

CURRICULUM VITÆ

First & family names: Francisco Miguel MARQUÉS MORENO.

Birth: 22/08/1968, Tormos (Spain).

Nationality: Spanish.

Languages: English & French (fluent), Spanish & Catalan (mother tongues).

Status: married (3 children).

Position: *Directeur de Recherche* (senior scientist) at CNRS.

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SUMMARY

- Director of the International Joliot-Curie School (2016–22).
- Field Editor of the Few-Body Systems journal (2019–).
- Member of the GANIL Program Advisory Committee (2024–).
- Member of the CaeSAR project (2024–).
- Teaching duties: about **200h** in several universities, doctoral and summer schools.
- Academic supervision: **56** (19 PhD; 20+4+2 Master/Bachelor/School internships; 9+2 PhD/HDR juries).
- Experiment spokesperson: **5**.
- Publications: **110** peer-reviewed, plus **9** (including 3 books).
- Invited conferences: **68**.
- Seminars & Outreach: **97**.

EDUCATION & HONORS

1985: Baccalaureate in Science at IES Cid Campeador high school, Valencia (Spain).

With honors.

1990: *Licenciatura* (Master degree) in Nuclear Physics at Universidad de Valencia (Spain).

Honorable mention: *Premio Extraordinario* (best Physics student of the year).

1994: PhD thesis in Spanish and French (GANIL T9405) at Universidad de Valencia (Spain).

Honorable mention: *Premio Extraordinario* (best Physics PhD of the year).

2012: *Habilitation à Diriger des Recherches* (French diploma to supervise research) at Université de Caen (France).

2021–24: *Prime d'Encadrement Doctoral et de Recherche* (CNRS award for scientific excellence).

2025–27: *Prime Individuelle* (CNRS award for scientific excellence).

SCIENTIFIC CAREER

1990/91: IFIC-Valencia. Work on “*Study and development of the CPV detector for experiments at GANIL with the TAPS photon array*” under the supervision of José Lorenzo FERRERO CALABUIG.

1991–94: GANIL-Caen/IFIC-Valencia. Work on “*Bose-Einstein correlations between hard photons produced in heavy-ion collisions*” under the supervision of Yves SCHUTZ and José Lorenzo FERRERO CALABUIG.

1994/95: LPC-Caen. EU post-doctoral grant on the study of ^{19}C neutron halo using DéMoN.

1995–2025: LPC-Caen. Staff/Senior scientist at CNRS in the “*Nuclear Structure*” group. Main research on the study of the structure of very neutron-rich light nuclei, through the exploration of new probes and/or the search for new phenomena. Some examples are neutron interferometry, proton radioactive capture, β -delayed neutron emission, detection of neutron clusters, characterization of multi-neutron resonances, or measurement of scattering lengths at the picometer scale.

PRESENT PROJECTS

RIKEN (Japan): Study of correlations and dissociation sequence in exotic systems like $^{17,19,21}\text{B}$ and ^{22}C ; extension of our research program on the tetraneutron, and neutron clusters in general, from very neutron-rich nuclei like ^{28}O , ^7H and ^8He ; exploration of new phenomena, like Efimov states in ^{19}B and dineutron emission in ^{16}Be and ^{21}B ; measurement of very large scattering lengths and of the effective range in the ^{17}B -n system; construction of the second half of the NEBULA neutron array.

TEACHING DUTIES

- Mechanics, 2nd year in Chemistry, Universidad de Valencia (Spain), 1993/94.
- Algebra, 1st year in Physics, Universidad de Valencia (Spain), 1993/94.
- “*Haloes, molecules and multineutrons*”, École Internationale Joliot-Curie, 2h in 2002.
- “*Des noyaux trop riches en neutrons*”, Doctoral School CSIC-Madrid (Spain), 6h on 3–5/03/2003.
- “*Systèmes à petit nombre de nucléons*”, Doctoral School SIMEM-Caen/CESCS-Orsay,
12h at the Université de Caen (France), 15–19/05/2006;
12h at the IPN Orsay (France), 25–29/05/2009.
- “*Noyaux légers riches en neutrons*”, Master of Physics, Université de Caen (France), 24h in 2008–12.
- “*Le noyau de l’atome*”, Master 2 NPAC, Université de Paris VI-VII-XI (France), 75h in 2009–14.
- “*De Paris à Hiroshima*”, Summer School JANUS GANIL-LPC 2010, 3h in 2010.
- “*Exploring the limits of neutron binding*”, Summer School at Riva del Garda (Italy), 2h in 2014.
- “*The extremes of neutron richness*”, Pisa Summer School (Italy), 2h in 2019.

ACADEMIC SUPERVISION

- PhD thesis supervision:
 1. Emmanuel LIEGARD, Université de Caen (1994–97).
 2. Marc LABICHE, Université de Caen (1996–99).
 3. Emmanuel SAUVAN, Université de Caen (1997–2000).
 4. Jean-Luc LECOUEY, Université de Caen (1999–2002).
 5. Guillaume NORMAND, Université de Caen (2001–04).
 6. Virginie BOUCHAT, University of Brussels (2002–05).
 7. Hicham AL FALOU, Université de Caen (2003–07).
 8. Benoit LAURENT, Université de Caen (2004–07).
 9. Anne LEPRINCE, Université de Caen (2006–09).
 10. Giacomo RANDISI, Université de Caen (2008–11).
 11. Cyril LENAIN, Université de Caen (2018–21).
- PhD thesis direction:
 1. Sylvain LEBLOND, Université de Caen (2012–15).
 2. Quentin DESHAYES, Université de Caen (2014–17).
 3. Aldric REVEL, Université de Caen (2015–18).
 4. Belén MONTEAGUDO GODOY, Université de Caen (2016–19).
 5. Armel KAMENYERO, Université de Caen (2018–22).
 6. Emeline OLIVEIRA, Université de Caen (2022–25).
 7. Audrey ANNE, Université de Caen (2023–).
 8. Batool ALMASRI, Université de Caen (2025–).
- Master-2 internship:
 1. Frédéric SARAZIN, Université de Caen (1996).
 2. Jean-Luc LECOUEY, Université de Caen (1999).
 3. Guillaume NORMAND, Université de Caen (2001).
 4. Hicham AL FALOU, Université de Caen (2003).
 5. Benoit LAURENT, Université de Caen (2004).
 6. Anne LEPRINCE, Université de Caen (2006).
 7. Sylvain LEBLOND, Université de Caen (2012).
 8. Quentin DESHAYES, Université de Caen (2014).
 9. Elidiano TRONCHIN, University of Padova (2018).
 10. Osama AHMAD, Erasmus Mundus, Université de Caen (2021).
 11. Harshith BABU, Erasmus Mundus, Université de Caen (2021).
 12. Louis LEMAIR, Université de Strasbourg (2022).
 13. Guillermo ORTEGA URETA, Erasmus Mundus, Université de Caen (2022).

14. Tania ZANATTA MARTINEZ, Erasmus Mundus, Université de Caen (2022).
15. Audrey ANNE, Université de Caen (2023).
- Master-1 internship:
 1. Alan VIGNER, Université de Caen (1997).
 2. Clément HUOT-MARCHAND, Université de Caen (1997).
 3. Guillaume NORMAND, Université de Caen (1999).
 4. Nicolas BLARD, Université de Caen (1999).
 5. Julien LEMARIE, Université de Caen (2018).
- L3 (BA in Physics) internship:
 1. Valentin PESTEL, Université de Caen (2012).
 2. Thomas CARREAU, Université de Caen (2014).
 3. Valérien GIRARD-ALCINDOR, Université de Caen (2014).
 4. Marten Gustav LÄHKER, Tallinn University (2024).
- TIPE (high-school internship):
 1. Abdoul Saheb HUSSAINI, Lycée Jean Perrin, Lyon (2002).
 2. Vincent ROUGET, Lycée Saint-Louis, Paris (2002).
- PhD thesis Jury:
 1. Virginie BOUCHAT, University of Brussels (23/09/2005).
 2. Marine VANDEBROUCK, Université Paris Sud (13/09/2013).
 3. Alexandre LEPAILLEUR, Université de Caen (19/09/2013).
 4. Laurent LEFEBVRE, Université Paris Sud (20/09/2013).
 5. Daniele DELL'AQUILA, Université Paris-Saclay and University of Naples (22/01/2018).
 6. Rafaël LASSERI, Université Paris Sud (05/09/2018).
 7. Sílvia VIÑALS ONSÈS, Universidad Complutense de Madrid (11/12/2020).
 8. Paul ANDRÉ, Université Paris-Saclay (21/10/2022).
 9. Antoine BARRIÈRE, Université de Caen (30/01/2025).
- HDR thesis Jury:
 1. Anna CORSI, Université Paris-Saclay (11/09/2020).
 2. Antoine LEMASSON, Université de Caen (05/12/2024).

PEER-REVIEWED PUBLICATIONS

- 1** R.S.Mayer ... [F.M.Marqués](#) ... Z.Sujkowski, “*Investigation of pion absorption in heavy-ion induced subthreshold π^0 production*”,
Physical Review Letters **70** (1993) 904.
- 2** A.Schubert ... [F.M.Marqués](#) ... J.Québert, “*Evidence for stopping in heavy-ion collision from study of hard-photon source velocities*”,
Physical Review Letters **72** (1993) 1608.
- 3** [F.M.Marqués](#) ... Z.Sujkowski, “*Hard photon intensity interferometry in heavy ion reactions*”,
Physical Review Letters **73** (1994) 34.
- 4** A.Schubert ... [F.M.Marqués](#) ... J.Québert, “*Investigation of polar and azimuthal distributions of subthreshold pions at intermediate energies*”,
Physiscs Letters B **328** (1994) 10.
- 5** G.Martínez ... [F.M.Marqués](#) ... H.W.Wilschut, “*Impact parameter dependence of hard photon production in intermediate energy heavy-ion collisions*”,
Physiscs Letters B **334** (1994) 23.
- 6** P.E.Mueller ... [F.M.Marqués](#) ... A.Marín, “*Heavy ion Coulomb excitation and gamma decay studies of the one and two phonon giant dipole resonances in ^{208}Pb and ^{209}Bi* ”,
Nuclear Physics A **569** (1994) 123c.
- 7** [F.M.Marqués](#) ... Y.Schutz, “*Identification of photons and particles in the segmented electromagnetic calorimeter TAPS*”,
Nuclear Instruments and Methods A **365** (1995) 392.

- [8]** G.Martínez, [F.M.Marqués](#) ... H.W.Wilschut, “*Bremsstrahlung photons as a probe of hot nuclei*”, **Physics Letters B** **349** (1995) **23**.
- [9]** [F.M.Marqués](#) ... Gy.Wolf, “*Density oscillations in systems of colliding heavy ions observed via hard-photon interferometry measurements*”, **Physics Letters B** **349** (1995) **30**.
- [10]** J.H.G.vanPol ... [F.M.Marqués](#) ... H.W.Wilschut, “*Hard photons as a probe to study dissipation mechanisms*”, **Nuclear Physics A** **583** (1995) **373c**.
- [11]** R.Holzmann ... [F.M.Marqués](#) ... J.Québert, “*Pion reabsorption in heavy-ion collisions interpreted in terms of the Δ capture process*”, **Physics Letters B** **366** (1996) **63**.
- [12]** J.H.G.vanPol ... [F.M.Marqués](#) ... A.Kugler, “*Importance of one- and two-body dissipation at intermediate energies studied by hard photons*”, **Physical Review Letters** **76** (1996) **1425**.
- [13]** [F.M.Marqués](#) ... D.D.Wagner, “*Neutrons from the breakup of ^{19}C* ”, **Physics Letters B** **381** (1996) **407**.
- [14]** K.K.Gudima ... [F.M.Marqués](#) ... A.Marín, “*Subthreshold pion dynamics as a source for hard photons beyond proton-neutron bremsstrahlung in heavy-ion collisions*”, **Physical Review Letters** **76** (1996) **2412**.
- [15]** T.Matulewicz ... [F.M.Marqués](#) ... Y.Schutz, “*Identification of hydrogen isotopes with the BaF_2 electromagnetic calorimeter TAPS*”, **Nuclear Instruments and Methods A** **378** (1996) **179**.
- [16]** [F.M.Marqués](#) ... Y.Schutz, “*Comment on: Analysis of hard two-photon correlations measured in heavy-ion reactions at intermediate energies*”, **Physical Review C** **54** (1996) **2783**.
- [17]** [F.M.Marqués](#) ... Y.Schutz, “*Two-slit interference of bremsstrahlung photons from heavy-ion reactions*”, **Physics Letters B** **394** (1997) **37**.
- [18]** [F.M.Marqués](#) ... Y.Schutz, “*Two-photon correlations: from quantum statistics to heavy-ion collision dynamics*”, **Physics Reports** **284** (1997) **91**.
- [19]** Y.Schutz, G.Martínez, [F.M.Marqués](#) ... Gy.Wolf, “*Hard photons and neutral pions as probes of hot and dense nuclear matter*”, **Nuclear Physics A** **622** (1997) **404**.
- [20]** A.Marín ... [F.M.Marqués](#) ... Gy.Wolf, “*Exclusive π^0 and η meson production in $^{40}\text{Ar} + \text{Ca}$ at 800A MeV*”, **Physics Letters B** **409** (1997) **77**.
- [21]** [F.M.Marqués](#), “*Comment on: Measurement of the space-time extent of the hard-photon emitting source in heavy-ion collisions at 100 MeV/nucleon*”, **Physical Review C** **57** (1998) **2763**.
- [22]** A.Marín ... [F.M.Marqués](#) ... V.Wagner, “*Detection of charged pions and protons in the segmented electromagnetic calorimeter TAPS*”, **Nuclear Instruments and Methods A** **417** (1998) **137**.
- [23]** G.Agakichiev ... [F.M.Marqués](#) ... J.P.Wurm, “*Systematic study of low-mass electron pair production in $p\text{-Be}$ and $p\text{-Au}$ collisions at 450 GeV/c*”, **European Physical Journal C** **4** (1998) **231**.
- [24]** G.Agakichiev ... [F.M.Marqués](#) ... V.Yurevich, “*Neutral meson production in $p\text{-Be}$ and $p\text{-Au}$ collisions at 450 GeV beam energy*”, **European Physical Journal C** **4** (1998) **449**.
- [25]** M.Freer ... [F.M.Marqués](#) ... D.L.Watson, “*Exotic molecular states in ^{12}Be* ”, **Physical Review Letters** **82** (1999) **1383**.
- [26]** A.T.Reed ... [F.M.Marqués](#) ... S.M.Vincent, “*Radioactivity of neutron-rich oxygen, fluorine, and neon isotopes*”, **Physical Review C** **60** (1999) **024311**.
- [27]** M.Labiche, [F.M.Marqués](#), O.Sorlin, N.VinhMau, “*Structure of ^{13}Be and ^{14}Be* ”, **Physical Review C** **60** (1999) **027303**.
- [28]** U.C.Bergmann ... [F.M.Marqués](#) ... K.Wilhelmsen-Rolander, “*New information on β -delayed neutron emission from $^{12,14}\text{Be}$* ”, **Nuclear Physics A** **658** (1999) **129**.

- [29](#) F.M.Marqués ... L.Stuttgé, “Two-neutron interferometry as a probe of the nuclear halo”, *Physics Letters B* **476** (2000) 219.
- [30](#) F.M.Marqués ... J.C.Angélique, “Neutron cross-talk rejection in a modular array and the detection of halo neutrons”, *Nuclear Instruments and Methods A* **450** (2000) 109.
- [31](#) E.Sauvan ... F.M.Marqués ... J.S.Winfield, “One-neutron removal reactions on neutron-rich psd-shell nuclei”, *Physics Letters B* **491** (2000) 1.
- [32](#) M.Hoefman ... F.M.Marqués ... E.Wulf, “Coherent bremsstrahlung in the $\alpha+p$ system at 50 MeV/nucleon”, *Physical Review Letters* **85** (2000) 1404.
- [33](#) A.Buţă ... F.M.Marqués ... M.Sandu, “TONNERRE: an array for delayed-neutron decay spectroscopy”, *Nuclear Instruments and Methods A* **455** (2000) 412.
- [34](#) M.Labiche, N.A.Orr, F.M.Marqués ... L.Stuttgé, “Halo structure of ^{14}Be ”, *Physical Review Letters* **86** (2001) 600.
- [35](#) M.Freer ... F.M.Marqués ... D.L.Watson, “Helium breakup states in ^{10}Be and ^{12}Be ”, *Physical Review C* **63** (2001) 034301.
- [36](#) P.J.Leask ... F.M.Marqués ... L.Stuttgé, “Search for molecular states in ^{16}C ”, *Journal of Physics G* **27** (2001) B9.
- [37](#) E.Sauvan, F.M.Marqués ... N.Yahlali, “Radiative proton capture on ^6He ”, *Physical Review Letters* **87** (2001) 042501.
- [38](#) F.M.Marqués ... L.Stuttgé, “Three-body correlations in Borromean halo nuclei”, *Physical Review C* **64** (2001) 061301.
- [39](#) F.M.Marqués, “Probing few-body correlations in light, neutron-rich nuclei”, *Few-Body Systems* **31** (2002) 145.
- [40](#) F.M.Marqués ... L.Stuttgé, “Detection of neutron clusters”, *Physical Review C* **65** (2002) 044006.
- [41](#) U.C.Bergmann ... F.M.Marqués ... K.Wilhelmsen-Rolander, “Light exotic isotopes: recent beam developments and physics applications at ISOLDE”, *Nuclear Physics A* **701** (2002) 363.
- [42](#) N.A.Orr, F.M.Marqués, “Clustering and correlations at the neutron dripline”, *Comptes Rendus Physique* **4** (2003) 451.
- [43](#) K.Mikhailov ... F.M.Marqués ... K.Wosinska, “Data on light-fragment correlations in $^{40}\text{Ar}+^{58}\text{Ni}$ at 77 MeV/nucleon”, *European Physical Journal A* **18** (2003) 645.
- [44](#) S.Ahmed ... F.M.Marqués ... V.A.Ziman, “Breakup reaction studies of ^{10}Be and $^{10,11}\text{B}$ using a ^{10}Be beam”, *Physical Review C* **69** (2004) 024303.
- [45](#) E.Sauvan ... F.M.Marqués ... M.Shawcross, “One-neutron removal reactions on light neutron-rich nuclei”, *Physical Review C* **69** (2004) 44603.
- [46](#) N.I.Ashwood ... F.M.Marqués ... V.A.Ziman, “Measurements of the breakup and neutron removal cross-sections for ^{16}C ”, *Physical Review C* **70** (2004) 064607.
- [47](#) N.I.Ashwood ... F.M.Marqués ... V.A.Ziman, “Neutron removal and cluster breakup of ^{14}B and ^{14}Be ”, *Physical Review C* **70** (2004) 024608.
- [48](#) N.I.Ashwood ... F.M.Marqués ... V.A.Ziman, “Helium clustering in neutron-rich Be isotopes”, *Physics Letters B* **580** (2004) 129.
- [49](#) N.I.Ashwood ... F.M.Marqués ... V.A.Ziman, “High-energy two-neutron removal from ^{10}Be ”, *Physical Review C* **72** (2005) 024314.
- [50](#) K.Wosinska ... F.M.Marqués ... L.Vorobyev, “Correlations of neutral and charged particles in $^{40}\text{Ar}-^{58}\text{Ni}$ reaction at 77 MeV/u”, *European Physical Journal A* **32** (2007) 55.
- [51](#) F.M.Marqués, “The four neutron system”, *Few-Body Systems* **44** (2008) 269.
- [52](#) M.Madurga ... F.M.Marqués ... K.Wilhelmsen, “Study of β -delayed charged particle emission of ^{11}Li : evidence of new decay channels”, *Journal of Physics Conference Series* **111** (2008) 012024.
- [53](#) M.Madurga ... F.M.Marqués ... K.Wilhelmsen, “Study of β -delayed 3-body and 5-body breakup channels observed in the decay of ^{11}Li ”, *Nuclear Physics A* **810** (2008) 1-12.

- 54** J.L.Lecouey, N.A.Orr, [F.M.Marqués](#) ... L.Stuttgé, “Single-proton removal reaction study of ^{16}B ”, *Physics Letters B* **672** (2009) 6.
- 55** [F.M.Marqués](#), “Light nuclei in the continuum”, *Few-Body Systems* **45** (2009) 137.
- 56** Y.Fujita ... [F.M.Marqués](#) ... J.C.Thomas, “Nuclear weak response from the combined study of β -decay and charge exchange reactions”, *International Journal of Modern Physics E*, Vol. 18, No. 10 (2009) 2134.
- 57** Y.Satou ... [F.M.Marqués](#) ... M.Ishihara, “Invariant Mass Spectroscopy for the Neutron Rich Nuclei”, *Journal of the Korean Physical Society* **59** (2011) 1467.
- 58** K.Tshoo ... [F.M.Marqués](#) ... Z.X.Cao, “Measurement of Unbound Excited States of ^{24}O ”, *Journal of the Korean Physical Society* **59** (2011) 1529.
- 59** K.Tshoo ... [F.M.Marqués](#) ... Z.X.Cao, “ $N=16$ Spherical Shell Closure in ^{24}O ”, *Physical Review Letters* **109** (2012) 022501.
- 60** [F.M.Marqués](#) ... J.Gibelin, “Comment on ‘First Observation of Ground State Dineutron Decay: ^{16}Be ’”, *Physical Review Letters* **109** (2012) 239201.
- 61** M.Sénoville ... [F.M.Marqués](#) ... M.Pârlog, “Neutron and charged particle identification by means of various detectors”, *European Physical Journal Web of Conferences* **31** (2012) 00028.
- 62** G.Randisi ... [F.M.Marqués](#) ... J.S.Thomas, “Structure of ^{13}Be Probed via Secondary-Beam Reactions”, *Physical Review C* **89** (2014) 034320.
- 63** B.Rubio ... [F.M.Marqués](#) ... J.C.Thomas, “Beta Decay Study of the $T_z=-2$ ^{56}Zn Nucleus and the Determination of the Half-Lives of a Few fp -shell Nuclei”, *Nuclear Data Sheets* **120** (2014) 37.
- 64** K.Tshoo ... [F.M.Marqués](#) ... Z.H.Li, “Neutron occupancy of $0d_{5/2}$ orbital in ^{24}O ”, *European Physical Journal Web of Conferences* **66** (2014) 02103.
- 65** K.Tshoo ... [F.M.Marqués](#) ... Z.X.Cao, “Neutron occupancy of the $0d_{5/2}$ orbital and the $N=16$ shell closure in ^{24}O ”, *Physics Letters B* **739** (2014) 19.
- 66** G.Marquín-Durán ... [F.M.Marqués](#) ... A.H.Ziad, “Near barrier scattering of ^8He on ^{208}Pb ”, *European Physical Journal Web of Conferences* **66** (2014) 03058.
- 67** Y.Kondo ... [F.M.Marqués](#) ... K.Yoneda, “Nucleus ^{26}O : A Barely Unbound System beyond the Drip Line”, *Physical Review Letters* **116** (2016) 102503.
- 68** Y.Togano ... [F.M.Marqués](#) ... K.Yoneda, “Interaction cross section study of the two-neutron halo nucleus ^{22}C ”, *Physics Letters B* **761** (2016) 412.
- 69** J.Walsh ... [F.M.Marqués](#) ... V.Tokić, “Experimental study of high-lying states in ^{28}Mg using the resonant elastic scattering of α particles”, *Physical Review C* **94** (2016) 054304.
- 70** G.Marquín-Durán ... [F.M.Marqués](#) ... Z.Abou-Haidar, “Precise measurement of near-barrier $^8\text{He}+^{208}\text{Pb}$ elastic scattering: Comparison with ^6He ”, *Physical Review C* **94** (2016) 064618.
- 71** J.W.Hwang ... [F.M.Marqués](#) ... K.Yoneda, “Single-neutron knockout from ^{20}C and the structure of ^{19}C ”, *Physics Letters B* **769** (2017) 503.
- 72** L.Kucuk ... [F.M.Marqués](#) ... J.C.Thomas, “Half-life determination of $T_z=-1$ and $T_z=-1/2$ proton-rich nuclei and the β decay of ^{58}Zn ”, *European Physical Journal A* **53** (2017) 134.
- 73** M.Vandebrouck ... [F.M.Marqués](#) ... K.Zuber, “Effective proton-neutron interaction near the drip line from unbound states in $^{25,26}\text{F}$ ”, *Physical Review C* **96** (2017) 054305.
- 74** M.Freer ... [F.M.Marqués](#) ... V.A.Ziman, “Elastic scattering of $^8\text{He}+^4\text{He}$ and two-neutron transfer and the influence of resonances in ^{12}Be ”, *Physics Letters B* **775** (2017) 58.
- 75** A.Revel, [F.M.Marqués](#) ... K.Zuber, “Strong neutron pairing in core+ $4n$ nuclei”, *Physical Review Letters* **120** (2018) 152504.
- 76** G.Marquín-Durán ... [F.M.Marqués](#) ... Z.Abou-Haidar, “Interaction of ^8He with ^{208}Pb at near-barrier energies: ^4He and ^6He production”, *Physical Review C* **98** (2018) 034615.

- 77** S.Lebond, [F.M.Marqués](#) ... K.Yoneda, “First observation of $20B$ and $21B$ ”, *Physical Review Letters* **121** (2018) 262502.
- 78** B.Laurent, [F.M.Marqués](#) ... C.Timis, “Chronology of the three-body dissociation of $8He$ ”, *Journal of Physics G* **46** (2019) 03LT02.
- 79** E.Hiyama, R.Lazauskas, [F.M.Marqués](#), J.Carbonell, “Modeling $19B$ as a $17B$ - n - n three-body system in the unitary limit”, *Physical Review C* **100** (2019) 011603(R).
- 80** A.Corsi ... [F.M.Marqués](#) ... J.Zenihiro, “Structure of $13Be$ probed via quasi-free scattering”, *Physics Letters B* **797** (2019) 134843.
- 81** S.Bailey ... [F.M.Marqués](#) ... A.Soylu, “Extracting the spectral signature of α clustering in $44,48,52Ti$ using a continuous wavelet transform”, *Physical Review C* **100** (2019) 051302(R).
- 82** A.Revel, O.Sorlin, [F.M.Marqués](#) ... K.Yoneda, “Extending the southern shore of the Island of Inversion to $28F$ ”, *Physical Review Letters* **124** (2020) 152502.
- 83** K.J.Cook ... [F.M.Marqués](#) ... K.Yoneda, “The halo structure of the neutron-dripline nucleus $19B$ ”, *Physical Review Letters* **124** (2020) 212503.
- 84** X.Pereira-López ... [F.M.Marqués](#) ... C.Wheldon, “Low-lying single-particle structure of $17C$ and the $N=14$ sub-shell closure”, *Physics Letters B* **811** (2020) 135939.
- 85** Y.Kubota ... [F.M.Marqués](#) ... T.Uesaka, “Surface localization of the dineutron in $11Li$ ”, *Physical Review Letters* **125** (2020) 252501.
- 86** J.Carbonell, E.Hiyama, R.Lazauskas, [F.M.Marqués](#), “ $19B$ isotope as a $17B$ - n - n three-body cluster close to unitary limit”, *Journal of Physics Conference Series* **1643** (2020) 012120.
- 87** Z.H.Yang ... [F.M.Marqués](#) ... T.Uesaka, “Quasi-free neutron knockout reaction reveals a small s -orbital component in the Borromean nucleus $17B$ ”, *Physical Review Letters* **126** (2021) 082501.
- 88** A.Corsi, B.Monteagudo, [F.M.Marqués](#), “The neutron dripline at $Z=4$: the case of $13,15Be$ ”, *European Physical Journal A* **57** (2021) 88.
- 89** [F.M.Marqués](#), J.Carbonell, “The quest for light multineutron systems”, *European Physical Journal A* **57** (2021) 105.
- 90** S.Bailey ... [F.M.Marqués](#) ... B.Jacquot, “The identification of α -clustered doorway states in $44,48,52Ti$ using machine learning”, *European Physical Journal A* **57** (2021) 108.
- 91** [F.M.Marqués](#), “The extremes of neutron richness”, *European Physical Journal Plus* **136** (2021) 594.
- 92** M.Holl ... [F.M.Marqués](#) ... K.Yoneda, “Border of the Island of Inversion: Unbound states in $29Ne$ ”, *Physical Review C* **105** (2022) 034301.
- 93** B.LeCrom ... [F.M.Marqués](#) ... M.Vandebrouck, “Neutron-proton pairing in the $N=Z$ radioactive fp -shell nuclei $56Ni$ and $52Fe$ probed by pair transfer”, *Physics Letters B* **829** (2022) 137057.
- 94** M.Duer ... [F.M.Marqués](#) ... M.V.Zhukov, “Observation of a correlated free four-neutron system”, *Nature* **606** (2022) 678.
- 95** A.I.Stefanescu ... [F.M.Marqués](#) ... C.A.Bertulani, “Silicon tracker array for RIB experiments at SAMURAI”, *European Physical Journal A* **58** (2022) 223.
- 96** S.Kim ... [F.M.Marqués](#) ... K.Yoneda, “Unbound states in $17C$ and p - sd shell-model interactions”, *Physics Letters B* **836** (2023) 137629.
- 97** A.Corsi ... [F.M.Marqués](#) ... J.Zenihiro, “Searching for universality of dineutron correlation at the surface of Borromean nuclei”, *Physics Letters B* **840** (2023) 137875.
- 98** T.Pohl ... [F.M.Marqués](#) ... J.Zenihiro, “Multiple mechanisms in proton-induced nucleon removal at ~ 100 MeV/nucleon”, *Physical Review Letters* **130** (2023) 172501.

- 99** H.Wang ... [F.M.Marqués](#) ... K.Yoneda, “Intruder configurations in ^{29}Ne at the transition into the island of inversion: detailed structure study of ^{28}Ne ”, *Physics Letters B* **843** (2023) 138038.
- 100** Y.Kondo ... [F.M.Marqués](#) ... S.Yoshida, “First observation of ^{28}O ”, *Nature* **620** (2023) 965.
- 101** J.Loís-Fuentes ... [F.M.Marqués](#) ... C.Wheldon, “Cross-shell states in ^{15}C : a test for p-sd interactions”, *Physics Letters B* **845** (2023) 138149.
- 102** P.J.Li ... [F.M.Marqués](#) ... M.Yasuda, “Validation of the ^{10}Be ground state molecular structure using $^{10}\text{Be}(p, \alpha)^6\text{He}$ triple differential reaction cross-section measurements”, *Physical Review Letters* **131** (2023) 212501.
- 103** B.Monteagudo, [F.M.Marqués](#) ... J.Zenihiro, “Mass, spectroscopy and two-neutron decay of ^{16}Be ”, *Physical Review Letters* **132** (2024) 082501.
- 104** [F.M.Marqués](#), “The story around the first $4n$ signal”, *Few-Body Systems* **65** (2024) 37.
- 105** J.Kahlbow ... [F.M.Marqués](#) ... K.Yoneda, “Magicity versus superfluidity around ^{28}O viewed from the study of ^{30}F ”, *Physical Review Letters* **133** (2024) 082501.
- 106** P.André ... [F.M.Marqués](#) ... J.Zenihiro, “Evolution of the two-neutron configuration from ^{11}Li to ^{13}Li ”, *Physics Letters B* **857** (2024) 138977.
- 107** [F.M.Marqués](#), E.Oliveira, “Very large neutron-nucleus scattering lengths”, *European Physical Journal Web of Conferences* **311** (2024) 00006.
- 108** M.Sénoville ... [F.M.Marqués](#) ... M.Pârlog, “Low-energy neutron cross-talk between organic scintillator detectors”, *Nuclear Instruments and Methods A* **1075** (2025) 170370.
- 109** C.J.Paxman ... [F.M.Marqués](#) ... M.Zielińska, “Probing exotic cross-shell interactions at $N=28$ with single-neutron transfer on ^{47}K ”, *Physical Review Letters* **134** (2025) 162504.
- 110** J.Loís-Fuentes ... [F.M.Marqués](#) ... C.Wheldon, “Unbound neutron $\nu 0d_{3/2}$ strength in ^{17}C and the $N=16$ shell gap”, *Physics Letters B* **867** (2025) 139600.

OTHER PUBLICATIONS

- 1** [F.M.Marqués](#), “Noyaux à halo Borroméens et autres structures exotiques”, *Rapport d’activité IN2P3 1998–2000*.
- 2** [F.M.Marqués](#), “Des neutrons en zone interdite”, *Images de la physique* **2003**.
- 3** [F.M.Marqués](#) ... N.M.Clark, “On the possible detection of $4n$ events in the breakup of ^{14}Be ”, *arXiv:nucl-ex/0504009* [<https://doi.org/10.48550/arXiv.nucl-ex/0504009>].
- 4** [F.M.Marqués](#), “Physics laws as game rules”, *Game & Puzzle Design*, vol. 2, no. 2 (2016) pp. 17-26.
- 5** [F.M.Marqués](#), “Big*Bang”, *Scientific boardgame* (2016) [<https://bgg.cc/game/209428>].
- 6** [F.M.Marqués](#), “De Demócrito a las estrellas: el viaje al centro del átomo”, *Universidad de Huelva* (2019), ISBN: 978-84-17776-69-5.
- 7** N.A.Orr, M.Ploszajczak, [F.M.Marqués](#), J.Carbonell, “Recent Progress in Few-Body Physics”, *Springer Proceedings in Physics* (2020), vol. 238.
- 8** [F.M.Marqués](#), “El límite del vértigo: las extrañas aventuras de los que persiguen la luz”, *Universidad Politécnica de Valencia* (2020), ISBN: 978-84-9048-859-1.
- 9** [F.M.Marqués](#), “El grial nuclear: ¿perdición o salvación de nuestra especie?”, *Universidad Politécnica de Valencia* (2023), ISBN: 978-84-1396-071-5.

INVITED TALKS

- 1** “The CP veto detector at GANIL: preliminary tests”, I TAPS Workshop, Schiermonnikoog (The Netherlands), 10–14/09/1990, Ed. W. Kühn and H. Löhner [*GSI-91-21* (1991) 188].

- 2** “Two-photon interferometry: the experiment”, II TAPS Workshop, Guardamar (Spain), 31/5–5/06/1993, Ed. J. Díaz, G. Martínez and Y. Schutz [**World Scientific (1994) 98**].
- 3** “Noyaux à halo : du ^{11}Li au ^{19}C ”, II Colloque GANIL, Le Pradet (France), 29/5–2/06/1995.
- 4** “Study of nuclear halo along the neutron drip-line”, 10th General Conference of the European Physical Society, Sevilla (Spain), 9–13/09/1996.
- 5** “Two-photon interference in micro- and macro-systems”, XXV Mazurian Lakes School of Physics, Piaski (Poland), 27/08–6/09/1997 [**Acta Physica Polonica B 29 (1998) 211**].
- 6** “Probing the halo with intensity interferometry”, Experimental Nuclear Physics in Europe (ENPE 99), Sevilla (Spain), 21–26/06/1999, Ed. B. Rubio, M. Lozano and W. Gelletly [**AIP CP495 (1999) 15**].
- 7** “Mapping the space-time dissociation of two-neutron haloes”, XVIIth Conference on Few-Body Problems in Physics, Evora (Portugal), 11–16/09/2000, Ed. A. Stadler *et al.* [**Nuclear Physics A689 (2001) 555c**].
- 8** “Probing few-body correlations in two-neutron halo nuclei”, I Colloque GDR “Noyaux Exotiques”, Caen (France), 14–15/12/2000.
- 9** “Probing correlations in many-body haloes”, International Conference on Nuclear Physics at Border Lines, Lipari (Italy), 21–24/05/2001, Ed. G. Fazio *et al.* [**World Scientific (2002) 183**].
- 10** “Correlations in neutron-rich nuclei”, Workshop on Physics with SPIRAL II, Paris (France), 28–29/05/2001.
- 11** “Probing few-body correlations in light, neutron-rich nuclei”, International Workshop on Dynamics and Structure of Critically Stable Quantum Few-Body Systems, Les Houches (France), 8–13/10/2001.
- 12** “Des noyaux dans le noyau”, Société Française de Physique, journées de la division Physique Nucléaire, Caen (France), 5–6/03/2002.
- 13** “Haloes, molecules and multineutrons”, École Internationale Joliot-Curie, Maubuisson (France), 8–14/09/2002.
- 14** “Des noyaux trop riches en neutrons”, Conférences sur la Radioactivité, Conseil Régional de Basse-Normandie, Caen (France), 29/01/2003.
- 15** “The search for neutral nuclei”, Tours Symposium on Nuclear Physics V, Tours (France), 26–29/08/2003.
- 16** “Nuclei 100% neutron rich”, Colloque Noyaux Exotiques, Orsay (France), 17–19/09/2003.
- 17** “Multineutron clusters (experimental perspective)”, ENAM’04, the Fourth International Conference on Exotic Nuclei and Atomic Masses, Pine Mountain (Georgia, USA), 12–16/09/2004.
- 18** “Research on neutron clusters”, Exotic Nuclei and Nuclear/Particle Astrophysics, Carpathian Summer School of Physics 2005, Mamaia-Constanta (Rumania), 13–24/06/2005, Ed. S. Stoica *et al.* [**World Scientific (2006) p5**].
- 19** “Correlations in many-neutron systems”, IX International Conference on Nucleus-Nucleus Collisions, Rio de Janeiro (Brasil), 28/8–1/09/2006.
- 20** “Probing correlations in many-neutron systems”, The Physics of Halo Nuclei, ECT*, Trento (Italy), 30/10–3/11/2006.
- 21** “Neutron clusters and correlations”, Clusters ’07, Stratford-upon-Avon (United Kingdom), 3–7/09/2007.
- 22** “The four neutron system”, The 20th European Conference on Few-Body Problems in Physics, Pisa (Italy), 10–14/09/2007.
- 23** “Light Nuclei in the Continuum”, 5th Workshop on Critical Stability of Few-Body Quantum Systems, Erice (Italy), 13–17/10/2008.
- 24** “Three-body correlations in the breakup of halo nuclei”, Continuum and correlations in light nuclei, ECT*, Trento (Italy), 6–10/06/2011.
- 25** “Around the neutron dripline for $Z < 10$ ”, ESNT workshop on Localization and Clustering in Atomic Nuclei, Saclay (France), 30–31/05/2013.
- 26** “Exploring the dripline around the most n -rich isotopes of B & C ”, French-Japanese Symposium on Nuclear Structure Problems, Paris (France), 30/9–3/10/2013.
- 27** “Correlations at the Limits of Nuclear Existence”, IX Workshop on Particle Correlations and Femtoscopy, Acireale (Italy), 5–8/11/2013.
- 28** “Structure beyond the dripline in the Boron isotopes : $^{16,18,20,21}\text{B}$ ”, ARIS 2014, Advances in Radioactive Isotope Science, Tokyo (Japan), 1–6/06/2014 [**JPS Conf. Proc. 6 (2015) 020002**].
- 29** “Exploring the limits of neutron binding”, NDRA 2014, Summer School on Neutron Detectors and Related Applications, Riva del Garda (Italy), 30/06–4/07/2014.
- 30** “The Far Side of Boron and Beryllium”, CUSTIPEN 2014, PKU-CUSTIPEN Nuclear Reaction Workshop, Beijing (China), 10–14/08/2014.
- 31** “The Far Side of the Neutron Dripline at RIKEN”, 7th International and Interdisciplinary Workshop on the Dynamics of Critically Stable Quantum Few-Body Systems, Critical Stability 2014, Santos (Brazil), 12–17/10/2014.

- [32] “*The Tetraneutron: Past, Present and Future*”, International Workshop on Critical Stability in Few-Body Systems, RIKEN (Japan), 26–30/01/2015.
- [33] “*Probing the structure of the heaviest Boron and Carbon isotopes*”, FUSTIPEN 2015, New Directions for Nuclear Structure and Reaction Theories, GANIL (France), 16–20/03/2015.
- [34] “*A samurai at the limits of neutron binding*”, XIX Colloque GANIL, Anglet (France), 12–16/10/2015.
- [35] “*Many-neutron systems at SAMURAI: ^7H & ^4n* ”, International Workshop on Critical Stability in Few-Body Systems, RIKEN (Japan), 1–5/02/2016.
- [36] “*Can Four Neutrons Tango?*”, FUSTIPEN 2016, Future Directions for Nuclear Structure and Reaction Theories: Ab initio approaches for 2020, GANIL (France), 14–18/03/2016.
- [37] “*Exploring the most n -rich Boron & Carbon isotopes*”, 11th International Conference on Clustering Aspects of Nuclear Structure and Dynamics, Cluster '16, Naples (Italy), 23–27/05/2016.
- [38] “*A few steps beyond the neutron dripline*”, Zakopane Conference on Nuclear Physics, Extremes of the Nuclear Landscape, Zakopane (Poland), 28/08–4/09/2016.
- [39] “*Formation and Detection of Multi-Neutrons*”, Physics beyond the limits of stability: exploring the continuum, ECT*, Trento (Italy), 17–21/10/2016.
- [40] “*Experimental constraints on the formation & detection of multi-neutrons*”, Dynamics of highly unstable exotic light nuclei and few-body systems, ESNT, Saclay (France), 30/01–3/02/2017.
- [41] “*Neutral nuclei: probes and perspectives*”, Walk on the neutron-rich side, ECT*, Trento (Italy), 10–13/04/2017.
- [42] “*The quest for neutral nuclei*”, 3rd Resonance Workshop, Bergamo (Italy), 10–13/10/2017.
- [43] “*The tetraneutron program at RIKEN*”, XX Colloque GANIL, Amboise (France), 15–20/10/2017.
- [44] “*Tetraneutron: the experimental context*”, International Workshop XLVI on Gross Properties of Nuclei and Nuclear Excitations, Hirschegg (Austria), 14–20/01/2018.
- [45] “*New isotopes beyond the neutron dripline*”, GANIL Topical Meeting, Nuclear Structure and Reactions for the 2020s, GANIL (France), 2–6/07/2018.
- [46] “*Emission of neutron pairs from unbound states*”, GDR RESANET, Réactions, Structure et Astrophysique Nucléaire: Expériences et Théories, Orsay (France), 19–21/11/2018.
- [47] “*Observation of new Boron and Nitrogen isotopes*”, 13th International Conference on Nucleus-Nucleus Collisions, Saitama (Japan), 4–8/12/2018.
- [48] “*Characterization of two-neutron emission from nuclear systems*”, Clusters in quantum systems: from atoms to nuclei and hadrons, Tohoku University (Japan), 28/01–1/02/2019.
- [49] “*Two-body interactions in three-body decays*”, GANIL Topical Meeting, Nuclear Structure and Reactions: the Next Significant Breakthroughs, GANIL (France), 18–22/03/2019.
- [50] “*Probing nuclei with (too) many neutrons*”, Nuclear Chemistry Gordon Research Conference on Exploring Simple Structural Patterns and the Dynamics of Nuclei, New Hampshire (USA), 16–21/06/2019.
- [51] “*The extremes of neutron richness*”, Third Pisa Summer School, Rewriting Nuclear Physics Textbooks: one more step forward, University of Pisa (Italy), 22–26/07/2019.
- [52] “*Exotic structures in exotic nuclei*”, 24th European Conference on Few-Body Problems in Physics, University of Surrey (UK), 2–6/09/2019 [*SciPost Phys. Proc.* **3** (2020) 001].
- [53] “*Two-neutron emission and related phenomena*”, GDR RESANET, Nuclear structure under extreme conditions, GANIL (France), 9–10/12/2019.
- [54] “*Search for $^{17,18}\text{Be}$ and the multi-neutron decay of $^{19}\text{B}^*$* ”, SAMURAI Workshop, RIKEN (Japan), 1–4/09/2020.
- [55] “*Recent results on very neutron-rich nuclei from SAMURAI@RIKEN*”, NUSTAR Annual Meeting 2021, GSI/FAIR (Germany), 24–25/02/2021.
- [56] “*Decays in the continuum & particle correlations*”, Nuclear physics at the edge of stability, ECT* (Zoom), 28/06–1/07/2021.
- [57] “*Exploring the most neutron-rich Be isotopes*”, SAMURAI Workshop, RIKEN (Japan), 30/08–1/09/2021.
- [58] “*The neutron as a building block*”, International Conference on Exotic Atoms and Related Topics, Vienna (Austria), 13–17/09/2021.
- [59] “*Neutron-rich three-body systems*”, Opportunities and Challenges in Few-Body Physics: Unitarity and Beyond, Kavli Institute for Theoretical Physics, University of California, Santa Barbara (USA), 23–26/05/2022.
- [60] “*The emission of two, three and four neutrons*”, Halo Week 2022, Bergen (Norway), 10–15/07/2022.
- [61] “*Direct detection of a multineutron decay*”, 3rd Japan-France Workshop on Few-body problems in physics from atoms to quarks, Tohoku University (Japan), 27/02–3/03/2023.

- [62] “*The story behind the first $4n$ signal*”, 25th European Conference on Few-Body Problems in Physics, Mainz (Germany), 30/07–4/08/2023.
- [63] “*Large scattering lengths & Four-neutron correlations*”, Critical stability of few-body quantum systems, ECT*, Trento (Italy), 23–27/10/2023.
- [64] “*Very large neutron-nucleus scattering lengths: the $18B$ case*”, 5th International Workshop on State of the Art in Nuclear Cluster Physics, Hvar (Croatia), 10–14/06/2024.
- [65] “*Inside the tetra-neutron: correlations within the $4n$ system*”, 17th Workshop on Particle Correlations and Femtoscopy, Toulouse (France), 4–8/11/2024.
- [66] “*Determination of the $17B$ - n scattering length*”, 4th Franco-Japanese Workshop on Few-body problems in physics from atoms to quarks, Caen (France), 3–7/03/2025.
- [67] “*Neutron virtual states and resonances close to threshold*”, GDR RESANET Plenary Meeting, Strasbourg (France), 3–7/11/2025.
- [68] “*Scattering lengths beyond the nuclear scale: the $17B+n+n$ system*”, XLVII Symposium on Nuclear Physics, Cocoyoc (Mexico), 6–9/01/2026.

SEMINARS & OUTREACH

- [1] “*Distributions angulaires de neutrons issus de la cassure du ^{19}C* ”, CRN, Strasbourg (France), 30/03/1995;
LPC-GANIL, Caen (France), 7/04/1995;
IPN, Orsay (France), 11/04/1995.
- [4] “*Núcleos con halo: del ^{11}Li al ^{19}C* ”, IFIC, Valencia (Spain), 18/05/1995.
- [5] “*Nuclear haloes: candidates and experimental techniques*”, IFIC, Valencia (Spain), 18/06/1998;
Universidad Autónoma, Madrid (Spain), 24/06/1998.
- [7] “*Two-neutron interferometry from nuclear haloes*”, LPC-GANIL, Caen (France), 10/07/1998;
University of Surrey, Guildford (UK), 15/09/1998;
University of Birmingham, Birmingham (UK), 16/09/1998.
- [10] “*Les noyaux à halo*”, Conférence sur Centenaire de la Radioactivité, Lycée Charles de Gaulle, Caen (France), 9/10/1998.
- [11] “*Intensity interferometry: a new probe of the nuclear halo*”, CSIC, Madrid (Spain), 17/12/1998;
IFIC, Valencia (Spain), 21/12/1998.
- [13] “*Probing extreme states of nuclear matter with intensity interferometry*”, KVI, Groningen (Pays Bas), 26/01/1999.
- [14] “*Une introduction à l’interférométrie*”, LPC, Caen (France), 25/03/1999.
- [15] “*Allo ? ... Il y a des interférences dans le halo !*”, GANIL-LPC, Caen (France), 7/05/1999.
- [16] “*Corrélations à trois corps dans les noyaux à halo*”, CENBG, Bordeaux (France), 17/11/2000;
SUBATECH, Nantes (France), 23/11/2000.
- [18] “*Triple correlations in the dissociation of Borromean haloes*”, GDR “Halos, peaux et drip lines”, GANIL, Caen (France), 30/10/2000.
- [19] “*Correlaciones a tres cuerpos en el núcleo*”, IFIC, Valencia (Spain), 19/12/2000;
Universidad de Sevilla, Sevilla (Spain), 21/12/2000;
CSIC, Madrid (Spain), 22/12/2000.
- [22] “*Les noyaux Borroméens sondés par réaction et décroissance*”, IRES, Strasbourg (France), 22/03/2001;
DAPNIA-SPhN, Saclay (France), 23/03/2001.
- [24] “*À la recherche des noyaux neutres*”, LPC, Caen (France), 29/03/2001;
GANIL, Caen (France), 17/04/2001.
- [26] “*En búsqueda de núcleos neutros*”, IFIC, Valencia (Spain), 6/06/2001.
- [27] “*Clusters et halos dans le noyau*”, Conseil Scientifique du GANIL, Caen (France), 18/06/2001.

- 28 “*Correlations in few-neutron systems*”, University of Warsaw, Warsaw (Poland), 9/11/2001.
- 29 “*Les neutrons ont-ils besoin des protons ?*”,
GANIL, Caen (France), 11/01/2002;
IPN, Orsay (France), 4/03/2002;
ISN, Grenoble (France), 28/03/2002.
- 32 “*The detection of neutron clusters*”, GDR “Halos, peaux et drip lines”, GANIL, Caen (France), 7/02/2002.
- 33 “*Un noyau à neutrons ?*”, CEA-DAM, Bruyères-le-Châtel (France), 13/05/2002.
- 34 “*Un autre regard sur le noyau atomique*”,
Union des Physiciens, Lycée Malherbe, Caen (France), 19/06/2002;
Secteurs Techniques et Administratif du LPC, Caen (France), 21/11/2002.
- 36 “*On the existence of neutral nuclei*”, SUBATECH, Nantes (France), 26/09/2002.
- 37 “*Des systèmes à grand nombre de neutrons*”, PCC College de France, Paris (France), 31/10/2002.
- 38 “*Teneur en neutrons = 100%*”, CSNSM, Orsay (France), 20/11/2003.
- 39 “*Search for neutral nuclei: a review of the LPC experimental programme*”, Conseil Scientifique du GANIL, Caen (France), 16/12/2003.
- 40 “*Filling up nuclei with neutrons*”, Colorado School of Mines, Golden (USA), 9/09/2004.
- 41 “*Des noyaux trop riches en neutrons*”, GANIL, Caen (France), 16/05/2005.
- 42 “*Neutral nuclei from breakup*”, Conseil Scientifique du GANIL, Caen (France), 9/06/2005.
- 43 “*Un chercheur en Physique Nucléaire*”, École Primaire, Cresserons (France), 3/02/2007.
- 44 “*À la recherche du noyau*”, Séminaire du LPC, Cabourg (France), 20/09/2007.
- 45 “*De Paris à Hiroshima*”,
LPC, Caen (France), 19 & 25/11/2009;
SUBATECH, Nantes (France), 4 & 5/02/2010;
IFIC, Valencia (Spain), 17 & 18/05/2010;
Universidad de Huelva, Huelva (Spain), 24/03/2011.
- 49 “*De los rayos-X a la fisión del átomo: la carrera hacia la bomba*”,
IES Cid Campeador, Valencia (Spain), 19/12/2011;
CSIC, Madrid (Spain), 20/12/2011.
- 51 “*Cartographie d’une dissociation*”, GANIL, Caen (France), 9/03/2012.
- 52 “*Des rayons-X à la fission de l’atome : la course à la bombe*”, GANIL, Caen (France), 29/03/2013.
- 53 “*Beyond the Nuclear Frontier: RIKEN and Oxygen 28*”, IFIC, Valencia (Spain), 3/02/2014.
- 54 “*A nebula on the far side of the dripline*”, CSNSM, Orsay (France), 14/03/2014.
- 55 “*The Far Side of the Neutron Dripline at RIKEN*”, GANIL, Caen (France), 4/09/2015.
- 56 “*A trip beyond nuclear stability*”, CSIC, Madrid (Spain), 21/12/2015.
- 57 “*From X-rays to fission: the race to the bomb*”, Lycée Sainte Marie, Caen (France), 22/01/2016.
- 58 “*The Neutron Dripline from the Outside*”, University of Surrey, Guildford (UK), 16/02/2016.
- 59 “*The neutron as a building block of nuclei*”, RIKEN, Tokyo (Japan), 11/11/2016.
- 60 “*Tetraneutron: the hunt is on*”, GANIL, Caen (France), 17/01/2017.
- 61 “*Le tétraneutron : comment ça marche*”, LPC, Caen (France), 22/03/2017.
- 62 “*Des noyaux très (trop) riches en neutrons*”, Ecole Normale Supérieure, Cachan (France), 12/12/2017.
- 63 “*New isotopes beyond the neutron dripline*”, Normandie Université, Caen (France), 22/10/2018.
- 64 “*La búsqueda de núcleos neutros: el cómo y el porqué*”, CMU Isabel de España, Madrid (Spain), 13/11/2018.
- 65 “*First observation of the heaviest Boron and Nitrogen isotopes*”, Kyushu University, Fukuoka (Japan), 27/11/2018.
- 66 “*The quest for neutral nuclei*”, Master Students Day, GANIL, Caen (France), 23/11/2019.
- 67 “*Exotic exotic nuclei*”, Université de Caen Normandie, Caen (France), 29/11/2019.
- 68 “*Sixty years of multineutron quest: game over or game on?*”, GDR RESANET, Scientific Colloquium Webinars (France), 7/12/2020.
- 69 “*From one to many: a neutral history*”, Nuclear Reaction Seminars 2021 (internet), 1/04/2021.
- 70 “*The experimental program on neutral nuclei (1963-2021)*”, C2R2 (CENS-CENuM-RUA-RULIC) Seminar, Daejeon (Korea), 6/05/2021.
- 71 “*Search for exotic structures with SAMURAI*”, FRIB seminars, Michigan State University (USA), 23/09/2021.

- 72** “The neutron as a building block: a challenge for experiment and theory”, TUNL seminars, Triangle Universities Nuclear Lab (USA), 10/02/2022.
- 73** “El Proyecto Manhattan”, podcast interview at Oscilador Armónico, IFIC, Valencia (Spain), 7/06/2023.
- 74** “Oppenheimer: el padre de la bomba atómica”, podcast interview at A Ciencia Cierta, Valencia (Spain), 3/08/2023.
- 75** “Detection of a multineutron emission”, Fudan seminars, Fudan University (China), 27/09/2023.
- 76** “Two-neutron interaction in nuclear decays”, Fudan seminars, Fudan University (China), 8/11/2023.
- 77** “L’histoire autour du premier signal $4n$ ”, LPC, Caen (France), 11/01/2024.
- 78** “Le graal nucléaire : une boîte de Pandore ou un coffre au trésor ?”,
 Université Inter-Âges de Normandie, Granville (France), 22/01/2024;
 Université Inter-Âges de Normandie, Mortain (France), 26/01/2024;
 Université Inter-Âges de Normandie, La Ferté-Macé (France), 29/01/2024;
 Université Inter-Âges de Normandie, Caen (France), 2/02/2024;
 Université Inter-Âges de Normandie, Falaise (France), 8/02/2024;
 Université Inter-Âges de Normandie, Lisieux (France), 9/02/2024;
 Université Inter-Âges de Normandie, L’Aigle (France), 21/01/2025;
 Université Inter-Âges de Normandie, Avranches (France), 13/10/2025;
 Université Inter-Âges de Normandie, Argentan (France), 13/11/2025.
- 87** “Et la lumière fut : un voyage dans l’espace-temps”,
 Université Inter-Âges de Normandie, Caen (France), 6/01/2025;
 Université Inter-Âges de Normandie, Mortain (France), 17/01/2025;
 Université Inter-Âges de Normandie, Lisieux (France), 14/03/2025;
 Université Inter-Âges de Normandie, Granville (France), 6/10/2025;
 Université Inter-Âges de Normandie, Falaise (France), 9/10/2025.
- 92** “El grial nuclear”, radio interview at La Ciencia en Nuestras Vidas, Radio Klara, Valencia (Spain), 14/03/2025.
- 93** “Energías nucleares (fisión y fusión): pasado, presente... ¿y futuro?”, Facultad de Economía, Universidad de Valencia (Spain), 20/05/2025.
- 94** “Should we search for neutral nuclei? The tetraneutron story”, SO-IFIC Colloquium, Valencia (Spain), 22/05/2025.
- 95** “En busca del Tetraneutrón”, podcast interview at Oscilador Armónico, IFIC, Valencia (Spain), 28/05/2025.
- 96** “Los neutrones, base de la estabilidad del núcleo del átomo”, radio interview at La Ciencia en Nuestras Vidas, Radio Klara, Valencia (Spain), 25/07/2025.
- 97** “La carrera hacia la energía del núcleo atómico”, Seminario Ángel Dacal, Universidad Nacional Autónoma de México (Mexico), 12/01/2025.

OTHER ACTIVITIES

- Director of the International Joliot-Curie School (2016–22).
- Member of the GANIL Program Advisory Committee (2024–).
- Member of the CaeSAR project (*Caen Stratégie pour l’Accélération en Recherche*, 2024–).
- Editorial work:
 - Field Editor of the Few-Body Systems journal (2019–).
 - Editor of “Recent Progress in Few-Body Physics”, Springer Proceedings in Physics (2020).
 - Referee for the American Physical Society (2005–).
 - Referee for Physics Letters (2017–).
 - Referee for Few-Body Systems (2016–).
 - Referee for European Physical Journal (2025–).
- Organization of scientific events:
 - Organizer of GANIL-LPC seminars (1999–2003).
 - Member of the Scientific Council of the International School Joliot-Curie (2014–2024).
 - Member of the Organizing Committee of the International School Joliot-Curie 2015.
 - Member of the International Advisory Committee of GANIL Colloquium (2017).
 - Member of the Organizing Committee of ESNT workshop “Dynamics of highly unstable exotic light nuclei and few-body systems” (2017).
 - Scientific Secretary of the XXII International Few-Body conference (2018).
 - Convener coordinator of the Few-Body sessions of the European Nuclear Physics Conference (2025).
 - Organizer of the 4th Japan-France Workshop “Few-body problems in Physics: from atoms to quarks” (2025).
 - Member of the International Advisory Committee of the DREB conference (2026).
 - Member of the International Advisory Committee of GANIL Colloquium (2026).

- Coordinator of international collaborations:
 - IN2P3-CICYT (Spain), “Structure of light neutron-rich nuclei produced at GANIL”, with Berta RUBIO from IFIC-Valencia (1997–2003);
 - IN2P3-FOM (Netherlands), “Study of two-neutron halo nuclei with proton-induced bremsstrahlung”, with Hans WILSCHUT from KVI-Groningen (1999–2001);
 - IN2P3-MEC (Spain), “Study of exotic nuclei through reaction and decay”, with Berta RUBIO from IFIC-Valencia (2004–11).
 - International Research Network ASTRANUCAP (France/Spain), LPC coordinator (2019–).
- Co-spokesperson of the ANR project “Neutromania” (2005–07).
- Member of the Laboratory Council of LPC (2005–09).
- Participant to the *Sciences au Village* exhibition, Fête de la Science (2005–06).
- Participant to the *Village des Sciences* exhibition, Fête de la Science (2008–11).
- Spokesperson of experiments:
 1. E302 GANIL, bremsstrahlung in the $p\text{-}^6\text{He}$ system (1997/98).
 2. E378 GANIL, multiple correlations in the heavy Helium isotopes (2000).
 3. E415 GANIL, quest for multineutrons and correlations in the breakup of ^{14}Be (2002).
 4. E483 GANIL, quest for multineutrons and correlations in the breakup of ^{14}Be (2005).
 5. NP1512-SAMURAI34 RIKEN, search for superheavy hydrogen ^7H and its $4n$ decay (2015).
- Stays abroad:
 - CRN-Strasbourg, introduction to optical potential calculations (10 days, 1990).
 - KVI (Netherlands), construction of the CPV detector for TAPS (15 days, 1991).
 - Louvain-la-Neuve (Belgium), data acquisition system of DÉMoN (10 days, 1996).
 - IFIC (Spain), structure calculations of borromean systems (50 days, 1997–2001).
 - TITECH (Japan), data analysis meetings (10 days, 2013).
 - TITECH (Japan), data analysis meetings (10 days, 2014).
 - RIKEN (Japan), discussions on the link between experiments and hyper-nuclei (10 days, 2015).
 - RIKEN (Japan), discussions on the link between experiments and calculations of neutral nuclei (10 days, 2016).
 - Kyushu University (Japan), discussions on large neutron-nucleus scattering lengths (20 days, 2020).
- Participation to experiments in accelerators other than GANIL:
 - CERN (Switzerland), TAPS-CERES collaboration, Dalitz decay of mesons (1993).
 - GSI (Germany), TAPS collaboration, subthreshold meson production (1994).
 - CERN-ISOLDE (Switzerland), $\beta\text{-n}$ decay of ^{14}Be (1998).
 - CERN-ISOLDE (Switzerland), $\beta\text{-n}$ -particle decay of $^{9,11}\text{Li}$ (2003).
 - RIKEN (Japan), unbound excited states of ^{24}O (2009).
 - B-III (France), characterization of neutron detectors with mono-energetic neutrons (2011).
 - RIKEN (Japan), commissioning of SAMURAI and experiments on ^{19}B , ^{22}C and ^{26}O (2012).
 - B-III (France), characterization of neutron detectors with mono-energetic neutrons (2012).
 - CERN-ISOLDE (Switzerland), $\beta\text{-xn}$ decay of $^{9,11}\text{Li}$ (2014).
 - RIKEN (Japan), knock-out of neutrons from the halo of ^{11}Li , ^{14}Be and ^{17}B (2014).
 - RIKEN (Japan), search for $^{27,28}\text{O}$ (2015).
 - RIKEN (Japan), search for tetraneutron in DCX reaction on 4He with SHARAQ (2016).
 - RIKEN (Japan), SAMURAI campaign (2016).
 - RIKEN (Japan), SAMURAI campaign (2017).
 - RIKEN (Japan), SAMURAI campaign (2018).
 - RIKEN (Japan), NEBULA-Plus installation (2022).
 - RIKEN (Japan), NEBULA-Plus commissioning & SAMURAI campaign (2024).
 - RIKEN (Japan), TOGAXSI commissioning & experiment (2025).

Caen, 11 December 2025