



CURRICULUM VITAE (CVA) IMPORTANT – The Curriculum Vitae cannot exceed 4 pages.
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CV date 30/07/2025

Part A. PERSONAL INFORMATION

First name	Joaquin José		
Family name	Gómez Camacho		
Gender (*)			
Passport, ID numb			
e-mail			
Open Researcher and Contributor ID (ORCID) (*)			

(*) Mandatory

A.1. Current position

Position	Full profesor (catedrático)		
Initial date			
Institution			
Department/Center			
Country			
Key words	Nuclear reactions. Exotic nuclei. Nuclear instrumentation.		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
Nov 1983- sept 1985	Becario FPI, Daresbury Laboratory, UK
Oct 1985- nov 1986	Research fellow, University of Surrey, UK
Dec 1986-sept 1987	Becario FPI postdoctoral reincorporación. Univ. Sevilla, Spain
Oct 1987- sept 1988	Prof. Ayudante. Univ. Sevilla, Spain
Oct 1988- jun 1990	Prof. Titular Interino. Univ. Sevilla, Spain
Jun 1990- nov 2007	Prof. Titular. Univ. Sevilla, Spain
Jun 2008 – Sept 2018	Director CNA (U. Sevilla, J. Andalucía, CSIC) Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licenciado en Física	Sevilla, Spain	1982
Doctor en Física	Sevilla, Spain	1986

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Scientific contributions:

Indicators: Scopus:

179 publications, 3389 citations, h-factor 32.

Other Merits: 7 “Quinquenios de docencia”. 6 “Sexenios de Investigación”. 1 “Sexenio de Transferencia”.

Theory: My original research line is the theoretical description of low energy nuclear reactions. I trained in Daresbury Laboratory, with M.A. Nagarajan, and in the University of Surrey, with R. C. Johnson. In 1986, R.C. Johnson and I developed the concept of **Tidal Symmetry**, relevant for the spin polarization observables. My collaboration with the experimental group in Birmingham led to the PhD thesis of I. Martel (1994). In 1995, M.A.Nagarajan, M.V. Andrés, and I developed the concept of **Dipole Polarizability**, which predicted strong reductions in the elastic cross sections of halo nuclei. Further, I developed theoretical research related to the mechanisms of **Nuclear reactions for exotic nuclei**. This led to the PhD theses of A. Moro (2001) and M. Rodríguez (2005). Related methods led to the theses of M. Carvajal (2001), and G. Potel (2005). This line has been extended and

deepened, making Seville presently the most important group in Europe in the theory of nuclear reactions, led by A. Moro and M. Rodríguez.

Experiment: To verify the predictions of Dipole Polarizability required to do new experiments of scattering of exotic nuclei on heavy targets. I started a collaboration with the experimentalists in Madrid (M. Borge, O. Tengblad) and Huelva (I. Martel). I was IP from 2002 to 2022 of a continued series of research projects, which combined experimental proposals at international laboratories, complementary experimental activities at CNA, and theoretical calculations. Pioneering scattering experiments of the exotic nuclei ^6He , ^8He , ^9Li , ^{11}Li , and ^{11}Be on heavy targets were carried out at ISOLDE, Louvain la Neuve, GANIL, and TRIUMF leading to several PhD theses in the collaboration, including A. Sanchez-Benitez (2005) and J.P. Fernández (2012). The experiments verified **Dipole polarizability** as predicted by us 20 years earlier, and opened the way to deeper understanding of the structure of exotic nuclei from the scattering observables. In 2005 I initiated with I. Martel the Basic Nuclear Physics unit in CNA. The initial purpose was extended to include beam tracking experiments, detector tests and radiobiology experiments, leading to several PhD thesis, including those of A. Garzon (2014), B. Fernandez (2014) and M. Macias (2019). Nowadays, there is a consolidated experimental nuclear physics group at CNA and the university of Seville, led since 2022 by C. Guerrero and M. Cortes.

Management: From 2008 to 2018 I have been Director of CNA. At the time, CNA had three major facilities, Tandem, Cyclotron and the tandetron for AMS. Soon after, CNA was included in the ICTS map, so we got funds for three new major facilities: The ^{60}Co irradiator, the MICADAS radiocarbon system and the PET-CT scanner. The ^{60}Co irradiator was commissioned thanks to a joint INNPACTO project with the company ALTER, The use of the PET-CT scanner for patients of was made possible through an specific agreement that combined research with clinical use. These three facilities provided CNA with cash, which allowed to maintain contracts of key personnel during the economic crisis. New infrastructure projects allowed since to install a neutron beam line in the tandem, with time of flight capabilities, as well as completing the equipment of Tandem and Cyclotron.

To enhance the internationalization of CNA I participated in 3 consecutive ITN training networks, DITANET, OPAC and OMA, which provided early career scientists to the different lines of CNA. I promoted the participation of CNA in the European projects ENSAR-2, as co-coordinator of the network ENSAF of small facilities, and EURO-LABS, as coordinator of the distributed facility CLEAR.

Societal contributions:

Installation of a PET-CT scanner at CNA, in agreement with the Andalusian Health Service, providing access to 2000 patients a year.

Development of the outreach plan at CNA <https://institucionales.us.es/uccicna/>

Main author of the book "Nuclear Physics in Every day life", coordinating the chapter "Climate and Environment". https://www.nupec.org/pub/np_life_web.pdf

Training contributions:

Director of 7 PhD theses (I. Martel, A. Moro, M. Carvajal, A. Sanchez, G. Potel, M. Rodríguez, A. Garzon). Tutor of other 2 PhD thesis (A. Lopez y J.P. Fernández). Responsible of the contracts of other 2 PhD researchers (B. Fernandez, M. Macias)

IP of the university of Seville of 3 ITN training networks funded by the EU (DITANET, OPAC and OMA), which trained 7 early stage researchers

Coordinator of the interuniversity doctoral program "Escuela de doctorado de Física Nuclear" 2002-2007

Coordinator of the PhD program of the University of Seville on Physics Science and technology 2018-2024

Evaluator of research projects by agencies in Spain, Belgium, Argentina, EEUU, EU and Technical collaborator of the Andalusian evaluation agency (DEVA)

Representative of Spain in the expert committee NuPECC from 2018 to 2024

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

M Gómez-Ramos, J Gómez-Camacho, AM Moro, Binding-energy asymmetry in absorption explored through CDCC extended for complex potentials. Physics Letters B 832, 137252 (2022)

J Gómez-Camacho, JG López, C Guerrero, JML Gutiérrez, ...(11 authors) Research facilities and highlights at the Centro Nacional de Aceleradores (CNA) The European Physical Journal Plus 136 (3), 273 (2021)

AM Moro, JA Lay, JG Camacho. Determining B (E1) distributions of weakly bound nuclei from breakup cross sections using Continuum Discretized Coupled Channels calculations. Application to ^{11}Be . Physics Letters B 811, 135959 (2020)

J Casal, J Gómez-Camacho Identifying structures in the continuum: Application to ^{16}Be Physical Review C 99 (1), 014604 (2019)

V Pseudo, MJG Borge, AM Moro, JA Lay, E Nácher, J Gómez-Camacho et al (38 authors) Scattering of the Halo Nucleus ^{11}Be on ^{197}Au at Energies around the Coulomb Barrier Physical Review Letters 118 (15), 152502 (2017)

J. Casal, M. Rodríguez-Gallardo, J. M. Arias, and J. Gómez-Camacho. Determining astrophysical three-body radiative capture reaction rates from inclusive Coulomb break-up measurements Phys. Rev. C **93**, 041602(R) (2016)

Godinho, V.; Ferrer, F. J.; Fernandez, B.; J Gómez-Camacho, A. Fernandez Characterization and Validation of α -Si Magnetron-Sputtered Thin Films as Solid He Targets with High Stability for Nuclear Reactions. ACS Omega 1 Issue: 6 Pages: 1229 1238 (2016)

JP Fernández-García, M Cubero, M Rodríguez-Gallardo, L Acosta, ... J. Gómez Camacho et al (20 authors) Simultaneous analysis of the elastic scattering and breakup channel for the reaction $^{11}\text{Li} + ^{208}\text{Pb}$ at energies near the Coulomb barrier. Physical Review C92, 044608 (2015)

M Gómez-Ramos, AM Moro, J Gómez-Camacho, IJ Thompson. Transfer induced by core excitation within an extended distorted-wave Born approximation method. Physical Review C 92 (1), 014613 (2015)

JP Fernández-García, M Cubero, M Rodríguez-Gallardo, L Acosta, ... J. Gómez Camacho et al (20 authors). ^{11}Li Breakup on ^{208}Pb at Energies Around the Coulomb Barrier, Physical Review Letters 110, 142701,(2013).

C.2. Projects (most relevant)

Proyecto del Plan Nacional de Física de Partículas. "Física Nuclear y Aplicaciones medicas en el CNA". FPA2013-47327-c02-01-R. Duración desde: 2014 hasta: 2016. Investigador responsable: Joaquín Gómez Camacho. Número de investigadores participantes: 7. IMPORTE TOTAL DEL PROYECTO: 80157 Euros

Proyecto del Plan Nacional de Física de Partículas. "Física Nuclear y Aplicaciones medicas en el CNA e Instalaciones Internacionales". FPA2016-77689-c02-01-R. Duración desde: 2017 hasta: 2019. Investigador responsable: Jose Manuel Quesada y Joaquín Gómez Camacho. Número de investigadores participantes: 11. IMPORTE TOTAL DEL PROYECTO: 433.180 Euros

Proyecto del Plan Nacional de Física de Partículas. Neutrones, Instrumentación Nuclear e Investigación Relacionada con Terapia con Protones en el CNA e Instalaciones Internacionales. Responsable: José Manuel Quesada Molina / Joaquín José Gómez Camacho Referencia: RTI2018-098117-B-C21. Duracion 01-01-2019 a 30-09-2022. Investigadores 7. Importe total 264990 €.

DITANET Novel diagnostic techniques for future particle accelerators: A Marie Curie inicial training network . PITN-GA-08-2150 Entidad financiadora: Union Europea. Entidades participantes: Univ. Liverpool (Coordinadora), CNA-U.Sevilla, GSI, CEA-Saclay, U. Estocolmo, CERN, U. London. Duración desde: 2008 hasta: 2013. Coordinador: C. Welsch (U. Liverpool) Investigador responsable CNA-U.Sevilla: Joaquín Gómez Camacho. Número de investigadores participantes (CNA): 5 . IMPORTE TOTAL DEL PROYECTO (CNA): 401100 Euros

OPAC Optimization of Particle Accelerators. Marie Curie Inicial Training Network.. PITN-GA 2011-289485. Entidad financiadora: Union Europea. Entidades participantes: Univ. Liverpool (Coordinadora), CNA-U.Sevilla, ALBA, GSI, CEA-Saclay, CERN, U. London. Duración desde: 2012 hasta: 2015. Coordinador: C. Welsch (U. Liverpool). Investigador responsable CNA-U.Sevilla: Joaquín Gómez Camacho. Número de investigadores participantes (CNA): 7. IMPORTE TOTAL DEL PROYECTO (CNA): 445810 Euros

OMA Optimization Medical Accelerators. Marie Curie Inicial Training Network.. H2020-MSCA-ITN-2015 Entidad financiadora: Union Europea H2020 Entidades participantes: Univ. Liverpool (Coordinadora), CNA-U.Sevilla, CERN, GSI, IFIC, CNAO-pavia, MEDAUSTRON, UCL London, IBA, U. Manchester, LMU Munich, ASI. Duración desde: 01/02/2016-21/1/2020 Coordinador: C. Welsch (U. Liverpool) Investigador responsable CNA-U.Sevilla: Joaquín Gómez Camacho Número de investigadores participantes: 3 IMPORTE TOTAL DEL PROYECTO (CNA): 247872,96 Euros

Proyecto de Infraestructuras: MINECO UNSE13-1E-2023. Linea de Neutrones en el CNA. Desde 2013 hasta 2015. Investigador Responsable: Joaquin Gómez Camacho. IMPORTE TOTAL DEL PROYECTO: 272783 Euros

Proyecto de Infraestructuras: MINECO UNSE15-CE-2821. Mejora del Ciclotron del CNA. Desde 2015 hasta 2018. Investigador Responsable: Joaquin Gómez Camacho. IMPORTE TOTAL DEL PROYECTO: 232324 Euros

Proyecto de Infraestructuras: MINECO UNSE15-CE-3334. Mejora del Tandem del CNA. Desde 2015 hasta 2018. Investigador Responsable: Joaquin Gómez Camacho. IMPORTE TOTAL DEL PROYECTO: 162482 Euros

C.4. Contracts, technological or transfer merits

Laboratorio para ensayos de irradiación "RADLAB" Responsable: Joaquín José Gómez Camacho Tipo de Proyecto/Ayuda: OPN – INNPACTO. Participants: CNA y ALTER Referencia: IPT-2011-1603-370000. Importe 320000 €. Fecha de Inicio: 05-05-2011 Fecha de Finalización: 31-12-2014

Convenio específico de colaboración entre el CNA y los Hospitales Virgen del Rocío y Virgen Macarena para la potenciación de la investigación y el desarrollo de las aplicaciones humanas de la tomografía por emisión de positrones. Empresa Financiadora: SAS (Servicio Andaluz de Salud). Desde 2011 (renovación anual). Financiación: 272 k€ al año. Responsable: Director del CNA (Joaquin Gómez Camacho).

Patents: Fortio Godinho, Vanda Cristina, Caballero Hernández, Jaime, Fernandez Camacho, Asuncion, Ferrer Fernández, Francisco Javier, Gomez Camacho, Joaquin Jose, Patente de invención, Propiedad industrial. Solicitud: 2016-05-31 WO2017207848 - SOLID TARGET OF NOBLE GASES FOR NUCLEAR REACTIONS