Part A. Personal Information

DATE	03/05/2019

Surname(s)	Garcia-Munoz	
Forename	Manuel	
Social Security, Passport, ID number	28764694C	
Sex	Male	
Age	42	
Researcher codes	WoS Researcher ID *(*)*	C-6825-2008
	SCOPUS Author ID*(*)*	25624276600
	Open Researcher and Contributor ID (ORCID)	0000-0002-3241-502X

(*) At least one of these is mandatory

A.1. Current position

Post/ Professional Category	Profesor Titular de Universidad	
UNESCO Code	220721, 220803, 332005	
Key Words	Nuclear Fusion, ITER, Tokamak, MHD, Fast-Ions, Detectors	
Name of the University/Institution	Universidad de Sevilla	
	Department/Centre	Departamento de Física Atómica, Molecular y Nuclear
	Full Address	CNA, C/Thomas Alva Edison, 7, 41092 Sevilla
	Email Address	mgm@us.es
	Phone Number	+34-651977475
Start date	December 2018	

A.2. Education *(title, institution, date)*

Year	*University*	*Degree*	*Title*
2003	*Universidad de Sevilla*	*First degree*	Titulado superior. Licenciado en Ciencias Físicas
2006	Ludwig-Maximilians-Universität München	*PhD*	Doctor. Doctor en Ciencias Naturales

A.3. <u>Indicators of Quality</u> in Scientific Production *(See the instructions)*

- **Número de tesis doctorales dirigidas:** 2
- **Número de tesis doctorales en curso:** 5
- **Número total de citas:** 3664 (Google Scholar), 1832 (Publons)
- **Publicaciones:** 415 (Google Scholar), 87 (Publons)
- **Publicaciones en Q1 (SCImago):** 81
- **Índice h:** 29 (Google Scholar), 26 (Publons)

Part B. Free Summary of CV *(Max. of 3.500 characters, including spaces)*

En el año 2003, comencé mis estudios de doctorado en la Universidad Ludwig-Maximilian y el instituto Max-Planck para Física del Plasma (IPP) de Munich. Este trabajo me permitió defender mi Tesis Doctoral en el año 2006 en la misma Universidad Ludwig-Maximilian. Mi actividad como investigador postdoctoral se inicia en el año 2006 en el mismo instituto IPP como responsable de la mayoría de los detectores de partículas energéticas del reactor de fusión experimental ASDEX Upgrade (AUG). En el año 2009 y después de más de 6 años de

carrera investigadora en el instituto IPP, obtengo una **plaza de científico titular** de la **sociedad Max-Planck**.

En el año 2012 me incorporo al departamento de Física Atómica, Molecular y Nuclear (FAMN) de la Universidad de Sevilla con una beca **Ramón y Cajal**, una beca **Marie Curie** Career Integration Grant y gracias a la generosa excedencia de 5 años concedida por el Instituto Max-Planck, que ha seguido siendo la base de mis trabajos experimentales.

En el año 2016 obtuve la **acreditación** a **Profesor Titular** de Universidad Pública de la ANECA. Durante estos años, he consolidado la línea de investigación en fusión nuclear en el departamento FAMN y el Centro Nacional de Aceleradores (CNA), a partir de un grupo conformado por dos investigadores post-doctorales (Juan de la Cierva, Marie Curie y EUROfusion Engineering Grant), cinco estudiantes de doctorado y 3 estudiantes de master. Este equipo me permite liderar la instalación y desarrollo de numerosos detectores en los tokamaks AUG, DIII-D, MAST-U y JET (Oxford, Reino Unido) y KSTAR (Daejeon, Corea del Sur).

Actualmente soy autor/coautor de más de **100 publicaciones** en revistas de alto impacto entre las que cabe destacar Nature Physics, Nature Communications, Physical Review Letters y Nuclear Fusion. Esta producción científica se traduce en un **índice H de 29** (Google Scholar). He tenido la oportunidad de presentar los resultados de mi investigación en numerosas charlas invitadas entre las que cabe destacar las conferencias organizadas por la European Physical Society (EPS), la American Physical Society (APS) y la International Atomic Energy Agency (IAEA).

La realización de esta actividad investigadora ha sido posible gracias a una sostenida **financiación** nacional e internacional. Destaco mi participación como Investigador Principal en dos proyectos del Plan Nacional de Investigación I+D del Gobierno de España así como en una Marie Curie Career Integration Grant y cuatro proyectos de EUROfusion con marcada presencia y contribución internacional. Destaco dos de estos proyectos de EUROfusion tanto por los objetivos como por el equipo que he tenido la oportunidad de dirigir (formado por más de 60 científicos de más de 10 asociaciones europeas diferentes).

Mi actividad científica ha sido refrendada con la obtención del Landau-Spitzer Award otorgado conjuntamente por la **American Physical Society y European Physical Society** en el año 2014 por *"greater understanding of energetic particle transport in tokamaks through collaborative research"* así como por el **Premio Manuel Losada Villasante** en el año 2017 a la *"Excelencia en la Investigación Científica"*. Mi actividad científica me ha llevado así mismo a ser asesor de varios programas nacionales de investigación como son el Plan Nacional de investigación I+D del Gobierno de España o el del Department of Energy (DOE) de los Estados Unidos de América así como revisor de las más prestigiosas revistas del área.

Part C. Relevant accomplishments
C.1. Publications

1. Y. O. Kazakov… M. Garcia-Munoz (JET Team) *et al*., "Efficient generation of energetic ions in multi-ion plasmas by radio-frequency heating" **Nature Physics 13** 973 (2017)

2. T. S. Pedersen… M. Garcia-Munoz (W-7X Team) *et al*., "Confirmation of the topology of the Wendelstein 7-X magnetic field to better than 1:100,000" **Nature Communications 7** 13493 (2016)

3. M. Garcia-Munoz *et al*., "Conceptual design of the ITER fast-ion loss detector" Rev. Sci. Inst. **87** 11D829 (2016)

4. M. Garcia-Munoz *et al*., "Fast-ion redistribution and loss due to edge perturbations in the ASDEX Upgrade, DIII-D and KSTAR tokamaks", Nucl. Fusion **53** 123008 (2013)

5. M. Garcia-Munoz *et al*., "Fast-ion losses induced by ELMs and externally applied magnetic perturbations in the ASDEX Upgrade tokamak", Plasma Phys. Control. Fusion. **55** 124014 (2013)

6. M. Garcia-Munoz *et al*., "Fast-Ion Transport Induced by Alfvén Eigenmodes in the ASDEX Upgrade Tokamak", Nucl. Fusion **51** 103013 (2011)

7. M. Garcia-Munoz *et al*., "Convective and Diffusive Fast-Ion Losses Induced by Shear Alfvén Waves in the ASDEX Upgrade Tokamak", **Phys. Rev. Lett. 104** 185002 (2010)

8. M. Garcia-Munoz *et al*., "MHD Induced Fast-Ion Losses on ASDEX Upgrade", Nucl. Fusion **49** 085014 (2009)

9. M. Garcia-Munoz *et al*., "Fast-Ion Losses due to High-Frequency MHD Perturbations in the ASDEX Upgrade Tokamak", **Phys. Rev. Lett. 100** 055005 (2008)

10. M. Garcia-Munoz *et al*., "NTM Induced Fast-Ion Losses in ASDEX Upgrade", Nucl. Fusion **47** L10 (2007)

C.2. Research Projects and Grants

1. *Phase-space dynamics of energetic ions in the presence of Alfvén eigenmodes, edge localized modes and externally applied magnetic perturbations.* IP: M. García Muñoz (Universidad de Sevilla). EUROfusion (Ref: CfP-AWP17-ENR-CIEMAT-02). 2017-2018. **728.623 EUR**.

2. *Dinámica del Espacio de Fases de Iones Energéticos en Presencia de Modos Alfvénicos, Modos de Borde y Perturbaciones Resonantes Aplicadas Exteriormente.* IP: M. García Muñoz (Universidad de Sevilla). Ministerio de Economía y Competitividad (Ref: FIS2015-69362-P). 2016-2019. 94.864 EUR.

3. *Phase-space dynamics of energetic ions in the presence of Alfvén Eigenmodes, Edge Localized Modes and externally applied Magnetic Perturbations.* IP: M. García Muñoz (Universidad de Sevilla). EUROfusion (Ref: CfP-AWP14-ENR-CIEMAT-05). 2014-2014. **693.251 EUR**.

4. *FILD Project. Implementation of the scintillator-based fast-ion loss detectors on MAST and AUG.* IP: M. García Muñoz (Universidad de Sevilla). EUROfusion (Ref: WP14-MST2-3). 2014-2018. **339.000 EUR**.

5. *Scintillator Probe Upgrade*. IP: M. García Muñoz (Universidad de Sevilla). EUROfusion (Ref: WPJET4-SPU).2014-2017. **330.846 EUR**.

6. *Transporte de iones rápidos inducido por inestabilidades magnetohidrodinamicas en plasmas calientes confinados magnéticamente*. IP: M. García Muñoz (Universidad de Sevilla). Ministerio de Economía y Competitividad (Ref: ENE2012-31087). 2013-2015. **210.600 EUR**.

7. *Development of scintillator-based fast-ion loss detectors for fusion devices using low-energy particle accelerators.* IP: M. García Muñoz (Universidad de Sevilla). Marie Curie Career Integration Grant (Ref: FILDDEV - 303950) 2012-2016. 100.000 EUR.

8. Tokamak Esférico Compacto. IP: M. García Muñoz (Universidad de Sevilla). Ayudas a Infraestructuras y Equipamientos de I+D+I de la Junta de Andalucía. Convocatoria 2017 (Ref: IE17-5670). 2019-2021. **695.500 €**

C.3. Contracts

1. Marie Sklodowska Curie Actions - Individual Fellowship (MSCA-IF). FIREFELM: Mastering the energetic particle distribution in a magnetohydrodynamic active plasma. PostDoc: E. Viezzer. Supervisor: M. García Muñoz. Universidad de Sevilla. 2017-2018.

2. Juan de la Cierva. PostDoc: E. Viezzer. Supervisor: M. García Muñoz. Universidad de Sevilla. 2016-2017.

3. EUROfusion Engineering Grant. PostDoc: J. Ayllon Guerola. Supervisor: M. García Muñoz. Universidad de Sevilla. 2017-2019.

4. Conceptual Design of the ITER Fast Ion Loss Detector. ITER Organisation. IP: M. García Muñoz. Universidad de Sevilla. 2015-2017.

C.4. Patents and other IPR

1. **ITER Fellow** desde el año 2018

2. **2017 Premio Manuel Losada Villasante** *"Excelencia en la Investigación Científica."*

3. **2014 APS-EPS Landau-Spitzer Award** *"For greater understanding of energetic particle transport in tokamaks through collaborative research."*

4. Co-chair of the Fusion Products Working Group at the International Tokamak Physics Activity (ITPA) Diagnostics Topical Group (TG) and member of the ITPA Energetic Particles TG

5. Referee for several peer-reviewed journals and national programs, e.g. USA DOE or MINECO

6. Scientific Coordinator at JET, AUG and MAST-U for several experiments

C.5, C.6, C.7… Other

He dirigido 2 tesis doctorales en la Ludwig-Maximilians-Universität de Munich y la Universidad de Sevilla y actualmente estoy dirigiendo 4 tesis doctorales en la Universidad de Sevilla con importante presencia en el instituto Max-Planck para Física del Plasma de Munich y el Culham Center for Fusion Energy de Oxford.

Mis actividades docentes se completan con la supervisión de numerosos trabajos de fin de grado y master así como docencia regular impartida en varias asignaturas del Departamento de Física Atómica, Molecular y Nuclear desde mi incorporación a la Universidad de Sevilla en el año 2012.

Instructions

Important Announcement

Following the Call for Proposals, **ONLY CVS SUBMITTED IN THIS FORMAT WILL BE TAKEN INTO CONSIDERATION**. **CVs presented in other formats WILL BE DISMISSED with no possibilities for modifications.**

GENERAL CONSIDERATIONS

Following the call it is mandatory to use the following format when filling the document: Font Times New Roman / Arial (minimum size 11), single interlineal space, lateral margins of 2.5 cm and top and bottom margins of 1.5 cm.

Max. length of the whole document (Part A, B and C) cannot exceed four pages.

PART A. PERSONAL INFORMATION

Researcher ID is a unique identifier that consists of alphanumeric characters that enable researchers to manage their publication lists, track their times cited counts and h-index, identify potential collaborators and avoid author misidentification. It is hosted by Web of Science.
Access: Web of Science > My Tools > Researcher ID.

Author ID is a unique identifier that consists of alphanumeric characters that enable researchers to manage their publication lists, track their times cited counts and h-index, identify potential collaborators and avoid author misidentification. It is assigned automatically by SCOPUS. You can find an author identifier by running a search for that author. It will appear underneath the author details.
Access: SCOPUS > Author Feedback Wizard> Researcher name.

Open Researcher and Contributor ID (ORCID) provides a persistent digital identifier that distinguishes the researcher from every other person and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized.
Access: www.orcid.org

A.3. Indicators of Quality in Scientific Production

Please add information on a) total number of citations, average number of citations during the last five years, b) total number of publications in the first quartile (Q1) and first decile (D1), c) h-index, d) thesis supervised, and e) any other indicators that you may consider relevant.

To calculate these values, use default data collected in the Web of Science or Scopus. When this is not possible, other indicators may be used, specifying the reference database.

PART B. FREE SUMMARY OF CV *(Max. of 3.500 characters, including spaces)*

Describe briefly your scientific career, the main scientific-technical achievements, and the mid-to-long term scientific-technical interests and objectives of your research agenda. Indicate any other aspects that you may consider important to understand your career path.

PART C. ACCOMPLISHMENTS (Order by typology)

Given the limitations in number of characters, please mention the most relevant achievements sorted by the typology that best suits your scientific profile. Please be clear and avoid ambiguities.

Use reverse chronological order within each section. Limit your merits over the past 5 years, except for those which have an extraordinary importance for your CV.

C.1. Publications

Include a full review of relevant 5 to 10 publications.

In case of an article, please include authors in order of signature, year of publication, title of the article, name of the journal, volume, start page to end page.
If it's a book or chapter of a book, include its publisher and ISBN also.
If there are many authors, please indicate the total number of signatories and the position of the researcher (total number/ position of researcher) as for example 95/18.

C.2. Participation in Research, Development and Innovation Projects

Indicate the most important projects in which you have participated (maximum 5 to 7 projects), including a) its reference, b) title, c) funding body and call for proposals, d) name of the principal investigator and his/her institution affiliation, e) date of start and end of the project, f) amount of subsidy, and g) your type of participation, e.g.: researcher, principal investigator, European project coordinator, etc..

C.3. Participation in Research, Development and Innovation Contracts

Indicate the most important contracts in which you have participated (maximum 5 to 7 contracts), including a) title, b) company or entity, c) name of principal investigator and his/her institution affiliation, d) date of start and end of the contract, and e) amount of funding.

C.4. Patents

Indicate the most important patents and other intellectual property in which you have collaborated. Give a) the order of signing authors, b) reference, c) title, d) priority countries, e) date, f) holder entity and companies that are exploiting the patents.

C.5, C.6, C.7… Other

By sequential numbering (C.5, C.6, C.7 ...) please include any other achievements that you deem necessary, such as for example: direction of works, participation in assessment or advisory tasks, membership of international committees, management of scientific activity, editorial boards, **scientific awards**, etc.

FINAL CONSIDERATIONS

Please remember that all the submitted achievements must be presented concisely, including dates or periods for each performance.

The short CV aims to facilitate, organize and streamline the evaluation process. The use of the individual researcher identifier facilitates access to the published scientific papers and information on the impact of each of them.

Remember that only CVs submitted either in this format or in CVN abridged version will be taken into consideration.