# **CURRICULUM VITAE**



PERSONAL DATA

FULL NAME: GUARINO, Adolfo.

CITIZENSHIP: Spanish.

ADDRESS: Departamento de Física – Facultad de Ciencias. Universidad de Oviedo

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Oviedo, España.

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Personal website

**EDUCATION** 

2006 - 2010 : Ph.D in Theoretical Physics, Universidad Autónoma de Madrid, Spain.

Thesis Title: "Generalised fluxes, moduli fixing and cosmological im-

plications".

Thesis Advisor: Prof. Jesús M. Moreno.

Grade: Cum Laude.

## ACADEMIC TRAJECTORY

2019 : Assistant professor at Universidad de Oviedo, Spain.

2016 - 2018 : Postdoctoral researcher at the Université Libre de Bruxelles, Belgium.

2014 - 2016: Postdoctoral researcher in the Theory Group at Nikhef, Amsterdam,

the Netherlands.

2012 - 2014: Postdoctoral researcher in the Institute for Theoretical Physics at the

University of Bern, Switzerland.

2010 - 2012 : Postdoctoral researcher in the Theoretical High Energy Physics group

at the University of Groningen, the Netherlands.

**AWARDS/GRANTS** 

Postdoctoral researcher: - Research fellowship (4-years) within the Talent Attraction Program

from Autonomous Community of Extremadura, Spain (2019). Declined in favour of an assistant professorship at University of Oviedo.

- Seal of Excellence from Marie Skłodowska-Curie action (2018)

- Short-Term Visit Grant at CERN (2017)

- Marina Solvay fellowship, Belgium (2017)

- Short-Term Scientific Missions (STSM) grant by COST MP1210 action (2014)

#### Predoctoral fellow:

- Ph.D fellowship from Spanish Ministry of Science (2006)
- Marie Curie Fellowship of the European Community programme HUMAN POTENTIAL (2005)
- M.Sc scholarship from Universidad Autónoma de Madrid (2005)
- B.Sc initiation research scholarship from Spanish Ministry of Science (2004)

## PUBLICATIONS [Link to INSPIRE]]

- 39. Holographic Evidence for Non-Supersymmetric Conformal Manifolds.
  Alfredo Giambrone, Adolfo Guarino, Emanuel Malek, Henning Samtleben,
  Colin Sterckx, Mario Trigiante.
  e-Print: arXiv:2112.11966.
- 38. *Flat deformations of type IIB S-folds*. Adolfo Guarino, Colin Sterckx.

  Published in JHEP 2111:171,2021. e-Print: arXiv:2109.06032.
- 37. S-folds and holographic RG flows on the D3-brane.Adolfo Guarino, Colin Sterckx.Published in JHEP 2106:051,2021. e-Print: arXiv:2103.12652.
- 36. Stable non-supersymmetric Anti-de Sitter vacua of massive IIA supergravity. Adolfo Guarino, Emanuel Malek, Henning Samtleben. Published in Phys.Rev.Lett. 126 (2021). e-Print: arXiv:2011.06600.
- 35. Brane-jet stability of non-supersymmetric AdS vacua.
  Adolfo Guarino, Javier Tarrío, Oscar Varela.
  Published in JHEP 2009:110,2020. e-Print: arXiv:2005.07072.
- 34.  $\mathcal{N}=2$  supersymmetric S-folds. Adolfo Guarino, Colin Sterckx, Mario Trigiante. Published in JHEP 2004:050,2020. e-Print: arXiv:2002.03692.
- 33. Flowing to  $\mathcal{N}=3$  Chern–Simons-matter theory. Adolfo Guarino, Javier Tarrío, Oscar Varela. Published in JHEP 2003:100,2020. e-Print: arXiv:1910.06866.
- Halving ISO(7) supergravity.
   Adolfo Guarino, Javier Tarrío, Oscar Varela.
   Published in JHEP 1911:143,2019. e-Print: arXiv:1907.11681.
- 31. S-folds and (non-)supersymmetric Janus solutions.Adolfo Guarino, Colin Sterckx.Published in JHEP 1912:113,2019. e-Print: arXiv:1907.04177.
- 30. Hypermultiplet gaugings and supersymmetric solutions from 11D and massive IIA supergravity on H<sup>(p,q)</sup> spaces.
   Adolfo Guarino.
   Published in Eur. Phys. J. C (2018) 78:202. e-Print: arXiv:1712.09549.
- 29. BPS black hole horizons from massive IIA.

Adolfo Guarino.

Published in JHEP 1708:100,2017. e-Print: arXiv:1706.01823.

28. BPS black holes from massive IIA on  $S^6$ .

Adolfo Guarino, Javier Tarrío.

Published in JHEP 1709:141,2017. e-Print: arXiv:1703.10833.

27. Double Field Theory at SL(2) angles.

F. Ciceri, G. Dibitetto, J. J. F. Melgarejo, A. Guarino, G. Inverso. Published in JHEP 1705:028,2017. e-Print: arXiv:1612.05230.

26. Romans-mass-driven flows on the D2-brane.

Adolfo Guarino, Javier Tarrío, Oscar Varela.

Published in JHEP 1608:168,2016. e-Print: arXiv:1605.09254.

25. The exceptional story of massive IIA supergravity.

Franz Ciceri, Adolfo Guarino, Gianluca Inverso.

Published in JHEP 1608:154,2016. e-Print: arXiv:1604.08602.

24. Deformed  $\mathcal{N}=8$  supergravity from IIA strings and its Chern-Simons duals. Adolfo Guarino, Daniel L. Jafferis, Oscar Varela.

Published in Fortschr. Phys. 64, 330-332(2016).

23. Single-step de Sitter vacua from non-perturbative effects with matter.

Adolfo Guarino, Gianluca Inverso.

Published in Phys. Rev. D 93,066013 (2016). e-Print: arXiv:1511.07841.

22. Consistent  $\mathcal{N}=8$  truncation of massive IIA on  $S^6$ .

Adolfo Guarino, Oscar Varela.

Published in JHEP 1512:020,2015. e-Print: arXiv:1509.02526.

21.  $CSO_c$  superpotentials.

Adolfo Guarino.

Published in Nucl. Phys. B900 (2015) 501-516. e-Print: arXiv:1508.05055.

20. *Dyonic ISO(7) supergravity and the duality hierarchy.* 

Adolfo Guarino, Oscar Varela.

Published in JHEP 1602:079,2016. e-Print: arXiv:1508.04432.

19. String theory origin of dyonic  $\mathcal{N}=8$  supergravity and its simple Chern-Simons duals. Adolfo Guarino, Daniel L. Jafferis, Oscar Varela.

Published in Phys. Rev. Lett. 115, 091601 (2015). e-Print: arXiv:1504.08009.

18. KK-monopoles and G-structures in M-theory/type IIA reductions.

Ulf Danielsson, Giuseppe Dibitetto, Adolfo Guarino.

Published in JHEP 1502:096,2015. e-Print: arXiv:1411.0575.

17. A second look at gauged supergravities from fluxes in M-theory.

Jean-Pierre Derendinger, Adolfo Guarino.

Published in JHEP 1409:162,2014. e-Print: arXiv:1406.6930.

16. Lobotomy of flux compactifications.

Giuseppe Dibitetto, Adolfo Guarino, Diederik Roest.

Published in JHEP 1405:067,2014. e-Print: arXiv:1402.4478.

- On new maximal supergravity and its BPS domain-walls.
   Adolfo Guarino.
   Published in JHEP 1402:026,2014. e-Print: arXiv:1311.0785
- Triality, Periodicity and Stability of SO(8) Gauged Supergravity.
   Andrea Borghese, Adolfo Guarino, Diederik Roest.
   Published in JHEP 1305:107,2013. e-Print: arXiv:1302.6057
- 13. The many surprises of maximal supergravity.

  Andrea Borghese, Adolfo Guarino, Diederik Roest.

  CNUM: C12-10-17. e-Print: arXiv:1301.6919
- The SU(3)-invariant sector of new maximal supergravity.
   A. Borghese, G. Dibitetto, A. Guarino, D. Roest, O. Varela.
   Published in JHEP 1303:082,2013. e-Print: arXiv:1211.5335
- All G<sub>2</sub> invariant critical points of maximal supergravity.
   Andrea Borghese, Adolfo Guarino, Diederik Roest.
   Published in JHEP 1212:108,2012. e-Print: arXiv:1209.3003
- Exceptional flux compactifications.
   Giuseppe Dibitetto, Adolfo Guarino, Diederik Roest.
   Published in JHEP 1205:056,2012. e-Print: arXiv:1202.0770
- 9. Vacua analysis in extended supersymmetry compactifications.
  Giuseppe Dibitetto, Adolfo Guarino, Diederik Roest.
  Published in Fortschr. Phys., 1-4 (2012). e-Print: arXiv:1112.1306
- How to halve maximal supergravity.
   Giuseppe Dibitetto, Adolfo Guarino, Diederik Roest.
   Published in JHEP 1106:030,2011. e-Print: arXiv:1104.3587
- 7. Charting the landscape of  $\mathcal{N}=4$  flux compactifications. Giuseppe Dibitetto, Adolfo Guarino, Diederik Roest. Published in JHEP 1103:137,2011. e-Print: arXiv:1102.0239
- Generalised fluxes, moduli fixing and cosmological implications.
   Adolfo Guarino (Ph.D Thesis). June 2010
   SPIRES-HEP database. ISBN 978-84-693-7072-8.
- Complete classification of Minkowski vacua in generalised flux models.
   Beatriz de Carlos, Adolfo Guarino, Jesús M. Moreno.
   Published in JHEP 1002:076,2010. e-Print: arXiv:0911.2876
- 4. Flux moduli stabilisation, Supergravity algebras and no-go theorems. Beatriz de Carlos, Adolfo Guarino, Jesús M. Moreno. Published in JHEP 1001:012,2010. e-Print: arXiv:0907.5580.
- 3. Non-geometric flux vacua, S-duality and algebraic geometry.

  Adolfo Guarino, George James Weatherill.

  Published in JHEP 0902:042,2009. e-Print: arXiv:0811.2190
- Algebras and non-geometric flux vacua.
   Anamaría Font, Adolfo Guarino, Jesús M. Moreno.

Published in JHEP 0812:050,2008. e-Print: arXiv:0809.3748

1. Inflation in uplifted Supergravities.

B. de Carlos, J.A. Casas, A. Guarino, J.M. Moreno, O. Seto. Published in JCAP 0705:002,2007. e-Print: hep-th/0702103

#### **JOBS / POSITIONS HELD**

2016 - 2018 : Place: Physique Mathématique des Interactions Fondamentales group

at Université Libre de Bruxelles, Belgium.

Status: Postdoctoral researcher under Marina Solvay fellowship (2017)

and ERC grant.

2014 - 2016: Place: Theory Group at Nationaal Instituut voor Subatomaire Fysica

(Nikhef), Amsterdam, The Netherlands.

Status: Postdoctoral researcher under a contract from FOM.

2012 - 2014: Place: Institute for Theoretical Physics of the Albert Einstein Center

for Fundamental Physics. University of Bern, Switzerland.

Status: Postdoctoral researcher under a contract from the University

of Bern.

2010 - 2012 : Place: Theoretical High Energy Physics group of the Faculty of Math-

ematics and Natural Sciences. University of Groningen, Netherlands. Status: Postdoctoral researcher under a contract from the University

of Groningen.

2005 - 2010 : Place: Instituto de Física Teórica UAM/CSIC. Univ. Autónoma de

Madrid, Spain.

Status: M.Sc and Ph.D Student under a FPI grant from the Spanish

MICINN.

2005: Place: Department of Particle Physics & Astrophysics. Univ. of Sussex,

England.

Project: Chances for inflation in uplifted supergravities.

Status: Marie Curie Fellowship of the European Community programme

HUMAN POTENTIAL.

2004 : Place: Theoretical Physics department. Univ. Autónoma de Madrid,

Spain.

Project: Data analysis of the beam-test from the local muon trigger for

the CMS experiment.

Status: Research Fellowship from the Spanish MEC.

### RESEARCH STAYS IN OTHER CENTRES

2018 : Short research visit at the Instituto de Física Teórica UAM-CSIC, Madrid,

Spain.

2017 : Short-term visitor at the CERN Theory Group, Geneva, Switzerland.

2013/14/15: Short research visits at the Theoretical High Energy Physics group,

University of Groningen, the Netherlands, and the department of Physics

and Astronomy, Uppsala University, Sweden.

2007/08/09: Short research visits at the School of Physics and Astronomy, Univer-

sity of Southampton, England.

2007 : Centre de Physique Théorique de l'Ecole Polytechnique (CPHT), Paris,

France.

2005: Dept. of Particle Physics & Astrophysics. Univ. of Sussex, Brighton,

England.

#### INVOLVEMENT IN FINANCED PROJECTS

2019 - 2021 : Project Title: Holografía, Dualidad y Supergravedad (HoloDualGrav)

PGC2018-096894-B-100.

Funding Organisation: Spanish Ministry of Science, Innovation and

Universities (MCIU).

Principal Investigator: Prof. Yolanda Lozano, Patrick Meessen.

2018 - 2020 : Project ID: GRUPIN – IDI/2018/000174.

Funding Organisation: Principality of Asturias, Spain.

Principal Investigator: Prof. Yolanda Lozano, Patrick Meessen.

2016 - 2018 : Project Title: Teoría de Cuerdas, Holografía y Supergravedad (Holo-

Sugrav) FPA2015-63667-P.

Funding Organisation: Spanish Ministry of Science, Innovation and

Universities (MCIU).

Principal Investigator: Prof. Yolanda Lozano, Patrick Meessen.

2016 - 2021: Project Title: Higher Spin Gravity and Generalized Spacetime Geometry.

Funding Organisation: ERC Advanced Grant no. 694089

Principal Investigator: Prof. Marc Henneaux.

2015 - 2018 : Project Title: Interactions Fondamentales.

Funding Organisation: F.R.S.-FNRS Convention IISN-4.4503.15 Principal Investigators: Prof. F. Englert, J.-M. Frère, M. Henneaux.

2014 - 2018 : Project Title: Gravity and extensions.

Funding Organisation: F.R.S.-FNRS Convention PDR T.1025.14 Principal Investigators: Prof. G. Barnich, N.Boulanger, M. Henneaux,

P. Spindel.

2010 - 2016 : Project Title: Supersymmetry: a window to non-perturbative Physics.

Funding Organisation: ERC Advanced Grant no. 246974

Principal Investigator: Prof. Bernard de Wit.

2012 - 2014: Project Title: String compactifications and supersymmetry breaking patterns.

Funding Organisation: Swiss National Science Foundation. 144426

Principal Investigator: Prof. Jean-Pierre Derendinger.

2009 - 2013 : Project Title: Unification in the LHC era.

Funding Organisation: MC-ITN "UNILHC" PITN-GA-2009-237920.

Principal Investigator: Prof. Luis Ibáñez.

2008 - 2013 : Project Title: How stable are extra dimensions?

Funding Organisation: VIDI Grant. Netherlands Organisation for Sci-

entific Research (NWO).

Principal Investigator: Prof. Diederik Roest.

2007 - 2010 : Project Title: Fenomenología más allá del modelo estándar e implica-

ciones experimentales FPA2007-60252.

Funding Organisation : Spanish Ministry of Science. Principal Investigator: Prof. José Ramón Espinosa.

2006 - 2010 : Project Title: The origin of our universe: Seeking links between fun-

damental physics and cosmology.

Funding Organisation: RTN European Program MRTN-CT-2006-035863

Principal Investigator: Prof. Mariano Quirós.

2006 - 2010 : Project Title: Phenomenology of the Fundamental Interactions: Fields,

Strings and Cosmology (HEPHACOS) P-ESP-00346. Funding Organisation : Comunidad de Madrid. Principal Investigator: Prof. José Ramón Espinosa.

2004 - 2008: Project Title: The Quest For Unification: Theory Confronts Experiment.

Funding Organisation: RTN European Program MRTN-CT-2004-503369.

Principal Investigator: Prof. Luis Ibáñez.

2004 - 2007 : Project Title: Fenomenología más allá del modelo estándar e implica-

ciones experimentales FPA2004-02015.

Funding Organisation : Spanish Ministry of Science. Principal Investigator: Prof. José Ramón Espinosa.

## INVITED SEMINARS [Link to slides (pdf)]

23. *S-folds and holographic RG flows on the D3-brane*. Exceptional Geometry Seminar Series (online). June 5th 2021.

22. Supersymmetric S-folds.

Online seminar at Imperial College. June 11th 2020, London, England.

21. Holographic RG flows from massive IIA on S<sup>6</sup>. Seminar at CERN. August 8th 2017, Geneva, Switzerland.

20. Holographic RG flows from massive IIA on  $S^6$ . Seminar at Queen Mary University of London. April 6th 2017, London, England.

 Cosmological and holographical applications of string dualities.
 Seminar at the Institute for Theoretical Physics. March 3rd 2017, Bern, Switzerland.

18. Deformed  $\mathcal{N}=8$  supergravity from massive IIA and its Chern-Simons duals. Seminar at the Institute for Theoretical Physics. April 12th 2016, Bern, Switzerland.

17. Dyonic maximal supergravity from massive IIA and its Chern-Simons duals. Seminar at Utrecht University. December 10th 2015, Netherlands.

16. *Dyonic maximal supergravity from massive IIA and its Chern-Simons duals.* Seminar at Uppsala University. December 1st 2015, Sweden.

- 15. Deformed  $\mathcal{N}=8$  supergravity, massive IIA strings and Chern-Simons duals. Seminar at ULB. November 19th 2015, Brussels, Belgium.
- 14. Deformed  $\mathcal{N}=8$  supergravity, masive IIA strings and Chern-Simons duals. Seminar at Nikhef. October 6th 2015, Amsterdam, the Netherlands.
- 13. Deformed  $\mathcal{N}=8$  supergravity from IIA strings and its Chern-Simons duals. Seminar at Van Swinderen Institute for Particle Physics and Gravity. October 5th 2015, Groningen, the Netherlands.
- 12. *A* SINGULAR *introduction to the algebra/geometry correspondence*. Seminar at Nikhef. February 16th 2015, Amsterdam, the Netherlands.
- 11. Some aspects of new maximal supergravity.

  Seminar at the Institute for Theoretical Physics, ETH. November 19th 2013, Zurich, Switzerland.
- 10. From strings to four dimensions (and back?).

  Seminar at the Faculty of Mathematics and Natural Sciences, University of Groningen. November 4th 2013, Groningen, the Netherlands.
- 9. Some aspects of new maximal supergravity.
  Seminar at the department of Physics and Astronomy. October 9th 2013, Uppsala, Sweden.
- 8. On the vacua of new SO(8) gauged supergravity.
  Seminar at the Centre de Physique Théorique de l'Ecole Polytechnique (CPHT). March 5th 2013, Paris, France.
- 7. Dualities and the landscape of extended supergravity.
  Seminar at Institute for Theoretical Physics. January 27th 2012, Utrecht,
  Netherlands.
- 6. Dualities and the landscape of extended supergravity.
  Seminar at the department of Physics and Astronomy. December 14th 2011, Uppsala, Sweden.
- 5. *Gaugings, fluxes and moduli fixing in (half-) maximal supergravity.*Seminar at the Institute for Theoretical Physics. November 29th 2011, Bern, Switzerland.
- 4. Flux vacua from gauged supergravities.

  Seminar at the Max Planck Institute for Gravitational Physics (Albert Einstein Institute). November 22nd 2011, Potsdam, Germany.
- 3. Towards disentangling the landscape of extended supergravities. Seminar at the Arnold Sommerfeld Center for Theoretical Physics. October 12th 2011, Munich, Germany.
- 2. Supergravity algebras and Minkowski vacua in  $\mathcal{N}=1$  generalised flux compactifications. Seminar at the Faculty of Mathematics and Natural Sciences, University of Groningen. October 19th 2009, Groningen, Netherlands.
- D-terms uplifting and inflation.
   Seminar at the Centre de Physique Théorique de l'Ecole Polytechnique (CPHT). November 27th 2007, Paris, France.

## CONFERENCE & WORKSHOP PRESENTATIONS [Link to slides (pdf)]

- 28. Flat deformations of type IIB S-folds.

  Invited speaker at New Developments in Quantum Gravity and String
  Theory. Sep 11th-18th 2021, Corfu, Greece.
- 27. Supersymmetric S-folds.

  Talk given at Iberian Strings 2020. January 15th-17th 2020, Santiago de Compostela, Spain.
- Supersymmetric S-folds.
   Invited speaker at III GRASS family and friends meeting. December 19th-20th 2019, Madrid, Spain.
- 25. Holographic & geometric aspects of electromagnetic duality in supergravity. **Invited speaker** at Geometry and Duality. Dec 2nd-6th 2019, Potsdam, Germany.
- 24. Holographic aspects of electromagnetic duality in supergravity.

  Invited speaker at Holography, Generalized Geometry and Duality.

  May 6th-17th 2019, Mainz, Germany.
- 23. How to get masses from Extended Field Theories.

  Invited speaker at II GRASS family and friends meeting. December 20th-21st 2018, Madrid, Spain.
- Accelerating Universes from String Theory.
   Talk given at Spanish-Portuguese Relativity Meeting 2018. September 4th 2018, Palencia, Spain.
- Accelerating Universes from String Theory.
   Invited speaker at Be.HEP Summer Solstice 2018. June 21st 2018, Ghent, Belgium.
- 20.  $AdS_4/CFT_3$  holography from massive IIA. Invited speaker at Geometry, Duality and Strings 2018. May 23rd-26th 2018, Murcia, Spain.
- Holographic RG flows from massive IIA.
   Talk given at Iberian Strings 2018. January 24th-26th 2018, Granada, Spain.
- Progress in massive IIA holography.
   Invited speaker at String Dualities and Geometry. January 15th-19th 2018, Bariloche, Argentina.
- 17. *Progress in massive IIA holography*. **Invited speaker** at Holography and Supergravity 2018. January 8th-12th 2018, Viña del Mar, Chile.
- Holographic RG flows from massive IIA.
   Invited speaker at GRASS family and friends meeting. December 21st-22nd 2017, Madrid, Spain.
- Double Field Theory at SL(2) angles.
   Talk given at The String Theory Universe 2017. February 21st 2017,
   Milano, Italy.

- 14. *Double Field Theory at SL(2) angles*. Talk given at Iberian Strings 2017. January 17th 2017, Lisbon, Portugal.
- 13. *Massive deformations and SL(2) angles from exceptional field theory.* **Invited speaker** at Supergravity at 40. October 26th-28th 2016, Florence, Italy.
- Expanding universes from string theory.
   Invited speaker at Jamboree 2015. December 14th 2015, Nikhef-Amsterdam, the Netherlands.
- 11. *Deformed N=8 supergravity from massive IIA and its Chern-Simons duals.* **Invited speaker** at Supergravity 2015. October 29-30, Padova, Italy.
- 10. Dyonic  $\mathcal{N}=8$  supergravity from IIA strings and its Chern-Simons duals. Talk given at The String Theory Universe 2015. Poster also presented. September 7th 2015, Leuven, Belgium.
- 9. *M-theory beyond twisted tori*. Talk given at Recent Developments in String Theory 2014. July 24th 2014, Ascona, Switzerland.
- 8. Removing orientifolds in flux compactifications.
  Talk given at Iberian Strings 2014. January 31st 2014, Palencia, Spain.
- 7. On electromagnetic duality and the vacua of  $\mathcal{N}=8$  supergravity. Talk given at The String Theory Universe 2013. September 3rd 2013, Bern, Switzerland.
- 6. On electromagnetic duality and the vacua of  $\mathcal{N}=8$  supergravity. Talk given at the String Phenomenology 2013. July 17th 2013, Hamburg, Germany.
- 5. Exploring new maximal supergravity.

  Invited speaker at the GeNeZiSS 2012. November 30th 2012, Lausanne, Switzerland.
- 4. Exceptional flux compactifications.

  Talk given at the String Phenomenology 2012. June 28th 2012, Cambridge, England.
- 3. Connecting vacua of half-maximal supergravities: a type IIA example. Talk given at the 27th Nordic Network Meeting on "Strings, Fields and Branes". March 24th-26th 2011, Copenhagen, Denmark.
- De Sitter universes from string theory.
   Invited speaker at the Kapteyn Astronomical Institute, University of Groningen. March 3rd 2011, Groningen, Netherlands.
- 1. Inflation in uplifted supergravities.

  Talk given at the First Annual School of EU Network "UniverseNet"The origin of the Universe. September 24th-29th 2007, Mytilene,
  (Lesvos), Greece.

## LECTURING EXPERIENCE [Link to lecture notes (pdf)]

- 2. Supergravity, Duality and Exceptional Field Theory (Part 1). School of Holography and Supergravity 2021. Red(e) Siembra-HoLAGrav, Chile. July 5th-July 23rd.
- 1. *Type II flux compactifications*. 7th Mexican School on String Theory. University of Guanajuato, Mexico. July 5th-14th 2021.

#### TEACHING EXPERIENCE

#### 2021:

- Lecturer and examiner of the course "Advanced General Relativity". Master's degree programme in Physics at University of Oviedo, Spain. (45 hours).
- Lecturer and examiner of the course "General Relativity". Degree in Physics and Mathematics at University of Oviedo, Spain. (34 hours).
- Lecturer and examiner of the course "Statistical Physics". Degree in Physics and Mathematics at University of Oviedo, Spain. Group 1 (68 hours) & Group 2 (68 hours).
- Lecturer and examiner of the course "Differential Equations Applied to Physics II". Degree in Physics and Mathematics at University of Oviedo, Spain. Group 1 (34 hours) & Group 2 (34 hours).

#### 2020:

- Lecturer and examiner of the course "Advanced General Relativity". Master's degree programme in Physics at University of Oviedo, Spain. (45 hours).
- Lecturer and examiner of the course "Statistical Physics". Degree in Physics and Mathematics at University of Oviedo, Spain. Group 1 (68 hours) & Group 2 (68 hours).
- Lecturer and examiner of the course "Differential Equations Applied to Physics II". Degree in Physics and Mathematics at University of Oviedo, Spain. Group 1 (34 hours) & Group 2 (34 hours).

## 2019:

- Lecturer and examiner of the course "Advanced General Relativity". Master's degree programme in Physics at University of Oviedo, Spain. (45 hours).
- Lecturer and examiner of the course "Statistical Physics". Degree in Physics and Mathematics at University of Oviedo, Spain. Group 1 (68 hours) & Group 2 (68 hours).
- Lecturer and examiner of the course "Differential Equations Applied to Physics II". Degree in Physics and Mathematics at University of Oviedo, Spain. (40 hours).

## 2018:

- Co-lecturer and examiner of the course "Théorie quantique des champs avancée et supersymétrie" (PHYS-F417, 2018). Master's degree programme in Theoretical Physics at Université Libre de Bruxelles, Belgium (24 hours).
- Teaching assistant of the course "Représentation des groupes et application à la physique" (MATH-F410, 2018). Master's degree programme in Sciences Mathématiques at Université Libre de Bruxelles, Belgium (12 hours).

Co-lecturer of the course "Gravitation avancée et théories des cordes." (PHYS-F418, 2018).
 Master's degree programme in Theoretical Physics at Université Libre de Bruxelles, Belgium (24 hours).

#### 2017:

• Teaching assistant of the course "Représentation des groupes et application à la physique" (MATH-F410, 2017). Master's degree programme in Sciences Mathématiques at Université Libre de Bruxelles, Belgium (12 hours).

#### 2016:

- Teaching assistant and examiner of the course "Field Theory in Particle Physics" (2016) (code: NS-TP529M). Master's degree programme in Theoretical Physics at Utrecht University, the Netherlands (48 hours).
- Student tutorials : Master's degree programme in Theoretical Physics at Utrecht University (2016), the Netherlands (16 hours). Number of tutored students:  $\sim$ 20.

## **MENTORING STUDENTS**

- Ph.D students:
  - M. A. Chamorro (expected 2024) at University of Oviedo.
  - C. Sterckx (expected 2023) at Université Libre de Bruxelles & University of Oviedo.
- Master's students:
  - P. González (expected 2022) at University of Oviedo.
  - C. Sterckx (2019) at Université Libre de Bruxelles.
  - S. Bielleman and H. J. Prins (2014) at University of Groningen.
- Bachelor's students:
  - C. Fernández (2020), E. Mier (2020), M. Armayor (2021), A. Escapa (2021), V. García (2021) and C. Émbil (expected 2022) at University of Oviedo.

## ACADEMIC HABILITATIONS (IN SPAIN)

- I3 certification: Programa de Incentivación de la Incorporación e Intensificación de la Actividad Investigadora (Programa I3, 2019).
- ANECA accreditations: Profesor contratado doctor, Profesor ayudante doctor and Profesor universidad privada (2018).
- Curso de Adaptación Pedagógica (CAP). Universidad Complutense de Madrid (2005).

## PROFESSIONAL ACTIVITIES

• Member of the Permanent Commission of the Instituto Universitario de Ciencias y Tecnologías Espaciales de Asturias (ICTEA).

- Referee for Journal of High Energy Physics, European Physical Journal C, Chinese Physics C, Journal of Cosmology and Astroparticle Physics, SciPost and Nuclear Physics B.
- External evaluator of research grants for Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT) of Chile.
- Seminars & Conferences organisation:
  - Organiser of the Hep-Th Seminars at University of Oviedo (2019, 2020).
  - Organiser of the Hep-Th Joint Belgian Seminars for the ULB Group (2017, 2018).
  - Organiser of the Journal Club at Nikhef-Amsterdam (2015, 2016).
  - Organiser of the Journal Club at University of Groningen (2011, 2012).
  - Conference assistant at 19th European Workshop on String Theory (2-7 September 2013, Bern).
  - Conference assistant at Strings 2007 (25-29 June 2007, Madrid).
- Outreach activities:
  - Outreach article at Solvay magazine 2018, Belgium: On the Symmetries of the Big and the small.
  - Member of IFT-stand at "VIII Feria de la Ciencia, Madrid 2007".

#### COMPUTATIONAL SKILLS

Wide knowledge of Unix and Linux O.S. and of technical and scientific software as:

- Mathematica : High-performance computational software (link)
- SINGULAR: Computer algebra system for polynomial computations (link)
- LiE: Computer algebra package for Lie group computations (link)
- Cadabra: Field theory motivated approach to computer algebra (link)

## **LANGUAGES**

Spanish (native), English (Cambridge Advanced Certificate, 2018)