

## CURRICULUM VITAE

<b>Name</b>	Delgado Delgado, Antonio
<b>Date and Place of Birth</b>	19 May 1974, Toledo, Spain
<b>Languages</b>	Spanish (native), English, French
<b>Citizenship</b>	Spanish
<b>Marital Status</b>	Married
<b>Mailing address</b>	Dept. of Physics University of Notre Dame 324 Nieuwland Science Hall Notre Dame, IN 46556-5670, USA Tel.: +1 574 631 3754 Fax: +1 574 631 5952
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### ACADEMIC DEGREES

<b>• 1997:</b>	<b>Licenciatura (B. Sc.) Physics</b>
Universidad Autónoma de Madrid.	Madrid (Spain)
<b>• 2001:</b>	<b>Doctorado (Ph. D.) Theoretical Physics</b>
Universidad Autónoma de Madrid.	Madrid (Spain)
Title	<i>Phenomenology of TeV-Dimensions</i>
Supervisor	Prof. M. Quirós

### Fellowships obtained:

- Student Fellowship from MEC, Spanish Education Office, 1996-1997 (Bachelor in Science)
- Research Fellowship from Spanish Education Office, 1997-2001 (Ph. D.)

### Awards obtained:

- Honorary member of the ΣΠΣ Physics Honor Society, May 2017.
- Rev. Edmund P. Joyce, C.S.C. Award for Excellence in Undergraduate Teaching, May 2017.

## **Grants obtained (group grants are equally shared):**

- NSF PHY-0905383 2009-2012 \$90,000 Single PI
- NSF PHY-1215979 2012-2015 \$420,000 PIs: I. Bigi, A. Delgado and C. Kolda
- Grant of the Mexican Government to collaborate with the University of Colima. \$8000, 2012.
- NSF PHY-1520966 2015-2018 \$555,000 PIs: I. Bigi, A. Delgado and A. Martin
- NSF PHY-1820860 2018-2021 \$570,000 PIs: I. Bigi, A. Delgado and A. Martin

## **Students advised:**

Alejandro de la Puente PhD. 2012, Working for the NSF  
Bryan Ostdiek PhD 2015, Postdoc at Oregon U  
Carlos Alvarado PhD 2018, Postdoc at Tsinghua U

## **Postdocs advised:**

David Diego 2008-2009, Postdoc at the University of Bergen (Norway)  
Jorge de Blas, 2010-2013, Postdoc at the U. Padova (Italy)  
Joe Bramante 2013-2016, Assistant Professor at Queen's University (Canada)  
Nirmal Raj 2015-2018, Postdoc at Triumf (Canada)  
Jeongham Kim, 2019-

## PROFESSIONAL EXPERIENCE

### • June 2018-:

**Position** Professor  
**Institution** University of Notre Dame  
**Center** Dept. of Physics  
**Department** HEP  
**Postal Address** 225 Nieuwland Science Hall, Notre Dame IN 46556 (USA)

### • July 2014-June 2015:

**Position** Scientific Associate  
**Institution** CERN  
**Center** PH-Dept.  
**Department** TH-Division  
**Postal Address** CH-1211 Geneva 23, Switzerland

### • June 2013-June 2018:

**Position** Associate Professor with tenure  
**Institution** University of Notre Dame  
**Center** Dept. of Physics  
**Department** HEP  
**Postal Address** 225 Nieuwland Science Hall, Notre Dame IN 46556 (USA)

### • September 2007-June 2013:

**Position** Assistant Professor  
**Institution** University of Notre Dame  
**Center** Dept. of Physics  
**Department** HEP  
**Postal Address** 225 Nieuwland Science Hall, Notre Dame IN 46556 (USA)

### • October 2004-September 2007:

**Position** Postdoctoral Fellow  
**Institution** CERN  
**Center** PH-Dept.  
**Department** TH-Division  
**Postal Address** CH-1211 Geneva 23, Switzerland

### • October 2001-September 2004:

**Position** Postdoctoral Fellow  
**Institution** Johns Hopkins University  
**Center** Dept. of Physics and Astronomy  
**Department** Particle Physics  
**Postal Address** 3400 N Charles St., Baltimore MD 21218 (USA)

• **September 1997 - October 2001:**

**Position** Pre-doctoral Student  
**Institution** C.S.I.C.  
**Center** Instituto de Estructura de la Materia.  
**Department** Unidad Estructural de Física Teórica  
**Postal Address** Serrano 123, 28006 Madrid (Spain)

• **July 1997 - September 1997:**

**Position** Summer Student  
**Institution** CERN  
**Department** Atlas Collaboration  
**Postal Address** Geneva (Switzerland)

• **October 1996 - June 1997:**

**Position** Assistant  
**Institution** Universidad Autónoma de Madrid  
**Department** Departamento de Física Terica  
**Postal Address** Cantoblanco, Madrid (Spain)

**CONFERENCES:**

1. Conference on High Energy Physics, IAS Hong Kong, January 20-22, 2020, Plenary Speaker
2. Dark Universe Workshop-Early Universe Cosmology, Baryogenesis and Dark Matter, ICTP-Brazil, October 2019, Plenary Talk.
3. Scalars 2019, University of Warsaw, September 2019, Plenary talk.
4. Planck 2019, June 2019, University of Granada, Plenary Talk.
5. Conference on High Energy Physics, IAS Hong Kong, January 21-24, 2019, Invited Speaker.
6. Third Colima Winter School on High Energy Physics, Colima, Mexico, January 9-18, 2018, Organizer.
7. SUSY 2018, Barcelona, July 23-27, 2018. Plenary Speaker.
8. KICP Dark Matter Workshop, University of Chicago, April 11-13, 2018. Plenary Speaker.
9. Conference on High Energy Physics, IAS Honk Kong, January 22-25, 2018, Invited Speaker.
10. Second Colima Winter School on High Energy Physics, Colima, Mexico, January 8-19, 2018, Organizer.
11. Scalars 2017, University of Warsaw, December 2017, Plenary talk.
12. Pascos 2017, IFT-Madrid, June 2017. Organizer.
13. The TeV Scale: A Threshold for new Physics, June 2017, University of Mainz. Invited Panelist.
14. Planck 2017, May 2017, University of Warsaw, Plenary Talk.
15. IAS Program on High Energy Physics, Hong Kong, January 9-26, 2017. Plenary Talk.
16. First Colima Winter School on High Energy Physics, Colima, Mexico, January 4-18, 2017. Invited Lecturer.
17. Program in Particle Physics, ICTP-SAIFR, Sao Paulo, Brazil, October, 16-21, 2016. Plenary Talk.
18. Beyond the Standard Model Workshop, October 10-12, 2016, University of Michigan. Plenary Talk.
19. PASCOS 2016, July 2016, ICISE, Vietnam, Plenary Talk.
20. Understanding the First results of the LHC Run II, June 2016, University of Mainz. Panelist.
21. Planck 2016, May 2016, University of Valencia, Plenary Talk.

22. New Physics Interpretations t the LHC, May 2016, Argonne National Laboratory, Plenary Talk.
23. Scalars 2015, December 2015, University of Warsaw, Plenary Talk.
24. Physics at TeV Colliders, June 2015, Les Houches. Organizer.
25. Physics Challenges in the face of LHC-14, IFT-UAM, September 15-26, 2014, Invited Talk.
26. GOAL workshop, ICTP-UNESP, August, 11-15, 2014. Invited Plenary Talk.
27. Dual workshop, University of Colima, January 7-14, 2014, Panelist.
28. SUSY at the Energy Frontier, Fermilab, November, 11-13, 2013. Invited Plenary Talk.
29. SUSY 2013, August 2013, ICTP, Trieste, Italy. Invited Plenary Talk.
30. Exploring TeV scale new physics with LHC Data, June-July 2013, UCSB. Invited Talk.
31. The First Three Years of the LHC, March 2013, Mainz, Germany. Invited talk given.
32. Dual CP Institute of High Energy Physics, January 2013, Colima, Mexico. Invited course given.
33. SUSY 2012, August 2012, Beijing, China. Invited talk given.
34. Theory Summer institute on BSM, June 2012, CERN, Switzerland. Invited talk given.
35. Chicago 2012 Workshop on LHC Physics, May 2012. Chicago. Panelist.
36. Dual CP Institute of High Energy Physics, January 2012, Puebla, Mexico. Invited course given.
37. SUSY 2011, September 2011, Fermilab, Batavia, IL. Invited talk given.
38. PLHC 2011, June 2011, Perugia, Italy. Invited talk given.
39. Planck 2011, May 2011, Instituto Tecnico Superior, Lisbon, Portugal. Invited talk given.
40. Pheno 2011, May 2010, University of Wisconsin-Madison. Panelist.
41. Planck 2010, June 2010, CERN, Geneva, Switzerland. Invited Talk.
42. Pheno 2010, May 2010, University of Wisconsin-Madison. Panelist.
43. Aspen Center for Physics, Colorado, July 2009. Invited talk given.
44. Planck 2009, May 2009, Padova, Italy. Invited talk given.
45. Pheno 2009, May 2009, University of Wisconsin-Madison. Invited talk given.
46. KIPTC, July 2008, Beijing, China. Invited talk given.
47. Forum in Particle Physics, July 2008, Weihai, China. Plenary talk given.

48. Planck'08, May 2008, Barcelona, Spain. Plenary talk given.
49. Physics at TeV Colliders, June 2007, Les Houches. Panelist.
50. Cracow School of Theoretical Physics, June 2007, Cracow. Course given.
51. Planck'07. June 2007, Warsaw. Plenary talk given.
52. Trends in Theoretical Physics IV, May 2007, Buenos Aires. Invited Talk given.
53. Planck'06. May 2006, Paris. Plenary talk given.
54. Corfu Summer School 2005, September 2005, Corfu, Greece. Course given.
55. SUSY-2005, July 2005, IPPP, Durham, UK. Invited talk given.
56. Planck'05, May 2005, ICTP, Trieste, Italy.
57. SUSY-2004, June 2004, Epochal, Tsukuba, Japan.
58. Theory Institute on Higgs, SUSY and Extra Dimensions 2004, May 2004, ANL, Chicago, USA.
59. IFT/UAM Christmas Workshop, December 2003, UAM, Madrid, Spain.
60. Aspen Center for Physics, July 2003, Aspen, Colorado, USA.
61. Planck'03, May 2003, CSIC, Madrid, Spain.
62. IFT/UAM Christmas Workshop, December 2002, UAM, Madrid, Spain.
63. Aspen Center for Physics, July 2002, Aspen, Colorado, USA.
64. Theory Institute on SUSY and Extra Dimensions 2002, May 2002, ANL, Chicago, USA.
65. IFT/UAM Christmas Workshop, December 2001, UAM, Madrid, Spain.
66. Theory Institute on SUSY and Extra Dimensions 2001, May 2001, ANL, Chicago, USA.
67. Physics in Extra Dimensions, February 2001, Warsaw, Poland.
68. Conference on Physics Beyond 4D, July 3-6 2000. ICTP, Trieste, Italy.
69. Advanced School on Supersymmetry, Superstrings and Branes, July 1999. Santiago de Compostela, Spain.
70. SUSY-1999. Fermilab, Batavia (IL), USA.
71. SUSY-1998. Oxford Univ., Oxford, UK.
72. Advanced School on Cosmology and Particle Physics, June 1998. Peñíscola, Spain.
73. "Beyond the Standard Model Physics at the Threshold," Aspen Center for Physics, July 19, 2009 to August 2, 2009.

## CONFERENCES Organized:

1. Les Houches 2007. BSM Convener.
2. Les Houches 2015, BSM Convener.
3. Pascos 2017, Madrid. Organizer.
4. First Colima Winter School on High Energy Physics, Colima, Mexico, January 4-18, 2017.
5. Second Colima Winter School on High Energy Physics, Colima, Mexico, January 8-18, 2018.
6. PIKIO 6, October 6, 2018. Notre Dame. Organizer.
7. Third Colima Winter School on High Energy Physics, Colima, Mexico, January 9-19, 2019.

## List of Publications

1. “Reinterpreting diboson searches for charginos”, A. Delgado and A. Martin, arXiv:1912.03215
2. “Generalized Blind Spots for Dark Matter Direct Detection in the 2HDM”, M.E. Cabrera, J.A. Casas, A. Delgado and S. Robles, arXiv:1912.01758
3. “Constraining R-parity-violating couplings in tau-processes at the LHC and in electroweak precision measurements”, S. Bansal, A. Delgado, C. Kolda and M. Quiros arXiv:1906.01063. Phys. Rev. **D100** (2019) 9, 015037
4. “Higgsino Dark Matter from an economical Scherk-Schwarz setup”, A. Delgado, A. Martin and M. Quiros, arXiv:1812.08019. Phys. Rev. **D98** (2019) 7, 075015
5. “Limits on R-parity-violating couplings from Drell-Yan processes at the LHC”, S. Bansal, A. Delgado, C. Kolda and M. Quiros arXiv:1812.04232. Phys. Rev. **D99** (2019) 9, 093008
6. CEPC Conceptual Design Report: Volume 2- Physics & Detectors., CEPC Study Group. arXiv:1811.10545
7. “Hunting leptoquarks in mono-lepton searches”, S. Bansal, R. Capdevilla, A. Delgado, C. Kolda, A. Martin, N. Raj. arXiv: 1806.02370. Phys. Rev. **D98** (2018) 1, 015037
8. “Constraining the R-symmetric chargino NLSP at the LHC”, C. Alvarado, A. Delgado, A. Martin. arXiv:1803.00624. Phys. Rev. **D97** (2018) 11, 115044



9. “The effective supergravity of Little String Theory”, I. Antoniadis, A. Delgado, C. Markou & S. Pokorski. arXiv:1710.05568. Eur. Phys. J. **C78** (2018) 2, 146
10. “Characterizing dark matter at the LHC in Drell-Yan events”, Rodolfo Capdevilla, Antonio Delgado, Adam Martin, Nirmal Raj. arXiv:1709.00436.
11. “Multiscatter stellar capture of dark matter”, Joseph Bramante, Antonio Delgado, Adam Martin, arXiv:1703.04032. Phys. Rev. **D96** (2017) 6, 063002
12. “A light sneutrino rescues the light stop” Mikael Chala, Antonio Delgado, Germano Nardini, Mariano Quiros. arXiv:1702.07359. JHEP **1704** (2017) 097
13. “Low Scale Inflation at High Energy Colliders and Meson Factories”, Joseph Bramante, Jessica Cook, Antonio Delgado, Adam Martin. arXiv:1608.08625. Phys. Rev. **D94** (2016) 11, 115012
14. “Natural Supersymmetry from Extra Dimensions”, Antonio Delgado, Mateo Garcia-Pepin, Germano Nardini, Mariano Quiros, arXiv:1608.06470. Phys. Rev. **D94** (2016) 9, 095017
15. “Forbidden Dark Matter at the Weak Scale via the Top Portal” Antonio Delgado, Adam Martin, Nirmal Raj. arXiv: 1608.06470.
16. “Extending the reach of compressed gluinos at the LHC” Antonio Delgado, Adam Martin, Nirmal Raj. arXiv: 1605.06479. Phys. Rev. **D94** (2016) 11, 115010
17. “Les Houches 2015: Physics at TeV colliders-new physics working group report” G. Brooijmans et al. arXiv:1605.02684
18. “Naturalness of MSSM Dark Matter”, Maria Eugenia Cabrera, J. Alberto Casas, Antonio Delgado, Sandra Robles, Roberto Ruiz de Austri. arXiv:1604.0212. JHEP **1608** (2016) 058
19. “Diphoton and Diboson probes of Fermiophobic Higgs Boson at the LHC”, Antonio Delgado, Mateo Garcia-Pepin, Mariano Quiros, Roberto Vega-Morales, Jose Santiago. arXiv: 1603.00962. JHEP **1606** (2016) 042
20. “Minimal models of Loop-induced Higgs Flavor Violation”, Carlos Alvarado, Rodolfo Capdevilla, Antonio Delgado and Adam Martin, arXiv:1602.08506. . Phys. Rev. **D94** (2016) 7, 075010
21. “The Diboson Excess: Experimental Situation and Classification of Explanation; A Les Houches Pre-Proceeding”, Johann Brehmer et al, arXiv:1512.04357
22. “Gauge mediation with light stops”. Antonio Delgado, Mateo-Garcia-Pepin, Mariano Quiros, arXiv: 1511.03254.

23. “Light stop in a minimal  $U(1)_X$  extension of the MSSM”, Rodolfo Capdevilla, Antonio Delgado, Adam Martin, arXiv: 1509.02472. Phys. Rev. **D92** (2015) 11, 115020
24. “Diboson resonant production in non-custodial composite Higgs models”. Adrian Carmona, Antonio Delgado, Mariano Quiros, Jose Santiago, arXiv: 1507.01914, JHEP **1509** (2015) 186
25. “Detecting underabundant neutralinos”, Marcin Badziak, Antonio Delgado, Marek Olechowski, Stefan Pokorski, Kazuki Sakurai, arXiv: 1506.07177, JHEP **1511** (2015) 053
26. “GMSB with light stops”, Antonio Delgado, Mateo Garcia-Pepin, Mariano Quiros, JHEP **1508** (2015) 159
27. “Dirac Triplet Extension of the MSSM”, Carlos Alvarado, Antonio Delgado, Adam Martin and Bryan Ostdeik, arXiv:1504.03683. . Phys. Rev. **D92** (2015) 035009
28. “Dark Matter from the Supersymmetric Custodial Triplet Model”, Antonio Delgado, Mateo Garcia-Pepin, Bryan Ostdeik and Mariano Quiros, arXiv:1504.02486. Phys. Rev. **D92** (2015) 015011
29. “Boosted Higgses from chromomagnetic  $b$ 's:  $bbh$  at high luminosities”, Joseph Bramante, Antonio Delgado, Lando Lehman and Adam Martin, arXiv:1410:3484.
30. “Catching Sparks from well-forged neutralinos”, Joseph Bramante, Antonio Delgado, Fatemeh Elahi, Adam Martin and Bryan Ostdeik, arXiv:1408.6530, Phys. Rev. **D90** (2014) 095008
31. “Focus point in the Light Stop Scenario”, Antonio Delgado, Mariano Quirós and Carlos Wagner, arXiv:1406.2027, Phys. Rev. **D90** (2014) 035011
32. “Flavor Physics Constrains on a  $Z_5$ -3HDM”, Alfredo Aranda, J.E. Barradas-Guevara, A. Cordero-Cid, Francisco de Anda, Antonio Delgado, O. Felix-Beltran and Jaime Hernandez-Sanchez, arXiv:1404.7829.
33. “Cornering a Hyper Higgs: Angular Kinematics for Boosted Higgs boson with top pairs”, Joseph Bramante, Antonio Delgado and Adam Martin, arXiv:1402.5985, Phys. Rev. **D89** (2014) 093006
34. “General Focus Point in the MSSM”, Antonio Delgado, Mariano Quirós and Carlos Wagner, arXiv:1402.1735, JHEP **04** (2014) 093
35. “Electroweak and supersymmetry breaking from the Higgs discovery”, Antonio Delgado, Mateo Garcia and Mariano Quirós, arXiv:1312.3225, Phys. Rev. **D90** (2014) 015016

36. “Indirect effects of supersymmetric triplets in stops decays”, Jorge de Blas, Antonio Delgado, Bryan Ostdeik and Mariano Quiros, arXiv:1311.3654, JHEP **01** (2014) 177
37. “The Least superymmetric signals at the LHC”, Jorge de Blas, Antonio Delgado and Bryan Ostdeik, arXiv:1304.1964 Phys. Rev. **D87** (2013) 115026
38. “A light supersymmetric Higgs sector hidden by a SM like Higgs”, Antonio Delgado, Germano Nardini and Mariano Quiros. arXiv:1303:0800, JHEP **1307** (2013) 054
39. “Higgs decay into two photons form a 3HDM with flavor symmetry”, Alfredo Aranda, Cesar Bonilla, Fracisco de Anda, Antonio Delgado and Jaime Hernandez-Sanchez. arXiv:1302.1060 , Phys. Lett. **B725** (2013) 97
40. “The light stop window”, Antonio Delgado, Gian F. Giudice, Gino Isidori, Maurizio Pierini and Alessandro Strumia. arXiv 1212.6847 Eur. Phys.J. **C73** (2013) 2370
41. “Large diphton Higgs rates from supersymmetric triplets”, Antonio Delgado, Germano Nardini and Mariano Quiros, arXiv: 1207.6596, Phys. Rev. **D86** 115010 (2012)
42. “LHC signals of non-custodial warped 5D models”. Jorge de Blas, Antonio Delgado, Alejandro de la Puente and Bryan Ostdeik, arXiv:1206.0699 [hep-ph] Phys. Rev. **D86** 015028 (2012)
43. “The light stop scenario from Gauge Mediation”, Antonio Delgado, Germano Nardini and Mariano Quiros, arXiv:1201.5164 [hep-ph] JHEP **1204** (2012) 137
44. “Solving the hierarchy problem with a light singlet and supersymmetric mass terms”, Antonio Delgado, Christopher Kolda and Alejandro de la Puente, arXiv:1111.4008 [hep-ph] Phys. Lett. **B710** (2012) 460
45. “The least supersymmetric Standard Model, Antonio Delgado and Mariano Quiros, arXiv:1111.0528 [hep-ph] Phys. Rev. **D85** 015001 (2012)
46. “Upper bounds on SUSY masses from the LHC”, M.E. Cabrera, J.A.Casas and Antonio Delgado. arXiv:1108.3867[hep-ph], Phys. Rev. Lett.. **108** 021802 (2012)
47. “Singlet deflection of gauge mediation”, Jorge de Blas and Antonio Delgado. Arxiv: 1108.2511 [hep-ph] Phys. Lett. **B708** 300 (2012)
48. “Phenomenology of a Lepton Triplet”, Antonio Delgado, Camilo Garcia Cely, Tao Han and Zhihui Wang. arXiv: 1105:4517 [hep-ph] Phys. Rev. **D84** 073007 (2011)
49. “Exploring singlet deflection of gauge mediation”, Jorge de Blas and Antonio Delgado, E-print:arXiv:1103:3280[hep-ph], Phys. Rev. **D83** 115011 (2011)
50. “A Light Scalar in Low-Scale Technicolor,” Antonio Delgado, Kenneth Lane, Adam Martin, E-Print: arXiv:1011.0745 [hep-ph], , Phys. Lett. **B696** 482 (2011)

51. “Gauge-mediated embedding of the singlet extension of the minimal supersymmetric standard model,” Antonio Delgado, Christopher Kolda, J. Pochontas Olson, Alejandro de la Puente, E-Print: arXiv:1005.4901 [hep-ph] Phys. Rev. D **82**, 035006 (2010).
52. “Solving the Little Hierarchy Problem with a Singlet and Explicit  $\mu$  terms,” Antonio Delgado, Christopher Kolda, J. Pochontas Olson, Alejandro de la Puente, Phys. Rev. Lett. **105**, 091802 (2010) “The SUSY Higgs Mass: The Singlet Saves the Day,” E-Print: arXiv:1005.1282 [hep-ph].
53. “A Simple-Minded Unitarity Constraint and an Application to Unparticles,” Antonio Delgado (U. Notre Dame), Matthew J. Strassler (Rutgers U.), RUNHETC-2009-31. Dec 2009. 35 pp. E-Print: arXiv:0912.2348 [hep-ph] Published in Phys. Rev. D **81**, 056003 (2010).
54. “Fermion Mass Hierarchy from the Soft Wall,” Antonio Delgado, David Diego, (U. Notre Dame) May 2009. 25pp. Published in Phys. Rev. D **80**, 024030 (2009). e-Print: arXiv:0905.1095 [hep-ph]
55. “SUSY without the Little Hierarchy,” Brando Bellazzini (Cornell U., LEPP & INFN, Pisa), Csaba Csaki (Cornell U., LEPP), Antonio Delgado (U. Notre Dame), Andreas Weiler (Cornell U., LEPP & CERN), Feb. 2009. 18 pp. Published in Phys. Rev. D **79**, 095003 (2009). E-Print: arXiv:0902.0015 [hep-ph]
56. “A Note on Unparticle Decays,” Antonio Delgado (U. Notre Dame), Jose R. Espinosa (Madrid, IFT & Barcelona, IFAE), Jose Miguel No (Madrid, IFT), Mariano Quiros (Barcelona, IFAE & ICREA, Barcelona). CERN-PH-TH-2008-231, IFT-UAM-CSIC-08-82, UAB-FT-658, Dec. 2008. Published in Phys. Rev. D **79**, 055011 (2009). Dec 2008. 11pp. e-Print: arXiv:0812.1170 [hep-ph]
57. “Reply to 'Comment on 'Hunting long-lived gluinos at the Pierre Auger Observatory',” Luis A. Anchordoqui (Wisconsin U., Milwaukee), Antonio Delgado (U. Notre Dame), Carlos A. Garcia Canal, Sergio J. Sciutto (La Plata U.). Jun 15, 2008. 2pp. Published in Phys.Rev.D **77**, 128302 (2008).
58. “Phantom Higgs from Unparticles,” A. Delgado (U. Notre Dame), J.R. Espinosa (Madrid, IFT & Madrid, Autonoma U. & CERN), J.M. No (Madrid, IFT & Madrid, Autonoma U.), M. Quiros (ICREA, Barcelona & Barcelona, IFAE). CERN-PH-TH-2008-089, IFT-UAM-CSIC-08-23, UAB-FT-644, Apr 2008. 14pp. Published in JHEP 0811:071, 2008. e-Print: arXiv:0804.4574 [hep-ph]
59. “The Higgs as a Portal to Plasmon-like Unparticle Excitations,” A. Delgado, J.R. Espinosa, J.M. No, M. Quiros. IFT-UAM-CSIC-08-09, CERN-PH-TH-2008-033, UAB-FT-639, Feb 2008. 12pp. Published in JHEP04 (2008) 028. e-Print: arXiv:0802.2680 [hep-ph]

60. “New Physics at the LHC: A Les Houches Report. Physics at TeV Colliders 2007 – New Physics Working Group,” G. Brooijmans et al., Feb. 2008. 127 pp. e-Print: arXiv:0802.3715 [hep-ph]
61. “Hunting long-lived gluinos at the Pierre Auger Observatory,” L.A. Anchordoqui, A. Delgado, C.A. Garcia Canal, S.J. Sciutto, CERN-PH-TH-2007, 120, Oct 2007. 13pp. *Phys. Rev. D* **77**, 023009 (2008) e-Print: arXiv:0710.0525 [hep-ph]
62. “A New gauge mediation theory,” I. Antoniadis (CERN), K. Benakli (Paris, LPTHE), A. Delgado (CERN), M. Quiros (Barcelona, Inst. Estudis Catalans & Barcelona, IFAE). CERN-PH-TH-2006-188, LPTHE-06-04, UAB-FT-611, Oct 2006. 23pp. Published in *Adv.Stud.Theor.Phys.*2:645-672, 2008. e-Print: hep-ph/0610265
63. “Unparticles-Higgs Interplay,” A. Delgado, J.R. Espinosa and M. Quirós, *JHEP* **0710** (2007) 094
64. “Dynamical Mu Term in Gauge Mediation,” A. Delgado, G.F. Giudice and P. Slavich, *Phys. Lett.* **B653** (2007) 424-433
65. “Xtra-Dimensional World(s),” A. Delgado, *J. Phys. Conf. Ser.* **53** (2006) 359
66. “Electroweak Observables in a General 5d Background,” A. Delgado and A. Falkowski, *JHEP* **0705** (2007) 097
67. “Split Extended Supersymmetry From intersecting Branes,” I. Antoniadis, K. Benakli, A. Delgado, M. Quirós and M. Tuckmantel, *Nucl. Phys.* **B744** (2006) 156
68. “The Well-Tempered Neutralino,” N. Arkani-Hamed, A. Delgado and G.F. Giudice, *Nucl. Phys.* **B741** (2006) 108
69. “Splitting Extended Supersymmetry,” I. Antoniadis, K. Benakli, A. Delgado, M. Quiros and M. Tuckmantel, *Phys.Lett.* **B634** (2006) 302
70. “On the Tuning Condition of Split Supersymmetry,” A. Delgado and G.F. Giudice, *Phys.Lett.* **B627** (2005) 155
71. “A Fat Higgs With a Fat Top,” A. Delgado and T. Tait, *JHEP* **0507** (2005) 023
72. “Warped Fermions and Precision Tests,” M. Carena, A. Delgado, E. Ponton, T. Tait and C. Wagner, *Phys. Rev.* **D71** (2005) 015010
73. “Raising the Higgs Mass in Supersymmetric Models,” \*Tsukuba 2004, Supersymmetry and unification of fundamental interactions\* 757-760
74. “Running Into New Territory in Susy Parameter Space,” P. Batra, A. Delgado, D. Kaplan and T. Tait, *JHEP* **0406** (2004) 032

75. “The Higgs Mass Bound in Gauge Extensions of the Minimal Supersymmetric Standard Model,” P. Batra, A. Delgado, D. Kaplan and T. Tait, *JHEP* **0402** (2004) 043
76. “RS1, Custodial Isospin and Precision Tests,” K. Agashe, A. Delgado, M. May and R. Sundrum, *JHEP* **0308** (2003) 050
77. “Precision Electroweak Data and Unification of Couplings in Warped Extra Dimensions,” M. Carena, A. Delgado, E. Ponton, T. Tait and C. Wagner, *Phys. Rev.* **D68** (2003) 035010
78. “Tachyons In a Slice of Ads,” A. Delgado and M. Redi, *Phys. Lett.* **B562** (2003) 127
79. “Grand Unification in RS1,” K. Agashe, A. Delgado and R. Sundrum, *Ann. Phys.* **304** (2003) 145
80. “Brane Assisted Scherk-Schwarz Supersymmetry Breaking in Orbifolds,” A. Delgado, G. von Gersdorff and M. Quirós, *JHEP* **0212** (2002) 002
81. “A Note on Cft Dual of RS Model with Gauge Fields in Bulk,” K. Agashe and A. Delgado, *Phys. Rev.* **D67** (2003) 046003
82. “Gauge Coupling Renormalization in RS1,” K. Agashe, A. Delgado and R. Sundrum, *Nucl. Phys.* **B643** (2002) 172
83. “Two Loop Higgs Mass in Supersymmetric Kaluza-Klein Theories,” A. Delgado, G. von Gersdorff and M. Quirós, *Nucl. Phys.* **B613** (2001) 49
84. “One Loop Higgs Mass Finiteness in Supersymmetric Kaluza-Klein Theories.” A. Delgado, G. von Gersdorff, P. John and M. Quirós, *Phys. Lett.* **B517** (2001) 445
85. “Supersymmetry and Finite Radiative Electroweak Breaking from an Extra Dimension,” A. Delgado and M. Quirós, *Nucl. Phys.* **B607** (2001) 99
86. “Brane Effects on Extra Dimensional Scenarios: A Tale of Two Gravitons,” M. Carena, A. Delgado, J. Likken, S. Pokorsky, M. Quirós and C.E.M. Wagner, *Nucl. Phys.* **B609** (2001) 499
87. “The Lightest Higgs Mass in Supersymmetric Models with Extra Dimensions,” A. Delgado and M. Quirós, *Phys. Lett.* **B484** (2000) 355
88. “Electroweak and Flavor Physics in Extensions of the Standard model with Large Extra Dimensions,” A. Delgado, A. Pomarol and M. Quirós, *JHEP* **030** (2000) 001
89. “Strong Coupling Unification and Extra Dimensions,” A. Delgado and M. Quirós, *Nucl. Phys.* **B559** (1999) 235

90. “Supersymmetry and Electroweak Breaking from Extra Dimensions at the TeV Scale,” A. Delgado, A. Pomarol and M. Quirós, *Phys. Rev.* **D60** (1999) 095008

## Invited Talks (International and National Conferences, Seminars, Colloquia)

1. “Quo Vadis Theory?”, **Summary Talk**, Conf. on High Energy Physics, IAS Hong Kong January 22, 2019.
2. “Quo Vadis DM?”, **Invited Talk**, Conf. on High Energy Physics, IAS Hong Kong January 20, 2019.
3. “Higgsino Dark Matter in Natural supersymmetry”, **Plenary Talk**, Dark Universe Workshop 2019, October 25, 2019.
4. “Higgsino Dark Matter in Natural supersymmetry”, **Plenary Talk**, Scalars 2019, September 21, 2019.
5. “Higgsino Dark Matter in Natural supersymmetry”, **Seminar**, Shandong University, July 1, 2019.
6. “Higgsino Dark Matter in Natural supersymmetry”, **Plenary Talk**, Plank 2019, June 3, 2019.
7. “Higgsino Dark Matter in Natural supersymmetry”, **Seminar**, U. of Oregon, May 13, 2019.
8. “Higgsino Dark Matter in Natural supersymmetry” **Invited Talk**, Conf. on High Energy Physics, IAS Hong Kong January 23, 2019.
9. “Higgsino Dark Matter in Natural supersymmetry” **Invited Talk**, Third Winter conference, Colima Mexico, January 9, 2019.
10. “Discovering new physics with leptons”, **Seminar**, IFT, October 12, 2018.
11. “New Ideas on Model Building”, **Plenary Talk**, SUSY 2018, Barcelona, July 24, 2018.
12. “Discovering new physics with leptons”, **Seminar**, University of Heidelberg, July 12, 2018.
13. “Discovering new physics with leptons”, **Seminar**, TUM, Munich, July 5, 2018.
14. “Distinguishing scalar DM from fermion DM in dilepton events”, **Invited Talk**, KICP Dark Matter Workshop, University of Chicago, April 12, 2018.
15. “Distinguishing scalar DM from fermion DM in dilepton events”, **Invited Talk**, Conf. on High Energy Physics, IAS Hong Kong January 24, 2018.



16. “Distinguishing scalar DM from fermion DM in dilepton events”, **Plenary Talk**, Scalars 2017, University of Warsaw, December 01, 2017.
17. “Compressed spectra”, **Seminar**, University Autonoma de Barcelona, June 30, 2017.
18. “Compressed spectra”, **Plenary Talk**, Plank 2017, University of Warsaw, May 22, 2017.
19. “Compressed spectra”, **Seminar**, University of Minnesota, April 28, 2017.
20. “Compressed spectra”, **Seminar**, IFT Madrid, April 3, 2017.
21. “Compressed spectra”, **Seminar**, University of Carleton, March 16, 2017.
22. “Dark Matter”, **Colloquium**, University of Carleton, March 14, 2017.
23. “Compressed spectra”, **Plenary Talk**, Program in Particle Physics, IAS, University of Hong Kong, January 19, 2017.
24. “Compressed spectra”, **Plenary Talk**, Program in Particle Physics, ICTP-SAIFR, University of Sao Paulo, October 21, 2016.
25. “Compressed spectra”, **Plenary Talk**, Beyond the Standard Model Workshop, University of Michigan, October 11, 2016.
26. “Higgs lepton flavor violation decay”, **Plenary talk**, Pascos 2016, ANL, July 15, 2016.
27. “Compressed spectra”, **seminar**, University of Granada, June 23, 2016.
28. “Higgs lepton flavor violation decay”, **Plenary talk**, Planck 2016, University of Valencia, May 23, 2016.
29. “Higgs lepton flavor violation decay”, **Plenary talk**, New Physics Interpretations of the LHC, ANL, May 2, 2016.
30. “All about the triplet”, **Plenary talk**, Scalars 2015 University of Warsaw, December 5, 2015.
31. “All about the triplet”, **Seminar**, ICTP-UNESP, October 21, 2015.
32. “All about the triplet”, **Seminar**, University of Granada, July 9, 2015.
33. “Signals of Natural SUSY”, **Seminar**, TUM Munich, April 15, 2015.
34. “Signals of Natural SUSY”, **Seminar**, ETH Zurich, March 2, 2015.
35. “Signals of Natural SUSY”, **Seminar**, University of Crete, February 24, 2015.

36. “Signals of Natural SUSY”, **Seminar**, University of Barcelona, February 13, 2015.
37. “Signals of Natural SUSY”, **Seminar**, University of Valencia, January 27, 2015.
38. “Signals of Natural SUSY”, **Seminar**, Scuola Normal Superiore of Pisa, December 13, 2014.
39. “Signals of Natural SUSY”, **Seminar**, University of Warsaw, December 5, 2014.
40. “Signals of Natural SUSY”, **Seminar**, CERN, November 12, 2014.
41. “The general focus point in the MSSM”, **Seminar**, University of Durham, October 8, 2014.
42. “The general focus point in the MSSM”, **Plenary Talk**, Physics challenges in the face of LHC-14, workshop, September 15-26, 2014, IFT-UAM.
43. “The general focus point in the MSSM”, **Plenary Talk**, GOAL workshop, August 11-15, 2014, ICTP-UNESP.
44. “The phenomenology of the LSSM”, **Seminar**, Universidad Autónoma de Madrid, April 10, 2014.
45. “The phenomenology of the LSSM”, **Seminar**, University of Sao Paulo, March 10, 2014.
46. “The phenomenology of the LSSM”, **Plenary Talk**, Susy at the Energy Frontier, Fermilab, November 11-13, 2013.
47. “The phenomenology of the LSSM”, **Seminar**, Cornell University, October 23, 2013.
48. “The phenomenology of the LSSM”, **Seminar**, TRIUNF, Vancouver, October 20, 2013.
49. “The phenomenology of the LSSM”, **Plenary Talk**, SUSY 2013, ICTP, Trieste, August 2013.
50. “The light stop scenario”, **invited talk**, KITP, UCSB, June 20, 2013.
51. “Dark matter and the LHC”, **invited talk**, Mainz, March 19, 2013.
52. “LHC signals of the soft wall model”, **seminar**, Perimeter Institute, Ontario, Canada, December 19, 2012.
53. “LHC signals of the soft wall model”, **seminar**, U. Colima, Mexico, Oct 19, 2012.
54. “LHC signals of the soft wall model”, **Parallel Talk**, SUSY 2012, Beijing, Aug 16, 2012.

55. “LHC signals of the soft wall model”, **Plenary Talk**, Theory Institute for BSM, CERN, June 20, 2012.
56. “LHC signals of the soft wall model”, **seminar**, Universidad Autonoma de Madrid, June 14, 2012.
57. “The S-MSSM: The singlet saves the day”, **seminar**, University of Irvine, March 14, 2012.
58. “The LHC mysteries, what will we find?”, **lectures**, 2012 DCPIHEP, Puebla Mexico, January 9-13, 2012.
59. “Phenomenology of a lepton Triplet”, **seminar**, Universidad Autónoma de Madrid, Oct 21, 2011.
60. “The S-MSSM: The singlet saves the day,” **seminar**, Columbia University, Oct 17, 2011.
61. “What if susy is not right. Non-susy signal at the LHC”. **Parallel talk**, SUSY 2011, Fermilab, September 1, 2011.
62. “Phenomenology of a lepton Triplet”, **seminar**, CERN, June 23, 2011.
63. “What if susy is not right. Non-susy signal at the LHC”. **Parallel talk**, PLHC 2011, Perugia, June 10, 2011
64. “Singlet deflection of gauge mediation”, **parallel talk**, Planck 2011, Lisbon, May 31, 2011
65. “The S-MSSM: The singlet saves the day,” **seminar**, Universidad de Granada, May 25, 2011. “
66. “The S-MSSM: The singlet saves the day,” **seminar**, Universidad Autónoma de Madrid, April 11, 2011.
67. “The S-MSSM: The singlet saves the day,” **seminar**, Purdue University, West Lafayette, Indiana, March 22, 2011.
68. “The S-MSSM: The singlet saves the day,” **seminar**, IFT, São Paulo, Brazil, March 17, 2011.
69. “The S-MSSM: The singlet saves the day,” **seminar**, Fermilab, Batavia, Illinois, October 21, 2010.
70. “The S-MSSM: the singlet saves the day,” **seminar**, Boston University, Massachusetts, October 18, 2010.
71. “The S-MSSM: the singlet saves the day,” **seminar**, CERN, Geneva, June 16, 2010.

72. “Unitarity applied to Hidden Sectors Processes,” **seminar**, Universidad Autónoma de Barcelona, May 28, 2010.
73. “Unitarity applied to Hidden Sectors Processes,” **seminar**, Universidad Autónoma de Madrid, March 27, 2010.
74. “Unitarity applied to Hidden Sectors Processes,” **seminar**, Brookhaven National Laboratory, March 10, 2010.
75. “Unitarity applied to Hidden Sectors Processes,” **seminar**, University of Chicago, February 12, 2010.
76. “Unparticles decays,” **parallel talk** at Planck 2009, Padova, Italy, May 25-29, 2009.
77. “Unparticles decays,” **parallel talk** at Pheno 2009, University of Wisconsin-Madison, May 11-13, 2009.
78. “Higgs-Unparticles Interplay,” **seminar**, Universidad Autónoma de Madrid, March 31, 2009.
79. “Unparticle physics,” **colloquium** at University of Wisconsin, Milwaukee, Wisconsin, March 13, 2009.
80. “Unparticle-Higgs interplay,” **seminar** at Rutgers University, Piscataway, New Jersey, March 10, 2009.
81. “Higgs-Unparticle interplay,” **seminar** at Washington University, St. Louis, Missouri, December 11, 2008.
82. “Higgs-Unparticle interplay,” **seminar** at Argonne National Lab, Illinois, October 28, 2008.
83. “Higgs-Unparticle interplay,” **seminar** at Cornell University, Ithaca, New York, October 22, 2008.
84. “Higgs-Unparticle interplay,” **seminar** at Fermilab, Batavia, Illinois, September 25, 2008.
85. “Higgs-Unparticle interplay,” **plenary talk** at Forum in Particle Physics, Weihai, China, July 13, 2008.
86. “Dynamical mu term in gauge mediation,” **seminar**, SLAC Theory Group, Menlo Park, California, June 18, 2008.
87. “Higgs-Unparticle Interplay,” **seminar**, SLAC Experimental Group, Menlo Park, California, June 17, 2008.

88. “Higgs-Unparticle interplay,” **plenary talk** at Planck 2008, From the Planck Scale to the Electroweak Scale, CosmoCaixa, Barcelona, Spain, May 22, 2008.
89. “Dynamical mu-term in gauge mediation,” **seminar**, University of Wisconsin, Madison, April 18, 2008.
90. “Dynamical mu-term in gauge mediation,” **seminar**, LHC 2008 Workshop, University of Michigan, January 5-11, 2008.
91. “Dynamical  $\mu$  term in gauge mediation,” **seminar**, Harvard University, Cambridge, Massachusetts, December 4, 2007.
92. “Dynamical  $\mu$  term in gauge mediation,” **seminar**, Boston University, Boston, Massachusetts, December 3, 2007.
93. “Dynamical  $\mu$  term in gauge mediation,” **seminar**, Michigan State University, East Lansing, Michigan, November 13, 2007.
94. “Blackboard, White Chalk and Unparticles,” **seminar**, University of Wisconsin, Milwaukee, Wisconsin, October 26, 2007.
95. “The physics behind LHC,” **colloquium**, University of Wisconsin, Milwaukee, Wisconsin, October 26, 2007.
96. “Dynamical  $\mu$  term in gauge mediation,” **seminar**, University of Chicago-Enrico Fermi Institute, Chicago, Illinois, October 19, 2007.