



Gonzalo Sanchez Arriaga

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Gonzalo Sanchez Arriaga

Surname(s): **Sanchez Arriaga**
 Name: **Gonzalo**
 DNI: **75881940H**
 Date of birth: **08/04/1981**
 Gender: **Male**
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Current professional situation

Employing entity: Universidad Carlos III de Madrid **Type of entity:** University
Professional category: Investigador Ramón y Cajal
Start date: 01/11/2015
Type of contract: Temporary **Dedication regime:** Full time
Primary (UNESCO code): 330000 - Technological Science.
Secondary (UNESCO code): 332400 - Space technology

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad Carlos III de Madrid	Visiting Professor	01/03/2015
2	Universidad Politécnica de Madrid	Profesor Ayudante Doctor	28/05/2012
3	Universidad Politécnica de Madrid	Investigador posdoctoral	15/10/2011
4	Commissariat a l'energie atomique	Investigador posdoctoral	01/10/2009
5	Universidad Politécnica de Madrid	Becario FPI	01/08/2005

- Employing entity:** Universidad Carlos III de Madrid **Type of entity:** University
Professional category: Visiting Professor
Start-End date: 01/03/2015 - 31/10/2015 **Duration:** 8 months
- Employing entity:** Universidad Politécnica de Madrid **Type of entity:** University
Department: Fisica Aplicada, Universidad Politécnica de Madrid
City employing entity: Madrid, Spain
Professional category: Profesor Ayudante Doctor **Educational Management (Yes/No):** Yes
Start-End date: 28/05/2012 - 28/02/2015
Type of contract: Temporary employment contract
Dedication regime: Full time



- 3** **Employing entity:** Universidad Politécnica de Madrid **Type of entity:** University
City employing entity: Madrid, Community of Madrid, Spain
Professional category: Investigador posdoctoral **Educational Management (Yes/No):** No
Start date: 15/10/2011 **Duration:** 3 months
Type of contract: Temporary employment contract
Dedication regime: Part time
- 4** **Employing entity:** Commissariat a l'energie atomique **Type of entity:** State agency
City employing entity: Paris, Île de France, France
Professional category: Investigador posdoctoral **Educational Management (Yes/No):** No
Start date: 01/10/2009 **Duration:** 2 years
Type of contract: Temporary employment contract
Dedication regime: Full time
- 5** **Employing entity:** Universidad Politécnica de Madrid **Type of entity:** University
City employing entity: Madrid, Community of Madrid, Spain
Professional category: Becario FPI **Educational Management (Yes/No):** No
Start date: 01/08/2005 **Duration:** 4 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time



Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

- 1 University degree:** Higher degree
Name of qualification: Licenciado en Ciencias Físicas
City degree awarding entity: Madrid, Community of Madrid, Spain
Degree awarding entity: Universidad Complutense **Type of entity:** University de Madrid
Date of qualification: 06/2010
- 2 University degree:** Higher degree
Name of qualification: Ingeniero Aeronáutico
City degree awarding entity: Madrid, Community of Madrid, Spain
Degree awarding entity: Universidad Politécnica de Madrid **Type of entity:** University Madrid
Date of qualification: 16/11/2004
Average mark: Good

Doctorates

Doctorate programme: Doctor
Degree awarding entity: Universidad Politécnica de Madrid **Type of entity:** University Madrid
City degree awarding entity: Madrid, Community of Madrid, Spain
Date of degree: 07/07/2009
DEA awarding entity: Universidad Politécnica de Madrid
Date DEA was awarded: 06/2006
European doctorate: Yes **Date of certificate:** 07/07/2009
Thesis title: Nonlinear low-frequency wavefront generated by electrodynamic tethers
Thesis director: Juan Sanmartín Losada
Obtained qualification: Sobresaliente cum Laude
Special doctorate award: Yes **Date of award:** 28/07/2010

Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

- 1 Type of training:** Course
Training title: II Curso de Comercialización de Tecnologías UPM Innovatech
City awarding entity: Madrid, Community of Madrid, Spain
Awarding entity: Universidad Politécnica de Madrid **Type of entity:** University
Training manager: CAIT
End date: 29/10/2013 **Duration in hours:** 44 hours



- 2** **Type of training:** Course
Training title: Digital Signal Processing
City awarding entity: Madrid, Community of Madrid, Spain
Awarding entity: Universidad Politécnica de Madrid **Type of entity:** University
Training manager: Prof. Gelman
Duration in hours: 24 hours

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
German		A1	A1	A1	A1
French		A1	A1	A1	A1
English		C1	C1	C1	C1

Teaching experience

General teaching experience

- 1** **Name of the course:** Aerospace Autonomous Systems
University degree: Master in Aeronautical Engineering
Start date: 2016 **End date:** 2016
End date: 2016
Entity: Universidad Carlos III de Madrid **Type of entity:** University
- 2** **Type of teaching:** Official teaching
Name of the course: Flight Mechanics
Type of programme: Bachelor's degree
University degree: Degree in Aerospace Engineering
Start date: 2015 **End date:** 2016
End date: 2016
Entity: Universidad Carlos III de Madrid **Type of entity:** University
- 3** **Name of the course:** Aerospace Autonomous Systems
University degree: Master in Aeronautical Engineering
Start date: 2015 **End date:** 2015
End date: 2015
Entity: Universidad Carlos III de Madrid **Type of entity:** University
- 4** **Type of teaching:** Official teaching
Name of the course: Física I
Type of programme: Engineering **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Grado en Ingeniería Aeroespacial
Course given: 2012-15
Start date: 2012 **End date:** 2015
End date: 2015 **Type of hours/ ECTS credits:** Credits



Hours/ECTS credits: 6

Entity: Universidad Politécnica de Madrid

Type of entity: University

5 Type of teaching: Official teaching

Name of the course: Fisica II

Type of programme: Engineering

Type of subject: Obligatory

University degree: Grado en Ingenieria Aeroespacial

Course given: 2012-14

Start date: 2012

End date: 2015

Hours/ECTS credits: 6

Entity: Universidad Politécnica de Madrid

Type of teaching: In person theory

End date: 2015

Type of hours/ ECTS credits: Credits

Type of entity: University

6 Type of teaching: Official teaching

Name of the course: Mecanica Analitica

Type of programme: Engineering

Type of subject: Optional

University degree: Grado en Ingenieria Aeroespacial

Start date: 2013

End date: 2014

Hours/ECTS credits: 3

Entity: Universidad Politécnica de Madrid

Type of teaching: In person theory

End date: 2014

Type of hours/ ECTS credits: Credits

Type of entity: University

7 Type of teaching: Official teaching

Name of the course: Física II

Type of programme: Engineering

Type of subject: Core

University degree: Ingeniero Aeronáutico

Start date: 2007

End date: 2009

Hours/ECTS credits: 120

Entity: Universida Politécnica de Madrid

Department: Departamento de Física Aplicada a la Ingeniería Aeronáutica

Type of teaching: Laboratory work

End date: 2009

Type of hours/ ECTS credits: Hours

Type of entity: University

8 Type of teaching: Official teaching

Name of the course: Vehículos Aeroespaciales: Complementos II

Type of programme: Bachelor's degree

University degree: Degree in Aerospace Engineering

Start date: 2016

End date: 2016

Entity: Universidad Carlos III de Madrid

Type of entity: University

9 Type of teaching: Official teaching

Name of the course: Flight Mechanics

Type of programme: Bachelor's degree

University degree: Degree in Aerospace Engineering

End date: 2015

Entity: Universidad Carlos III de Madrid

Type of entity: University



Experience supervising doctoral thesis and/or final year projects

- 1** **Project title:** Integration of a Fuel Cell in a Remotely Piloted Aircraft
Type of project: Minor thesis
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Student: Ruben Garcia Maeso
Date of reading: 2017
- 2** **Project title:** Dynamics and control of acrobatic kites
Type of project: End of course project
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Student: Pablo Muñoz de la Flor
Date of reading: 2016
- 3** **Project title:** On-board instruments and flight tests of giant kites applied to wind power generation
Type of project: Minor thesis
Entity: Politecnico de Torino **Type of entity:** University
Student: Alessandro Serino
Date of reading: 2016
- 4** **Project title:** Bare-Tether Cathodic Contact through Thermionic Emission by Low-W Materials
Type of project: Doctoral thesis
Co-director of thesis: Juan Sanmartín Losada
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Student: X. Chen
Date of reading: 01/07/2015
- 5** **Project title:** Bare-tape scaling laws for de-orbit missions in a space debris environment
Type of project: Doctoral thesis
Co-director of thesis: Juan Sanmartín Losada
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Student: Shaker Bayajid Khan
Obtained qualification: Sobresaliente
Date of reading: 07/10/2014
- 6** **Project title:** Preliminary mission design of payload adapters deorbiting using electrodynamic tethers
Type of project: Minor thesis
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Student: Mikhail Bezdenjnykh Vasenin
Obtained qualification: 8
Date of reading: 25/09/2014
- 7** **Project title:** Dinámica y Control de Cometas con bridas de geometría variable
Type of project: End of course project
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Student: Jorge Alonso Pardo
Obtained qualification: 10
Date of reading: 13/03/2014



- 8** **Project title:** Dinámica y control de cometas de una línea
Type of project: End of course project
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Student: Luis Salord Losantos
Obtained qualification: 10
Date of reading: 11/10/2013

Student tutorials

- 1** **Name of the programme:** Doctorate
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Pisa, Italy
Frequency of the activity: 1
Number of tutored students: 1
- 2** **Name of the programme:** Mobility programme
Entity: Purdue University **Type of entity:** University
Frequency of the activity: 1
Number of tutored students: 1
- 3** **Name of the programme:** BETs project grant
Entity: Universidad Politécnica de Madrid **Type of entity:** University
Frequency of the activity: 1
Number of tutored students: 1

Other activities/achievements not included above

Description of the activity: Preparation of the technical report of a fellowship grant for the student D. Lorenzon. The grant was given by the CONICET (Argentina) and the PhD thesis "Simulaciones numéricas de sondas de Langmuir cilíndricas con códigos de Vlasov directo" will start in 2015 (co-advised by S. Elaskar and G. Sánchez-Arriaga)

City of activity: Córdoba, Argentina

Organising entity: Universidad de Cordoba (Argentina)



Scientific and technological experience

Research and development groups/teams

- 1 Name of the group:** Grupo de Investigación en Ingeniería Aeroespacial
Type of collaboration: Co-authorship of projects and their development
Affiliation entity: Universidad Carlos III de Madrid **Type of entity:** University
Start date: 2015
- 2 Name of the group:** Grupo de Investigación en Fusión Inercial y Física de Plasmas
Name of principal investigator: Fco. Javier Sanz Recio
City of group: Madrid, Community of Madrid, Spain
Affiliation entity: Universidad Politécnica de Madrid
Start date: 08/02/2007

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

- 1 Name of the project:** Deorbiting of space debris by electrodynamic tethers
Type of project: Technical viability study
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University
Name principal investigator (PI, Co-PI....): Gonzalo Sánchez-Arriaga
Nº of researchers: 1
Funding entity or bodies:
Ministerio de Economía y Competitividad
Name of the programme: Ramon y Cajal
Code according to the funding entity: RYC-2014-15357
Start-End date: 01/10/2015 - 31/10/2020 **Duration:** 5 years
Total amount: 40.000 €
- 2 Name of the project:** Development of an advanced axisymmetric model of the full plasma discharge in the Helicon Plasma Thruster
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University
Name principal investigator (PI, Co-PI....): Eduardo Ahedo
Nº of researchers: 5
Start-End date: 01/12/2016 - 30/09/2019
Total amount: 90.000 €
- 3 Name of the project:** Simulación y Ensayos en Vuelo de Cometas de Tracción Aplicadas a la Generación de Energía Eólica
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University



Name principal investigator (PI, Co-PI....): Gonzalo Sanchez Arriaga; Ricardo Borobia Moreno; Roland Schmehl

N° of researchers: 3

Type of participation: Principal investigator

Start-End date: 01/01/2016 - 31/12/2018

Total amount: 53.240 €

4 Name of the project: Generación Limpia de Energía con Cometas de Tracción
Entity where project took place: Universidad Carlos III de Madrid
Type of entity: University

Name principal investigator (PI, Co-PI....): Gonzalo Sanchez-Arriaga

N° of researchers: 1

Type of participation: Principal investigator

Name of the programme: Ayudas Fundación BBVA a Investigadores y Creadores Culturales

Code according to the funding entity: IN[15]_TIC_ING_0313

Start-End date: 01/11/2015 - 31/10/2016

Total amount: 39.658 €

5 Name of the project: Análisis dinámico, propagación orbital avanzada y simulación de sistemas espaciales complejos

Entity where project took place: Universidad Politécnica de Madrid
Type of entity: University

City of entity: Spain

Name principal investigator (PI, Co-PI....): Jesus Pelaez Alvarez

N° of researchers: 16

Funding entity or bodies:

Ministerio de Economía y Competitividad

Start date: 21/11/2014

Total amount: 145.200 €

6 Name of the project: Inestabilidades Hidrodinámicas en Fusión Termonuclear Controlada por Confinamiento Inercial

Entity where project took place: Universidad Politécnica de Madrid
Type of entity: University

City of entity: Spain

Name principal investigator (PI, Co-PI....): Fco. Javier Sanz Recio

N° of researchers: 8

Funding entity or bodies:

Ministerio de Ciencia e Innovación (ENE2011-28489)

Code according to the funding entity: C11010501

Start date: 01/01/2012

7 Name of the project: BETs: Propellantless deorbiting of space debris by bare electrodynamic tether

Entity where project took place: Universidad Politécnica de Madrid
Type of entity: University

City of entity: Unknown

Name principal investigator (PI, Co-PI....): Juan Ramon Sanmartin Losada

N° of researchers: 7

Funding entity or bodies:

Comisión Europea

Type of entity: .

City funding entity: Madrid, Community of Madrid, Spain



Code according to the funding entity: E100105908

Start date: 16/12/2010

8 Name of the project: Generation et Optimisation de Sources de Protons et ions Energetiques par Lasers ultra courts, ultra intenses et a tres haut contraste

Geographical area: National

Entity where project took place: Commissariat à l'énergie atomique

City of entity: France

Name principal investigator (PI, Co-PI....): T. Ceccotti

N° of researchers: 7

Funding entity or bodies:

Agence Nationale de la Recherche

Code according to the funding entity: ANR-08-BLAN-0072-03

Start date: 01/10/2009

Dedication regime: Full time

9 Name of the project: Amarras espaciales electrodinámicas

Geographical area: National

Degree of contribution: Researcher

Entity where project took place: Universidad Politécnica de Madrid

Type of entity: University

City of entity: Spain

Name principal investigator (PI, Co-PI....): Juan Ramon Sanmartin Losada

N° of researchers: 4

Funding entity or bodies:

MINISTERIO DE EDUCACION Y CIENCIA

City funding entity: Spain

Code according to the funding entity: ESP2005- 01511

Start date: 01/08/2005

Dedication regime: Full time

R&D non-competitive contracts, agreements or projects with public or private entities

Name of the project: Development of an advanced axisymmetric model of the full plasma discharge in the Helicon Plasma Thruster

Degree of contribution: Researcher

Name principal investigator (PI, Co-PI....): Eduardo Ahedo Galilea

N° of researchers: 5

Funding entity or bodies:

Airbus

Type of entity: Business

City funding entity: Getafe, Community of Madrid, Spain

Start date: 01/12/2016

Duration: 2 years - 10 months

Total amount: 90.000 €

Results

Industrial and intellectual property

- 1** **Title registered industrial property:** Flexible Single-Line Kite Simulator (KITEFLEX)
Type of industrial property: Registro de Software **Author's rights:** Yes
Inventors/authors/obtainers: A Pastor Rodríguez; Gonzalo Sanchez Arriaga
Entity holder of rights: Universidad Carlos III de Madrid
Nº of application: M-007734/2016
Country of inscription: Spain
Date of register: 30/11/2016
- 2** **Title registered industrial property:** SISTEMA DE GENERACIÓN DE POTENCIA ELÉCTRICA EN ÓRBITA POR MEDIO DE CABLES CONDUCTORES FLOTANTES
Type of industrial property: Patent of invention
Inventors/authors/obtainers: Claudio Bombardelli; Gonzalo Sanchez Arriaga
Entity holder of rights: UC3M and UPM
Nº of application: P201531648
Country of inscription: Spain, Community of Madrid
Date of register: 13/11/2015
- 3** **Title registered industrial property:** SISTEMA DE PROPULSIÓN EN ÓRBITA POR MEDIO DE CABLES CONDUCTORES FLOTANTES
Type of industrial property: Patent of invention
Inventors/authors/obtainers: Gonzalo Sanchez Arriaga; Claudio Bombardelli
Entity holder of rights: UC3M and UPM
Nº of application: P201531649
Country of inscription: Spain, Community of Madrid
Date of register: 13/11/2015
- 4** **Title registered industrial property:** Kinetic Langmuir Probe Software (Kilaps)
Type of industrial property: Registro de Software **Author's rights:** Yes
Inventors/authors/obtainers: Gonzalo Sanchez Arriaga; D. Pastor Moreno
Entity holder of rights: Universidad Politécnica de Madrid
Nº of application: M-005370/2014
Country of inscription: Spain
Date of register: 26/12/2014
- 5** **Title registered industrial property:** Bare Electrodynamic Tether Mission Analysis (BETsMA)
Type of industrial property: Registro de Software **Author's rights:** Yes
Inventors/authors/obtainers: Gonzalo Sanchez Arriaga; S Khan; A. Sanchez Torres; J. Williams; D. Blash; F. Garcia Quirós; J. Carrasco; R. Rosta
Entity holder of rights: Universidad Politécnica de Madrid
Nº of application: M-005377/2014
Country of inscription: Spain
Date of register: 19/12/2014
Conferral date: 19/12/2014



Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1** Gonzalo Sanchez Arriaga; Manolo García Villalba; Roland Schmehl. Modeling and dynamics of a two-line kite. Applied Mathematical Modelling. 47, pp. 473 - 486. 17/07/2017.
Type of production: Scientific paper **Format:** Journal
- 2** Gonzalo Sanchez Arriaga; Evangelos Siminos. Relativistic quasi-solitons and embedded solitons with circular polarization in cold plasmas. Journal of Physics A: Mathematical and Theoretical. 50 - 18, pp. 185501. 31/03/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 3** J Sanmartin; M. Charro; H. Garret; G. Sanchez-Arriaga; A. Sanchez-Torres. Analysis of Tether-Mission Concept for Multiple Flybys of Moon Europa. Journal of Propulsion and Power. 10.2514/1.B36205 - 2, pp. 338 - 342. 03/2017.
Type of production: Scientific paper **Format:** Journal
- 4** G. Sanchez-Arriaga; X. Chen; E. Lorenzini. Optimal Design and Deorbiting Performance of Thermionic Tethers in Geostationary Transfer Orbits. Journal of Propulsion and Power. doi:10.2514/1.B3620 - 2, pp. 425 - 432. 03/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 5** X. Chen; G. Sanchez-Arriaga. Orbital Motion Theory and Operational Regimes for Cylindrical Emissive Probes. Physics of Plasmas. 24 - 2, pp. 023804. 02/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 6** J. Sanmartin; X. Chen; G. Sanchez-Arriaga. Analysis of Thermionic Bare Tether Operation Regimes in Passive Mode. Physics of Plasmas. 24 - 1, pp. 013515. 01/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 7** G. Sanchez-Arriaga; J. Sanmartin; E. Lorenzini. Comparison of technologies for deorbiting spacecraft from low-earth-orbit at end of mission. Acta Astronautica. <http://dx.doi.org/10>, pp. 1 - 7. 03/10/2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 8** J. Sanmartin; A. Sanchez-Torres; S. B. Khan; G. Sánchez-Arriaga; M. Charro. Optimum sizing of bare-tape tethers for de-orbiting satellites at end of mission. Advances in Space Research. 56, pp. 1485 - 1492. 01/10/2015. Available on-line at: <<http://dx.doi.org/10.1016/j.asr.2015.06.030>>.
Type of production: Scientific paper **Format:** Journal



- 9** J. Alonso-Pardo; G. Sanchez-Arriaga. Kite model with bridle control for wind power generation. *Journal of Aircraft*. 52 - 3, pp. 917 - 923. 01/05/2015.
Type of production: Scientific paper **Format:** Journal
- 10** G. Sánchez-Arriaga; E. Siminos; V. Saxena; I. Kourakis. Relativistic breather-type solitary waves with linear polarization in cold plasmas. *Physical Review E*. 91 - 033102, 05/03/2015.
Type of production: Scientific paper **Format:** Journal
- 11** G. Sanchez-Arriaga; C. Bombardelli; X. Chen. Impact of nonideal effects on bare electrodynamic tether performance. *Journal of Propulsion and Power*. 10.2514/1.B35393, pp. 1 - 5. 20/01/2015.
Type of production: Scientific paper **Format:** Journal
- 12** Gonzalo Sanchez Arriaga; D. Pastor-Moreno. Direct Vlasov simulations of electron-attracting cylindrical Langmuir probes in flowing plasmas. *Physics of Plasmas*. 21 - null, pp. 073504-1 - 073504-8. 01/2014. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,376
- 13** M. Sanjurjo-Rivo; Gonzalo Sanchez Arriaga; Jesus Pelaez Alvarez. Efficient Computation of Current Collection in Bare Electrodynamic Tethers in and beyond OML regime. *Journal of Aerospace Engineering*. pp. 04014144-1 - 04014144-9. 01/2014. ISSN 0893-1321
Type of production: Scientific paper
Position of signature: 2
Impact index in year of publication: 0,778
- 14** L. Salord; Gonzalo Sanchez Arriaga. Flight dynamics and stability of kites in steady and unsteady wind conditions. *Journal of Aircraft*. pp. 1 - 7. 01/2014. ISSN 0021-8669
Type of production: Scientific paper
Position of signature: 2
Impact index in year of publication: 0,632
- 15** A. Lifschitz; F. Sylla; S. Kahaly; A. Flacco; M. Veltcheva; Gonzalo Sanchez Arriaga; E. Lefebvre; V. Malka. Ion acceleration in underdense plasmas by ultra-short laser pulses. *New Journal of Physics*. pp. 1 - 10. 01/2014. ISSN 1367-2630
Type of production: Scientific paper
Position of signature: 6
Impact index in year of publication: 4,063
- 16** E. Siminos; Gonzalo Sanchez Arriaga; V. Saxena; I. Kourakis. Modelling relativistic solitary wave interactions in over-dense plasmas: a perturbed nonlinear Schrödinger equation framework. *Physical Review e*. 90 - null, pp. 063104-1 - 063104-15. 01/2014. ISSN 1539-3755
Type of production: Scientific paper
Position of signature: 2
Impact index in year of publication: 2,313
- 17** Gonzalo Sanchez Arriaga; Fco. Javier Sanz Recio; A. Debayle; G. Lehmann. The behavior of the electron plasma boundary in ultraintense laser-highly overdense plasma interaction. *Physics of Plasmas*. pp. 123107-1 - 123107-10. 01/2014. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1

Impact index in year of publication: 2,376

- 18** Gonzalo Sanchez Arriaga. A direct Vlasov code to study the non-stationary current collection by a cylindrical Langmuir probe. *Physics of Plasmas*. pp. 013504-1 - 013504-8. 01/2013. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,147
- 19** Vikrant Saxena; Ioannis Kourakis; Gonzalo Sanchez Arriaga; Evangelos Siminos. Interaction of spatially overlapping standing electromagnetic solitons in plasmas. *Physics Letters a*. pp. 473 - 477. 01/2013. ISSN 0375-9601
Type of production: Scientific paper
Position of signature: 3
Impact index in year of publication: 1,632
- 20** Gonzalo Sanchez Arriaga. Structure of intermediate shocks in collisionless anisotropic Hall-magnetohydrodynamics plasma models. *Physics of Plasmas*. pp. 102102 - 102102. 01/2013. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
- 21** Francois Sylla; A. Flacco; S. Kahaly; M. Veltcheva; A. Lifschitz; Gonzalo Sanchez Arriaga; E. Lefebvre; V. Malka. Anticorrelation between Ion Acceleration and Nonlinear Coherent Structures from Laser-Underdense Plasma Interaction. *Physical Review Letters*. 108 - null, pp. 115003 - 5. 01/2012. ISSN 0031-9007
Type of production: Scientific paper
Position of signature: 6
Impact index in year of publication: 7,621
- 22** Gonzalo Sanchez Arriaga; Juan Ramon Sanmartin Losada. Relativistic current collection by a cylindrical Langmuir probe. *Physics of Plasmas*. pp. 063506 - 8. 01/2012. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,32
- 23** Gonzalo Sanchez Arriaga; Evangelos Siminos; Erik Lefebvre. Relativistic solitary waves modulating long laser pulses in plasmas. *Plasma Physics And Controlled Fusion*. 53 - null, pp. 45011 - 45029. 01/2011. ISSN 0741-3335
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,466
- 24** Gonzalo Sanchez Arriaga; Evangelos Siminos; Erik Lefebvre. Relativistic solitary waves with phase modulation embedded in long laser pulses in plasmas. *Physics of Plasmas*. 18 - null, pp. 082304 - 10. 01/2011. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,32



- 25** Dimitri Laveder; Thierry Passot; Pierre-Louis Sulem; Gonzalo Sanchez Arriaga. Rogue Waves in Alfvénic turbulence. *Physics Letters a*. pp. 997 - 1002. 01/2011. ISSN 0375-9601
Type of production: Scientific paper
Position of signature: 4
Impact index in year of publication: 1,963
- 26** Gonzalo Sanchez Arriaga; Erik Lefebvre. Two-dimensional s.polarized solitary waves in relativistic plasmas I. The fluid plasma model. *Physical Review e*. 84 - null, pp. 036403 - 8. 01/2011. ISSN 1539-3755
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,352
- 27** Gonzalo Sanchez Arriaga; Erik Lefebvre. Two-dimensional s.polarized solitary waves in relativistic plasmas II. Stability, collisions, electromagnetic bursts and post-soliton evolution. *Physical Review e*. 84 - null, pp. 036404 - 8. 01/2011. ISSN 1539-3755
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,352
- 28** Gonzalo Sanchez Arriaga. ALFVEN SOLITON AND MULTISOLITON DYNAMICS PERTURBED BY NONLINEAR LANDAU DAMPING. *Physics of Plasmas*. 17 - null, pp. 082313 - 10. 01/2010. ISSN 1070-664X
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,32
- 29** Gonzalo Sanchez Arriaga; Juan Ramon Sanmartin Losada. FAST MAGNETOSONIC WAVE EXCITATION BY AN ARRAY OF WIRES WITH TIME-MODULATED CURRENTS. *Annales Geophysicae*. 28 - null, pp. 577 - 586. 01/2010. ISSN 0992-7689
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 1,62
- 30** Gonzalo Sanchez Arriaga; Juan Ramon Sanmartin Losada. MAGNETIC PUMPING OF WHISTLER WAVES BY TETHER CURRENT MODULATION. *Journal of Geophysical Research*. 115 - null, pp. A0231 - 9. 01/2010. ISSN 0148-0227
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 3,303
- 31** Gonzalo Sanchez Arriaga; Dimitri Laveder; Thierry Passot; Pierre-Louis Sulem. QUASICOLLAPSE OF OBLIQUE SOLITONS OF THE WEAKLY DISSIPATIVE DERIVATIVE NONLINEAR SCHRÖDINGER EQUATION. *Physical Review e*. 82 - null, pp. 016406 - 14. 01/2010. ISSN 1539-3755
Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,352
- 32** Gonzalo Sanchez Arriaga; Tohru Hada; Yasuhiro Nariyuki. THE TRUNCATION MODEL OF THE DERIVATIVE NONLINEAR SCHRÖDINGER EQUATION. *Physics of Plasmas*. 16 - null, pp. 042302 - 8. 01/2009. ISSN 1070-664X



Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,475

- 33** Gonzalo Sanchez Arriaga; Tohru Hada; Yasuhiro Nariyuki. TRUNCATION MODEL IN THE TRIPLE-DEGENERATE DERIVATIVE NONLINEAR SCHRODINGER EQUATION. Physics of Plasmas. 16 - null, pp. 042303 - 9. 01/2009. ISSN 1070-664X

Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,475

- 34** Gonzalo Sanchez Arriaga; Juan Ramon Sanmartin Losada; Sergio Elaskar. DAMPING MODELS IN THE DERIVATIVE NONLINEAR SCHRODINGER EQUATION. Physics of Plasmas. 14 - null, pp. 082108 - 9. 01/2007. ISSN 1070-664X

Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 2,325

- 35** Gonzalo Sanchez Arriaga. Dynamics and control of single-line kites. The Aeronautical Journal. 110 - null, pp. 615 - 621. 01/2006. ISSN 0001-9240

Type of production: Scientific paper
Position of signature: 1
Impact index in year of publication: 0,267

- 36** Alejandro Pastor Rodríguez; Gonzalo Sanchez Arriaga; Manuel Sanjurjo Rivo. Modeling and stability analysis of tethered kites at high-altitudes. Journal of Guidance, Control, and Dynamics. (Accepted), The American Institute of Aeronautics and Astronautics,

Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

- 37** Juan Ramon Sanmartin Losada; Gonzalo Sanchez Arriaga. Seguridad Espacial: Una solución práctica para el problema de los residuos espaciales en órbita. III Seminario sobre actividades espaciales y derecho. 69-82, 2013. ISBN 978-84-616-7392-6

Type of production: Book chapter
Position of signature: 2

- 38** Gonzalo Sanchez Arriaga. BETsMA Manual. 2014. Available on-line at: <<http://www.thebetsproject.com/resources>>.

Type of production: Software Manual **Format:** Scientific and technical document or report

Works submitted to national or international conferences

- 1** **Title of the work:** Deorbit Kit Based on Low Work-Function Tethers for Cubesats

Name of the conference: CubeSat Industry Day 2017
Type of participation: Participatory - oral communication
City of event: Noordwijk, Holland
Date of event: 13/06/2017
End date: 15/06/2017
Organising entity: European Space Agency



G. Sánchez-Arriaga; K. Watzig; E. Lorenzini; M. Tajmar; E. Urgoiti; Lorenzo Tarabini.

- 2** **Title of the work:** Deorbiting kits for cubesats
Name of the conference: CubeSat Industry Day 2017
Type of participation: Participatory - oral communication
City of event: Noordwijk, Holland
Date of event: 13/06/2017
End date: 15/06/2017
Organising entity: European Space Agency
X. Geneste; E. Urgoiti; Lorenzo Tarabini; G. Sánchez-Arriaga; E. Lorenzini; M. Tajmar; J. Marcos.
- 3** **Title of the work:** A low-cost experimental platform for airborne wind energy generation using kites
Name of the conference: World Wind Energy Conference
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Malmoe, Sweden
Date of event: 12/06/2017
End date: 14/06/2017
Organising entity: World Wind Energy Association
Hiroki Hendo; G. Sanchez-Arriaga.
- 4** **Title of the work:** Flight Testing Setup for the Aerodynamic Characterisation of Power Kites Applied to Airborne Wind Energy Generation
Name of the conference: World Wind Energy Conference
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Malmoe, Sweden
Date of event: 12/06/2017
End date: 14/06/2017
Organising entity: World Wind Energy Association
Ricardo Borobia Moreno; Alessandro Serino; Hiroki Hendo; G. Sanchez-Arriaga.
- 5** **Title of the work:** MODELING AND PERSPECTIVES OF LOW-WORK-FUNCTION ELECTRODYNAMIC TETHERS TO DEORBIT SPACE DEBRIS
Name of the conference: 7th European Conference on Space Debris
Type of event: Conference
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Darmstadt, Germany
Date of event: 18/04/2017
End date: 21/04/2017
Organising entity: European Space Agency
Gonzalo Sanchez Arriaga; Xin Chen.
- 6** **Title of the work:** Orbital Motion Theory for Cylindrical Langmuir Probes
Name of the conference: 2nd European Conference on Plasma Diagnostics
City of event: Burdeos, France
Date of event: 18/04/2017
End date: 21/04/2017
Organising entity: Universidad de Burdeos
Xin Chen; Gonzalo Sanchez Arriaga.



- 7** **Title of the work:** SIMULACIÓN NUMÉRICA DE LA RECOLECCIÓN DE CORRIENTE EN UNA SONDA DE LANGMUIR CILÍNDRICA
Name of the conference: Mecánica Computacional
City of event: Cordoba, Argentina
Date of event: 08/11/2016
End date: 11/11/2016
Organising entity: Asociacion Argentina de Mecánica Computacional
Denis Lorenzon; Sergio Elaskar; Gonzalo Sanchez-Arriaga.
- 8** **Title of the work:** Localization of extreme light: relativistic solitons, quasi - solitons and breathe rs
Name of the conference: III International Symposium Advances in Nonlinear Photonics
City of event: Minks, Byelorussia
Date of event: 29/09/2016
End date: 01/10/2016
Organising entity: Belarusian State University
E Siminos; Gonzalo Sanchez-Arriaga.
- 9** **Title of the work:** Propellantless Technology for the Deorbiting of Small Satellites Mega-Constellation at the End of Life
Name of the conference: 4S Symposium
City of event: Valleta, Malta
Date of event: 30/05/2016
End date: 03/06/2016
Organising entity: European Space Agency
Riccardo Mantellato; Enrico Lorenzini; Gonzalo Sanchez-Arriaga.
- 10** **Title of the work:** BETsMA: A Friendly Tool for Electrodynamical Tether Mission Design
Name of the conference: International Conference on Tethers in Space
Type of event: Conference
Type of participation: Participatory - poster
City of event: Ann Arbor, United States of America
Date of event: 24/05/2016
End date: 26/05/2016
Organising entity: University of Michigan
Type of entity: University
Gonzalo Sanchez-Arriaga; X Chen.
- 11** **Title of the work:** Comparison of Technologies for de-orbiting spacecraft from Low-Earth-Orbit
Name of the conference: International Conference on Tethers in Space
Type of event: Conference
Type of participation: Participatory - oral communication
City of event: Ann Arbor, United States of America
Date of event: 24/05/2016
End date: 26/05/2016
Organising entity: University of Michigan
Type of entity: University
Gonzalo Sanchez-Arriaga; Juan Sanmartín; Enrico Lorenzini.
- 12** **Title of the work:** Deorbit with bare tether system from high eccentricity initial orbit:analyses and numerical simulation
Name of the conference: International Conference on Tethers in Space
City of event: Ann Arbor, United States of America



Date of event: 24/05/2016

End date: 26/05/2016

Organising entity: University of Michigan
Guido Pastore; Enrico Lorenzini; Gonzalo Sanchez-Arriaga.

Type of entity: University

13 Title of the work: Analysis of thermionic bare tether operation regimes in passive mode

Name of the conference: 14th Spacecraft Charging Technology Conference

City of event: Noordwijk, Holland

Date of event: 04/04/2016

End date: 08/04/2016

Organising entity: European Space Astronomy Centre
J. Sanmartin; X. Chen; G. Sanchez-Arriaga.

14 Title of the work: Electrodynamic tethers fundamentals

Name of the conference: SCIENCE AND TECHNOLOGY CHALLENGES OF SPACE DEBRIS REMOVAL AND ASTEROID DEFLECTION

Type of event: Conference

Reasons for participation: Upon invitation

City of event: Santander, Spain

Date of event: 06/07/2015

End date: 10/07/2015

Organising entity: Universidad Internacional
Menéndez Pelayo
G. Sánchez-Arriaga.

Type of entity: University

15 Title of the work: End of life disposal of spacecraft with electrodynamic tethers

Name of the conference: SCIENCE AND TECHNOLOGY CHALLENGES OF SPACE DEBRIS REMOVAL AND ASTEROID DEFLECTION

Type of event: Conference

Reasons for participation: Upon invitation

City of event: Santander, Spain

Date of event: 06/07/2015

End date: 10/07/2015

Organising entity: Universidad Internacional
Menéndez Pelayo
G. Sánchez-Arriaga.

Type of entity: University

16 Title of the work: Lecture on Propellantless Propulsion: Bare Electrodynamic tethers

Name of the conference: Lecture on Propellantless Propulsion

Type of event: Workshop

Type of participation: Participatory - oral communication

Reasons for participation: Upon invitation

City of event: Holland

Date of event: 26/06/2015

End date: 26/06/2015

Organising entity: European Space Agency
G. Sánchez-Arriaga; M. Sanjurjo-Rivo.

17 Title of the work: Linearly polarized breather-like solitary waves in cold plasmas

Name of the conference: Novel light sources in laser plasma interactions

City of event: Dresden, Germany

Date of event: 20/04/2015
End date: 24/04/2015
Organising entity: Max Planck Institute
G. Sánchez-Arriaga; E. Siminos; V. Saxena; I. Kourakis.

18 Title of the work: Life Deorbiting Services for Microsatellites Making Use of Bare Electrodynamic Tethers
Name of the conference: Small Satellite Systems and Services Symposium,
Type of participation: 'Participatory - poster
Date of event: 26/05/2014
Organising entity: European Space Agency
City organizing entity: Palma de Mallorca,
R. Mantellato; A. Valmorbida; M. Pertile; A. Francesconi; E. Lorenzini; Gonzalo Sanchez Arriaga.

19 Title of the work: Seguridad Espacial: una solución práctica para el problema de los residuos espaciales en órbita
Name of the conference: III Seminario sobre Actividades Espaciales y Derecho
Type of participation: Participatory - invited/keynote talk
City of event: Madrid, Spain
Date of event: 19/11/2013
End date: 21/11/2013
Organising entity: Instituto Iberoamericano de Derecho Aeronáutico y del Espacio de la Aviación Comercial
J. Sanmartín Losada; G. Sanchez Arriaga.

20 Title of the work: Direct Vlasov simulations of non-stationary cylindrical Langmuir probe in flowing plasmas
Name of the conference: 10th International Workshop on Electric Probes in Magnetized Plasmas (IWEP 2013)
Type of participation: Participatory - oral communication
Date of event: 09/07/2013
Organising entity: Universidad Politécnica de Madrid
Type of entity: University
City organizing entity: Madrid, España,
D. Pastor Moreno; Gonzalo Sanchez Arriaga. "Book of Abstracts of the 10-th International Workshop on Electric Probes in Magnetized Plasmas IWEP 2013, Editorial Universidad Politécnica de Madrid". pp. 38 - 38.

21 Title of the work: Structural stability analysis of the ultra-intense laser/plasma interaction: explaining multiple results for the same simulations and experiments
Name of the conference: 40th EPS Conference on Plasma Physics
Type of participation: 'Participatory - poster
City of event: Helsinki,
Date of event: 01/07/2013
Organising entity: European Physical Society
City organizing entity: Helsinki,
Gonzalo Sanchez Arriaga; A. Debayle; Fco. Javier Sanz Recio.

22 Title of the work: Tape-tether design for the de-orbiting from given altitude and inclination
Name of the conference: 6th European Conference on Space Debris
Type of event: Conference
Type of participation: 'Participatory - poster
Date of event: 22/04/2013
Organising entity: European Space Agency



City organizing entity: Darmstadt,

Juan Ramon Sanmartin Losada; Antonio Sánchez Torres; Shaker Bayajid Khan .; Gonzalo Sanchez Arriaga; Mario Charro Cubero. "Proceedings of 6th European Conference on Space Debris". pp. 1 - 5.

- 23** **Title of the work:** Eliminación de basura espacial
Name of the conference: European Space Expo
Type of event: ESE
Type of participation: Participatory - invited/keynote talk
City of event: Madrid, Spain
Date of event: 12/02/2013
End date: 18/02/2013
Organising entity: Comisión Europea **Type of entity:** 0
Gonzalo Sanchez Arriaga.
- 24** **Title of the work:** Propellantless deorbiting of space debris by bare electrodynamic tethers
Name of the conference: 2nd FP7 Space Conference
Type of participation: Participatory - invited/keynote talk
Date of event: 15/11/2012
Organising entity: Comisión Europea **Type of entity:** .
City organizing entity: Larnaca, Chipre,
Juan Ramon Sanmartin Losada; Gonzalo Sanchez Arriaga; E. Lorenzini; D. Zanutto; J. F. Roussel; P. Sarrailh; J. D. Williams; K. Xie; F. Garcia de Quiros; J. Carrasco; T. van Zoest; R. Rosta; J. Lasa; J. Marcos.
- 25** **Title of the work:** A corrected tether-mission to Jupiter
Name of the conference: European Planetary Science Congress 2012
Type of participation: 'Participatory - poster
Date of event: 23/09/2012
Organising entity: European Research Infrastructure for Planetary Science
Gonzalo Sanchez Arriaga; Mario Charro Cubero; Juan Ramon Sanmartin Losada.
- 26** **Title of the work:** BETs progress in state-of-the-art tether technology
Name of the conference: CleanSpace Workshop (ESA/ESOC)
Type of participation: Participatory - oral communication
Date of event: 17/09/2012
Organising entity: European Space Agency
City organizing entity: Darmstadt,
Juan Ramon Sanmartin Losada; Gonzalo Sanchez Arriaga; E. Lorenzini; et. al.
- 27** **Title of the work:** Dynamics of Alfvén solitons perturbed by nonlinear Landau damping
Name of the conference: 2th Conference on Localized Excitations in Nonlinear Complex Systems
Type of participation: 'Participatory - poster
Date of event: 09/07/2012
Organising entity: Universidad de Sevilla **Type of entity:** University
City organizing entity: Sevilla,
Gonzalo Sanchez Arriaga.
- 28** **Title of the work:** Dynamic of two-dimensional s-polarized relativistic solitary waves in plasmas
Name of the conference: Exchange on Laser-Plasma Interaction Theory
Type of participation: Participatory - oral communication
Date of event: 16/04/2012
Organising entity: Max-Planck Institute



City organizing entity: Dresden,
Gonzalo Sanchez Arriaga; E. Lefebvre.

- 29** **Title of the work:** Dynamic of subcycle linearly polarized relativistic solitary waves in plasmas
Name of the conference: Congres General de la Societe Francaise de Physique
Type of participation: Participatory - oral communication
Date of event: 04/07/2011
Organising entity: Societe Francaise de Physique
City organizing entity: Burdeos,
Gonzalo Sanchez Arriaga; E. Lefebvre.
- 30** **Title of the work:** Dynamic of subcycle linearly polarized relativistic solitary waves in plasmas
Name of the conference: 38th EPS Plasmas Strasbourg 2011
Type of participation: 'Participatory - poster
Date of event: 27/06/2011
Organising entity: European Physical Society
City organizing entity: Estrasburgo,
Gonzalo Sanchez Arriaga; E. Lefebvre.
- 31** **Title of the work:** Observation of spectral modulation in laser ion acceleration from underdense plasmas
Name of the conference: 52nd Annual meeting of the APS Division of Plasma Physics
Type of participation: Participatory - oral communication
Date of event: 08/11/2010
Organising entity: American Physical Society
A. Flacco; F. Sylla; S. Kahaly; M. Veltcheva; Gonzalo Sanchez Arriaga; E. Lefebvre; V. Malka.
- 32** **Title of the work:** In-orbit experiment on parametric pumping low frequency waves by tether-current modulation
Name of the conference: 37th Committee on Space Research (COSPAR) Scientific Assembly
Type of participation: Participatory - oral communication
Date of event: 13/07/2008
Organising entity: Committee on Space Research
Gonzalo Sanchez Arriaga; Juan Ramon Sanmartin Losada.
- 33** **Title of the work:** Chaos in nonlinear Alfvén waves using the DNLS equation
Name of the conference: International Symposium on Electrodynamics
Date of event: 04/11/2006
End date: 06/11/2006
S Elaskar; G. Sanchez Arriaga; J. Sanmartín Losada.
- 34** **Title of the work:** Kite Flight Simulator
Name of the conference: AIAA Pegasus Student Conference
Type of participation: Participatory - oral communication
City of event: Toulouse,
Date of event: 2005
Organising entity: AIAA
Gonzalo Sanchez Arriaga.



Works submitted to national or international seminars, workshops and/or courses

Title of the work: Relativistic solitary waves in laser-plasma interaction

Name of the event: Seminar of the Departement de Physique Theorique et Appliquée

Type of event: Course

City of event: Paris, France

Date of event: 29/07/2011

Organising entity: CEA

Gonzalo Sanchez Arriaga.

Type of entity: Public Research Body

Other dissemination activities

1 Title of the work: BETsMA: soluciones para 6000 toneladas de basura espacial

Name of the event: Newsletter

Type of event: Articulo

City of event: Madrid,

Date of event: 2014

Organising entity: CAIT (UPM)

G. Sanchez Arriaga.

2 Title of the work: El Problema de la Basura Espacial

Name of the event: Hablando con Científicos

Type of event: Media interviews

City of event: Madrid,

Date of event: 2014

Organising entity: Cienciaes.com

Gonzalo Sanchez Arriaga.

3 Title of the work: El problema de la Basura Espacial

Name of the event: Artículo para revista

Type of event: Media interviews

City of event: Madrid,

Date of event: 2014

Organising entity: Revista Muy Interesante

G. Sánchez Arriaga.



R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

Committee title: Jury Memeber of the Symposium Design and Syntgesis Exercise
Affiliation entity: Delft University of Technology
City affiliation entity: Delft, Holland
Start-End date: 05/07/2012 - 05/07/2012

Organization of R&D activities

- 1** **Title of the activity:** Generación Limpia de Energía con Cometas de Tracción
Type of activity: Semana de la Ciencia de Madrid 2016 **Geographical area:** National
Convening entity: Universidad Carlos III de Madrid **Type of entity:** University
City convening entity: Madrid,
Type of participation: Organiser
Nº assistants: 200
Start-End date: 15/11/2016 - 17/11/2016 **Duration:** 2 days
- 2** **Title of the activity:** Programme Committee
Type of activity: 14th Spacecraft Charging Technology Conference **Geographical area:** European Union
Convening entity: European Space Agency **Type of entity:** Innovation and Technology Centres
City convening entity: Noodwijk, Holland
Start-End date: 04/04/2016 - 08/04/2016
- 3** **Title of the activity:** BETs Final Meeting
Geographical area: European Union
Convening entity: Universidad Politécnica de Madrid **Type of entity:** University
City convening entity: Madrid,
Type of participation: Organiser
Nº assistants: 20
Start-End date: 22/01/2014 - 23/01/2014 **Duration:** 2 days
- 4** **Title of the activity:** Fusión nuclear por laser: una energía limpia para el futuro
Type of activity: XIV Semana de la Ciencia de Madrid **Geographical area:** National
Convening entity: Universidad Politécnica de Madrid **Type of entity:** University
City convening entity: Madrid,
Type of participation: Organiser
Nº assistants: 200
Start date: 06/11/2014 **Duration:** 2 days
- 5** **Title of the activity:** El problema de la Basura Espacial y sus Soluciones
Type of activity: XIV Semana de la Ciencia de Madrid **Geographical area:** National
Convening entity: Universidad Politécnica de Madrid **Type of entity:** University



City convening entity: Madrid,
Type of participation: Organiser
N° assistants: 200
Start date: 03/11/2014

Duration: 3 days

6 **Title of the activity:** Amarras Conductoras Espaciales para deorbitas satélites al finalizar la misión
Type of activity: XIII Semana de la Ciencia de Madrid **Geographical area:** National
Convening entity: Universidad Politécnica de Madrid **Type of entity:** University
City convening entity: Madrid,
Type of participation: Organiser
N° assistants: 200
Start date: 04/11/2013

Duration: 3 days

7 **Title of the activity:** Amarras Conductoras Espaciales para deorbitas satélites al finalizar la misión
Type of activity: XII Semana de la Ciencia de Madrid **Geographical area:** National
Convening entity: Universidad Politécnica de Madrid **Type of entity:** University
City convening entity: Madrid,
Type of participation: Organiser
N° assistants: 200
Start date: 05/11/2012

Duration: 3 days

R&D management

Name of the activity: Propellantless de orbiting of space debris by bare electrodynamic tethers (FP7/Space project)

Type of management: Management of R&D&I actions and projects

Performed tasks: Collaboration with the head of the project on the daily communication with the partners, some decision-making processes and the organization of projects meeting. Responsible of the development of two software, one of them involving the coordinated work of the seven partners of the project

Entity: Universidad Politecnica de Madrid

Start date: 28/05/2012

Duration: 2 years

Evaluation and revision of R&D projects and articles

Name of the activity: Referee

Performed tasks: Referee of the ISI Journals: Physics of Plasmas, Physica D, Journal of Guidance, Control, and Dynamics, Earth, Planets and Space, The Aeronautical Journal, IEEE Transactions on Plasma Science



Other achievements

Stays in public or private R&D centres

- 1** **Entity:** Observatoire de la Côte d'Azur]
City of entity: Nice, France
Start-End date: 25/06/2008 - 05/10/2008 **Duration:** 102 days
Goals of the stay: Doctorate
Provable tasks: DNLS soliton behavior perturbed by non-linear Landau damping
- 2** **Entity:** Kyushu University
City of entity: Fukuoka, Japan
Start-End date: 27/03/2007 - 25/07/2007 **Duration:** 122 days
Goals of the stay: Doctorate
Provable tasks: Truncation model in the DNLS and the triple-degenerate DNLS equation
- 3** **Entity:** Max-Planck Institute
City of entity: Dresden, Germany
Start date: 14/01/2014 **Duration:** 4 days
Goals of the stay: Guest
Provable tasks: Solitary waves interaction in relativistic plasmas
- 4** **Entity:** Observatoire de la Côte d'Azur]
City of entity: Nice,
Start date: 14/01/2013 **Duration:** 3 days
Goals of the stay: Guest
Provable tasks: Shocks and soliton in hall-magnetohydrodynamic plasma models

Obtained grants and scholarships

- 1** **Name of the grant:** Contrato Ramón y Cajal
Aims: Post-doctoral
Awarding entity: Ministerio de Economía y Competitividad
Conferral date: 10/07/2015 **Duration:** 5 years
Entity where activity was carried out: Universidad Carlos III de Madrid
- 2** **Name of the grant:** Contrato Postdoctoral
City awarding entity:
Aims: Post-doctoral
Awarding entity: Commissariat a l'Energie Atomique
Amount of the grant: 67,2 €
Conferral date: 01/10/2009
- 3** **Name of the grant:** Beca Predoctoral FPI
City awarding entity:
Aims: Pre-doctoral
Awarding entity: Ministerio de Educación y Ciencia



Amount of the grant: 52,8 €

Conferral date: 29/07/2005

Scientific societies and professional associations

Name of the society: Real Sociedad Española de Física

Start date: 2013

Prizes, mentions and distinctions

- 1 Description:** The technological project BETsMA was recognized due to its innovative character by CAIT-UPM during the I Workshop International UPM Innovatech
Awarding entity: CAIT
City awarding entity: Madrid
Conferral date: 04/12/2013
- 2 Description:** Premio Extraordinario de Doctorado de la UPM
Awarding entity: Universidad Politécnica de Madrid **Type of entity:** University
City awarding entity: UPM
Conferral date: 28/07/2010
- 3 Description:** The end of the course project "Simulador de Vuelo de Cometas" was selected for the AIAA Student Pegasus Congerence
Awarding entity: Escuela Tecnica Superior de Ingenieroes Aeronáuticos
City awarding entity: Madrid, Spain
Conferral date: 2005

Obtained accreditations/recognitions

- 1 Description:** Acreditado como Profesor Contratado Doctor
Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Agencia de la Calidad y Acreditación
Date of recognition: 12/03/2013
- 2 Description:** Acreditado como Profesor Ayudante Doctor
Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Agencia de la Calidad y Acreditación
Date of recognition: 12/02/2011