theory Confronts Experiment, from EU. PI: Ignatios Antoniadis (Ecole Polytechnique, Pars). Local PI: Luis E. Ibáñez.
- Project MRTN-CT-2004-005104 Constituents, Fundamental Forces and Symmetries of the Universe, from EU, PI: Dieter L'ust (Univ. Munich), local PI: César Gómez.
- Action FPA2002-10074-E VIII Christmas Workshop on Particle Physics, by Ministerio de Ciencia y Tecnología. PI: Angel M. Uranga
- HEPHACOS, P-ESP-00346, by Comunidad de Madrid. PI: César Gómez.

## List of publications

### Indicators

- More than 75 published articles (excluding proceedings), according to INSPIRE (<http://inspirehep.net>)
- h-index: 40
- Aprox. 6000 citations
- 6 articles with 250+ citations, 15 articles with 100+ citations, 11 articles with 50+ citations.

### Books

- 'String theory and particle physics: an introduction to string phenomenology, with Luis Ibáñez, Cambridge Univ. Press, March 2012. ISBN-10: 0521517524, ISBN-13: 978-0521517522

### Editor

- Strings, supergravity and gauge fields. Proceedings, European RTN Winter School, RTN 2007, Geneva, Switzerland, January 16-20 2006. Eds: Jean-Pierre Derendinger, Claudio A. Scrucca, Angel M. Uranga. Class. Quantum Grav. 23 (2006) S849-S1045
- Strings, supergravity and gauge fields. Proceedings, European RTN Winter School, RTN 2007, Geneva, Switzerland, January 15-19, 2007. Eds:

Jean-Pierre Derendinger, Claudio A. Scrucca, Angel M. Uranga. *Class. Quantum Grav.* 24 (2007) S713-S852

• Strings, supergravity and gauge theories. Proceedings, European RTN Winter School, CERN, Geneva, Switzerland, January 21-25, 2008. Eds J.P. Derendinger, Domenico Orlando, Angel Uranga, *Class. Quantum Grav.* 25 (2008)

• Strings, supergravity and gauge theories. Proceedings, European RTN Winter School, CERN, Geneva, Switzerland, February, 2009. Eds: Angel Uranga, aceptado para publicación en *Class. Quantum Grav.* 2009.

### Articles

1. String GUTs, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, *Nucl. Phys.* B452 (1995) 3-44.
2. Building GUTs from Strings, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, *Nucl. Phys.* B465(1996)34-70.
3. New Branches of String Compactification and their F-Theory Duals, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, *Nucl.Phys.* B584(1997)1-33.
4. String-string dualities in  $D = 6, 4$  dimensions, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, *Nucl.Phys.B Proc.Suppl.* 52A(1997)318-325.
5. Non-Perturbative Heterotic  $D=6,4$  Orbifold Vacua, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, G. Violerio, *Nucl.Phys.* B519(1998)239-281 (with)
6.  $D=6, N=1$  String Vacua and Duality, L. E. Ibáñez, Angel Uranga, Proceedings of the APCTP Winter School on Duality, Mt.Sorak (Korea), February 1997, hep-th/9707075.
7. Giving Up Modular Invariance Constraints in Heterotic Orbifold Vacua, G. Aldazabal, A. Font, L. E. Ibáñez, Angel Uranga, G. Violerio, *Nucl.Phys.B (Proc.Suppl.)* 68(1998)128-139.
8. Towards mass deformed  $N = 4$   $Sp(k)$  and  $SO(n)$  theories from brane configurations, Angel Uranga, *Nucl.Phys.* B526(1998)241-277
9. Finite theories and marginal operators on the brane, A. Hanany, M. J. Strassler, Angel Uranga, *JHEP* 06(1998)011
10. Brane boxes and branes on singularities, A. Hanany, Angel Uranga, *JHEP* 05(1998)013.

11. Brane box realization of chiral gauge theories in two-dimensions, H. García-Compeán, Angel Uranga, Nucl.Phys. B539(1999)329-366.
12. Anomalous  $U(1)$ 's in type I and type IIB  $D=4$ ,  $N=1$  string vacua, L. E. Ibáñez, R. Rabadán, Angel Uranga, Nucl.Phys. B542(1999)112-138.
13. A note on  $N=2$  superconformal theories and orientifolds, J. Park, Angel Uranga, Nucl.Phys. B542(1999)139-156.
14. Brane configurations for branes at conifolds, Angel Uranga, JHEP 9901(1999)022
15. Tadpole versus anomaly cancellation in  $D=4,6$   $N=1$  type IIB orientifolds, G. Aldazabal, D. Badagnani, L. E. Ibáñez, Angel Uranga, JHEP 9906(1999)031.
16. Sigma model anomalies in compact  $D = 4$   $N = 1$  type IIB orientifolds and Fayet-Iliopoulos terms, L. E. Ibáñez, R. Rabadán, Angel Uranga, Nucl. Phys. B576(2000)285-312.
17.  $N=1$  type IIA brane configurations, chirality and T-duality, J. Park, R. Rabadan, Angel Uranga, Nucl. Phys. B570(2000)3-37.
18. Orientifolding the conifold, Angel Uranga, Nucl. Phys. B570(2000)38-80.
19. Tachyon free nonsupersymmetric type IIB orientifolds via brane -antibrane systems, G. Aldazabal, Angel Uranga, JHEP 9910(1999)024.
20. A New orientifold of  $C^2/Z_N$  and six-dimensional RG fixed points, Nucl. Phys. B577(2000)73-87
21. Comments on nonsupersymmetric orientifolds at strong coupling, Angel Uranga, JHEP 0002(2000)041
22. D-branes at singularities: A bottom-up approach to the string embedding of the standard model, G. Aldazabal, L. E. Ibáñez, F. Quevedo, Angel Uranga, JHEP 0008 (2000) 002.
23. From quiver diagrams to particle physics, Angel Uranga, Proceedings of the Third European Congress of Mathematics, Birkhauser-Verlag series 'Progress in Mathematics'
24. Type IIB orientifolds without untwisted tadpoles, and non-BPS D-branes, R. Rabadán, Angel Uranga, JHEP 0101(2001)029.

25. Discrete Wilson lines in  $N=1$   $D=4$  type IIB orientifolds: A Systematic exploration for  $Z_6$  orientifold, M. Cvetič, Angel Uranga, J. Wang, Nucl.Phys.B 595(2001)63.
26. D-brane probes, RR tadpole cancellation and K theory charge, Angel Uranga, Nucl.Phys.B 598(2001)225
27. Intersecting brane worlds, G. Aldazabal, S. Franco, L. E. Ibáñez, R. Rabadán, Angel Uranga, JHEP 0102(2001)047.
28.  $D=4$  chiral string compactifications from intersecting branes, G. Aldazabal, S. Franco, L. E. Ibáñez, R. Rabadán, Angel Uranga, J. Math. Phys. 42 (2001) 3103.
29. Orientifold dual for stuck NS branes, JHEP 0106 (2001) 065, (with B. Feng, Y.-H. He, A. Karch)
30. The fate of the type I non-BPS D7-brane, O. Loaiza-Brito, Angel Uranga, Nucl.Phys. B619 (2001) 211-231.
31. Three-family standard-like models from intersecting brane worlds, M. Cvetič, G. Shiu, Angel Uranga, Phys. Rev. Lett. 87 (2001) 201801.
32. Chiral four-dimensional  $N=1$  supersymmetric type IIA orientifolds from intersecting D6-branes, M. Cvetič, G. Shiu, Angel Uranga, Nucl.Phys.B 615(2001)3.
33. Wrapped fluxbranes, Angel Uranga, hep-th/0108196.
34. Toric duality as Seiberg duality and brane diamonds, B. Feng, A. Hanany, Y.-H. He, Angel Uranga, JHEP 0112 (2001) 035.
35. Chiral type II orientifold constructions as M-theory on  $G_2$  holonomy spaces, M. Cvetič, G. Shiu, Angel Uranga, Proceedings of SUSY 2001, Dubna 2001, hep-th/0111179.
36. D-branes, fluxes and chirality, Angel Uranga, JHEP 0204 (2002) 016.
37. Localized instabilities at conifolds, Angel Uranga, hep-th/0204079
38. Gauging away the strong CP problem, with G. Aldazabal, L.E. Ibáñez, Angel Uranga, JHEP 0403 (2004) 065.
39. Local models for intersecting brane worlds, Angel Uranga, JHEP 0212 (2002) 058.
40. Chiral four-dimensional string compactifications with intersecting D-branes, Angel Uranga, Class. Quant. Grav. 20 (2003) S373-S394

41. Closed strings tachyons and noncommutative instabilities, A. Armoni, E. Lopez, Angel Uranga, JHEP 0302 (2003) 020
42. Chiral 4d string vacua with D branes and NSNS and RR fluxes, J. F.G. Cascales, Angel Uranga, JHEP 0305 (2003) 011
43. M5-brane geometries, T-duality and fluxes, J. F.G. Cascales, Angel Uranga, JHEP 0401 (2004) 021
44. Flux induced SUSY breaking soft terms, P.G. Cámara, L. E. Ibáñez, Angel Uranga, Nucl. Phys. B689 (2004) 195
45. Chiral 4-D string vacua with D-branes and moduli stabilization, J. F. G. Cascales, A. M. Uranga, hep-th/0311250
46. Realistic D-brane models on warped throats: Fluxes, hierarchies and moduli stabilization, J. F. G. Cascales, M.P. García del Moral, F. Quevedo, Angel Uranga, JHEP 0402 (2004) 031
47. Branes on generalized calibrated submanifolds, with J. F.G. Cascales, Angel Uranga, JHEP 0411 (2004) 083 .
48. Flux-induced SUSY-breaking soft terms on D7-D3 brane systems, P.G. Cámara, L. E. Ibáñez, A. M. Uranga, Nucl.Phys. B708 (2005) 268-316.
49. Multi-flux warped throats and cascading gauge theories, S. Franco, A. Hanany, Angel Uranga, JHEP 0509:028,2005.
50. Holographic dual of the standard model on the throat, J. F.G. Cascales, F. Saad, Angel Uranga, JHEP 0511:047,2005.
51. Fractional branes and dynamical supersymmetry breaking, S. Franco, A. Hanany, F. Saad, Angel Uranga, JHEP 0601:011,2006.
52. From F/M-theory to K-theory and back, I. García-Etxebarria, Angel Uranga, JHEP 0602:008,2006.
53. Quiver gauge theories at resolved and deformed singularities using dimers, Iñaki García-Etxebarria, Fouad Saad,Angel Uranga, JHEP 0606:055,2006.
54. Dynamical susy breaking at meta-stable minima from D-branes at obstructed geometries, Iñaki García-Etxebarria, Fouad Saad, Angel Uranga, JHEP 0606:031,2006.
55. Local models of gauge mediated supersymmetry breaking in string theory, I. García-Etxebarria, Fouad Saad, Angel Uranga, JHEP 0608:069,2006.

56. Non-supersymmetric meta-stable vacua from brane configurations, S. Franco, I. García-Etxebarria, Angel Uranga, JHEP 0701:085,2007.
57. Neutrino Majorana Masses from String Theory Instanton Effects, L.E. Ibáñez, Angel Uranga, JHEP 0703 (2007) 052.
58. Supersymmetry breaking metastable vacua in runaway quiver gauge theories, I. García-Etxebarria, F. Saad, Angel Uranga, JHEP 0705 (2007) 047
59. Instanton induced neutrino Majorana Masses in CFT orientifolds with MSSM-like spectra, L.E. Ibáñez, A. N. Schellekens, Angel Uranga, JHEP 0706 (2007) 011
60. Dimers and orientifolds, S. Franco, A. Hanany, D. Krefl, J. Park, Angel Uranga, D. Vegh, JHEP 0709 (2007) 075.
61. Instanton induced open string superpotentials and branes at singularities, L. E. Ibáñez, Angel Uranga, JHEP 0802 (2008) 103.
62. Non-perturbative superpotentials across lines of marginal stability, I. Garcia-Etxebarria, Angel Uranga, JHEP 0801 (2008) 033.
63. Non-perturbative F-terms across lines of BPS stability, I. Garcia-Etxebarria, F. Marchesano, Angel Uranga, JHEP 0807 (2008) 028.
64. E3-brane instantons and baryonic operators for D3-branes on toric singularities, D. Forcella, I. Garcia-Etxebarria, Angel Uranga, JHEP 0903 (2009) 041
65. D-brane instantons and the effective action of flux compactifications, Angel Uranga, JHEP 0901 (2009) 048.
66. Non-perturbative effects and wall-crossing from topological strings, A. Collinucci, P. Soler, Angel Uranga, JHEP 0911 (2009) 025.
67. D-instanton and polyinstanton effects from type I' D0-brane loops, C. Petersson, P. Soler, Angel Uranga, JHEP 1006 (2010) 089
68. Discrete gauge symmetries in D-brane models, M. Berasaluce-González, L.E. . Ibáñez, P. Soler, Angel Uranga, JHEP 1112 (2011) 113
69. Discrete Gauge Symmetries in Discrete MSSM-like Orientifolds, L.E. Ibáñez, A.N. Schellekens, Angel Uranga, Nucl.Phys. B865 (2012) 509-540

70. Non-Abelian discrete gauge symmetries in 4d string models, M. Berasaluce-González, P.G. Cámara, F. Marchesano, Angel Uranga, JHEP 1209 (2012) 059
71.  $Z_p$  charged branes in flux compactifications, M. Berasaluce-González, P.G. Cámara, F. Marchesano, Angel Uranga, JHEP 1304 (2013) 138.
72. Discrete gauge symmetries from (closed string) tachyon condensation, M. Berasaluce-González, M. Montero, A. Retolaza, Angel Uranga, JHEP 1311 (2013) 144
73. Bipartite Field Theories from D-Branes, S. Franco, Angel Uranga, JHEP 1404 (2014) 161.
74. Antisymmetric tensor  $Z_p$  gauge symmetries in field theory and string theory, M. Berasaluce-González, G. Ramírez, Angel Uranga, JHEP 1401 (2014) 059
75. F-term Axion Monodromy Inflation, by Fernando Marchesano, Gary Shiu, Angel M. Uranga, JHEP 1409 (2014) 184.
76. Heterotic NS5-branes from closed string tachyon condensation, by Iñaki García-Etxebarria, Miguel Montero, Angel Uranga, Phys.Rev. D90 (2014) 12, 126002.
77. M-theory interpretation of the real topological string, by Nicolò Piazzalunga, Angel M. Uranga, JHEP 1408 (2014) 054.
78. On axion monodromy inflation in warped throats, by Sebastian Franco, Daniele Galloni, Ander Retolaza, Angel Uranga, JHEP 1502 (2015) 086.
79. Transplanckian axions !?, by Miguel Montero, Angel M. Uranga, Irene Valenzuela, JHEP 1508 (2015) 032.
80. Bifid Throats for Axion Monodromy Inflation, A.Retolaza, Angel Uranga, A. Westphal, JHEP 1507 (2015) 099
81. Charting Class  $S_k$  Territory, S. Franco, H. Hayashi, Angel Uranga, Phys. Rev. D92 (2015) 4, 045004
82. Closed tachyon solitons in type II string theory, I. Garca-Etxebarria, M. Montero, Angel Uranga, Fortsch.Phys. 63 (2015) 571-595.
83. D-brane Instantons as Gauge Instantons in Orientifolds of Chiral Quiver Theories, S. Franco, A. Retolaza, Angel Uranga, arXiv:1507.05330 [hep-th], submitted to JHEP.

84. String Theory Realizations of the Nilpotent Goldstino, R. Kallosh, F. Quevedo, Angel Uranga, submitted to JHEP
85. Towards a gauge theory interpretation of the real topological string, H. Hayashi, N. Piazzalunga, Angel Uranga, arXiv:1508.06644 [hep-th], submitted to JHEP.

### **Referee work**

- Reviewer of ‘Mathematical Reviews’ 1998-2004
- Regular referee for Physics Letters B, Journal of High Energy Physics, Nuclear Physics B, Physical Review Letters
- Editor of Journal of High Energy Physics, since January 2007
- Referee for diverse international scientific evaluation agencies, including ANEP, spanish Ministry for Science, italian Ministry for Education and Research.

### **Invited talks at international workshops**

1. ‘The construction of GUTs from strings’ at the Flavourdynamics Networkworkshop, Warsaw (Poland), April 1995.
2. ‘New heterotic branches of string compactification and their F-theory duals’, II UAM String Workshop, Madrid (Spain), December 1996.
3. ‘Mass deformed  $N = 4$  theories from brane configurations’, III UAM Christmas Workshop, Madrid (Spain), December 1997.
4. ‘Brane configurations and Branes at singularities’, IV UAM Christmas Workshop, Madrid (Spain), December 1998.
5. ‘Anomalous  $U(1)$ s in  $D=4$   $N=1$  type I string vacua’, Planck 99 Conference, Bad Honnef (Germany) April 99.
6. ‘Anomaly cancellation for branes at singularities’, Workshop on High Energy Physics, Philadelphia (USA), May 99.
7. ‘Tachyon-free Non-supersymmetric Type I vacua from brane-antibrane systems’, V Christmas Workshop, Madrid (Spain), December 1999

8. 'From quiver diagrams to particle physics', Third European Congress of Mathematics, Univ. Autònoma Barcelona, Barcelona (Spain), July 2000
9. 'From branes at singularities to particle physics', IX Marcel Grossmann Meeting, Univ. Rome 'La Sapienza', Rome (Italy), July 2000.
10. 'From branes at singularities to particle physics', Euroconference Quantum fields and Strings, Crete (Greece), September 2000.
11. 'D-brane probes, RR tadpole cancellation and K-theory charge', VI Christmas Workshop, Universidad Autònoma de Madrid, December 2000.
12. 'Realistic brane worlds from string theory', Network workshop Physics in extra dimensions, Warsaw (Poland), February 2001.
13. 'D-brane model building', International meeting 'Physics in the Pyrenees: Strings, Branes and Field Theory', Benasque, Spain, July 2001.
14. 'Intersecting Brane Worlds', Planck 2002, Kazimierz, Poland, May 2002.
15. 'D-branes, fluxes and Wess-Zumino terms', SUSY 2002, DESY Hamburg, Germany, June 2002.
16. 'Local models for intersecting brane worlds', invited talk at the 35th Ahrenschoop meeting, Berlin, August 2002
17. 'Chiral 4d string compactifications with intersecting D-branes', invited review lecture at the TMR Network meeting, Leuven, September 2002
18. 'Overview of intersecting D-brane worlds in string theory', plenary talk at the X Marcel Grossman meeting, Rio de Janeiro, Brasil, July 2003.
19. 'Chiral 4d string models with D-branes and NSNS and RR fluxes', parallel session talk at the X Marcel Grossman meeting, Rio de Janeiro, Brasil, July 2003.
20. 'Aspects of Intersecting Brane Worlds', Theory Workshop, Hamburg, September 2003
21. 'Overview of D-brane phenomenological model building', String theory Workshop, Bad Honnef, Alemania, March 2004
22. 'Flux compactifications and phenomenological applications', sesión plenaria en SUSY 2004, Japan, June 2004

23. 'D-brane models and flux supersymmetry breaking', Strings 2004, París, Francia, June 2004.
24. 'Dual views on branes at singularities', String Vacuum Project Workshop, Munich, November 2004.
25. 'Flux supersymmetry breaking in MSSM string compactifications', EuroGDR Meeting, Frascati, November 2004.
26. 'Overview of Type II model building', String Phenomenology Conference, Munich, June 2005.
27. 'Infrared dynamics of duality cascades and warped throats', Strings 2005, Toronto, Canada, June 2005.
28. 'String theory and particle physics', NURT 2006, La Habana, Cuba, April 2006.
29. 'Dynamical supersymmetry breaking from D-branes at singularities', Planck 2006, Paris, May 2006.
30. 'Dynamical supersymmetry breaking from D-branes at singularities', John Hopkins workshop, Galileo Galilei Institute, Florence, June 2006.
31. 'Dynamical supersymmetry breaking from D-branes at singularities', Strings 2006, Beijing, China, June 2006.
32. 'Dynamical supersymmetry breaking from D-branes at singularities', String Phenomenology 2006, Santa Barbara, August 2006.
33. 'Landscape and strings', RTN midterm meeting, Pisa, November 2006.
34. 'D-brane model building', escuela LASS, Bariloche, Argentina, January 2007.
35. 'Infrared dynamics of cascading gauge theories from D-branes at singularities', conferencia en el congreso 'Gauge theories, strings and geometry', Instituto Solvay, Brussels, May 2007
36. 'Dimers and orientifolds', conferencia plenaria en String Phenomenology 2007, Frascati, June 2007
37. 'Dimers and orientifolds' conferencia plenaria en Strings 2007, Madrid, June 2007
38. 'Non-perturbative superpotentials across lines of marginal stability', workshop 'Recent developments on instantons and effective actions in string theory', Munich, November 2007

39. 'Type II D-brane model building', workshop 'Mathematical challenges of string phenomenology', Viena, October 2008.
40. 'Non-perturbative D-brane instanton effects and wall-crossing', workshop Indian Strings Meeting, Pondicherry, India, December 2008
41. 'Introduction to string theory', workshop SILFAE, Bariloche, Argentina, January 2009.
42. 'Overview of String Phenomenology', 'Planck 09', Padua, May 2009.
43. 'Non-perturbative effects and instanton wall crossing in 4d  $N=1,2$  models', plenary talk at 'String Phenomenology', Varsovia, June 2009.
44. 'Non-perturbative effects and instanton wall crossing in 4d  $N=1,2$  models', plenary talk at 'Strings 2009', Roma, June 2009.
45. 'Non-perturbative effects and instanton wall crossing in 4d  $N=1,2$  models', Benasque, June 2009.
46. 'String Theory', plenary talk at '2009 Europhysics Conference HEP-EPSS', Cracovia, Polonia, July 2009.
47. 'Status of String Theory', I Jornadas CPAN, El Escorial, Madrid, November 2009
48. 'Multinstanton computations in string theory', plenary talk at Planck '10, CERN, Ginebra, May 2010.
49. 'Update on string phenomenology', workshop Eurostrings '10, Madrid, June 2010.
50. 'Multi-instanton computations in string theory', String Phenomenology '10, París, June 2010.
51. 'String phenomenology', PASCOS '10, Valencia, July 2010.
52. 'Non-abelian discrete gauge symmetries in string theory", Iberian Strings, Bilbao, February 2012
53. 'Non-abelian discrete gauge symmetries in string theory", String Phenomenology '12, Cambridge, June 2012
54. 'Overview of discrete gauge symmetries in string theory", TH Institute on String Phenomenology, CERN, July 2012
55. 'Update on string phenomenology', Strings 2012, Munich, July 2012
56. 'Axion monodromy on warped throats', Planck 2014, Paris, May 2014

57. ‘Discrete gauge symmetries, Chern-Simons terms and axion monodromy’, String Phenomenology, ICTP Trieste, July 2014
58. Transplanckian axion field ranges in string theory, plenary talk at Strings 2015, 22-26 June 2015, Bangalore, India.
59. Real adventures in four dimensions, plenary talk at the V Workshop on Geometric Correspondences and Gauge Theories, 6-10 July 2015, Trieste, Italy.

### **International Advisory Committees**

- International Advisory Committee of the conferences Strings 2007 (UAM) and Strings 2008 (CERN).
- International Advisory Committee of the conferences String Phenomenology 2008 (Univ. Pensilvania), Strings 2009 (U. Roma Tor Vergata).

### **Organization of International Workshops**

- VIII IFT-UAM/CSIC Christmas Workshop, Madrid, December 2002.
- Planck 2003, Madrid, May 2003.
- First workshop of the network Geometry and Physics, Madrid, November 2003
- IX IFT-UAM/CSIC Christmas Workshop, Madrid, December 2003.
- X IFT-UAM/CSIC Christmas Workshop, Madrid, December 2004.
- Workshop Gravitational Aspects of Strings and Branes, Miraflores de la Sierra, Madrid, 9-11 February, 2005.
- RTN Winter School on Strings, Supergravity and Gauge Theories, CERN, Geneva, January 2006, 2007, 2008 and 2009.
- Workshop TH Institute on String Phenomenology, CERN, Geneva, 21 July- 13 August 2008
- Workshop String Phenomenology 2015, at IFT UAM-CSIC, 8-12 June 2015

### **Invited series of lectures**

1. Approximately 70 seminars, colloquia and courses at many international institutions since 1998: U. Texas at Austin, Duke University, MIT, CERN, Cambridge Univ, Univ. of Pennsylvania, Centro Atómico Bariloche, IFAE, Univ. of Geneva, Univ. Central of Barcelona, ICTP and SISSA in Trieste, LBNL Berkeley, Univ. Bonn, Univ. Neuchâtel, Univ. Santiago de Compostela, Univ. Oviedo, SLAC, Saclay,

Univ. Rome La Sapienza and Tor Vergata, DESY, Univ. Sussex, Queen Mary College, Imperial College, ULB Brussels, Univ. Durham, Univ. Swansea, Oxford Univ, Univ. Torino, Ecole Polytechnique, Univ. Padova, Univ. Stockholm, Univ. Milano Bicocca, LAPP Annecy

2. *Compactification, D-brane model building and fluxes*, lectures 4 hours, TASI, Boulder, EEUU, June 2005.
3. *The Standard Model in String Theory*, 3 hours course Cargese schoole, France, May 2006.
4. *Intersecting brane models*, 10 hours course at SISSA, Trieste, Italia, June 2007
5. *The Standard Model in String Theory via D-branes*, 4 hours course at Galileo Galilei Institute, Florence, June 2009.
6. *String Phenomenology*, 5 hours in the Simons Graduate Summer School, Simons Center for Theoretical Physics, Stony Brook, July 2012

### **Organizing Committee of International Workshops and Schools**

- VIII IFT-UAM/CSIC Christmas Workshop, Madrid, December 2002.
- Planck 2003, Madrid, May 2003.
- First workshop of the network ‘Geometry and Physics’, Madrid, November 2003
- IX IFT-UAM/CSIC Christmas Workshop, Madrid, December 2003.
- X IFT-UAM/CSIC Christmas Workshop, Madrid, December 2004.
- Workshop ‘Gravitational Aspects of Branes and Strings’, Miraflores de la Sierra, Spain, February 2005.
- ‘RTN Winter School on Strings, Supergravity and Gauge Theories’, within the European Network MRTN ‘Constituents, Fundamental Forces and Symmetries of the Universe’, CERN, January 2006, 2007, 2008 and 2009.
- Workshop ‘TH Institute on String Phenomenology’, en CERN, 21 Julio-13 Agosto 2008
- Advisory committee member of Strings 2007 (Univ. Autónoma de Madrid) and Strings 2008 (CERN) y Strings 2009 (U. Roma Tor Vergata)

- Advisory committee member of String Phenomenology 2008 (Univ. Pensilvania), 2009 (Varsovia), 2010 (París) and 2013 (DESY).
- Organization of the Luis Ibáñez Fest, Madrid, March 2013

### Outreach activities

- Colaboration in the program "High School Teachers" at CERN, Geneva, particle physics outreach program for international sets of High School teachers, in 2005 and 2006
- Lectures "Introduction to particle physics and cosmology" in the "Spanish Teachers Program" at CERN, Ginebra, Geneva, particle physics outreach program for sets of Spanish High School teachers, 2007 and 2008
- Popular science article (in spanish) "El misterio de la masa de los neutrinos: ¿tiene la teoría de cuerdas la clave?", con L. E. Ibáñez, electronic publication in the Scientific Information Service of Universidad Autonoma de Madrid  
<http://www.plataformasinc.es/index.php/esl/Noticias/El-misterio-de-la-masa-de-los-neutrinos-tiene-la-teoria-de-cuerdas-la-clave>
- Participation in the radio program "Diálogos en la onda" de Radio OMC, March 2009.
- Coordinator and lecturer in High School Teacher courses, in coordination with Comunidad de Madrid, in 2011, 2012, 2013 and 2014, and with CSIC in 2015.
- Lecture "Física de Partículas y Cosmología" in the "Hands on Particle Physics Masterclass", Universidad Autónoma de Madrid, March 2011, 2012, 2013, 2014, 2015.
- Participation in the programme "Rutas Científicas 2011, 2012" (Scientific routes 2011), addressed to selected High School students, organized by the Ministry of Science and the Comunidad de Madrid, November 2011 and 2012.
- Coordinator of the Conference Series at Residencia de Estudiantes CSIC, with the framework of the Madrid Science Week, November 2013, 2014 and 2015.
- Coordinator of the Outreach Programme at Instituto de Física Teórica.

- Over 40 outreach talks per year at High Schools in the Madrid area in 2014 and 2015.

Madrid, September 2015