CURRICULUM VITAE

Name: Isaac Vidaña Haro
Date: December 6th 2023
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I-. PERSONAL DATA

Family Name: Vidaña Haro **Name:** Isaac
DNI:
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Date and place of birth:
Gender:
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Address:
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II-. PROFESSIONAL DATA

Institution: Istituto Nazionale di Fisica Nucleare (INFN)
Section: Catania
Department: Dipartimento di Fisica. Univesity of Catania
Address: Via Santa Sofia 64, I-95123 Catania (Italy)

Email:
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Professional status: Permanent Research position at INFN (Primo Ricercatore)
Research area: Nuclear Physics and Astrophysics.

III-. AREA OF RESEARCH ACTIVITY

I have developed my research activity in the areas of Nuclear Physics and Astrophysics, being focused, in particular, on the following topics:

- *Nuclear Many-Body Problem*
  - ✓ Brueckner-Hartree-Fock approach of Nuclear and Hypernuclear Matter

- *Dense and Hot Matter Equation of State & Neutron Stars*
  - Exotic degrees of freedom in Neutron stars
    - ✓ Hyperonic matter
    - ✓ Quark matter
    - ✓ Spin polarized matter
  - Neutron Star Evolution
    - ✓ Neutrino trapping in dense matter
    - ✓ Transport properties in neutron matter
- *Isospin-rich Nuclear Matter*
  - ✓ Nuclear Symmetry Energy
  - ✓ Nuclear liquid-gas phase transition
  - ✓ Neutron Matter
- *Hypernuclear Physics*
  - ✓ Hypernuclear structure with realistic hyperon-nucleon forces
  - ✓ Hyperons & neutron drip line
- *Hadron Physics*

- ✓ Hadron resonances: free space & in-medium properties
- ✓ Excitation of nucleon resonances in isobar charge exchange reactions

IV-. ACADEMIC BACKGROUND

- 2001 Ph.D. in Physics at the University of Barcelona (Spain)
  Title of the thesis: "*Description of hyperonic matter and hypernuclei within the Brueckner-Hartree-Fock theory*"
  Advisors: Prof. Artur Polls Martí and Prof. Àngels Ramos Gómez
  http://www.tdx.cat/TDX-0709102-133910/index_an.html

- 1996 Graduate in Physics at the University of Barcelona (Spain)

V-. PAST SCIENTIFIC EXPERIENCE

- From September 2017 : Permanent position as Researcher of the IFNF. INFN Sezione di Catania, Dipartimento di Fisica, Università di Catania (Italy).

- November 2008 – August 2017: Auxiliary Researcher of the FCT Programme *"Ciência 2007"* of the *Ministério da Ciência, Tecnologia e Ensino Superior* (Portugal) at Centro de Física Computacional. Departamento de Física. University of Coimbra (Portugal)

- November 2005 - November 2008: Researcher of the Progamme *"Juan de la Cierva"* of the *Ministerio de Educación y Ciencia (Spain)* at Departament d'Estructura i Constituents de la Matèria, University of Barcelona (Spain)

- November 2003 - November 2005: Post-doc at Gesellschaft für Schwerionenforchung (GSI), Darmstadt (Germany)

- November 2001 - November 2003: Post-doc of the *Istituto Nazionale di Física Nucleare (INFN)* at Departamento di Física, University of Pisa (Italy)

- September 1997 - June 2001: Doctoral fellowship (FPU) of the *Ministerio de Educación y Ciencia (Spain)* at Departament d'Estructura i Constitunents de la Matèria, University of Barcelona (Spain)

- April 1997 - June 1997: Temporary hired at Departament d'Estructura i Constituents de la Matèria, University of Barcelona (Spain) to teach the exercises of the *"Mathematical Analysis"* course of the first year of the degree in Physics during the academic year 1996/1997.

VI-. SCIENTIFIC ACTIVITY

VI.1-. Scientific projects: Coordination and Participation

VI.1a-. Coordination of projects (PI)

1. *Properties of Strongly Correlated Fermi Systems:from cold atoms to nuclear natter.* PI: Isaac Vidaña. Ref: SisFerCor (Budget: 20.000 euros)

2. *Compact star: laboratories for nuclear and particle physics*. PI: Isaac Vidaña. FCT (Portugal). Ref: CERN/FP/123608/2011 (Budget: 40.000 euros)

3. *Neutron stars: matter under extreme conditions*. PI: Isaac Vidaña. FCT (Portugal). Ref: CERN/FP/11366/2010 (Budget: 18.000 euros)

VI.1b-. Participation in projects

1. *Stellar matter at subsaturation densities: neutron star crust and supernova*. PI: Prof. Constança Providência. FCT (Portugal) Ref: PTDC/FIS/113292/2009

2. *Asymmetric nuclear matter: from the lab to neutron stars*. PI: Prof. Constança Providência. FCT (Portugal). Ref: CERN/FP/109316/2009
3. *Asymmetric nuclear matter: from the lab to neutron stars*. PI: Prof. Constança Providência. FCT (Portugal). Ref: CERN/FP/83505/2008

4. *From particles to compact stars*. PI: Prof. Constança Providência. FCT (Portugal). Ref: PTDC/FIS/64707/2006

5. *Theoretical Nuclear and Many-Body Physics*. PI: Prof. Manuel Barranco Gómez. Generalitat de Catalunya (Spain). Ref: 2005SGR00343

6. *Microscopic description of the exotic states of matter*. PI: Prof. Mario Centelles Aixalà, MEC (Spain). Ref: FIS2005-03142

7. *Study of strongly interacting matter*. PI: Prof. Àngels Ramos Gómez, Integrated Infraestructures Initiative (UE). Ref: RII3-CT2004-506078

8. *Collaboration CICYT-INFN*. PI: Prof. Artur Polls Martí, CICYT (Spain)-INFN (Italy) Ref. *CICYT-INFN - 2003*

9. *Collaboration CICYT-INFN*. PI: Prof. Artur Polls Martí, CICYT (Spain)-INFN (Italy) Ref. *CICYT-INFN – 2002*

10. *Theoretical Nuclear and Many-Body Physics*. PI: Prof. Manuel Barranco Gómez. Generalitat de Catalunya (Spain). Ref: 2002SGR00024

11. *Theoretical Nuclear and Many-Body Physics*. PI: Prof. Manuel Barranco Gómez. Generalitat de Catalunya (Spain). Ref: 2001SGR00064

12. *Fermionic and bosonic systems in interaction: nuclei, quantum liquids and electronic systems*. PI: Prof. Martí Pí Pericay. DGICYT (Spain). Ref. PB98-1247

13. *Theoretical Nuclear and Many-Body Physics*. PI: Prof. Manuel Barranco Gómez. Generalitat de Catalunya (Spain). Ref: 1998SGR00011

14. *Theoretical Nuclear and Many-Body Physics*. PI: Prof. Manuel Barranco Gómez. Generalitat de Catalunya (Spain). Ref: 1996SGR00043

15. *Systems of Fermi and Bose strongly correlated*. PI: Prof. Xavier Viñas Gausi. DGICYT (Spain) Ref: PB95-1249

VI.2-. Referee of International Journals

I am usual referee of the following journals:

1. Physical Review C
2. Physical Review D
3. Physical Review Letters
4. Nuclear Physics A
5. Journal of Physics G: Nuclear and Particle Physics
6. European Physical Journal A
7. International Journal of Modern Physics E
8. Journal of Statistical Mechanics: Theory and Experiment (JSTAT)

Since 2015 I also act as an External Expert for the evaluation of COST Action Proposals. Since 2016 I also act as External Expert for the evaluations of the ANPCYT (Agencia Nacional de Promoción Científica, Tecnología e Innovación Tecnológica, Argentina). I have also evaluated projects in the area of Nuclear and Particle Phyics (FPN) of the Agencia Estatal de Investigacion (Spain).

VI.3-. Editorial Activity

Since the beginning of 2018 I am Associate Editor of the Journal Frontiers in Physics.

I have also served as a Guest Editor of a special issue of the European Physical Journal A dedicated to the *"Nuclear Symmetry Energy"* published in February 2014 (Ref: *EPJA volume 50, issue 2 (2014)*). I have also served as a Guest Editor of a special issue of Nuclear Physics A devoted to the proceedings of the *"XI International Conference on Hypernuclear and Strange Particle Physics, Barcelona, October 1-5 2012"* published in September 2013 (Ref: *NPA 914 (2013)*).

VI.4-. Management Activity

Since October 2013 I am one of the board members of the Management Committee of the network "NewCOMPSTAR: Exploring fundamental physics with compact stars" a COST Action (European Union) number MP1304 (http://www.cost.eu/domains_actions/mpns/Actions/MP1304) whose aim is to bring together the leading experts in astrophysics, nuclear physics and gravitational physics to address the fascinating but challenging area of research of neutron stars through an interdisciplinary approach and provide a dedicated training program for a new generation of scientists with wide-ranging expertise and multiple skills oriented also towards knowledge transfer and innovation.

From March 2014 till July 2016 I was one of the Topic Leaders of the Working Group 2 "Physics of the strong interaction, theory and experiment" of the network

NewCOMPSTAR whose aim is to strengthen the already existing collaborations between the members of the Action or create news ones. From July 2016 I am the Leader of this Working Group.

At this moment I member of the steering committee of the COST Action CA16214 "PHAROS: The multi-messenger physics and astrophysics of neutron stars". In particular, I am in charge of the coordination of the so-called "Short Term Scientific Missions".

VII-. PUBLICATIONS

VII. 1-. Publications in International Peer Review Journals

1. *"Constraining the low-energy S=-1 meson-baryon interaction with two-particle correlations"*
   V. Mantovani-Sarti, A. Feijoo, I. Vidaña, A. Ramos, F. Giacosa, T. Hyodo & Y. Kamiya
   Submitted to Phys. Rev. Lett. arXiv: 2309.08756 (2023)
   Citations: 0

2. *"Inverse problem in femtoscopic correlation functions: the $T_{cc}(3875)^{+}$ case"*
   M. Albaladejo, A. Feijoo, I. Vidaña, J. Nieves & E. Oset
   Submitted to Science Bulletin, arXiv:2307.09873 (2023)
   Citations: 0

3. *"Hot and highly magnetizes neutron star matter properties with Skyrme interactions"*
   O. G. Benvenuto, E. Bauer & I. Vidaña
   Eur. Phys. J. A 59, 159 (2023)
   Citations: 0

4. *"Constraint of the nuclear dissipartion coefficient in fission of hypernuclei"*
   J. L- Rodríguez-Sánchez, J. Cugnon, J.-C. David, J.Hirtz, A. Kelić-Heil & I. Vidaña
   Phys. Rev. Lett. 130, 132501 (2023)
   Citations: 0

5. *"Femtoscooic correlation function of the $T_{cc}(3875)^{+}$ state"*
   I. Vidaña, A. Feijoo, M. Albaladejo, J. Nieves and E. Oset
   Phys. Lett. B 846, 138201 (2023)
   Citations: 0

6. "Machine learning light hypernuclei"
   I. Vidaña.
   Nucl. Phys. A 1032, 122625 (2023)
   Citations: 0

7. "An analytic parametrization of the hypernuclear matter equation of state"
   H. Kochankowski, A, Ramos & I. Vidaña.

Eur. Phys. J. A 58, 31 (2022)
Citations: 2

8. "Effect of chiral nuclear forces on the neutrino mean free path in hot neutron matter"
I. Vidaña, D. Logoteta & I. Bombaci.
Phys. Rev. C 106, 035804 (2022)
Citations: 2

9. "Systematic study of Δ(1232) resonance excitations using single isobaric charge-exchange reactions induced by medium-mass projectiles of Sn"
J. L. Rodriguez-Sanchez, J. Benlliure, I. Vidaña, H. Lenske et al.
Phys. Rev. C 106, 015618 (2021)
Citations: 1

10. "Transport coefficients of hyperonic neutron star cores"
P. Sternin & I. Vidaña
Universe 7(6), 203 (2021)
Citations: 4

11. "Hyperons in Finite and Infinite Nuclear Systems"
I. Vidaña
Universe 7, 376 (2021)
Citations 4

12. "Neutron Stars and the Nuclear Equation of State"
G. F. Burgio, H.-J. Schulze, J.Wei & I. Vidaña
Progress in Particle and Nuclear Physics 120 (2021) 103879
Citations: 71

13. "Low-density neutron matter and the unitary limit"
I. Vidaña
Front. In Phys. 2021. 660622
Citations: 5

14. "Fermi polaron in low-density spin-polarized neutron matter"
I. Vidaña
Phys. Rev. C. 103, 052801 (2021)
Citations: 2

15. "A modern view of the equation of state in nuclear and neutron star matter"
G. F. Burgio, H.-J. Schulze, J. B. Wei & I. Vidaña
Symmetry 13, 400 (2021)
Citations: 9

16. "Excitation of isobaric analog states from (p,n) and (^{3}He,t) charge-exchange reactions within the G-matrix folding method "
Phan Nhut Huan, Nguyen Le Anh, Bui Minh Loc & I. Vidaña
Phys. Rev. C. 103, 024601 (2021)

Citations: 8

17. *"*Was GW190814 a black hole -- strange quark star system?"
I.Bombaci , A. Drago, D. Logoteta, G. Pagliara & I. Vidaña
Phys. Rev. Lett. 126, 162702 (2021)
Citations: 53

18. *"Spinodal instabilities of spin polarized asymmetric nuclear matter"*
A. Polls & I. Vidaña
Phys. Rev. C. 102, 054004 (2020)
Citations: 1

19. *"The Equation of State of Nuclear Matter: from Finite Nuclei to Neutron Stars"*
G. F. Burgio & I. Vidaña
Universe 2020 6(8) 119
Citations: 21

20. *"Predictions for charmed nuclei based on Y_cN forces inferred from lattice QCD simulations"*
J. Haidenbauer, A. Nogga and I. Vidaña
Eur. Phys. J. A (in press), arXiv: 2003.07768
Citations: 5

21. *"Study of Δ excitations in medium-mass nuclei with peripheral heavy ion charge-excgange reactions"*
J. Rodriguez-Sánchez, J. Benlliure, I. Vidaña et al.
Phys. Lett. B 807, 135565 (2020)
Citations: 8

22. *"Neuron star matter equation of state including d^*-hexaquark degrees of freedom"*
A. Mantziris, A. Pastore, I. Vidaña, D. P. Watts, M. Bashkanov & A. M. Romero
Astronomy & Astrophysics 638, A40 (2020)
Citations: 3

23. *"The Hellmann-Feynman theorem at finite temperature"*
M. Pons. B. Julià-Diaz, A. Rios, I.Vidaña & A. Polls
American Journal of Physics 88, 503 (2020)
Citations: 6

24. *"Structure of single-Λ hypernuclei with chiral hyperon-nucleon potentials"*
J. Haidenbauer & , I.Vidaña
Eur. Phys. J. A (2020) 56: 55
Citations: 10

25. *"Quark degrees of freedom and nuclear matter saturation"*
M. Baldo, Z. Ahbolaghi, I.Vidaña & M. Bigdeli
Modern Physics Letters A 34, 1950322 (2019).

Citations: 0

26. *"Impact of chiral hypernonic three-body forces on neutron stars"*
D. Lototeta, I.Vidaña & I. Bombaci
Eur. Phys. J. A (2019) 55: 207
Citations: 38

27. *"Asymmetry of the neutrino mean free path in hot neutron matter under strong magnetic fields"*
J. Torres-Patiño, E. Bauer & I.Vidaña
Phys. Rev. C 99, 045808 (2019)
Citations: 7

28. *"Charmed nuclei within a microscopic many-body approach"*
I. Vidaña, A. Ramos & C. E. Jimenez-Tejero
Phys. Rev C 99, 045208 (2019)
Citations: 9

29. *"A short walk through the physics of neutron stars"*
I. Vidaña
Review Article to be published in the European Physical Journal Plus
European Physical Journal Plus 133, 445 (2018)
Citations: 19

30. *"Hyperons: the strange ingredients of the nuclear equation of state"*
I. Vidaña
Review Article to be published in the Proceedings of the Royal Society A
Proc. R. Soc. A 474, 20180145 (2018)
Citations: 36

31. *"The $d^*(2380)$ in neutron stars – A new degree of freedom ?"*
I. Vidaña, M. Bashkanov, D. P. Watts and A. Pastore
Physics Letters B 781, 112 (2018).
Citations: 15

32. *"Single-particle spectral function of the Λ hyperon in finite nuclei"*
I. Vidaña
Nuclear Physics A 958, 48 (2017).
Citations: 12

33. *"Hypernuclei and massive neutron stars"*
M. Fortin, S. S. Avancini, C. Providência, and I. Vidaña
Physical Review C 95, 065803 (2017).
Citations: 88

34. *"Role of correlations in spin-polarized neutron matter"*
Isaac Vidaña, Artur Polls & Victoria Durant
Physical Review C 94, 054006 (2016). Editor Suggestion
Citations: 6

35. *"Quark matter nucleation in neutron stars and astrophysical implications"*
I. Bombaci, D. Logoteta, I. Vidaña & C. Providência
Eur. Phys. J. A, 52 3 (2016) 58
Citations: 61

36. *"Do hyperons exist in the interior of neutron stars?"*
D. Chatterjee & I. Vidaña
Eur. Phys. J. A, 52 2 (2016) 29
Citations: 147

37. *"Comparative study of three-nucleon force models in nuclear matter"*
D. Logoteta, I. Vidaña, I. Bombaci & A. Kievsky
Physical Review C 91, 064001 (2015)
Citations: 25

38. *"Magnetic susceptibility and magnetization properties of asymmetric nuclear matter in a strong magnetic field"*
A. Rabhi, M. A. Pérez-Garcia, C. Providência & I. Vidaña
Physical Review C 91, 045803 (2015).
Citations: 24

39. *"Effects of Tensor Correlations on the Density Dependence of the Nuclear Symmetry Energy"*
I. Vidaña, C. Providência & A. Polls
Symmetry 2015, 7, 15-31.
Citations: 1

40. *"Equation of state and thickness of the inner crust of neutron stars"*
F. Grill, H. Pais, C. Providência, I. Vidaña & S. S. Avancini
Physical Review C, 90 045803 (2014)
Citations: 76

41. *"Neutron matter under strong magnetic fields: a comparison of models"*
R. Aguirre, E. Bauer & I. Vidaña
Physical Review C 89, 035809 (2014)
Citations: 13

42. *"Tensor force effects and high-momentum components in the nuclear symmetry energy"*
A. Carbone, A. Polls, C. Providência, A. Rios & I. Vidaña
European Physical Journal A 50, Issue 2, Article Number 13 (2014).
Citations: 25

43. *"Imprint of the symmetry energy on the inner crust and strangeness content of neutron stars"*
C. Providência, S. S. Avancini, R. Cavagnoli, S. Chiacchiera, C. Ducoin, F. Grill, J. Magueron, D. P. Menezes, A. Rabhi & I. Vidaña
European Physical Journal A 50, Issue 2, Article Number 44 (2014).
Citations: 33

44. *"Formation of hybrid stars from metastable hadronic stars"*
D. Logoteta, C. Providência & I. Vidaña
Physical Review C 88, 055802 (2013)
Citations: 35

45. *"Comparative study of neutron and nuclear matter with simplified Argonne nucleon-nucleon potentials*"
M. Baldo, A. Polls, A. Rios, H.-J. Schulze & I. Vidaña
Physical Review C 86, 064001 (2012)
Citations: 66

46. *"Constraining the nuclear equation of state at subsaturation densities*"
E. Khan, J. Margueron & I. Vidaña
Phyical Review Letters 109, 092501 (2012)
Citations: 108

47. *"On kinematical constraints in boson-boson systems*"
M. F. M. Lutz & I. Vidaña
European Physical Journal A 48, 124 (2012)
Citations: 18

48. *"Constraints on the symmetry energy and neutron skins from experiments and theory"*
M. B. Tsang, J. R. Stone, F. Camera, P. Danielewicz, S. Gandolfi, K. Hebeler, C. J. Horowitz, J. Lee, W. G. Lynch, Z. Kohley, R. Lemmon, P. Moller, T. Murakami, S. Riordan, X. Roca-Maza, F. Sammarruca, A. E. Steiner, I. Vidaña & S. J. Yenello.
Physical Review C 86, 015803 (2012)
Citations: 563

49. *"Quark matter nucleation with a microscopic hadronic equation of state"*
D. Logoteta, C. Providência, I. Vidaña & I. Bombaci
Physical Review C 85, 055807 (2012)
Citations: 23

50. *"Nuclear symmetry energy and the r-mode instability of neutron stars"*
I. Vidaña. Physical Review C 85, 045808 (2012)
Citations: 40

51. *"Chiral model approach to quark matter nucleation in neutron stars"*
D. Logoteta, I. Bombaci, C. Providência & I. Vidaña
Physical Review D 85, 023003 (2012)
Citations: 27

52. *"Nuclear symmetry energy and the role of the tensor force*"
I. Vidaña, A. Polls & C. Providência
Physical Review C 84, 062801(R) (2011)
Citations: 75

53. *"Open-charm mesons in nuclear matter at finite temperature beyond the zero-range approximation*"
C. E. Jimémez-Tejero, A. Ramos, L. Tolós & I. Vidaña
Physical Review C 84, 015208 (2011)
Citations: 24

54. *"Core-crust transition in neutron stars: Predictivity of density developments*"
C. Ducoin, J. Margueron, C. Providência & I. Vidaña
Physical Review C 83, 045810 (2011)
Citations: 142

55. *"Estimation of the effect of hyperonic three-body forces on the maximum mass of neutron stars"*
I. Vidaña, D. Logoteta, C. Providência, A. Polls & I. Bombaci.
Euro Physics Letters 94, 11002 (2011)
Citations: 131

56. *"Effects of quark matter nucleation on the evolution of proto-neutron stars*"
I. Bombaci, D. Logoteta, C. Providência & I. Vidaña
Astronomy & Astrophysics 528, A71 (2011)
Citations: 29

57. *"Latent heat of nuclear matter*"
A. Carbone, A. Polls, A. Rios & I. Vidaña
Physical Review C 83, 024308 (2011)
Citations: 14

58. *"Microscopic calculations of transport properties of neutron matter*"
O. Benhar, M. Valli, A. Polls & I. Vidaña
Physical Review C 81, 024305 (2010)
Citations: 23

59. *"Dynamically generated open-charm baryons beyond the zero-range approximation*"
C. E. Jiménez-Tejero, A. Ramos & I. Vidaña
Physical Review C 80, 055206 (2009)
Citations: 63

60. *"Quark matter nucleation in hot hadronic matter*"
I. Bombaci, D. Logoteta, P. K. Panda, C. Providência & I. Vidaña.
Physics Letters B 680, 448 (2009)
Citations: 61

61. *"Density dependence of the nuclear symmetry energy: A microscopic perspective*"
I. Vidaña, C. Providência, A. Polls & A. Rios.
Physical Review C 80, 045806 (2009)
Citations: 179

62. *"Medium effects on intermediate-energy one-nucleon removal cross sections*"
F. Flavigny, A. Obertelli & I. Vidaña
Physical Review C 79, 064617 (2009)
Citations: 6

63. *"Hot neutron matter from a self-consistent Green's function approach*"
A. Rios, A. Polls & I. Vidaña
Physical Review C 79, 025802 (2009)
Citations: 69

64. *"Λ hyperons and the neutron drip line*"
X. R. Zhou, A. Polls, H.-J. Schulze & I. Vidaña
Physical Review C 78, 054306 (2008)
Citations: 59

65. *"Spinodal instabilities of asymmetric nuclear matter within the Brueckner-Hartree-Fock approach*"
I. Vidaña & A. Polls
Physics Letters B 666, 232 (2008)
Citations: 15

66. *"Metastability of hadronic compact stars*"
I. Bombaci, P. K. Panda, C. Providência & I. Vidaña
Physical Review D 77, 083002 (2008)
Citations: 39

67. *"Effects of color superconductivity on the nucleation of quark matter in neutron stars*"
I. Bombaci, G. Lugones & I. Vidaña
Astronomy & Astrophysics 462, 1017 (2007)
Citations: 53

68. *"Ferromagnetic instabilities in neutron matter at finite temperature with the Gogny interactions*"
D. López-Val, A. Rios, A. Polls & I. Vidaña
Physical Review C 74, 068801 (2006)
Citations: 28

69. *"Maximum mass of neutron stars*"
H.-J. Schulze, A. Polls, A. Ramos & I. Vidaña
Physical Review C 73, 058801 (2006)
Citations: 143

70. *"Microscopic calculations of spin polarized neutron matter at finite temperature*"
I. Bombaci, A. Polls, A. Ramos, A. Rios & I. Vidaña
Physics Letters B 632, 638 (2006)
Citations: 52

71. *"Bulk and single-particle properties of hyperonic matter at finite temperature*"
A. Rios, A. Polls, A. Ramos & I. Vidaña
Physical Review C 72, 024316 (2005)
Citations: 14

72. *"Ferromagnetic instabilities in neutron matter at finite temperature with the Skyrme interaction*"
A. Rios, A. Polls & I. Vidaña
Physical Review C 71, 055802 (2005)
Citations: 62

73. *"Spin-orbit and tensor interactions in homogeneous matter of nucleons: Accuracy of modern many-body theories*"
I. Bombaci, A. Fabrocini, A. Polls & I. Vidaña
Physics Letters B 609, 232 (2005)
Citations: 22

74. *"Quark deconfinement and implications for the radius and the limiting mass of compact stars*"
I. Bombaci, I. Parenti & I. Vidaña
Astrophysical Journal 614, 314 (2004)
Citations: 159

75. *"Superfluidity of Σ hyperons in β-stable neutron star matter*"
I. Vidaña & L. Tolós
Physical Review C 70, 028802 (2004)
Citations: 28

76. *"$\Lambda\Lambda$ bond energy from the Nijmegen models*"
I. Vidaña, A. Ramos & A. Polls
Physical Review C 70, 024306 (2004)
Citations: 29

77. *"Microscopic calculation of the neutrino mean free path inside hot neutron matter*"
J. Margueron, I. Vidaña & I. Bombaci
Physical Review C 68, 055806 (2003)
Citations: 27

78. *"Microscopic study of neutrino trapping in hyperon stars*"
I. Vidaña, I. Bombaci, A. Polls & A. Ramos
Astronomy & Astrophysics 399, 687 (2003)
Citations: 36

79. *"Equation of state and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter*"
I. Vidaña & I. Bombaci
Physical Review C 66, 045801 (2002)
Citations: 91

80. *"Spin polarized neutron matter and magnetic susceptibility within the Brueckner-Hartree-Fock approximation*"
I. Vidaña, A. Polls & A. Ramos
Physical Review C 65, 035804 (2002)
Citations: 85

81. *"Hypernuclear structure with the new Nijmegen potentials*"
I. Vidaña, A. Polls, A. Ramos & H.-J. Schulze
Physical Review C 64, 044301 (2001)
Citations: 96

82. *"Hyperon-hyperon interactions and properties of neutron star matter*"
I. Vidaña, A. Polls, A. Ramos, L. Engvik & M. Hjorth-Jensen
Physical Review C 62, 035801 (2000)
Citations: 152

83. *"Strange nuclear matter within Brueckner-Hartree-Fock theory*"
I. Vidaña, A. Polls, A. Ramos, M. Hjorth-Jensen & V. G. J. Stoks
Physical Review C 61, 025802 (2000)
Citations: 97

84. *"Hyperon properties in finite nuclei using realistic YN interactions*"
I. Vidaña, A. Polls, A. Ramos & M. Hjorth-Jensen
Nuclear Physics A 644, 201 (1998)
Citations: 43

VII.2-. Book Chapters

1. *"Equation of state of hypernuclear matter and neutron stars*"
A. Rios, A. Polls, A. Ramos & I. Vidaña.
Book title: "Hispalensis lectures on nuclear physics". Lecture Notes in Physics 652, 217-244 (2004)
Citations: 2

VII.3-. Editorial Material

1. *"Topical issue on the Nuclear Symmetry Energy*"
Eds. Bao-An Li, Ángels Ramos, Giuseppe Verde & Isaac Vidaña
Journal: The European Physical Journal A, volume 50, issue 2 (2014)
Citations: 159

2. *"Proceedings of the 11th International Conference on Hypernuclear and Strange Particle Physics, Barcelona, Spain 1-5 October 2012*"
Eds. B. Julià-Diaz, V. Magas, E. Oset, A. Parreño, A. Polls, L. Tolós, I. Vidaña & A. Ramos
Journal: Nuclear Physics A 914 (2013)
Citations: 0

3. *"The physics and astrophysic of neutron stars"*

Eds. L. Rezzola, P. Pizzochero, N. Rea, I. Jones and I. Vidaña
White book of the NewCompstar COST Action MP1304
To be published by Springer-Verlag (2018)
Citations:0

VII.4- . Proceedings

1. *"Isobaric charge-exchange reactions: a tool to study the excitation of baryonic resonances in exotic nuclear matter"*
   J. L. Rodriguez-Sanchez et al.
   Joutrnal of Physics Conference Series 1643, 012104 (2020)

2. *"Excitation of baryonic resonances in stable medium-mass nuclei of Sn"*
   J. L. Rodriguez-Sánchez et al.
   arXiv: 2006.04589 (2020)
   Citations: 0

3. *"Short introduction to the physics of neutron stars"*
   Isaac Vidaña
   EPJ Web of Conferences 227, 01018 (2020)
   Citations: 3

4. *"Studying Λ Interactions in Nuclear Matter with the $^{208}Pb(e,e'K^{+})\Lambda Tl$ Reaction"*
   F. Garibaldi et al.
   AIP Conference Proceedings 2130, 04003 (2019)
   Citations: 0

5. *"Single-Particle Spectral Function on of the Λ hyperon in finite nuclei"*
   Isaac Vidaña
   AIP Conference Proceedings 2130, 020010 (2019)
   Citations: 0

6. *"Do hyperons exist in the neutron star interior ?*
   Isaac Vidaña
   AIP Conference Proceedings 2130 040011 (2019)
   Citations: 0

7. *"The nuclear EoS: from experiments to astrophysical observation"*
   Isaac Vidaña
   Nuovo Cimento C 41, 179 (2018)
   Citations: 0

8. *"Nucleon-nucleon correlations and the isospin and spin symmetry energy"*
   A. Polls, V. Durant and I. Vidaña
   Acta Physica Polonica B Proceedings Supplement 10, 165 (2017)
   Citations: 0

9. *"Nucleon-nucleon correlations and the isospin and spin symmetry energy"*
   A. Polls, V. Durant & I. Vidaña
   Acta Physica Polonica B Proceedings Supplement 10, 165 (2017)

10. *"Exciting baryon resonances in isobar charge-exchange reactions"*
    J. Benlliure, J. L. Rodriguez-Sanchez, J. Vargas, H. Alavarez-Pol, T. Aumann, J. Atkinson, Y. Ayyad, S. Beceiro, K. Boretzky, A. Chatillon, D. Cortina, P. Diaz, A. Estrade, H. Geissel, H. Lenske, Y. Litvinov, M. Mostazo, C. Paradela, S. Pietri, A. Prochazka, M. Takechi, I. Vidaña, H. Weick, J. Winfield
    Nuovo Cimento C-Colloquia and Communications in Physics 39, 401 (2016)
    Citations: 4

11. *"Excitation of Δ and N^* resonances in isobaric charge-exchange reactions"*
    I. Vidaña , J. Benlliure, H. Geissel, H. Lenske, C. Scheinberger and J. Vargas
    EPJ Web of Conferences 107, 10003 (2016)
    Citations: 3

12. *"Hyperons in Neutron Stars"*
    I. Vidaña
    Journal of Physics: Conference Series 668, 012301 (2016)
    Citations: 22

13. *"Hyperons and Neutron Stars*
    I. Vidaña
    Proceedings of the Carpathian Summer School of Physics: EXOTIC NUCLEI AND NUCLEAR/PARTICLE ASTROPHYSICS (V): FROM NUCLEI TO STARS, Sinaia (Romania), July 13^{th} -26^{th} 2014. Edited by L. Trache, D. Chesneau and C.A. Ur.
    Book Series: AIP Conference Proceedings Volume 1645, pages 79-85 (2015).
    Citations: 12

14. *"Excitation of Nucleon Resonances in Heavy-Ion Charge-Exchange Reactions"*
    J. Benlliure, J. Vargas, H. Alvarez-Pol, T. Aumann, J. Atkinson, Y. Ayyad, S. Beceiro, K. Borezky, A. Chatillon, D. Cortina, P. Diaz, A. Estrade, H. Geissel, H. Lenske, Y. Litvinov, M. Mostazo, C. Paradela, S. Pietri, A. Prochazka, J. Taieb, M. Takechi, I. Vidaña, H. Weick and J. Winfield
    JPS Conf. Proc. 6, 020039 (2015)
    Citations: 0

15. *"Hyperons and Neutron Stars"*
    I. Vidaña
    Nuclear Physics A 914, 367 (2013)
    Citations: 18

16. *"Two-meson exchange hyperonic three-body forces and consequences for neutron stars"*
    D. Logoteta, I. Vidaña & C. Providência
    Nuclear Physics A 914, 433 (2013)

Citations: 4

17. *"Tensor force and the nuclear symmetry energy"*
I. Vidaña, A. Polls & C. Providência
Journal of Physics: Conference Series 420, 012091 (2013)
Citations: 0

18. *"Evolution of proto-neutron stars with hadron-quark phase transition"*
I. Bombaci, D. Logoteta, C. Providência & I. Vidaña
Journal of Physics: Conference Series 342, 012001 (2012)
Citations: 0

19. *"Effects of hyperonic three-body forces on the maximum mass of neutron stars*"
D. Logoteta, I. Vidaña. C. Providência, A. Polls & I. Bombaci
Journal of Physics: Conference Series 342, 012006 (2012)
Citations: 16

20. *"Symmetry energy within the BHF approach*"
I. Vidaña, C. Providência, A. Polls & A. Rios
Journal of Physics: Conference Series 342, 012012 (2012)
Citations: 0

21. *"Liquid-gas phase transition in nuclear matter in the mean field approximation*"
A. Rios, A. Carbone, A. Polls & I. Vidaña
Journal of Physics: Conference Series 321, 012058 (2011)
Citations: 0

22. *"Symmetry Energy, Neutron Star Crust and Neutron Skin Thickness"*
I. Vidaña, C. Providência, A. Polls & A. Rios
Few-Body Systems 50, 327 (2011)
Citations: 0

23. *"Charm Hadrons in Dense Matter*"
C. E. Jiménez-Tejero, A. Ramos, L. Tolós & I. Vidaña
Few-Body Systems 50, 351 (2011)
Citations: 2

24. *"Nucleon correlations and the equation of state of nuclear matter*"
A. Polls, W. Dickhoff, H. Müther, A. Ramos, A. Rios & I. Vidaña
AIP Conference Proceedings 1322, 99 (2010)
Citations: 0

25. *"Nucleon-Nucleon Interactions from the Quark Model*"
C. Downum, J. R. Stone, T. Barnes, E, Swanson & I. Vidaña
AIP Conference Proceedings 1257, 538 (2010)
Citations: 6

26. *"Nucleation of Quark Matter in Proto-Neutron stars*"

I. Bombaci, D. Logoteta, C. Providência & I. Vidaña
Progress of Theoretical Physics Supplement 186, 32 (2010)
Citations: 2

27. *"Role of color superconductivity on the nucleation of quark matter in neutron stars*"
I. Vidaña. G. Lugones & I. Bombaci
Journal of Physics G: Nuclear & Particle Physics 35, 014054 (2008)
Citations: 0

28. *"Ferromagnetic instabilities of nuclear matter: microscopic versus phenomenological approaches"*
I. Vidaña
"Exotic States of Nuclear Matter". Proceedings of the International Symposium EXOCT07, World Scientific Publishing Co. p39 (2008)
Citations: 0

29. *"Nucleation of quark matter in Neutron Stars: Role of Color Superconductivity*."
I. Bombaci, G. Lugones & I. Vidaña.
"Exotic States of Nuclear Matter". Proceedings of the International Symposium EXOCT07, World Scientific Publishing Co. p298 (2008)
Citations: 0

30. *"γ-ray burst and delayed quark-deconfinement"*
I. Bombaci, I. Parenti & I. Vidaña.
"Superdense QCD Matter and Compact Stars". NATO SCIENCE SERIES II: MATHEMATICS, PHYSICS AND CHEMISTRY Volume 197, p353 (2006)
Citations: 0

31. *"Quark deconfinement and neutrino trapping in compact stars*"
I. Vidaña, I. Bombaci & I. Parenti
Journal of Physics G: Nuclear & Particle Physics 31, S1165 (2005)
Citations: 14

32. *"Role of hyperons on the hadron-star to quark-star conversion mechanism*"
I. Vidaña, I. Bombaci & I. Parenti
Nuclear Physics A 754, 345C (2005)
Citations: 2

33. *"Quark deconfinement in compact stars and connection with GRBs*"
I. Parenti, I. Bombaci & I. Vidaña.
"Hot topics in Astrophysics and Cosmology". Proceedings of the Helmholtz International Summer School and Workshop. Dubna, JINR 2005 Volume 125, p210 (2005)
Citations: 0

34. *"Neutrino trapping effects on β-stable neutron star matter*"
I. Vidaña, I. Bombaci, A. Polls & A. Ramos
Nuclear Physics A 719, 173C (2003)

Citations: 4

35. *"Role of hyperons on the neutron star structure and evolution*"
    I. Vidaña, I. Bombaci, A. Polls & A. Ramos
    "IX Convegno su problemi di fisica nucleare teorica. Programma di interesse nazionlae su fisica del nucleo e dei sistemi a molti corpi". World Scientific p409 (2003)
    Citations: 0

36. *"Hyperon effects on the properties of β-stable neutron star matter*"
    I. Vidaña, I. A. Polls, A. Ramos, L. Engvik & M. Hjorth-Jensen
    Nuclear Physics A 691, 443C (2001)
    Citations: 1

37. *"Magnetic properties and EoS of spin polarized isospin asymmetric nuclear matter*"
    I. Vidaña & I. Bombaci
    "Exotic Clustering", AIP CONFERENCE PROCEEDINGS Volume 644, p319 (2002)
    Citations: 0

38. *"Binding energy of Λ– hypernuclei from realistic YN interactions*"
    I. Vidaña, A. Polls, A. Ramos & M. Hjorth-Jensen
    "Mesons and Light Nuclei 98", World Scientific p228 (1999)
    Citations: 0

39. *"Efectos de la extrañeza en el medio nuclear*"
    I. Vidaña, A. Polls, A. Ramos & M. Hjorth-Jensen
    "Resúmenes de la XXVII Reunión Bienal de la Real Sociedad Española de Física" (1999)
    Citations: 0

Total number of publications: 127

- ✓ 84 articles in international peer review journals (82 published + 2 submitted)
- ✓ 1 Book Chapter
- ✓ 3 Editorial Material
- ✓ 39 proceedings (17 of them in international peer review journals)

Total number of citations: 4153
h index: 35
(Source: Isi Web of Science)

VIII-. PRESENTATIONS IN CONFERENCES, WORKSHOPS AND SCHOOLS

VIII.1-. Plenary talks

1. The Nuclear EoS: from experiments to astrophysicl observations
   QFC2022 – Quatum Gases, Fundamental Interactions & Cosmology
   October 26th – 28th 2022, Pisa (Italy)

2. Hyperons & Neutron Stars
   Plenary Talk at HYP22: 13th International Conference on Hypernuclear and Strange Particle Physics, June 27th – July 1st 2022, Prague (Czech Republic)

3. *Single-particle spectral function of the Λ-hyperon in finite nuclei*
   Plenary Talk at HYP2018: The 13th International Conference on Hypernuclear and Strange Particle Physics, Portsmouth (VA), USA, June 24th-29th 2018.

4. *Excitation of Nucleon Resonances in Isobar Charge Exchange Reactions*. Plenary Talk at the NUSTAR Week 2016, University of York, York (UK) September 26th - 30th 2016.

5. *Do hyperons exists in the interior of neutron stars ?*. Plenary talk at the Annual NewCompstar Conference. Istanbul (Turkey) April 25th – 29th 2016

6. *Hyperons and Neutron Stars*. Plenary talk at the Conference Strangeness in Quark Matter SQM 2015. Dubna (Russia) July 6th-11th 2015.

7. *A half an hour walk through the physics of neutron stars*. Plenary talk at the 7th International Conference on Quarks & Nuclear Physics. Valparaíso (Chile) March 2nd-6th 2015.

8. *Hyperons and Neutron Stars*. Plenary Talk at "The 11th International Conference on Hypernuclear and Strange Particle Physics", Barcelona (Spain) October 1st – 5th 2012

9. *Nuclear symmetry energy and the r-mode instability of neutron stars*. Plenary Talk at "CompStar: The Physics and Astrophysics of Compact Stars", Tahiti (French Polynesia) June 4th – 8th 2012

VIII.2-. Invited talks

1. *Correlation Function constraints on mesoin-baryon interaction from unitarized chiral perturbation theory in the S=-2 sector*
   WPCF 2023 – XVI Workshop on Particle Corralations and Femtoscopy & IV Resonance Workshop 2023
   November 6th . 10th 2030, Catania (Italy)

2. *Machine learning light hypernuclei*
   Conference on Quantum-Many-Body Correlations in Memory of Peter Schuck (QMBC 2023)
   March 21st - 23rd 2023, IJCLab, Orsay (France)

3. *Machine learning light hypernuclei*
   EMMI Workshop "4th Workshop on Anti-Matter, Hyper-Mattrer and Exotica Production at the LHC"
   February 13th - 17th 2023, Bologna (Italy)

4. *Machine learning light hypernuclei*
   EXOTICO: EXOTIc atoms meet nucler Collisions for a new frontier precision era in low-energy strangeness nuclear physics
   October 17th-21st 2022, ECT, Trento (Italy)*

5. *Hyperons & Neutron Stars*
   Modern Equations of State & Spectroscopy in Neutron Stars, September 21st – 23rd 2022, Alcalá de Henares (Spain)

6. *Hyperons & Neutron Stars*
   19th International Conferene on Hadron Spectroscopy & Structure in memoriam Simon Eidelman, July 26th – 31st 2021, Mexico City (Mexico)

7. *Hyperons & Neutron Stars*
   Strangeness in Neutron Stars – Physics at J-PARC HIHR/K1.1 beam lines
   June 17th – 19th 2021 on-line workshop

8. *Transport Coefficients of Hyperonic Neutron Star Cores*
   STRANU: Hot Topics in STRANgeness Nuclear and Atomic Physics
   May 24th – 28th 2021, FKB ECT, Trento (Italy)*

9. *Single-particle spectral function of the Λ-hyperon in finite nuclei*
   Fundamental Physics at the Strangeness Frontier at DAFNE, February 25th-26th 2021, on-line workshop

10. *Impact of chiral hyperonic three-body forces on neutron stars*
    3rd EMMI Workshop: Anti-matter, hyper-matter & exotica production at the LHC, December 2nd-5th 2019, Wroclaw (Poland)

11. *Single-particle spectral function of the Λ-hyperon in finite nuclei*
    Theia-Strong2020 Workshop 2019, November 25th-29th 2019, Technik Museum Speyer, Speyer (Germany)

12. *Implications of chiral hyperonic three-body forces on neutron stars*
    STRANEX: Recent progress and perspectives in STRANge EXotic atoms studies and related topics, October 21st-25th 2019, ECT*, Trento (Italy)

13. *Charmed nuclei within a microscopic many-body approach*
    STRANEX: Recent progress and perspectives in STRANge EXotic atoms studies and related topics, October 21st-25th 2019, ECT*, Trento (Italy)

14. *Asymmetry of the neutrino mean free path in hot neutron matter under strong magnetic fields*

TNPI2019-XVII Conference on Theoretical Nuclear Physics in Italy, October 9th-11th 2019, Cortona (Italy)

15. *Excitation of Nucleon Resonances in Isobaric Charge Exchange Reactions*
    Selected Topics in Nuclear & Atomic Physics 2019, September 30th-October 4th 2019, Fiera di Primiero (Italy)

16. *Single-particle spectral function of the Λ-hyperon in finite nuclei*
    Ab Initio Nuclear Theory: From Breakthroughs to Applications, July 24th-26th 2019, University of Surrey, Guilford (UK)

17. *Hyperons: the strange ingredients of the nuclear EoS*
    The 4th CBM-China Workshop, April 12th-14th 2019, Yichang (China)

18. *A short walk through the physics of neutron stars*
    A2 Collaboration Meeting, March 27th-29th 2019, Mainz (Germany)

19. *Single-particle spectral function of the Λ-hyperon in finite nuclei*
    International Workshop "Infinite & Finite Nuclear Matter", March 20th-22th 2019, JINR BLTP, Dubna (Russia)

20. *Excitation of Nucleon Resonances in Isobaric Charge Exchange Reactions*
    Joint LIA COLL-AGAIN, COPIGAL & POLITA Wiorkshop (French-Italian-Polish Collaborations), Warsaw Mach 5th-7th 2019.

21. *The nuclear EoS: from experiments to astrophysica observations*
    4 Incontro Nazionale di Fisica Nucleare INFN2018, Catania-LNS, 7-8 Novembre 2018

22. *Asymmetry of the neutrino mean free path in hot neutron matter under strong magnetic fields*
    PHAROS WG1-WG2 Meeting, September 26th-28th Coimbra (Portugal)

23. *Do hyperons exists in the neutron star interior ?*
    HYP2018: The 13th International Conference on Hypernuclear and Strange Particle Physics, Portsmouth (VA), USA, June 24th-29th 2018.

24. *The nuclear EoS: from experiments to astrophysical observations by the hand of a theoretician*
    International Workshop on Multi facets of Eos and Clustering, Catania (Italy), May 22nd – 25th 2018.

25. *Exotic Phases on Neutron Stars: Hyperons and $d^*(2380)$*
    Exotic Hadron Spectroscopy 2017, University of Edinburgh, Edinburgh (UK) December 11th -13th 2017.

26. *Single-particle spectral function of the Λ-hypernuclei in finite nuclei*
    WASA at GSI/FAIR, GSI (Germany), November 27th-28th 2017.

27. *A short walk through the physics of neutron stars*

ASTRA: Advanced and open problems in low-energy nuclear and hadronic strangeness physics, ECT* Trento (Italy), October 23rd – 27th 2017.

28. *Excitation of Nucleon Resonances in Isobar Charge Exchange Reactions*
    TNPI2017-XVI Conference on Theoretical Nuclear Physics in Italy, Cortona (Italy) October 3rd – 5th 2017.

29. *Do hyperons exist in the interior of neutron stars?*
    Nuclear Structure and Astrophysical Applications, Milan (Italy) September 19th – 20th 2017.

30. *Do hyperons exist in the interior of neutron stars?*
    Bridging nuclear and gravitational physics: the dense matter equation of state, ECT* Trento (Italy) June 5th – 9th 2017.

31. *Microscopic calculation of the neutrino mean free path inside hot neutron matter*
    Landau Fermi liquid theory in nuclear and many-body theory, ECT* Trento (Italy) May 22nd – 26th 2017.

32. *Role of Correlations on Spin Polarized Neutron Matter*
    Annual NewCompstar Conference, Warsaw (Poland) March 27th – 31st 2017

33. *Role of the nuclear symmetry energy on the r-mode instability.* Oscillations & Instabilities in Neutron Stars (WG1-WG3 meeting), Southampton (UK), September 13th – 14th 2016.

34. *Nuclear Symmetry Energy & the r-mode instability of neutron stars.*
    Pulsars and theitr environments, Meudon, Paris Observatory (France), May 18th – 21st 2016.

35. *Hyperons, Hypernuclei and Neutron Stars*
    Production & Study of Neutron-rich Hypernuclei: Physics & Potentialities at FAIR/R3B. Saclay (France), Januray 19th- 21st 2016

36. *Role of the tensor force, spin correlations and rearrangement on the nuclear symmetry energy*
    SINAP-CUSTIPEN Workshop on Clusters and Correlations in Nuclei, Nuclear Reactions and Neutron Stars. Shangahi (China), December 14th- 18th 2015

37. *Hyperons and Neutron Stars.*
    The Modern Physics of Compact Stars & Relativistic Gravity 2015
    Yerevan, Armenia, September 30th-October 3rd 2015.

38. *Hyperonic Three-Body Forces and Consequence for Neutron Stars*. Microphysics in Computational Relaivistic Asrtrophysics MICRA 2015. Stockholm (Sweden). August 17th-22nd 2015

39. *Nucleon Resonances in Isobaric Charge Exchange Reactions*. International Conference "Nuclear Structure and Related Topics". Dubna (Russia). July 14th-18th 2015

40. *Hyperonic Three-Body Forces and Consequenecs for Neutron Stars*. Annual NewCompsar Conference 2015. Hotel Mercure Buda, Budapest (Hungary). June 15th-19th 2015

41. *Nuclear Equation of State for Compact Stars and Supernovae.* MODE meeting: Pulsars and Their Environments. University of Orléans, Orléans (France), May 11th-13th 2015.

42. *Nucleon Resonances in Isobaric Charge Eschange Reactions*. "ICCUB Chritsmass Meeting 2014", Facultat de Física, Unversitat de Barcelona, Barcelona (Spain), December 17th-19th 2014.

43. *Nuclear Equation of State for Compact Stars and Supernovae.* CompOSE and WG2+3 meeting. IPNL, Lyon (France), November 17th-19th 2014.

44. *Nucleon Resonances in Isobaric Charge Eschange Reactions*. ISPUN 2014: "The International Symposium of Physics of Unstable Nuclei", Ho Chi Minh City (Vietnam), November 3rd-9th 2014

45. *Nucleon Resonances in Isobaric Charge Eschange Reactions.*
4th International Symposium on the nuclear symmetry energy NUSYM2014. Liverpool (UK) July 7th-9th 2014. (Sponsored talk by EPJA)

46. *Hyperonic Three-Body forces & Neutron Stars*.
Hypernuclear Workshop. Jefferson Lab. Newport News, VA (USA) May 27th – 29th 2014

47. *Neutron matter under strong magnetic fields. a comparison of models.*
Pulsars and their environment, Lyon (France). May 19th- 21st 2014

48. *Nucleon resoncences in charge-exchange reactions: theoretical developments*
Super-FSR collaboration meeting. Moerfelden-Walldorf (Germany), February 27th-28th 2014

49. *Hyperons and neutron stars*
SN2NS workshop. Palais de la Découverte, Paris (France), February 3rd-5th 2014

50. *Symmetry energy, tensor force and maximum rotation of neutron stars*
ECT*-EMMI Workshop "Neutron-rich matter and neutron stars", ECT*, Trento (Italy), September 30th – October 5th 2013

51. *Symmetry energy, tensor force and neutron rich matter*
Second International Workshop on Quasi-free scattering with radioactive ion beams, Ilha Terceira, Açores (Portugal), September 16th- 20th 2013

52. *Effect of the tensor force and the rearrangement term on the nuclear symmetry energy*. Third International Symposium on Nuclear Symmetry Energy. NSCL/FRIB, East Lansing, Michigan (USA), July 22nd-26th 2013

53. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. "Hyperons-NS-2012: A task force meeting", Warsaw (Poland) November 21st – 24th 2012

54. *Hyperons and Neutron Stars*. "The 1st IDPASC PhD Workshop", Coimbra (Portugal) October 12th – 13th 2012

55. *Symmetry energy and maximum rotation of neutron stars*. "ASY-EOS 2012: International Workshop on Nuclear Symmetry Energy and Reaction Mechanisms", Siracusa (Italy) September 4th – 6th 2012

56. *Nuclear symmetry energy and the r-mode instability of neutron stars*. "Elba XII Workshop. Electron-Nucleon Scattering XII", Elba International Physics Center, Elba (Italy) June 25th – 29th 2012

57. *Nuclear symmetry energy and the role of the tensor force*. "The 11th International Conference on Nucleus-Nucleus Collisions", San Antonio, Texas (USA), May 27th – June 1st 2012

58. *Medium effects on intermediate energy one-nucleon removal cross sections*. "miniWorkshop on Direct Reactions", Santiago de Compostela (Spain), April 19th – 20th 2012

59. *Symmetry energy within the Brueckner-Hartree-Fock approximation*. "International Symposium on Nuclear Symmetry Energy", Smith College, Northampton, Massachussets (USA), June 17th–20th 2011.

60. *Estimation of the effect of hyperonic three-body forces on the maximum mass of neutron stars*. "MODE-SN-PWN Workshop", Bordeaux (France), November 15th -17th 2010.

61. *Symmetry energy, neutron star crust and neutron skin thickness*. "International Workshop on Nuclear Symmetry energy at medium energies", Noto (Italy), May 21st -24th 2010.

62. *Symmetry energy, neutron star crust and neutron skin thickness*. "COMPSTAR 2010: School and Workshop on Computational tools for compacts stars and astrophysics", GANIL, Caen (France), February 8th -16th 2010.

63. *Symmetry energy, neutron star crust and neutron skin thickness*. "Workshop Modelling and observation of neutron stars", Meudon (France), November 16th -20th 2009.

64. *Spinodal instabilities of asymmetric nuclear matter within the Brueckner-Hartree-Fock approximation*. "Theoretical issues of nuclear astrophysics", Orsay (France) March 31st – April 4th 2008.

65. *Metastability of hadronic stars.* "COMPSTAR 2008: The complex physics of neutron stars", Ladek Zdroj (Poland) February 24th -29th 2008.

66. *Ferromagnetic instabilities of nuclear matter: microscopic versus phenomenological approaches.* "International Symposium on Exotic States of Nuclear Matter", Catania (Italy) June 11th -15th 2007.

67. *Effects of color superconductivity on the nucleation of quark matter in neutron stars.* "Theoretical issues of nuclear astrophysics", Orsay (France) April 20th - 23rd 2007.

68. *EoS of hypernuclear matter and neutron stars.* "Understanding neutron stars", Alicante (Spain) September 25th -27th 2006.

69. *Ferromagnetic instabilities in neutron matter at finite temperature.* "Many-body physics of neutron stars", Orsay (France) April 5th -7th 2005.

70. *Ferromagnetic instabilities in neutron matter at finite temperature.* "Structure and reaction of exotic nuclei", Pisa (Italy) February 24th -26th 2005.

71. *Neutrino trapping effects on β-stable neutron star matter.* "The physics of compact stellar objects", Valencia (Spain) September 8th -11th 2003.

72. *Equation of state and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter.* "Short- and long-range contributions to nuclear binding and saturation", ECT*, Trento (Italy) 2-7 June 2003.

73. *Strange nuclear matter within the Brueckner-Hartree-Fock theory.* "International Workshop on Heavy-Ion Reaction Modeling", Bergen (Norway) November 19th -21st 1999.

VIII.3-. Lectures at International Schools & Colloquiums

VIII.3a-. Lectures

1. A short walk through machine learning in nuclear phyics
   Selected Topics in Nuclear & Atomic Physics 2022, Septemebr 25th – Octobre 1st 2022, Fiera di Primiero (Italy)

2. Neutron Stars & the Equation of State
   Indian Summer School 2022, June 24th-26th, Prague (Czech Republic)

3. The nuclear EoS: from experiments to astrophysical observations

21st Zimanyi School Winter Workshop on Heavy ion Physics, December 6th – 10th 2021, Budapest (Hungary).

4. Neutron Stars & the Equation of State
   IGFAE Course on Neutron Star Physics 2021. November 15th-19th, Santiago de Compostela (Spain)

5. *Short introduction to the physics of neutron stars.* Lectures at the 75th SUSSP & 20th STFC Summer School in Nuclear Physics & its Applications, 5th-17th August 2019, University of St. Andrews, Scotland

6. *Short introduction to the physics of neutron stars.* Lecture at the 10th European Summer School on Experimental Nuclear Astrophysics, June 16th-23rd 2019, Catania (Italy)

7. *A one and a half hours walk through the physics of neutron stars.* Lectures at the School Rewriting Nuclear Physics Textbooks: Basic nuclear interactions and their applications to nuclear processes in the Cosmos and on Earth, Pisa (Itlay) July 24th – 28th 2017.

8. *A three hours walk through the physics of neutron stars.* Lectures at the Máster Univesitario en Física Nuclear y de Partículas y sus Aplicaciones Tecnológica y Médicas. Universidade de Santiago de Compostela (Spain). April 29th-30th 2015.

9. *A three hours walk through the physics of neutron stars.* Lectures at the 26th Indian Summer School & SPHERE School of Physics. Prague (Czech Republic). September 3rd- 7th 2014.

10. *Hyperons, Hypernuclei and Neutron Stars.* Lectures at the Helmholtz International Summer School "Nuclear Theory and Astrophysical Applications", Dubna (Russia), July 21st – August 1st 2014.

11. *Hyperons and Neuutron stars.* Lectures at the Carpathian Summer school of Physics 2014. Exotic Nuclei and Nuclear/Particle Astrophysics (V). "From Nuclei to Stars". Sinaia (Romania). July 13th- 26th 2014.

12. *Hyperons, Hypernuclei and Neutron Stars*. Lectures at the Galileo Galilei Institute for Theoretical Physics (Florence), March 10th-14th 2014.

13. *Hyperon-nucleon interaction, hypernuclei and hyperonic matter*. Lectures at École International Joliot-Curie "Interaction forte dans la matière nucléaire: nouvelles tendances", Lacanau (France), September 27th – October 3rd 2009.

14. *Hyperons versus quark matter in neutron stars*. Lectures at Helmholtz International Summer School "Nuclear Theory and Astrophysical Applications", Dubna (Russia), August 7th -17th 2007.

VIII.3b-. Colloquiums

1. *A short walk through the physics of neutron stars*. Colloquium at the Institut fuer Theoretische Physik. Justus-Liebig-Universitat Giessen. Giessen (Germany) July 2nd 2015

2. *Hyperon, quarks and neutron stars*
   ECT*-Colloquium at the meeting "Strangeness in the Universe ?. Theoretical and Experimental Progress and Challenges", ECT*, Trento (Italy), October 21th -25th 2013

VIII.4-. Oral presentations

1. *Asymmmetry of the neutrino mean free path in neutron matter under magnetic fields*
   PHAROS Conference 2019: The Multi-Messenger Physics & Astrophysics of Neutron Stars, April 22nd-26th, Platja d'Aro (Spain)

2. *Future advances in nuclear and neutron star physics from the next generation of radioactive ion beam facilities*. Encontro com a Ciência e Tecnologia em Portugal, July 4th - 6th 2016, Lisbon (Portugal)

3. *Symmetry energy within the Brueckner-Hartree-Fock approximation*. "II Iberian Nuclear Astrophysics meeting", Salamana (Spain), September 22nd-23rd 2011.

4. *Effects of hyperonic three-body forces on the maximum mass of neutron stars*. XXI Encontro Nacional de Astronomia e Astrofísica, Coimbra (Portugal), September 7th-10th 2011.

5. *Effects of hyperonic three-body forces on the maximum mass of neutron stars*. "COMPSTAR 2011: School & Workshop Gravitational Wave & Electromagnetic Radiation from Compact Stars", Catania (Italy), May 3rd-12th 2011.

6. *Spinodal instabilities of asymmetric nuclear matter within the Brueckner-Hartree-Fock approximation*. "Primeiro encontro Luso-Espanhol dos membros ibéricos de COMPSTAR", Coimbra (Portugal), October 15th-16th 2010.

7. *The nuclear matter EoS: a comparison of different many-body techniques*. "COMPSTAR-EoS Workshop", GSI, Darmstadt (Germany), July 14th 2010.

8. *Symmetry energy, neutron star crust and neutron skin thickness*. "EMMI workshop Neutron Matter in Astrophysics: From Neutron Stars to r-processes", GSI, Darmstadt (Germany), July 15th -18th 2010.

9. *Symmetry energy, neutron star crust and neutron skin thickness*. "Conference on Few-Body-Body Problems in Physics", Salamanca (Spain) August 29th – September 3rd 2010.

10. *Effect of Λ hyperon on the neutron drip line*. "X International Conference on Hypernuclear and Strange Particle Physics", RICOTTI, Tokai, Ibaraki (Japan) September 14th -18th 2009.

11. *Role of color superconductivity on the nucleation of quark matter in neutron stars*. "Nuclear Physics in Astrophysics III. XXI International Physics Divisional Conference of the European Physical Society", Dresden (Germany) March 26th - 31st 2007.
12. *Quark deconfinement and neutrino trapping in neutron stars*. "VIII International Conference on Strangeness in Quark Matter SWM 2004", Cape Town (South Africa) September 15th - 20th 2004.

13. *Implications of quark deconfinement in the radius and limiting mass of compact stars*. "International Nuclear Physics Conference INPC 2004", Göteborg (Sweden) June 27th – July 2nd 2004.

14. *Role of hyperons on the hadron-star to quark-star conversion mechanism*. "VIII International Conference on Hypernuclear and Strange Particle Physics", Jefferson Lab., Newport News, Virginia (USA) October 14th -18th 2003.

15. *Role of neutrino trapping on the neutron star structure and evolution*. "IX Convegno su problemi di fisica nucleare. Programma di interesse nazionale su fisica teorica del nucleo e dei sistemi a molti corpi", Cortona (Italy) October 9th -12th 2002.

16. *Neutrino trapping effect on β-stable neutron star matter*. "Nuclear Physics in Astrophysics. 17th International Nuclear Physics Divisional Conference of the EPS ", ATOMKI, Debrecen (Hungary) September 30th – October 4th 2002.

17. *Magnetic properties and EoS of spin polarized isospin asymmetric nuclear matter*. "4th Catania Relativistic Ion Studies. Exotic Clustering", Catania (Italy) June 10th -14th 2002.

18. *Hyperon effects on the properties of β-stable neutron star matter*. "VII International Conference on Hypernuclear and Strange Particle Physics", Torino (Italy) October 23rd -27th 2001.

19. *Properties of β-stable neutron star matter with hyperons*. "International Workshop on Physics of Neutron Star Interiors", ECT*, Trento (Italy) June 19th – July 17th 2000.

20. *Efectos de la extrañeza en el medio nuclear*. "XXVII Reunión Bienal de la Real Sociedad Española de Física", Valencia (Spain) September 20th-24th 1999.

21. *Binding energies of Λ hypernuclei from realistic YN interactions*. "7th Conference Mesons and Light Nuclei 98", Praga-Pruhonice (Czech Republic) August 31st - September 4th 1998.

VIII.5-. Posters

1. *Fermi liquid theory of hyperonic matter*. "International Conference on Recent Progress in Many-Body Theories", Barcelona (Spain) July 16th-20th 2007.

2. *Superfluidity of Σ hyperons in β-stable neutron star matter*. "IX International Conference on Hypernuclear and Strange Particle Physics", Mainz (Germany) October 10th-14th 2006.

3. *$\Lambda\Lambda$ bond energy from the Nijmegen potentials*. "VIII International Conference on Hypernuclear and Strange Particle Physics", Jefferson Lab., Newport News, Virginia (USA) October 14th -18th 2003.

Summary of Presentations

- Plenary talks: 9
- Invited talks: 73
- Lectures at International Schools: 14
- Colloquiums: 2
- Oral presentations: 21
- Posters: 3

Total number of presentations: 122

IX-. SEMINARS

1. *A short walk through the physics of neutron stars*. Seminar at the Physik Department , TUM, November 25th 2020, Munich (Germany)
2.
3. *A short introduction to the physics of neutron stars.* Seminar at the Departament de Fisica Quantica i Astrofisica. Universitat de Barcelona, May 3rd 2019, Barcelona (Spain)

4. *The nuclear EoS: from experiments to astrophysical observations.* Seminar at the Departament de Fisica Quantica i Astrofisica. Universitat de Barcelona, November 13th 2018, Barcelona (Spain)

5. *A short walk through the physics of neutron stars.* Seminar at the Dipartimento di Fisica. Università di Pavia, Pavia (Italy), June 7th 2018.

6. *Excitation of Nucleon Resonances in Isobar Charge Exchange Reactions.* Seminar at the Departament de Física Quàntica i Astrofísica, Universitat de Barcelona, Barcelona (Spain) July 13th 2017.

7. *A short walk through the physics of neutron stars.* Seminar at the Department of Physics, University of York Heslington, York (UK) January 24th 2017.

8. *Nuclear Equation of State and Neutron Stars: Few Topics.* Seminar at the School of Physics and Astronomy, University of Manchester, Manchester (UK) January 26th 2017.

9. *Excitation of Nucleon Resonances on Isobar Charge Exchange Reactions.* Seminar at the School of Physics and Astronomy, University of Manchester, Manchester (UK) January 27th 2017.

10. *Excitation of Nucleon Resonances on Isobar Charge Exchange Reactions*. Seminar at Department of Physics, University of Surrey, Guilford, Surrey (UK), September 16th 2016.

11. *A short walk through the physics of neutron stars*. Seminar at the Laboratorio Nazionale di Frascati (Italy), June 7th 2016.

12. *Nucleon Resonances in Isobaric Charge Exchange Reactions*. Seminar at the Physics Department of the University of Coimbra (Portugal), February 24th 2016.

13. *A model for the analysis of Isobaric Charge Exchange Reactions*. Seminar at GSI, Darmstadt (Germany), February 3rd 2015.

14. *Hyperons and Neutron Stars.*
Seminar at Department of Physics & Astronomy, Texas A&M University-Commerce, Commerce (TX), USA November 25th 2014.

15. *Symmetry Energy, Tensor Force & Maximum Rotation of Neutron Stars.*
Seminar at Dipartimento di Física. Università di Catania,Catania (Italy), December 3rd 2013.

16. *Neutron Stars: Matter Under Extreme Conditions.*
Seminar at Dipartimento di Física. Università degli Studi di Milano, Milano (Italy), October 17th 2013.

17. *Hyperons and neutron stars*. Seminar at the *"Encontro Nacional de Estudentes de Física"*, Physics Department. University of Coimbra, Coimbra (Portugal) February 17th 2013.

18. *Symmetry energy, tensor force and maximum rotation of neutron stars*. Seminar at IPN-Lyon, Lyon (France) February 14th 2013.

19. *Symmetry energy, neutron-rich matter and tensor force*. Seminar at Dipartimento di Fisica, Università "La Sapienza", Roma (Italy) October 24th 2012.

20. *Symmetry energy, neutron star crust, neutron skin thickness and r-mode instability of neutron stars*. Seminar at Los Alamos National Laboratory, Los Alamos, New Mexico (USA) May 22nd 2012.

21. *Symmetry energy, neutron star crust and neutron skin thickness*. Seminar at Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy) November 29th 2011.

22. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. Seminar at Departamento de Física Fundamental, Universidad de Salamanca (Spain) May 30th 2011.

23. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. Seminar at Dipartimento di Física Enrico Fermi, Università di Pisa (Italy) March 30th 2011.

24. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. Seminar at Laboratorie APC-AstroParticule-Cosmologie, Université París-Diderot-París VII (France), March 2nd 2011.

25. *Hyperons, hypernuclei and neutron drip line*. Seminar at, Institut de Physique Nucléaire, Orsay (France), March 1st 2011.

26. *Hyperons, hypernuclei and neutron drip line*. Seminar at Grand Accélérateur National d'Ions Lourds (GANIL) (France), February 25th 2011.

27. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. Seminar at Centre d'Etudes Nucléaires de Bordeaux-Gradignan (CENBG) (France), February 18th 2011.

28. *Effect of hyperonic three-body forces on the maximum mass of neutron stars*. Seminar at Centro de Física Computacional, Universidade de Coimbra (Portugal), February 8th 2011.

29. *Estrellas de neutrones: la materia en condicones extremas*. Lecture at Facultade de Física da Universidade de Santiago de Compostela (Spain), November 26th 2010.

30. *Symmetry energy, neutron star crust and neutron skin thickness*. Seminar at Grupo Experimental de Física Nucler y de Partículas. Departamento de Física de Partículas, Universidade de Santiago de Compostela (Spain), November 25th 2010.

31. *Symmetry energy, neutron star crust and neutron skin thickness*. Seminar at. Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), June 16th 2010.

32. *Symmetry energy, neutron star crust and neutron skin thickness*. Seminar at. Centro de Física Computacional, Universidade de Coimbra (Portugal), June 1st 2010.

33. *Dynamical generation of open charm baryon resonances*. Seminar at Institut de Physique Nucléaire, Orsay (France), September 23rd 2009.

34. *Dynamical generation of open charm baryon resonances*. Seminar at Centro de Física Computacional, Universidade de Coimbra (Portugal), January 20th 2009.

35. *Strangeness in neutron stars*. Seminar at Institut de Physique Nucléaire, Orsay (France), July 23rd 2008.

36. *Strangeness in neutron stars*. Seminar at Institut de Ciências del Cosmos, Universitat de Barcelona (Spain), May 26th 2008.

37. *Quark deconfinement, Neutron Stars and Gamma Ray Bursts*. Seminar at Departamento de Física, Universidade de Coimbra (Portugal), September 2007.

38. *Effects of color superconductivity on the nucleation of quark matter in neutron stars*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), May 12th 2007.

39. *Compact stars: white dwarfs and neutron stars*. Lecture at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), January 11th 2007.

40. *Strangeness in neutron stars*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), June 13th 2006.

41. *Implications of quark deconfinement for the radius and maximum mass of compact stars*. Seminar at GSI, Darmstadt (Germany), February 2004.

42. *Quark deconfinement, radius and maximum mass of compact stars*. Seminar at Institut für Theoretische Physik, Johann Wolfgang Goethe Universität, Frankfurt am Main (Germany), January 2004.

43. *Quark deconfinement, radius and maximum mass of compact stars*. Seminar at Dipartimento di Fisica, Università di Catania, Catania (Italy), July 2003.

44. *Equation of State and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter*. Seminar at ECT*, Trento (Italy), March 2003.

45. *Equation of State and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter*. Seminar at Dipartimento di Fisica Enrico Fermi, Università di Pisa (Italy), February 2003.

46. *Equation of State and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter*. Seminar at GSI, Darmstadt (Germany), February 2003.

47. *Equation of State of β-stable matter and neutron stars*. Seminar at Departamento de Física, Universidad de Oviedo (Spain), October 2002.

48. *Equation of State and magnetic susceptibility of spin polarized isospin asymmetric nuclear matter*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), April 2002.

49. *Hyperonic matter and hyperon effects on neutron star matterr*. Seminar at Dipartimento di Fisica Enrico Fermi, Università di Pisa (Italy), September 2001.

50. *Properties of β-stable neutron star matter with hyperons*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), October 2000.

51. *Strange nuclear matter within the Brueckner-Hartree-Fock theory*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), January 2000.

52. *Strange nuclear matter within the Brueckner-Hartree-Fock theory*. Seminar at Department of Physics, University of Oslo (Norway), December 1999.

53. *Hyperon properties in finite nuclei using realistic YN interactions*. Seminar at Department of Physics, University of Oslo (Norway), February 1999.

54. *Binding energy of Λ-hypernuclei from realistic YN interactions*. Seminar at Institute of Nuclear Physics and Academy of Sciences of the Czech Republic, Rez. Prague (Czech Republic) September 1998.

55. *Hyperon properties in finite nuclei using realistic YN interactions*. Seminar at Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona (Spain), June 1998.

Summary of Seminars: 55 seminars at different universities and institutes

X-. ORGANIZATION OF CONFERENCES

I have been member of the local organizing committee of the following conferences:

1. *The Equation of State of Neutron Star Matter*, November 7th – 9th 2017 Spazi Arte – Teatro Machiavelli, Catania (Italy).
   http://agenda.ct.infn.it/event/1276/

2. *NewCompstar School 2016: " Neutron stars: gravitational physics theory and observations",* September 5th – 9th 2016, Department of Physics. University of Coimbra (Portugal).
   https://indico.cern.ch/event/505595/

3. *NPA6: Nuclear Physics in Astrophysics VI***.** Lisbon (Portugal) October 2013.
   http://npa6.cii.fc.ul.pt/

4. *HYP2012: XI International Conference on Hypernuclear and Strange Particle Physics***.** Barcelona (Spain) October 1st - 5th 2012.
   http://icc.ub.edu/congress/HYP2012/

5. *COMPSTAR@IBERIA: Primeiro encontro Luso-Espanhol dos membros ibéricos de COMPSTAR*. Coimbra (Portugal) October 15th - 16th 2010.

http://nautilus.fis.uc.pt/personal/orlando/CompStar/index.shtml

6. *COMPSTAR 2009: The crust of compact stars and beyond*. Coimbra (Portugal) February 5th-13th 2009.
   http:/nautilus.fis.uc.pt/compstar/

XI-. SHORT RESEARCH STAYS

1. June 1st – July 31st 2008: Institut de Physique Nuclèaire, Orsay (France).
2. June 1st – July 31st 2000: European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ETC*), Trento (Italy).
3. November – December 1999: Department of Physics, University of Oslo (Norway)
4. January – February 1999: Department of Physics, University of Oslo (Norway)

XII-. INTERNATIONAL COLLABORATIONS

1. Prof. Artur Polls. Departament d'Estructura i Constituents de la Matèria. University of Barcelona (Spain).
2. Prof. Àngels Ramos. Departament d'Estructura i Constituents de la Matèria. University of Barcelona (Spain).
3. Prof. Ignazio Bombaci. Dipartimento di Física "Enrico Fermi", Unversity of Pisa (Italy).
4. Dr. Jerôme Margueron. Institut de Physique Nuclèaire, Orsay (France).
5. Prof. Marcello Baldo, Istituto de Física Nucleare, Catania (Italy)
6. Dr. Hans-Josef Schulze, Istituto de Física Nucleare, Catania (Italy)
7. Dr. Matthias Lutz. GSI Helmoltzzentrum für Schwerionenforschung GmbH, Darmstadt (Germany).
8. Dr. Conrado Albertus. Departamento de Física Moderna. Universidad de Granada (Spain).
9. Dr. Stefano Gandolfi. Los Alamos National Laboratory. (USA).
10. Dr. Camille Ducoin. Institut de Physique Nuclèaire, Lyon (France).
11. Prof. Eduardo Bauer, Departamento de Física, Universidad Nacional de La Plata (Argentina).

12. Prof. José Benlliure, Grupo Experimental de Núcleos y Partículas. Universidade de Santiago de Compostela (Spain).

13. Prof. Bao-An Li, Department of Physiscs & Astronomy. Texas A&M University-Commerce, Commerce (TX) USA.

14. Prof. Dao T. Khoa, Institure for Nuclear Science and Technique, VINATOM, Hanoi, Vietnam

15. Prof. Horst Lenske, Institut fur Theoretische Pysik, Universitat Giessen, Giessen (Germany)

XIII-. PARTICIPATION IN ACADEMIC JURIES

I have been member of the following academic juries:

1. External reviewer of the Ph.D. of Mr. Manuel Menezes that defended the thesis entitled "Numerical Simulations of Neutron Star and Black Hole Mergers with realistic Equation of State" on February 5th 2020 at the University of Edinburgh (UK)

2. Member of the jury of the Ph.D. of. Mr. Jossitt Williams Vargas Cruz that the defended the thesis entitled *"Charge Exchange and Knout Reactions induced by Sn Isotopes at Relativistic Energies"* on June 13th 2014 at the University of Santiago de Compostela (Spain)

3. Member of the jury of the Ph. D. of Mrs. Arianna Carbone that defended the thesis entitled "*Self-consistent Green's functions with three-body forces*" on April 10th 2014 at the University of Barcelona (Spain).

4. Member of the jury of the Ph. D. of Mr. Domenico Logoteta that defended the thesis entitled "*Effects of hyperonic three-body forces and quark matter in neutron stars*" on September 23rd 2013 at the University of Coimbra (Portugal).

5. President of the jury of the Ph. D. of Mrs. Joanna Milena Chroback that defended the thesis entitled "*Mathematical modeling of neoplasm: ODEs and statistical analysis of medical data*" on December 17th 2010 at the University of Castilla-La Mancha, Ciudad Real (Spain).

6. Secretary of the jury of the Ph.D. thesis of Mr. Arnau Rios Huguet that defended the thesis entitled "*Thermodynamical Properties of Nuclear Matter from a Self-Consistent Green Function Approach*" on February 23rd 2006 at the University of Barcelona (Spain).

7. Member of the jury of the Master thesis of Mr. Renan C. Pereira that defended the thesis entitled "*Chiral transition and deconfinement in hybrid stars*" on July 28th 2016 at the University of Coimbra.

8. Member of the jury of the Master thesis of Mr. Daniel Pesoa da Silva Bizarro that defended the thesis entitled "*Symmetry energy ω–ρ and σ–ρ mixing influence in neutron star structure and content*" on September 27th 2013 at the University of Coimbra.

9. Member of the jury of the Master thesis of Mr. Vitor Lay that defended the thesis entitled "*Stellar Matter and Cold Neutron Stars Properties within the non-linear Walecka model*" on November 16th 2012 at the University of Coimbra.

10. Member of the jury of the Master thesis of Mr. Marcio Rafael Baptista Ferreira that defended the thesis entitled "*Asymmetric nuclear matter at low densities*" on July 20th 2011 at the University of Coimbra.

11. Member of the evaluation jury of the Ph.D. proposal of Mr. Jianjun Fang entitled: *"Pasta phase in the inner crust of neutron stars: effect of strong magnetic fields and collective modes"* that was defended at the University of Coimbra on September 27th 2013.

XIV-. SUPERVISION OF STUDENTS AND TEACHING ACTIVITY

XIVa-. Supervision of Students

XIVa.1-. Supervision of Ph.D. thesis

XIVa.2-. Supervision of undergraduate students

XIVb-. Teaching activity

XIVb.1-. Undergraduate courses

Course: *Mathematical analysis*

Level: Undergraduate course of the Physics degree
Academic years: 1996/1997, 2006/2007 & 2007/2008
Type: Practical classes (exercises)
Hours: 13 hours/year
Place: Departament d'Estructura i Constituents de la Matèria. University of Barcelona (Spain)

Course: *Computational Physics*

Level: Undergraduate course of the Physics degree
Academic years: 2014/2015, 2015/2016, 2016/2017
Type: Theoretical and Practical classes
Hours: 56 hours/year
Place: Department of Physics. University of Coimbra

XIVb.2-. Master courses

Course: *Group Theory*

Level: Master (Mestrado) course in Physics.
Academic years: 2009/2010, 2010/2011, 2011/2012, 2012/201, 2013/2014, 2014/2015, 2015/2016, 2016/2017
Type: Theoretical and Practical classes
Hours: 30 hours/year
Place: Department of Physics. University of Coimbra

XIVb.3-. Doctoral courses

Course: *Many-body theory*

Level: Doctoral course in Physics.
Academic years: 2010/2011, 2011/2012, 2012/2013, 2013/2014 , 2015/2016,

2016/2017
Type: Theoretical and Practical classes
Hours: 36 hours/year
Place Department of Physics. University of Coimbra

XV-. POPULAR SCIENCE ACTIVITIES

1. *Um pouco de Física Nuclear: Radiactividade, Fissão, Fusão e Outras Ervas.* Seminar at the event "*Projecto Quark. Escola de Física para jovens"* of the Departament of Physics of the University of Coimbra (Portugal), June 29th 2013.

2. Coordination of the project: *Einstein and the molecules: browian movement* at the event "*Summer University"* of the University of Coimbra (Portugal), July 22th -27th 2012.

3. *Estrelas de neutrões: a materia em condições extrems*. Seminar at the event "*Projecto Quark. Escola de Física para jovens"* of the Departament of Physics of the University of Coimbra (Portugal), February 25th 2012.

4. Coordination of the project: *Einstein and the molecules: browian movement* at the event "*Summer University"* of the University of Coimbra (Portugal), July 17th -22nd 2011.

5. *Neutron stars: matter under extreme conditions*. Seminar at the event "*Summer School Fisica@UC"* of the Departament of Physics of the University of Coimbra (Portugal), July 25th 2009.

6. Organization of the visits to the *Experimental Room* of the Departament of Physics of the University of Coimbra. Years: 2009-2010.

7. Preparation of students for the *International and Pan-American Olympics of Physics*. Academic Years: 2008/2009, 2009/2010, 2010/2011 and 2011/2012.

XVI-. LANGUAGES (P=PERFECT, G=GOOD M=MOTHER LANGUAGE)

Language	Speaking	Reading	Writing
English	P	P	P
Italian	P	P	P
Portuguese	VG	P	P
Catalan	M	M	M
Spanish	M	M	M

G. Verde | Curriculum Vitae

Professional and Research Experience

- **INFN, Istituto Nazionale di Fisica Nucleare, Catania** — **2015–Present**
  Primo Ricercatore, II Liv. Professionale — *Catania (Italy)*
- **INFN, Istituto Nazionale di Fisica Nucleare, Catania** — **2004–2014**
  Ricercatore, III Liv. Professionale — *Catania (Italy)*
- **Texas A&M University (TAMU), Cyclotron Institute** — **2003–2004**
  Assistant Professor — *College St, TX (USA)*
- **Michigan State University, NSCL** — **Giugno 2001– Ottobre 2003**
  Assistant Professor — *East Lansing, MI (USA)*
- **Michigan State University, NSCL** — **Aprile 1999–Maggio 2001**
  Postdoc Research Associate — *East Lansing, MI (USA)*
- **Centro Siciliano di Fisica Nucleare e Struttura della Materia** — **1999**
  Postdoc Researcher — *Catania (Italy)*

Visiting Senior Researcher positions at International Institutes

- **Laboratoire des 2 Infinis Toulouse, CNRS-IN2P3** — **2020–2021**
  Visiting Senior Researcher in Congedo di Ricerca — *Toulouse (France)*
- **Institut de Physique Nucleaire d'Orsay, Université Paris-Saclay, CNRS-IN2P3** — **2014–2017**
  Visiting Senior Researcher in Congedo di Ricerca — *Orsay (France)*
- **GANIL, Grand Accelerateur National d'Ions Lourds** — **2005–2007**
  Visiting Researcher, CEA/CNRS — *Caen (France)*

Education and Academic Curriculum

- **Abilitazione Professore di Prima Fascia** — **2014**
  University of Catania
- **Doctoral Degree (PhD) in Nuclear Physics** — **1998**
  University of Catania
- **Laurea (Master of Research) Degree in Nuclear Physics** — **1998**
  University of Catania

Experience in International Steering Committees

- **Membro nominato dello Scientific Council of the CNRS-IN2P3, Institut Nazional de Physique Nucleaire et Physique des Particules**
- **Membro nominato dello Steering Committee "Prospectives IN2P3 2020-2030" per il settore di ricerca "Fisica Nucleare e Astrofisica Nucleare" dell'istituto IN2P3 del CNRS (Francia)**
- **Membro del NuPECC Long Range Plan 2017, "Nuclear Structure and Dynamics"**

Management Experience and Research Group Leadership (national and international)

- **Responsabile Nazionale esperimento NUCLEX in seno a CSN3**, 2023-Present
- **Responsabile Locale (Sezione di Catania) esperimento NUCLEX in seno a CSN3**, 2018-Presente
- **Coordinatore Europeo di progetto TECHIBA (Technologies for High Intensity Beams and Applications), parte di ENSAR2 (European Nuclear Science and Applications Research-2)**: Responsabile scientifico e della gestione del budget
- **Responsabile Locale (Sezione di Catania) esperimento EXOCHIM in seno a CSN3**, 2012-2014

- **Responsabile del Personale Ricercatore per la Sezione di Catania**: dal 2010-2014 e dal 2019-Presente
- **Group Leader INDRA-FAZIA ad IPN Orsay** (2014 al 2017) e **Group Leader Physique Nucleaire ad L2IT**, (2020-2021)
- **Collaborazione INDRA-FAZIA - Membro del Comité INDRA**, 2015-Presente
- **Collaborazione FAZIA - Coordinatore di Work package 4: "Future Perspectives"**, 2015-Presente
- **Collaborazione FAZIA - Coordinatore di Working Group: "Physics Cases for FAZIA"**, 2005-2011
- **Collaborazione FAZIA - Coordinatore delle attività di progetto futuro ad FRIB (Michigan State University)**, 2022-Presente

Publications

- **About 250 publications on peer-reviewed International Journals** (fra le altre, 17 Physical Review Letters; 6 Physics Letters B; 1 ViewPoint and Editor's Suggestion on PRL)
- **about 50 publications on volumes of conference proceedings**

Some of the most representative publications: J. Pochodzalla et al., Phys. Rev. Lett. 75, 1040 (1995); M.B. Tsang et al., Phys. Rev. Lett. 85 (2000) 716; G. Verde et al., Physical Review C65, 054609 (2002); G.Verde et al., Physical Review C67, 034606 (2003); M.B. Tsang et al., Physical Review Letters 92, 062701 (2004); G. Verde et al., Physics Journal A 30 (2006) pag. 81; G. Verde et al., Physics Letters B653 (2007), 12; F. Grenier et al., Nuclear Physics A811 (2008) 233; Z.Y. Sun et al, Physical Review C82, 051603 (2010); P. Marini et al., Physics Letters B 756, 194 (2016); D. Dell'Aquila et al., Physical Review Letters 119, 132501 (2017); R. Bougault et al., Physical Review C 97, 024612 (2018); B. Borderie et al., European Physical Journal A 56, 101 (2020); Physical Review Letters 125.012701 (2021); Physical Review C106, 024605 (2022); Physical Review C107, 014604 (2023)

Journal Referee and Editor experience

- **About 40 articles refereed for International Scientific Journals**: Physical Review Letters and Physical Review C (Ed. APS Journals); Physics Letters B, Nuclear Physics A and Nuclear Instruments and Methods (Ed. Elsevier); European Physical Journal A (Ed. EDP Science & Springer)
- **Elsevier Outstanding Reviewer from March 2017**
- **Co-Editor of Volume/Book: "Nuclear Symmetry Energy", Eur. Phys. Journal A50, 9 (2014)**
- **Review Editor of the Editorial Board of Frontiers in Physics, section of Nuclear Physics**

Teaching experience

- 1) **Physics 192** (Electromagnetism and Relativity) at Michigan State University (USA); **Physical Chemistry** at Texas A&M University (USA); 2) **Fisica degli Ioni pesanti** (Heavy-ion physics) at University of Catania (Italy); 3) **Exploring the nuclear symmetry energy** at Ecole Joliot-Curie 2010, Lacanau (France); 4) **The symmetry energy in nuclear dynamics**, Euroschool on Radioactive beams, 2014; 5) **Scientific Committee** and teacher at the **Zimaniy Winter School on Heavy-Ion Physics**, Budapest (Ungary), 2012-Now; 6) **Des noyeaux aux etoiles**, Université de Toulouse Paul Sabatier, corso di Fisica Nucleare (35 ore a titolo gratuito), 2023

Correlatore Tesi Dottorato e Laurea Magistrale, supervisione Postdoc

- **Relatore di 1 Tesi Dottorato** in Cotutela Internazionale tra Université Paris Saclay (France) and Università di Napoli "Federico II" - Studente: Daniele Dell'Aquila - **Tesi premiata con il Premio Villi nel 20118**
- **Co-Relatore di 3 Tesi di Dottorato** presso Università di Catania (2) ed Università di Messina (1);
- **Co-Relatore di 5 Tesi di Laurea Magistrale** presso Università di Catania;
- **Membro Comissione di Tesi di Dottorato** presso Université de Caen-Basse Normandie/GANIL) (France), Michigan State University (USA), Università di Catania, Università di Napoli "Federico II"
- **Supervisione giovani Postdoc** presso INFN, Laboratori Nazionali del Sud of Catania, Institut de Physique Nucleaire d'Orsay (France)

Invited Talks

- *More than 70 Invited Talks at International Conferences.*
  Among them, I here mention a few of significant ones:
  - INPC2013 International Nuclear Physics Conference, Florence (Italy), 2-7 June 2013, Plenary Talk.
  - Gordon Research Conference 2008, Colby-Sawyer College, New London, NH, USA, June 15-20, 2008.
  - EXON 2009, International Symposium on Exotic Nuclei, Sochi (Russia), 28 Sep-2 Oct, 2009.

- NuSym10, International Symposium on Nuclear Symmetry Energy 2010, RIKEN (Japan), July 26-28 2010.
- ECT* "Simulating the supernova neutrinosphere with heavy ion collisions", Trento, Italy, April 7-11, 2014.
- EURISOL Distributed Facility 2016 Conference Leuven (Belgio), October 18-21, 2016.
- EURORIB '18, European Radioactive Ion Beam Conference 2018, Giens (France), May 27th-June 1st, 2018.
- NuSym19, International Symposium on Nuclear Symmetry Energy 2019, Da-Nang (Vietnam), Sep 30-Oct 4, 2019
- WPCF 2022, XV Workshop on Particle Correlations and Femtoscopy 2022, East Lansing, MI (USA), Jul 18-22, 2022

Conference organization

- *Chair of 5 international conferences:* WPCF 2013, IX Workshop on Particle Correlations and Femtoscopy (2013); Asy-EoS, International Workshop on Nuclear Symmetry Energy (2010 and 2012); ANSIP-2011, Advanced School on Signal Processing (2011); NuSym20, Nuclear Symmetry Energy (2020); WPCF 2023, XVI Workshop on Particle Correlations and Femtoscopy (2023)
- *Member of Scientific Committees of more than 10 international conferences*

INFORMAZIONI PERSONALI

Elena Irene Geraci

Gender: | *Date of birth:* | *Nationality:*

ESPERIENZA PROFESSIONALE

dal 1/07/2008 (*ad oggi*) **Ricercatrice Universitaria in Fisica Nucleare e Subnucleare**

Università degli Studi di Catania, Dipartimento di Fisica e Astronomia, Via Santa Sofia 64, Catania, Italy

- Attività di ricerca in Fisica Nucleare principalmente su tematiche che coinvolgono reazioni tra ioni pesanti ad energie basse e intermedie, tese a studiare le proprietà dei nuclei in condizioni estreme di densità, temperature e contenuto neutronico utilizzando gli apparati sperimentali CHIMERA e FARCOS ai Laboratori Nazionali del Sud (LNS-INFN).
  E' membro della collaborazione internazionale NUSTAR-R3B, focalizzata su esperimenti con fasci radioattivi a energie relativistiche al GSI (Darmstadt, Germany).
- Attività di ricerca in Storia della Fisica (dal 2019 ad oggi)
- Docente di Fisica nel Corso di Laurea in Scienze Biologiche (UNICT)
- Docente del Modulo "Heavy Ion Physics" del corso " Heavy Ions Physics at Intermediate and High energy" nel Corso di Laurea Magistrale in Physics (UNICT)
- Docente del Corso "Tecniche di Misure Nucleari" nella Scuola di Specializzazione in Fisica Medica (UNICT)

1/04/2013 al 31/07/2019. **Visiting research scholar**

- Department of Physics and Astronomy of Rutgers, State University of New Jersey, (NJ, USA)
- Attività di ricerca in Fisica Nucleare delle basse energie

19-12-2005 al 30-06-2008. **Ricercatrice INFN (ex art. 23)**

- Sezione di Bologna, Istituto Nazionale Fisica Nucleare, Via Berti Pichat 6/2, 40127 Bologna
- Attività di ricerca in attività nel campo di fisica degli ioni pesanti a energie basse e intermedie, utilizzando gli apparati sperimentali Garfield e RCO ai Laboratori Nazionali di Legnaro (INFN-LNL) and Chimera ai INFN-LNS

01-03-2002 al 31-12-2005. **Assegno di ricerca (Post-Doc Position)**

- Università di Bologna, Dipartimento di Fisica, Viale Irnerio 46, 40126 Bologna
- Attività di ricerca nel campo delle reazioni tra ioni pesante ad energie basse e di Fermi, analizzando dati sperimentali relativi ad esperimenti svolti ai INFN-LNL e INFN-LNS.

INCARICHI ISTITUZIONALI E ATTIVITÀ GESTIONALI

Dal 22/10/2019 (*ad oggi*) **Delegato alla "Terza Missione"** del Dipartimento di Fisica e Astronomia, UNICT

Università degli Studi di Catania, Dipartimento di Fisica e Astronomia (DFA), Via Santa Sofia 64, Catania, Italy

- Coordinamento delle attività di *public engagement* del DFA, come la partecipazione alla European Research Night, International Cosmic Day, International Day of Women and Girls in Science
- Coordinamento delle attività di orientamento e divulgazione con le Scuole Superiori, come PCTOs, mostre, visite guidate, seminari negli Istituti, etc
- Coordinamento degli "open days" e delle attività di orientamento con le Scuole Superiori

Dal 2/05/2022 (*ad oggi*) **Responsabile Scientifico della "Collezione Strumenti Antichi" del Dipartimento di Fisica e Astronomia**

Università degli Studi di Catania, Dipartimento di Fisica e Astronomia (DFA), Via Santa Sofia 64, Catania, Italy

- Delegata del Rettore per tutte le attività che coinvolgono la "Collezione Strumenti Antichi del Dipartimento di Fisica e Astronomia", che include più di 200 strumenti antichi.
- Coordinatrice del Progetto che coinvolge studenti delle Scuole Superiori nella valorizzazione degli strumenti antichi nel AA 2022-2023

Since 1/11/2020 (*ongoing*)

- Membro della Commissione Scientifica di Ateneo del SiMuA (UNICT)

Rappresentante dei ricercatori della Sezione INFN di Catania

- Eletta dal personale ricercatore e associato della sezione INFN di Catania il15/10/2020

Dal 4/05/2022 (*ad oggi*)

Membro dello User Board dei Laboratori Nazionali di Legnaro, INFN

INFN Laboratori Nazionali di Legnaro, Viale dell'Università, 2, Legnaro PD

Eletta in Aprile 2022

Dal 15/02/2023 (*ad oggi*)

Coordinatrice del User Committee dei Laboratori Nazionali del Sud, INFN

INFN Laboratori Nazionali del Sud, Via Santa Sofia 62, Catania

Eletta in Febbraio 2023

Dal 1/10/2022 (*ad oggi*)

WP Leader del WP4-Spoke 5 dell'Ecosistema dell'Innovazione PNRR Samothrace

Responsabile Scientifico degli Affiliati UNICT allo Spoke 5

Attivita' su "Micro detectors for particle therapy, dosimetry e micro-dosimetry"

Budget 637 KEuro

ATTIVITÀ PRESSO IL CSFNSM

Dal 24/05/2023

Vicedirettore del CSFNSM

Centro Siciliano Fisica Nucleare Struttura della Materia, Via Santa Sofia 62, 95123 Catania

Dal 2019 (ad oggi)

Associato

Attività di ricerca inerenti alla fisica nucleare delle energie basse e intermedie, sullo studio delle proprietà della materia nucleare prodotta in collisioni tra ioni pesanti, e influenza della interazione nucleare dal numero di neutroni e protoni.

Attività di divulgazione dirette a studenti della scuola superiore e a un pubblico generico.

Docente del corso "Tecniche di analisi statistica dei dati" di ore 14 (quattordici) nell'ambito del Corso 157 Edizione 227 "Esperto nel trattamento e monitoraggio dei dati della filiera agroalimentare".

ISTRUZIONE E FORMAZIONE

Apr 1999 -Gen 2002

Ph. D. in Fisica

Università degli Studi di Catania, Dipartimento di Fisica e Astronomia, (XIV ciclo, AA 1998-2001)

Ph.D. thesis 'First results of 112,124Sn induced reactions on Al and Ni targets at 35 MeV/nucleon with the CHIMERA detector'

01-09-1997 al 01-04-1999

Post Lauream INFN Grant

Istituto Nazionale di Fisica Nucleare, Laboratori Nazionali del Sud (LNS)

Borsa di Studio Biennale post-lauream per condurre ricerche sulla fission indotta da ioni medio leggeri a energie raggiungibili con il Tandem dei LNS.

23-07-1996

Laurea in Fisica

Università degli Studi di Catania, Dipartimento di Fisica e Astronomia

- Laurea in Fisica conseguita con 110/110 cum laude discutendo la tesi sperimentale dal titolo "Reazioni di Fusione indotta su nuclei di Uranium-238 da ioni Fluoro a 125MeV"

Altre competenze professionali

- Coautore di 175 articoli, Hindex :29; Citazioni: 2486 (Scopus)
- Reviewer per Journal of Physics G: Nuclear and Particle Physics, IOP
- Relatore di Tesi Triennale e Magistrali
- Supervisor di PhD candidate

Catania, 4 Dicembre 2023