



PROGRAMA RAMÓN Y CAJAL - CONVOCATORIA 2012
Investigadores seleccionados - Correo electrónico y resumen de CV

Ámbito Multidisciplinar: Ciencias Básicas

| Orden dentro del ámbito multidisciplinar | Área Temática | Referencia | Investigador | Correo electrónico | Resumen del Currículum Vitae |
|--|-----------------------|----------------|-------------------------------|------------------------------|--|
| 1 | Matemáticas | RYC-2012-12084 | CAÑIZO RINCON, JOSE ALFREDO | j.a.canizo@bham.ac.uk | <p>The candidate specialises in the study of kinetic equations and coagulation-fragmentation models, and presents a record of high-quality publications on the mathematical study of several models from physics, biology and collective behavior. Recent results contain important developments in the theory of coagulation and fragmentation models, and highly cited recent papers on the field of collective behavior.</p> <p>The candidate holds a lecturer position at the School of Mathematics of the University of Birmingham since September 2012. He has been the principal researcher of two international projects with France and Austria for two years (Acciones Integradas 2009) which have resulted in several published papers in the area. He is currently the co-advisor of Daniel Balagué, a student from the Universitat Autònoma de Barcelona, with whom he is working on topics related to the fragmentation equation. D. Balagué's dissertation is expected to be defended in summer 2013.</p> <p>A good number of invited presentations in international conferences, as well of organization of specialized sessions, is acknowledged. The candidate has been an invited speaker in prestigious international conferences (SIAM PDE conferences, Oberwolfach Workshops in Germany, Banff Research Station Conferences in Canada) and shows a strong international activity, having collaborations with universities in the United States, Spain, France, Italy and the United Kingdom.</p> |
| 2 | Ciencias de la Tierra | RYC-2012-12167 | FARIA SANTOS, SERGIO HENRIQUE | sergio.faria@bc3research.org | <p>Physicist by training and interdisciplinary scientist by conviction, Sérgio H. Faria is engaged in combining his expertise in applied mathematics with experimental and field research in climate and environmental science. His ultimate objective is to understand the multiscale processes that control the emergence of properties and structures in complex environmental systems.</p> <p>Through his research on geophysical flows and the formation of climate records he aims at estimating the uncertainties in the long term impact of climate change on environment and society. In particular, he investigates how the dynamics of polar ice sheets may influence our predictions of future sea level rise and climate change. He is also interested in the geomorphogenic power of granular media during landslides, avalanches and dune formation/migration. Further research interests include the study of diversity in physical and biological systems, ranging from structured populations dynamics and biodiversity preservation to shape and size diversity in drifting icebergs.</p> <p>He earned his Doctorate in Natural Sciences (summa cum laude) from the Darmstadt University of Technology,</p> |



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| | | | | | <p>Germany, in 2003. Previously he earned his Master (summa com laude) and Bachelor degrees in Physics from the Federal University of Paraná, in his hometown Curitiba, Brazil.</p> <p>Before joining BC3 in November 2011 Sérgio was Assistant Professor of Geosciences at the University of Göttingen, Germany (2006-2011), Research Fellow at the Max Planck Institute for Mathematics in the Sciences Leipzig, Germany (2004-2006), Research Fellow at the Darmstadt University of Technology, Germany (2003-2004) and Adjunct Professor of Physics at the Federal University of Paraná, Brazil (2003).</p> <p>Numerous invited lectures (>20) and frequent research visits in five different continents attest to his outstanding international reputation in various scientific circles.</p> <p>He has also been in Antarctica and Greenland several times, in particular as ice core scientist during two EPICA-DML* deep-drilling expeditions (2003-2004 and 2005-2006) to Dronning Maud Land, Antarctica. Through these activities he became most likely the first Brazilian to perform long term research activities on the Antarctic plateau, as well as the first Brazilian to take part on a polar deep drilling expedition.</p> <p>Sérgio has been member of several scientific editorial and advisory boards, including the Editorial Boards of Journal of Glaciology (since 2012), Entropy (since 2011), Geosciences (since 2011), Diversity (2008-2010) and Continuum Mechanics and Thermodynamics (2003-2005), as well as the Review Panels of the European Space Agency (ESA) and the European Science Foundation (ESF).</p> <p>Besides being author of three books (in preparation) and more than 35 peer-reviewed articles published in scientific volumes and indexed journals (including Nature, Quaternary Science Reviews, Journal of Geophysical Research, and Proceedings of the Royal Society of London, among others), he has over ten years of academic experience teaching on graduate and undergraduate levels, as well as supervising various doctorate, master and undergraduate students.</p> <p>*EPICA = European Project for Ice Coring in Antarctica; DML = Dronning Maud Land.</p> |
| 3 | Física y Ciencias del Espacio | RYC-2012-12281 | KOPPENS , FRANK | projects@icfo.es | <p>Frank Koppens (Dutch, 1976) obtained his PhD (Cum Laude, 2007) in experimental nanoscience and quantum computation at the Kavli Institute of Nanoscience, Delft University, The Netherlands. His PhD work includes several breakthroughs on coherent control of single spins in semiconductor quantum dots.</p> <p>As an IQSE postdoctoral fellow at Harvard University he worked on quantum plasmonics with single quantum</p> |



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| | | | | | <p>dots and diamond color centers, with a major breakthrough on the electrical detection surface plasmon polaritons and single plasmon sources. Since August 2010, Frank is a group leader at ICFO. Dr. Koppens is specialized in merging (quantum) optics with novel solid-state systems such as graphene.</p> <p>Frank Koppens is author of 28 refereed papers (H-index 18), amongst which Nature (2x), Science (2x), Nature Physics (3x), Nature Nanotech., Phys.Rev.Lett.(6x) and NanoLetters (2x). Total number of citations: >2500. The work of Dr. Koppens often appears in the public media, including a recent article of the famous magazine The Economist.</p> <p>The Nano-optoelectronics group of Dr. Koppens focusses on the realization of a variety of novel active and hybrid nano-photonics and plasmonic devices based on graphene. The aim is to reveal new physical quantum phenomena related to strong interactions between light and matter, mediated by graphene, and to develop new applications for sensing, photodetection and nano-scale light processing and switching.</p> <p>One of the specific topics the group is exploiting the emerging the potentially far-reaching field of graphene plasmonics. These properties translate into extraordinary and novel electro-optical capabilities at the nanoscale, with potential applications to infrared detection, single-photon quantum devices, ultrasensitive detectors, electrically tunable metamaterials etc. In addition, the group merges graphene nano-photonics with other domains such as opto-mechanics, non-linear optics and light-harvesting.</p> <p>Patents Optoelectronic platform with carbon based conductor and quantum dots and transistor comprising such a platform", Reference P201131345. Two other patents are under review.</p> <p>Oral contributions Dr. Koppens has given more than 60 contributions at international meetings/conferences or colloquia (see full list on CV)</p> <p>Prizes/fellowships ERC Starting Grant (2012) Christiaan Huygensprijs 2012. Prestigious dutch award for the best PhD-thesis on physics during 4 years</p> |



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| | | | | | Best student presentation award at APS March meeting 2007 Harvard IQSE fellowship |
| 4 | Química | RYC-2012-11794 | GOMEZ-HORTIGUELA SAINZ, LUIS | lhortiguela@icp.csic.es | <p>La experiencia investigadora se centra en la síntesis de nuevos materiales porosos avanzados zeolíticos para su aplicación en catálisis y procesos de adsorción. Tras diversos periodos investigadores, fundamentalmente en el Grupo de Tamices Moleculares del Instituto de Catálisis y Petroleoquímica, grupo pionero español en el empleo de materiales porosos en catálisis, donde realizó la tesis y distintos periodos posdoctorales, así como en el Davy Faraday Research Laboratory de la Royal Institution of Great Britain y en el Departamento de Química del University College London, grupos líderes en el empleo de metodologías computacionales aplicadas al estudio de sólidos, donde realizó varias estancias pre y posdoctorales, el candidato adquirió una amplia experiencia tanto en la síntesis y caracterización avanzada de materiales zeolíticos así como en el empleo de técnicas de simulación para el estudio de los mismos. La combinación de ambos tipos de estudios ha permitido al candidato la racionalización de las observaciones experimentales y, en consecuencia, el diseño racional de nuevos experimentos, dando como resultado una estrategia de trabajo muy eficiente.</p> <p>Como resultado de su investigación, el CV incluye 42 publicaciones en revistas de alto impacto, incluyendo revistas generales de química, como Journal of the American Chemical Society (4), Chemistry: A European Journal (2), uno de ellos destacado en la portada, Chemical Communications (1), Chemistry of Materials (7), también uno de ellos resaltado en portada, Journal of Physical Chemistry (3), Physical Chemistry Chemical Physics (1), Dalton Transactions (2), Proceedings of the Royal Society A (1), así como en revistas más especializadas, pero también de alto impacto, en materiales porosos, como Microporous and Mesoporous Materials (11) y Studies of Surface Science and Catalysis (3), o en Catálisis, como la recientemente creada ACS Catalysis (4), en la que su trabajo fue destacado en la portada del primer número, Catalysis Today (2) y Topics in Catalysis (1). Además, 6 manuscritos están en preparación. En la mayoría de estos artículos (25), el candidato figura como primer autor, y en casi todos ellos (21) también como autor de correspondencia; en todos estos trabajos, el candidato realizó tanto la síntesis como la caracterización de los materiales y, en su caso, el estudio computacional, además de escribir el artículo correspondiente. En el resto de los trabajos, donde el candidato figura en la mayoría como segundo autor (12), su trabajo consistió en el estudio por métodos computacionales de los resultados experimentales obtenidos por colegas, aumentando en gran medida el impacto de los trabajos experimentales, y proporcionando explicaciones racionales de las observaciones experimentales, lo cual llevó a diseñar de un modo racional futuros experimentos. El candidato es co-autor también de tres patentes, además de una en preparación.</p> <p>La investigación llevada a cabo por el candidato ha sido expuesta en 46 participaciones en conferencias nacionales y, especialmente, internacionales, tanto presentaciones orales como en póster; además ha sido</p> |



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| | | | | | <p>invitado como conferenciante en 3 workshops y 2 escuelas de zeolitas.</p> <p>En 2011, el candidato ha logrado la concesión de su primer proyecto de investigación como investigador principal, concedido dentro del programa Marie Curie Career Integration Grants.</p> |
| 5 | Física y Ciencias del Espacio | RYC-2012-12027 | SHANKAR , FRANCESCO | francesco.shankar@obspm.fr | <p>I am a Marie Curie Fellow at the Observatoire de Paris-GEPI. My research has been focused on key aspects of the evolution undergone by the population of massive galaxies and their central super-massive Black Holes (BHs), along with their connection to dark matter haloes. To properly address such a complex topic, a multipronged approach is required, from the largest to the smallest scales around the BH. Through the years I have gained extensive experience in all of these issues, publishing more than 50 papers (40% first-Author; 20% second-Author), with 3 papers with more than 130 citations, out of which one with about 180, H-index of 25 (H-index of 13 for first-Author papers alone), and a total of more than 1460 citations.</p> <p>My passion for science always pushed me to look for new ideas and write my own numerical codes. In particular, I have developed from scratch a novel numerical code to empirically probe massive galaxy evolution and efficiently break the degeneracies in existing models.</p> <p>The topics of my research are hot topics in Cosmology, allowing me to successfully apply for funds. Along the years I have written comprehensive research proposals as principal investigator. My greatest achievements in this respect are a proposal submitted to the Alexander von Humboldt Foundation that granted me a 80,000€ full-time Fellowship, and an extensive research program for a Marie Curie Grant of about 190k€ being pursued at the Observatoire de Paris.</p> <p>It is also important to emphasize my strong commitment to and enthusiasm for research. Such characteristics allowed me first to graduate with honours at the University of Rome ``Tor Vergata'', and then guided me to a successful PhD in the Institute for Advanced Studies (ISAS/SISSA) in Trieste. My Thesis was awarded the Pietro Tacchini Prize, from the SAI Italian Astronomical Society, as one of the best 2005 PhD Theses in Astronomy.</p> <p>I was also shortlisted for several Faculty positions (in the US, England, Chile, South Korea, Poland, and Italy) and offered 3 (declined for unforeseen family reasons).</p> <p>Regarding my teaching background I had the chance to organize and give lectures on the basics of AGN accretion and clustering to classes of about 30 to 50 undergraduate students. I also had the chance to follow several graduate students for part of their PhD Theses.</p> <p>Regarding outreach, my major achievements include a formal collaboration with the Observatory of Rome to develop a wide program of different outreach activities. I have just completed an assignment as Guest Editor</p> |



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| | | | | | for a major review on BH and galaxy co-evolution now published in <i>Advances in Astronomy</i> , contributed by many leading groups all over the world (available at http://www.hindawi.com/journals/aa/si/610485/). Overall, I believe that my extensive research background, my technical skills, my wide network of collaborations and outgoing personality (currently, I entertain about 20 active collaborations all over the world, with whom I work on a weekly basis on different aspects of my research), my teaching and outreach experience, and my strong passion and commitment, will represent very useful resources for Spanish Astronomy. My semi-analytic/semi-empirical galaxy evolution models will provide ad-hoc, extensive theoretical backbone, to the numerous extragalactic programs which many research institutes in Spain are involved with. |
| 6 | Ciencias de la Tierra | RYC-2012-11922 | DALLOSTO , MANUEL | manuel.dallost@gmail.com | <p>I defined myself as a scientist covering multidisciplinary aspects of atmospheric science. I have a Master Degree in Chemistry (2002, UNIPD, Italy) and a PhD in Atmospheric Science (Studies of atmospheric aerosol by single particle mass spectrometry, Prof. Roy Harrison, University of Birmingham - UoB, UK, 2006) obtained also with time spent with Prof. Kim Prather (UCSD, California). The result of my PhD is seen in research papers describing atmospheric processes in real time, but also in software improvements as well as in a EU-FP6 ACCENT workshop. After my PhD I undertook a UoB research fellow position (about 2 years). I was in charge of the REPARTEE project (11 research institutions involved), which generated an Atmospheric Chemistry and Physics (ACP REPARTEE) special issue. In 2008 I undertook a postdoctoral position (2 years) with Prof. Colin O'Dowd (Department of Physics, NUI Galway, Ireland) working on transboundary air pollution problems as well as looking at the pristine marine atmosphere. I was in charge of several parts of EU FP5-FP6-FP7 projects (MAP, EUCAARI, ACCENT). In 2010 I obtained a Marie Curie intra-European Fellowship (Solving Aerosol Problem by Using Synergistic Strategies - SAPUSS, IDAEA-CSIC, Spain). The SAPUSS project was combined with VAMOS (Combination of new generation aerosol measurements at surface to interpret their time and spatial variability in the Western Mediterranean) and resulted in a large integrated non EU international project (15 international institutions) entirely coordinated by me. The SAPUSS project (ACP special issue SAPUSS, 2012, issue 174) is the best current example of my leadership potential, and of how I can design extremely complex experiments with an underlying logic.</p> <p>My international mobility (ten years working in five different countries, on more than a dozen international projects, mainly funded via EU-FP5-FP6-FP7) demonstrates my motivation and enthusiasm to take on new challenges. Since the beginning of my PhD I have continually motivated and implemented independent thinking. I am able to move into new areas and acquire new skills quickly and in an autonomous way. I am highly committed in developing excellent atmospheric science by effective teamwork and education. I pursue excellence in research as my primary interest. During my ten years of graduate and post-graduate work I have co-authored</p> |



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| | | | | | 40 research articles in international journals (20 as first author) and more than 30 works presented at international conferences (5 as invited speaker). I publish with different groups in different countries using different techniques, and most of my published work reflects my own discoveries, enhanced by human relationships but fundamentally independent. My papers usually have a very short co-author list. My work has received 293 citations (253 without self-citations) and an h-index of 11 (November 2012, from ISI Web of Science). |
| 7 | Física y Ciencias del Espacio | RYC-2012-12168 | DIAS CAMPOS, OSCAR | oscar.dias@cea.fr | <p>I have been managing my career development to attain my current position of scientific maturity, and to perfect my skills as a team leader and team work stimulator. I have proved that I am an ambitious and self-driven researcher who has made decisions, which encompassed an element of risk, towards excellence. As a post-doctoral researcher, I have worked in some of the best scientific institutions of Canada (2 years at Perimeter Institute) [http://www.perimeterinstitute.ca/en/], USA (3 months at Kavli Institute, California) [http://www.kitp.ucsb.edu/], Spain (2 years at Univ. Barcelona) [http://www.ffn.ub.es/gcg/], UK (2.5 years at DAMTP, Univ. Cambridge) [http://www.damtp.cam.ac.uk/user/gr/]. Currently, I am a researcher at the Commission for Atomic Energy (CEA-Saclay) in France [http://ipht.cea.fr/en/index.php] (since Sept. 2011). I have experienced and incorporated the route to success followed by the researchers of these institutions.</p> <p>I have earned the recognition of my peers. Having finished my Ph.D. in December 2003 (at Instituto Superior Técnico-IST, Lisbon), I have up to the present moment published 47 papers (mainly in Phys. Rev. D, JHEP). These are well-appreciated papers that received a total of 1300+ citations with an average of 28 citations per paper and I have a h-index of h=22. From my publication record three features can be singled out: (i) the recognized path-breaking ability to go beyond the state-of-the-art in several cases, (ii) the diversity of collaborations, and (iii) the interdisciplinary nature of many of my works. I have been invited as a plenary speaker to 23 workshops and 18 seminars in the last 5 years, and some of my results have entered the public domain. I have a solid network of 25+ collaborators from institutions that include Barcelona (Spain), Cambridge (UK), UCSB (USA), Niels Bohr Institute (Denmark), Nordita (Sweden), Perimeter Institute (Canada) and Tata Institute (India).</p> <p>In the course of my scientific career I have promoted the diversification of my scientific knowledge, skills and competencies, embodied in a life-long learning spirit. Indeed, although my main research interest is general relativity, I recognize the benefits of interdisciplinary research. My projects reflect this spirit and establish bridges between general relativity, gravitational aspects of string theory, numerical relativity, holographic aspects of condensed matter physics/hydrodynamics/plasma physics, astrophysics, high-energy physics.</p> |



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| | | | | | <p>I have been collaborating (with publications) and guiding the career development of 6 Ph.D. students. I was a teaching assistant (6 years), Invited Professor in two universities and a supervisor of the doctoral Part III program of DAMTP, Univ. Cambridge (UK).</p> <p>I am a self-driven researcher with initiative and funding application experience. I am the Principal Investigator of two European Marie Curie projects (2 years at Barcelona with Roberto Emparan; and 2 years at Cambridge with Harvey Reall) with a funding total value of 280.000 €. I am also a task leader member of three scientific projects funded by the NSF of Portugal (with CERN funds) with a total value of ~175.000 €. In the event that I am appointed a Ramón y Cajal position, I will apply to an European Research Council (ERC) Starting Grant.</p> <p>I believe my ambitious scientific plans will lead the research in black hole and holographic physics and will contribute to make Spain a centre of excellence in the area.</p> |
| 8 | Química | RYC-2012-10474 | PONCE ORTIZ, ROCIO | rocioponce@uma.es | <p>I studied Chemical Engineering at University of Málaga graduating in 2003 with Honors (Special Award 03/04). In 2008, I defended my PhD Thesis with Prof. López Navarrete at University of Málaga with mention "cum laudem". The scientific quality of the research carried out during my PhD (PhD publications and collaborations) is supported by the publication of a vast number of peer-review papers (1 Angew. Chem. Int. Ed., 4 JACS, 1 Adv. Funct. Mater., 1 Chem. Mater., 2 Chem. Eur. J. (one was Inside Cover), 1 J. Phys. Chem. C, 6 J. Phys. Chem. B, 2 J. Phys. Chem. A, 2 ChemPhysChem, 1 J. Raman Spectr.), and the achievement of three awards: NANOMATMOL 2009 Prize to the best Thesis defended in 2008 by the RSEQ (Nanoscience and Molecular Materials Group), Premio Extraordinario de Doctorado by the University of Málaga, and 2008 Young Investigator Award by Fundación General de la Universidad de Málaga. During my PhD I realized three different stays in three internationally recognized centers: Northwestern University (NU), USA (4 months), Istituto per Energetica e le Interfasi, CNR, Italy (3 months) and Dept. of Chemistry, University of Otago, New Zealand (3 months). It is also interesting to highlight that with the aim of improving my knowledge in Physical Chemistry, I attended different courses in Chemistry, successfully obtaining the first term of the B.S. degree in Chemistry, while I was also teaching several physical chemistry undergraduate laboratory courses.</p> <p>In October 2008 I joined Prof. Tobin Marks group (Premio Príncipe Asturias 2008) at NU, holding a Research Fellow Position (Oct-Dec 2008) and working on the AFOSR (Air Force Office of Scientific Research) project entitled Polymeric and Molecular Materials for Advanced Organic Electronics. In December 2008, I obtained</p> |



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| | | | | | <p>a MICINN Postdoctoral Fellowship, and was selected for a Fulbright (Dec 2008-Oct 2009). In 2009 I was awarded an Individual Marie Curie Fellowship (IOF, Grant Agreement 234808) for the realization of the project ♦Optimization of Organic Thin-Film Transistors for Plastic Electronics: Toward Transparent Components in New Devices♦. The Outgoing Phase of this project was carried out in two different institutions, Prof. Tobin Marks group at NU and Polyera Corporation, a US startup company leader in printed and flexible electronics (2010 NIST Award for OPV development, 2010 IDTechEx Award). The Return Phase of the project started October 2011 at University of Malaga. During my postdoc, I have published 21 original research articles in top ranked peer-reviewed journals: (1 ACS Nano, 2 Adv. Materials, 2 Adv. Funct. Mater, 6 JACS, 3 Chem. Eur. J., 3 Chem. Mater., 1 J. Phys. Chem. C, 1 ChemPhysChem, 1 Tetrahedron, and 1 Synth. Met.), 5 of them as a first author, 8 as second author and 3 as corresponding author. One of my research papers (Chem. Eur. Journal) as a first author was selected as Very Important Paper (VIP) and was used as cover of the issue. One of my JACS was selected SYNFACTS in Synthesis of Materials and Unnatural Products. My citation index (h) is 17 (ISI). During this period, I have also written 3 review articles and a book chapter for a Wiley Book. During my scientific career I have presented nearly 60 presentations in conferences and participated in the organization of the Conference ♦VIII Escuela Nacional de Materiales Moleculares (RSEQ)♦ on May 2007.</p> |
| 9 | Física y Ciencias del Espacio | RYC-2012-11420 | RODRIGUEZ FRUTOS, TOMAS RAUL | t.rodriquez@gsi.de | <p>(2000-2003) Nanotechnology. Graduate student at IMM-CSIC. Right after finishing my five-year grade in Physics, I started my graduate studies in the field of Nanotechnology simulating the complex non-linear dynamics which involves the operation of the atomic force microscope (AFM). This work was developed in collaboration with Prof. Ricardo Garcia at the IMM-CSIC (Spain). During this period, I established a new theoretical framework for describing the motion of the AFM cantilever-tip -the sensitive probe of the microscope- in air, writing a completely new computer code which provided very pioneering results. In particular, a new method for imaging simultaneously topography and compositional contrast of surfaces at the nanometer scale, known as bimodal-AFM, was proposed and patented.</p> <p>(2003-2009) Nuclear Physics. Graduate student and postdoctoral researcher at UAM. I obtained my doctorate degree under the supervision of Prof. J. Luis Egido at the Universidad Autónoma de Madrid (UAM).</p> <p>During my Ph.D. studies and afterwards I have been working on the development and application of methods to solve the nuclear many-body problem, in particular, mean-field approximations and their improvements. In my thesis work I implemented the simultaneous particle number and angular momentum projection with mean-field type wave functions and the subsequent configuration mixing calculations (GCM). A new computer</p> |



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| | | | | | <p>program was written it has been successfully applied to the study of several properties along the nuclear chart (shell closures, shape-phase transitions, ...). This work was awarded with the Outstanding Prize by the UAM in 2008.</p> <p>(2009-2011) Nuclear and Neutrino Physics. Postdoctoral researcher at GSI.</p> <p>During my first postdoctoral stay I worked on the inclusion of the triaxial degree of freedom in beyond-mean-field calculations and the comparison with experimental data.</p> <p>However, the main topic during this period was the study of the neutrinoless double-beta decay in collaboration with Prof. Martínez-Pinedo at GSI (Germany). I developed a new approach based on energy density functional (EDF) methods for computing the nuclear matrix elements (NME) of this process. These studies have shown explicitly the role of mother-granddaughter deformations and pairing correlations in determining such NME's.</p> <p>(2011-present) Nuclear astrophysics. Postdoctoral researcher at TU Darmstadt.</p> <p>Currently I am working as a postdoc at the Technische Universität Darmstadt (Germany) on different topics. On the one hand, beyond mean-field methods are being used to improve the current nuclear mass models.</p> <p>Concerning the research on lepton number violating processes, the resonating neutrinoless double electron capture has been also studied with EDF methods. Larger half-lives than the corresponding to the double beta decay were obtained in these works once the deformation of the system was properly taken into account. In addition, the NME's of neutrinoless double beta decay have been studied along an isotopic chain to connect the theoretical results with charge-exchange reaction experiments. Further comparisons with other methods and the influence of including additional degrees of freedom are being studied.</p> <p>This work has been published in 27 papers with 435 citations (WoK 20/11/2012, h-index: 10).</p> |
| 10 | Química | RYC-2012-10491 | GARCIA ALVAREZ, PABLO | pga@uniovi.es | <p>Pablo García Álvarez (33 years old) obtained his BSc. degree in Chemistry in September 2002 in the University of Oviedo (within the top 5% of his class) and immediately joined Prof. Javier A. Cabeza's research group (supported by a predoctoral MEC F.P.I. Fellowship; June 2003-June 2007), to carry out a Ph.D. project. This PhD project, which was completed with distinction in December 2006, was focused in \diamondTransition metal Organometallic Chemistry\diamond, and in particular on new high nuclearity ruthenium carbonyl cluster complexes derived from 2-aminopyridine ligands, leading to the publication of 14 papers and 5 poster communications. In January 2007, the applicant moved to the University of Strathclyde (Glasgow, UK) to work with Prof. Robert E. Mulvey aiming at gaining new expertise in a wholly different area of chemistry (mixed alkali-metal based compounds; \diamondMain-group chemistry\diamond). During his PostDoc, the applicant was supervised by Mulvey and he also collaborated with the groups of Dr. Eva Hevia and Dr. Charlie T. O'Hara. This more than three year period</p> |



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| | | | | | <p>abroad, besides consolidating a collaboration with the aforementioned groups, that is still maintained to date, fructified in 17 publications, 4 poster communications and 2 oral presentations. For his Postdoc, that started with a 6-month residence supported by his predoctoral F.P.I. Fellowship, the applicant was initially awarded a ♦Postdoctoral MEC♦ fellowship (2007-0355; September 2007-September 2009), that had to be resigned as he was also granted a more prestigious ♦Marie-Curie♦ fellowship (PIEF-GA-2008-219698; May 2008-May 2010). In May 2010, the applicant returned to Oviedo to start his career as an independent researcher in the area of group-14 metalenes and their applications for coordination chemistry and catalysis (♦Ligand Design, Main-group and Organometallic Chemistry♦), work that is also combined with lecturing duties (80 hours per year). The work in this project and in others in collaboration with different groups (Glasgow and Oviedo), have hitherto led to 19 publications, 6 poster communications and 1 invited lecture. Currently, the applicant is supervising two PhD students whose research projects are partially funded by the competitive EU ERG fellowship he was granted (see below). His reintegration to Oviedo was supported by a ♦Juan de la Cierva♦ fellowship (DELACIERVA-09-05; May 2010-May 2013) and a ♦Marie Curie Reintegration Grant♦ (FP7-2010-RG-268329; September 2010-September 2013). Also, a ♦Mobility Grant to Teaching Personnel♦ (University of Oviedo) allowed the applicant to spend 6 weeks working in Prof. Todd B. Marder group at Durham University (UK), establishing the bases for a joint project in the area of Organoboron chemistry.</p> <p>The capacity of the applicant to deliver high quality results is reflected in his publication track record (see CV). He has published peer-reviewed papers at every stage of his research career and at every R+D project he had participated and/or designed (also supervising several final-year undergraduate and/or PhD students into different research projects). His total count is 50 publications (7 of them as corresponding author) with an average ISI-2011 impact factor higher than 6, including highly-rated general chemistry journals like Chem. Soc. Rev. (1), Angew. Chem. (6), J. Am. Chem. Soc. (1), PNAS (1), Chem. Commun. (2) or Chem. Eur. J (6).</p> |
| 11 | Física y Ciencias del Espacio | RYC-2012-11391 | LAMATA MANUEL, LUCAS | lucas.lamata@gmail.com | <p>Bachelor in Theoretical Physics at Universidad Complutense de Madrid, 2003. PhD in Theoretical Physics at Universidad Autónoma de Madrid, 2007. Extraordinary Prize for a PhD and European Doctor Mention. Topic of PhD Thesis: quantum entanglement generation and characterization in quantum optics systems. Humboldt Research Fellow at the Max-Planck Institute for Quantum Optics (MPQ), in Prof. Ignacio Cirac's Group, 2007-2009. Max-Planck Postdoctoral Fellow in the same institution (MPQ), 2009-2011. During my postdoc at MPQ I worked on quantum information implementations with trapped ions and electrons in Penning traps. During this period I led two international collaborations, one of them between MPQ and Harvard University, on trapped</p> |



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| | | | | | entangled electrons in Penning traps, and another one between MPQ, Harvard, and MIT, on photon-ion quantum interfaces. Since 2011 I am a Marie Curie IEF Postdoctoral Fellow at QUTIS Group led by Prof. Enrique Solano, at Universidad del País Vasco UPV/EHU. My main line of research in this period is quantum simulations with quantum optics systems, including trapped ions, superconducting circuits, and integrated quantum photonics. Publication Track Record: 24 published papers in international refereed journals, and 6 additional articles submitted for publication. Among my 24 published articles I have 11 Physical Review Letters, two of them Editors Suggestion. h index 14 and about 600 citations according to Google Scholar; h index 11 and about 400 citations according to ISI Web of Knowledge. Mentoring and Supervision: I have cosupervised one Master Thesis and one Bachelor Thesis, already successfully defended. I am also cosupervising 3 PhD Theses and 1 Master Thesis. I have published 6 articles in the last 18 months with my supervised students, of which 3 are Phys. Rev. Lett. and 1 is New J. Phys. Referee for 15 scientific journals indexed in ISI. More than 55 referrals done for APS Journals (PRL, PRA, PRB) including more than 30 for Physical Review Letters. More than 100 referrals done for scientific journals since 2007. Coorganizer of 2 international workshops, one of them funded by FP7 EU Projects. |
| 12 | Química | RYC-2012-09873 | CORREA NAVARRO, ARKAITZ | arkaitzcorrea@hotmail.com | Arkaitz Correa studied Chemistry at the University of the Basque Country (UPV/EHU) (1997-2002). Since 2001 he was involved in research tasks performing a three-month internship in the pharmaceutical company FAES FARMA S. A. and then joining the research group of Prof. Esther Dominguez at UPV/EHU. In 2003 he got his M.Sc (Organic Chemistry) and was granted with a PhD fellowship by the Basque Government. Along 2005, he was a 3-month PhD visiting student at the University of Groningen (The Netherlands) under the supervision of Prof. Ben L Feringa. On November 2006 he finished his PhD studies at the UPV/EHU under the guidance of Prof. Esther Dominguez. Not only did he get ◆ Sobresaliente cum laude ◆ as qualification but also was selected as the 5th finalist for the Lilly Research best PhD award in 2006. On January 2007 he joined the research group of Prof. Carsten Bolm at the RWTH Aachen University (Germany) as a postdoctoral researcher funded by the Basque Government. There he supervised the ERASMUS student Simon Elmore and was also responsible for the subgroup of metal catalysis during his second year of postdoc. On November 2008 he moved to the ICIQ (Tarragona) to work under the supervision of Dr. Ruben Martin as postdoctoral researcher. On May 2010 he joined the group of Prof. J. M. Lassaletta to work in a collaborative project with Bayer CropScience at the CSIC (Seville). From Abril 2011, he was back as a JdC (Juan de la Cierva) associate researcher at the ICIQ. During these years he has worked in several topics such as hypervalent iodine chemistry, heterocyclic synthesis, iron-catalyzed arylations, metal-catalyzed C-H activation processes, carbon dioxide activation and asymmetric catalysis. The scientific quality of his research is supported by the number of publications in high-impact journals (24 published, 1 accepted, 1 submitted) being the first or second author in 88% of the papers: Angewandte |



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| | | | | | Chemie (8), Journal of American Chemical Society (4), Chemistry European Journal (2), Advanced Synthesis & Catalysis (2), Organic Letters (1), Chemical Society Reviews (1), Chemical Communications (1), Journal of Organic Chemistry (3), Tetrahedron (2), European Journal of Organic Chemistry (1), e-ROS encyclopedia (1). The average impact factor of his publications is 9.389 and his papers have received more than 1559 citations (1510 without self-citations, h-index= 18, source ISI Web of Science, 08/11/2012). In addition, he has co-authored 3 book chapters and an application patent. Finally, he has presented his work in 18 conferences either as oral communications (5) or as posters (13). |
| 13 | Física y Ciencias del Espacio | RYC-2012-11265 | ALONSO MUNOZ, SERGIO | alonso.sergio@gmail.com | <p>I studied Physics (1994-1998) in the University of Barcelona, where I got my PhD in Physics (◆Excellent Cum Laude◆, extraordinary doctoral prize, and European doctor title). After my thesis I moved with a postdoctoral Marie Curie fellow to the Fritz-Haber Institute of the Max-Planck Society in Berlin (2005- 2007). Currently, I am working in the group ◆Mathematical modeling and data analysis◆ in the department ◆Medical physics and metrological information technology◆ of the ◆German Metrology Institute◆.</p> <p>After my degree, I was two years as ◆substitute professor◆ teaching Physics in the Faculty of Chemistry in the University of Barcelona. At the same time I collaborated with the department of Physical Chemistry on the propagation of chemical waves. After that, I was awarded with a predoctoral fellow by the Spanish Government.</p> <p>During my PhD, I studied the propagation of chemical waves under stochastic forcing. I performed analytical and numerical studies. The main motivation of the studies were experiments with chemical reactions performed in Santiago de Compostela. I was awarded with a European mobility fellowship and a mobility fellowship from the Spanish Government, to stay in the Fritz-Haber Institute of the Max-Planck Society in Berlin to study 3D unstable waves in excitable media. We developed a control strategy for such unstable waves. The relevance of the results on cardiac arrhythmia control, pushed me to apply for a second mobility fellowship to go 4 months to the department of Applied Mathematics in the University of Dundee (Scotland) to learn computational methods to simulate wave propagation in cardiac tissue.</p> <p>In 2005 I went with a Marie Curie postdoctoral fellowship (2005-2007) to the department of Physical Chemistry in the Fritz-Haber Institute of the Max-Planck Society. The director of the department was the professor Gerhard Ertl (Nobel Prize in Chemistry 2007). I combined biological elements and hydrodynamics to study the problem of active molecules effects at interfaces, and collaborated with different professors in the Fritz-Haber Institute and</p> |



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| | | | | | <p>outside.</p> <p>In July 2007 I got a postdoctoral position funded by the "German Research Society" (DFG) in the ♦German Metrology Institute♦. Currently, I have a temporal contract in the group ♦Mathematical modeling and data analysis♦. Here I study theoretical aspects on wave propagation in heterogeneous media and the electrostatic interaction between hydrophilic proteins and biological membranes. We predict the formation of domains of proteins at the membrane and we collaborate with an experimental group on the Physics department of the University of Leipzig. Furthermore, this semester I teach in the Technical University of Berlin a Master course and I supervise together with a Brazilian colleague a master student in Brazil, where I taught a short course this year.</p> <p>I have collaborated with different experimental and theoretical groups, in particular I have diverse contacts with experimental groups in Germany. I have attended 55 conferences, where I have given 32 talks. I was invited to give 16 seminars in different universities and research institutes. I have published 31 articles (24 as first author) in international journals which accumulate 405 citations. I am keeping during my career a constant rate of publications in high impact journals (1 Science and 5 Physical Review Letters).</p> |
| 14 | Ciencias de la Tierra | RYC-2012-10375 | DE VENTE , JORIS | joris@sustainable-ecosystems.org | <p>Since its start, my research focused on the assessment of human impacts on ecosystems, with a high international orientation. At Resource Analysis (the Netherlands), I worked on applied research and consultancy projects with a focus on the assessment of human impacts on ecosystems, flood monitoring, GIS modeling, remote sensing and decision support systems in developing and developed countries. Here, I obtained skills of working in an interdisciplinary and multicultural team with short deadlines, and with project coordination and acquisition as project leader of national and international projects. During my PhD at the University of Leuven (Belgium), I specialised in the prediction of soil erosion and sediment yield at the catchment scale, providing new insights in the importance of spatial and temporal scale in erosion assessments (de Vente & Poesen 2005; de Vente et al., 2007), the relative role of different erosion processes, and its implications for modelling soil erosion and sediment yield (de Vente et al. 2008). I obtained teaching experience through responsibility for various practical courses, excursions and supervision of MSc. thesis students in the program of Geography at the KU Leuven. As I strongly believe in implementation of academic research, parallel to working on my PhD, I participated in various national and international research projects aiming at bridging the gap between scientists and policy makers. For example, I participated in a concerted action funded by the European Commission as part of the preparations for the European Soil Framework Directive. Since 2007, I joined a project funded by the Spanish Ministry for Science and Technology to evaluate the impacts of conservation measures and land use</p> |



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| | | | | | change on soil and water resources and on carbon sequestration (Boix-Fayos et al., 2008; Nadeu et al., 2012). For 5 years, I coordinated activities in the Spanish study site of the EU funded DESIRE project aiming at the selection and evaluation of Sustainable Land Management through a participatory process, and including the development of past and future land use scenarios using innovative techniques combining stakeholder consultation with agent-based modelling (Nainggolan et al., 2012). Inspired by this, I joined a project at the University of Aberdeen (UK) around the question if, why and how stakeholder participation in environmental management works, resulting in a policy brief presented at the UNCCD COP 10 and various papers in preparation. Over the past 4 years, I supervised 2 PhD students who will both defend their thesis early 2013. Through these experiences, working at 6 different institutes in 4 countries (expressed in 25 high-impact SCI publications, participation in over 20 research projects, numerous conference presentations and nearly 400 citations), I learned that meticulous interdisciplinary science, well-designed stakeholder engagement, and accessible dissemination of research results are required to effectively protect ecosystem services. This combination is one the main challenges and source of inspiration for my present research activities. |
| 15 | Química | RYC-2012-09800 | PRESA SOTO, M. ALEJANDRO | presaalejandro@uniovi.es | I received my B.Sc. degree in Chemistry from the University of Oviedo (2000). There, I began my research career at the group of Prof. G. A. Carriedo through a ♦Collaboration-Grant♦ during the last year of my degree in Chemistry. After obtaining a M.Sc. (2000, Honors) working on the synthesis of main-group based chiral macromolecules, I was awarded with a PhD Fellowship (FICYT, 4 years) to carry out my PhD at the University of Oviedo under the guidance of Prof. G. A. Carriedo and F. J. García Alonso (September 2001-October 2005). At this stage, I worked in the synthesis of new main-group macromolecules having chemical active functionalities inside ♦chiral pockets♦. In addition, some of these inorganic macromolecules were evaluated, as a polymeric support for a variety of organometallic fragments (Au(I), Ru(II), Cu(I), etc) in different catalytic asymmetric reactions (hydrogenations, hydration of alkynes, selective transfer of hydrogen, etc). I obtained my Ph.D. (Summa Cum Laude) in October 2005. The quality of the research performed during my PhD was recognized by several publications (Chem. Eur. J.; Macromolecules, among others). Subsequently, I worked as a researcher at the University of Oviedo (November 2006-May 2007), developing new polymerization reactions based on the decomposition of main-group azides (2 Macromolecules and Eur. Polym. J). In 2007, I joined the group of Prof. I. Manners at the University of Bristol as a post-doctoral researcher, funded by fellowships from the Spanish Ministry of Education and Marie-Curie-IEF (July 2006-June 2009). The main topic of my research at this stage was the synthesis and self-assembly of organometallic and crystalline block copolymers bearing main-group elements in the main chain. I was involved in three different projects: Phosphorous-Nitrogen, Boron-Nitrogen, and ferrocene-based block copolymers. I supervised several PhD and undergraduate students. As a result, I |



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| | | | | | published 9 articles (Angew. Chem. Int. Ed., J. Am. Chem. Soc.; Macromolecules) during this period, including an invited Perspective about main-group cationic polymerizations in Dalton Trans. Next, I moved to the University of Oviedo as a Juan de la Cierva fellow (June 2010-now), and I was awarded with a Marie-Curie-ERG project to develop my fully independent research lines on the design and synthesis of hybrid (organic-inorganic) polymeric materials with interesting conducting, magnetic, redox, and sensing properties. We are exploiting the properties and self-organization behavior of the materials we synthesize in a variety of applications including those based on nano-, bio-, and alternative energy technologies. During these two years I have consolidated my own research group (2 PhD students ♦ FPU grant), established collaborations (UK, Germany, Chile, Spain), and obtained funding by EU (PI of the Marie-Curie-ERG project). Up to date, I am coauthor of 27 research publications (3 as corresponding author, and most of them in journals with high impact factor: 2 J. Am. Chem. Soc., 2 Angew. Chem. Int. Ed. (one selected as VIP), 8 Macromolecules., 2 Chem. Eur. J., 1 Organometallics, 1 Dalton Trans) and 1 Perspective (Dalton Trans.), with more than 300 citations (h-index 11). Moreover, I have presented my results at several congresses (CSC-Hamilton 2009-Canada, by invitation). |
| 16 | Ciencias de la Tierra | RYC-2012-10576 | ZAMORA , SAMUEL | samuel@unizar.es | I graduated in Geology from Zaragoza University in 2004 and obtained my doctorate from the same University in 2009 (funded by the Government of Aragón). My doctorate thesis entitle ♦Middle Cambrian echinoderms from the Iberian Chains and Cantabrian Zone (North Spain)♦, was awarded the maximum score possible (Cum Laude) and won the Best Science Thesis prize from Faculty of Sciences (Zaragoza University) in 2010. I next spent 24 months as a postdoctoral researcher at the Natural History Museum (London) funded by the Spanish Ministry of Science and Education. My proposal ♦Tracing the origins of pentamery: fossil echinoderm stem groups and their importance for understanding the derivation of major new body plans♦, obtained the maximum score in Earth Sciences. My research in London focused on deciphering the early evolution of a major deuterostome group (echinoderms) in order to reveal the detailed pathways that gave rise to new body plans. My research was based on original field collections from various parts of the world (Spain, France, Italy, UK, Check Republic, Morocco, China, USA) and the fossils obtained were studied using a combination of traditional and state-of-the-art imaging techniques. By combining data from phylogenies, three-dimensional imaging, morphometrics and sequence stratigraphy I was able to document how key echinoderm lineages evolved and responded at critical times of global change, namely the Cambrian Explosion and the Great Diversification Ordovician Event. I am currently employed as a researcher by the Smithsonian Institution at the National Museum of Natural History (Washington DC), a position won in a public and competitive call. My duties are to develop an independent research project |



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| | | | | | <p>using the collections there, and I am pursuing a project entitled ♦The Early evolution of echinoderms and the timing of clade origination: A comparison between Gondwana and Laurentia♦.</p> <p>I have been part of 11 national and international projects (Consolider, National Geographic, Smithsonian Fellowships etc.). I have collaborated and published papers with 33 different researchers coming from 6 national institutions and 24 international research centers. As a taxonomist I have described 38 new taxa, including two new families. I have published 54 papers, 35 of which are including in the ISI Web of Knowledge (11 in press, 20 first author and 11 in the Q1) across various disciplines including Geosciences, Palaeontology, Zoology, Biology and Evolutionary Biology. Most of my published papers have appeared in high-impact, international journals like ProcB, Geology, PlosOne, Palaios, Palaeontology, Zoological Journal Linnean Society, Lethaia, Geological Magazine, Acta Palaeontologica Polonica etc. Two of them obtained the Honorable Mention Most Cited Paper from Acta Palaeontologica Polonica (years 2010, 2011). I have contributions in 46 meetings and took part in several public engagement activities, conferences and exhibitions related with Palaeontology.</p> |
| 17 | Física y Ciencias del Espacio | RYC-2012-09975 | DE UGARTE POSTIGO, ANTONIO | adeugartepostigo@gmail.com | <p>My main research topic is the study of astronomical transient sources, with particular interest on gamma-ray bursts (GRBs), and the development of instrumentation for their study. My work is based on different observing techniques (photometry, spectroscopy, polarimetry) covering wavelengths from radio to gamma-rays, with especial attention at mm/submm, nIR, optical and X-rays. On the instrumentation part, my interest is the development of optical/nIR imagers and spectrographs for large telescopes.</p> <p>I am currently a Juan de la Cierva postdoctoral fellow at IAA-CSIC. I am also affiliated scientist at the Dark Cosmology Centre (Denmark). I have been awarded with a Marie Curie Career Integration Grant, of the European Commission (FP7-PEOPLE-2012-CIG 322307), that started on 01/10/2012, with a budget of 50 000 EUR. I am also PI of project AYA2012-39362-C02-02: ♦Herramientas innovadoras para el estudio de Fuentes transitorias de altas energías♦, with a budget of 16 000 EUR.</p> <p>I obtained my PhD at the University of Granada in July 2007 for the Thesis ♦GRB afterglows and instrumentation for their study♦ graded cum laude. This work was mainly performed at IAA-CSIC and funded by an FPU grant.</p> <p>After my PhD I had 3 postdoctoral positions before my current one: From 01/10/2007 to 15/06/2009 I was an ESO fellow at Paranal Observatory, in Chile. From 16/06/2009 to 31/07/2010 I was a postdoctoral fellow at Brera Observatory (OaB-INAF) in Italy, as part of the Swift mission team. From 01/09/2010 to 30/09/2011 I was hired</p> |



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| | | | | | <p>as a DARK fellow at the Dark Cosmology Centre, of the Niels Bohr Institute, in Denmark. During my career I have been interested in the development of astronomical instrumentation. I started working for robotic observatories, for which I developed software and instrumentation. I designed the first spectrograph aimed at the study of GRB afterglows in robotic observatories, which resulted in a patent (Wide field astronomical spectrograph, U200201303). During my PhD work I was appointed workpackage manager responsible for the simulation, procurement and testing of the echelle gratings of X-shooter spectrograph, at the VLT (workpackage budget of 100 000 EUR). As a postdoc I was part of the commissioning team, first instrument fellow, and part of the guaranteed time observations team, publishing the first X-shooter paper on GRBs. More recently I became PI of the OCTOCAM instrument, initially designed for the 10.4m GTC and now also in study for the 8m Gemini telescope. I took the responsibility of the project manager of the feasibility study, which was presented to GRANTECAN in June 2010.</p> <p>Currently I am supervising the PhD thesis of Rubén Sánchez-Ramírez, at the IAA-CSIC on Spectroscopy of GRB afterglows with GTC and VLT, with the defence foreseen for 2014.</p> <p>My publication record includes 83 refereed papers (8 as first author) published in international journals, including 5 publications in Nature (2 as second author) and 1 in Science. 79 conference proceedings, of which 26 were refereed. Regular observations of gamma-ray bursts (GRB) and other transient astronomical sources have been reported in 335 GCN circulars (117 as first author), 1 GCN Report, 8 Astronomers Telegram, 2 CBET and 1 IAU Circular. In total these publications have accumulated 2822 citations, as recorded by the SAO/NASA Astrophysics Data System (ADS), giving an h-index of 26.</p> |
| 18 | Matemáticas | RYC-2012-10748 | DIAZ RAMOS, JOSE CARLOS | josecarlos.diaz@usc.es | <p>TITULACIÓN: Matemáticas (Universidad de Santiago de Compostela, 2001) con Premio Extraordinario de la USC, de la comunidad gallega y del Ministerio de Educación. Doctor en Matemáticas (USC, 2005) con Premio Extraordinario y doctorado europeo.</p> <p>PUESTOS DESEMPEÑADOS: Becario de Colaboración (2000-2001). Durante mi doctorado fui Becario de Tercer Ciclo de la Xunta de Galicia; renuncié para formar parte del programa FPU del MEC (2002-2006). Después de defender mi tesis fui investigador contratado en la USC. Renuncié a una beca posdoctoral del MCyT para unirme al programa IRCSET (Irlanda) y trabajar en University College Cork como investigador postdoctoral. Renuncié en favor de un contrato Marie Curie Intra-European del VI Programa Marco de la Unión Europea. Actualmente trabajo en la USC con un contrato Isidro Parga Pondal de la Xunta de Galicia. Durante este tiempo he sido IP de un proyecto PERG del VII Programa Marco de la Unión Europea, he participado en 3 proyectos de investigación</p> |



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| | | | | | <p>financiados por el MCyT y en 4 por la Xunta de Galicia. También he participado en las labores docentes de la USC (y en dos proyectos de innovación docente) y del University College Cork (coordinador de dos asignaturas). He formado parte en la organización de dos congresos y de dos seminarios en mi facultad. Actualmente estoy acreditado para el cuerpo de Profesor Titular de Universidad.</p> <p>ESTANCIAS: predoctorales en University of Hull (Reino Unido, 2 meses) y University College Cork (Irlanda, 5 meses). Como investigador postdoctoral he trabajado durante 2 años y medio en University College Cork, he visitado Hiroshima University (Japón), Universität zu Köln, Technische Universität Darmstadt, Universität Augsburg (Alemania) y King's College London (Reino Unido), donde en varias ocasiones he sido invitado a dar charlas en sus respectivos departamentos de Matemáticas.</p> <p>PUBLICACIONES: J. Differential Geom., J. London Math. Soc., Math. Z., Indiana Univ. Math. J., Comm. Anal. Geom., Proc. Amer. Math. Soc., J. Geom. Anal., Geom. Dedicata, Differential Geom. Appl. (x3), Ann. Mat. Pura Appl., Nonlinear Anal., J. Geom. Phys. (x2), Monatsh. Math., Ann. Glob. Anal. Geom. (x2), Lin. Alg. Appl., Int. J. Geom. Meth. Mod. Physics, J. Math. Econom., además de varios artículos en actas de congresos. Tengo en estos momentos dos preprints en proceso de evaluación.</p> <p>INVESTIGACIÓN: Mi investigación se centra en el estudio de acciones isométricas en variedades de Riemann, especialmente acciones polares e hiperpolares. En la actualidad dirijo la tesis doctoral de Miguel Domínguez Vázquez, que ha sido depositada en el Dpto. de Geometría y Topología de la USC y cuya defensa está prevista para Febrero de 2013. También estoy interesado en el estudio algebraico de tensores de curvatura, la geometría de esferas geodésicas, el uso de Mathematica en Geometría Diferencial (fui galardonado con los premios Wolfram y Addlink en el concurso SOFMAT-04) y en métodos de ordenación en torneos (método de desempate registrado en la Oficina regional de propiedad intelectual, Xunta de Galicia, Ref. SC/236/9). He codirigido el DEA de A. Cortés Ayaso y dirigido los trabajos de Fin de Máster de Miguel Domínguez Vázquez y Sandra Sambade Nieto en la USC. He dado varias charlas invitadas y cursos en más de una docena de congresos o eventos de difusión científica nacionales e internacionales.</p> |
| 19 | Física y Ciencias del Espacio | RYC-2012-10496 | ROJO CHACON, JUAN | juan.rojo@cern.ch | I am a particle physics theorist and I have made a consistent impact on fields ranging from LHC phenomenology, experimental particle physics to advanced statistical tools. I am fully independent and currently considered a world expert in QCD phenomenology in general and Parton Distribution Functions in particular. I have held postdoctoral positions at top research centers worldwide including CERN, the most important particle physics |



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SECRETARÍA DE ESTADO
DE INVESTIGACIÓN
DESARROLLO E INNOVACIÓN

SECRETARÍA GENERAL
DE CIENCIA, TECNOLOGÍA
E INNOVACIÓN

DIRECCIÓN GENERAL
DE INVESTIGACIÓN
CIENTÍFICA Y TÉCNICA

SUBDIRECCIÓN GENERAL
DE RECURSOS HUMANOS
PARA LA INVESTIGACIÓN

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| | | | | | <p>laboratory. My relevance in the particle physics community is also illustrated by my appointment as Scientific Affiliate in the CMS experiment, a recognition that is offered to very few theorists.</p> <p>The following list of achievements, obtained with a variety of collaborators, illustrates my breadth and my ability to go beyond the state-of-the-art. I have been the lead developer of the Neural Network Parton Distributions since the beginning of my research career, the only non-tenured member of the collaboration to sign all the publications. I have been responsible for the major milestones of the NNPDF project, including the first global PDF analysis based on exact higher-order calculations, the most precise determination of CKM matrix elements from deep-inelastic neutrino data, or the only PDF set which includes all constraints from LHC data. The NNPDF sets are a widely used tool for the LHC theory and experimental communities and have been used for the predictions in the ATLAS and CMS Higgs discovery papers. I have made important contributions to various branches of perturbative QCD, like the formulation of the FONLL General Mass scheme for heavy quark structure functions, and theoretical and phenomenological studies in high energy and threshold resummation. I have also contributed to studies in jet physics and substructure in hadron collisions, including boosted techniques for new physics searches, as well as in heavy ion collisions where jets are used as Quark-Gluon Plasma probes. I have also proposed new observables for LHC searches using the most advanced calculation tools, like the measurement of cross section ratios between different LHC energies. As Affiliate Scientist of the CMS collaboration, I have been directly involved in important measurements and I am the convener of the PDF4CMS forum, which coordinates PDF activities between analysis groups.</p> <p>The recognition of my work is illustrated in several ways. My 34 papers, published in some of the highest-impact journals of my field, accumulate over 1200 citations according to the Inspire database. Three of my papers are very well known (over 100 citations) and five are very well known (over 50 citations). I am frequently invited to give plenary talks at main international conferences. I have a network of long-term collaborators that includes some of the most prominent researchers of my field. I devote significant effort to outreach. I have supervised four Degree thesis, three Master thesis and two Ph. D. thesis.</p> <p>Precision LHC phenomenology in the Higgs boson era opens up new theoretical challenges that require novel solutions, and the robust NNPDF methodology proposed in this project will continue making a significant impact in this regard within the next few years. My expertise and my track record demonstrate that I am ideally positioned to lead this effort.</p> |



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| 20 | Química | RYC-2012-10129 | VIÑES SOLANA, FRANCESC | francesc.vines@ub.edu | <p>Dr. Francesc Viñes Solana, born in Barcelona 27/05/1981, obtained the Chemistry degree in 10/07/2003 (score of 2.43 out of 4.0), the Advanced Studies Degree (DEA) in 09/09/2005 (Excellent), and finally the PhD in Theoretical and Computational Chemistry at University of Barcelona (UB) on 04/04/2008, with an Excellent Cum Laude and Extraordinary PhD Award. After the PhD he did a postdoctoral stay at Friedrich-Alexander University (FAU) Erlangen-Nuremberg, Germany (2008-2011), financed mostly by an Alexander von Humboldt (AvH) foundation postdoctoral fellowship, and also by FAU, and later on a short stay at Institute of Catalysis and Petrochemistry (ICIP) of the Superior Council of Scientific Research (CSIC), Cantoblanco, Spain, related to his presently position as a Juan de la Cierva (JdC) researcher at UB carrying out a research project on photocatalysis with solar-light with nanostructured oxides in collaboration with ICIP, CSIC. During the PhD he did 2 stays, one at FAU, and another at the Brookhaven National Laboratory (BNL), Upton, New York, USA. He has taught around 70 ECTS in courses for chemistry and molecular science degrees, and for the masters of molecular nanoscience and theoretical and computational chemistry (in Barcelona, Spain and in Erlangen, Germany). He has directed 1 Specialization Thesis (Julian Gebhardt, FAU, 2011, graduated with honors), 1 Degree and 1 Master Thesis (both Nicola Luckas, 2009 and 2011, and both graduated with honors). He has been involved in 10 R+D+I projects (7 national, 3 international; Principal Investigator (PI) in 2 of them: Juan de la Cierva JCI-2010-06372 and AvH postdoctoral fellow SPA/1131051. Since 2005, he has published 37 articles in international peer-reviewed journals (1 Adv. Mater., 3 Angew. Chem. Int. Ed., 1 ACS Nano, 1 J. Am. Chem. Soc., 1 Phys. Rev. Lett., 2 J. Phys. Chem. Lett., 2 J. Catal., 2 Chem. Eur. J., 1 Carbon, 7 J. Phys. Chem. C, 1 J. Phys. Chem. B, 4 Phys. Rev. B, 2 Phys. Chem. Chem. Phys., 1 Catal. Today, 4 J. Chem. Phys., 2 J. Phys. Chem. A, 1 Top. Catal., 1 Theor. Chem. Acc.), with 1 cover (J. Phys. Chem. A) 1 Hot Topic (Chem. Eur. J.) and 1 Viewpoint (Phys. Rev. Lett.). From these publications, he is the first author in 13 articles, the second author in 11, and the corresponding author in 9. From these, 34 papers are published in journals within the first quartile (Q1) of any of their disciplines, meaning that they are in the top 25%. 14 of these papers are published in journal with an impact factor >5, according to Journal Citation Reports 2011. He is coauthor in 1 book chapter. The overall publications attracted 370 citations, and Dr. Francesc Viñes has an h-index of 14. The research results have been communicated by means of presentations in 25 conferences (14 posters, 9 talks, 2 invited talks; 14 international, 11 national) plus 6 talks in seminars and a talk in a specialized workshop. He was involved in the organization of 1 international conference (COST MP0903 ♦ Nanoalloys as advanced materials: From structure to properties and applications ♦ Barcelona, 2011). Francesc Viñes is presently a life member of the Alexander von Humboldt (AvH) foundation, a full member</p> |



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| 21 | Física y Ciencias del Espacio | RYC-2012-09984 | THOENE , CHRISTINA | christina.thoene@gmail.com | <p>of the American Nano Society by express invitation, and member of the editorial boards of the Datasets in Chemistry journal, and of the Journal of Nanoparticles.</p> <p>My main scientific interests are peculiar gamma-ray bursts (GRBs) and their host galaxies using optical and near-IR spectroscopic data, imaging data from X-ray to submm and integral field (◆3D◆) spectra. Furthermore I am interested in galaxy and chemical evolution of the Universe and properties of stellar populations in star-forming galaxies and the environment of GRBs and supernovae.</p> <p>I graduated from the Technical University of Munich in May 2005 with the title of ◆Diplom Physikerin◆, corresponding to a Spanish master degree and involving a one-year research project and a master thesis. In October 2008 after exactly 3 years as foreseen by the doctorate program, I obtained my PhD degree in astronomy from the University of Copenhagen. I was offered a postdoc position at CfA, Cambridge, which I, however, refused for scientific and personal reasons. Instead, I went to postdoc positions at the Osservatorio Astronomico di Brera in Merate, Italy and joined the Instituto de Astrofísica de Andalucía in 2010 for a Juan de la Cierva fellowship which I currently hold. During the different stages of my career I have also been working shorter times at reknown institutions in the US (Univ. of California, Berkeley), Norway (NTNU Trondheim) and Switzerland (CERN).</p> <p>My scientific results have been published in 48 refereed articles of which 8 as first author and 3 in Nature or Science, including one first author publication in Nature. In addition, 29 conference proceedings and other non-refereed publications have been published with 15 as first author. Continued follow-up observations of GRBs and other transient sources have been reported in over 120 astronomical circulars. Together, these publications have accumulated 2300 citations, with 386 as first author, giving an h-index of 22 and a first author h1-index of 12. I have also served as referee for ◆Science◆, ◆Astronomy & Astrophysics◆ and ◆The Astrophysical Journal◆.</p> <p>During my career I have been part of several large international collaborations in the context of GRB follow-up observations and lead a number of different collaborations resulting in several first author publications. I have been leading 9 successful observing proposals with a total awarded time of more than 100 hours at major observing facilities world-wide and co-Id more than 20 others. In addition, I acquired extensive observing experience at several telescopes and trained other astronomers on several smaller telescopes.</p> <p>We are currently establishing a new group at IAA combining studies of GRBs, supernova and other transients with research on their galactic environments to get some better understanding of their progenitors and their feedback on the environment and star-formation. I am currently also leading one of the main spectroscopy follow-up proposals on GRBs at IAA. My extensive mobility and international contacts will be a big asset for the competitiveness of astronomical research in Spain.</p> |



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| 22 | Física y Ciencias del Espacio | RYC-2012-10357 | CALDERON TAZON, ALICIA | calderon@ifca.unican.es | <p>My research activity has been done in the context of the CMS experiment at the LHC hadron collider since 1999. I got my PhD in Physics in 2006 at the University of Cantabria working on the Link Alignment system of the CMS detector. During 2005 (4 months), as a PhD student, and 2006 (12 months), as a post-doctoral researcher, I was based at CERN associated to the Instituto de Física de Cantabria (CSIC-UC) and University of Cantabria. I was responsible of the calibration of the opto-mechanical components of the Link alignment system at the CMS experimental Alignment stand installed at the ISR-14 hall at CERN. From 2007 to 2009 I was a postdoctoral researcher at the INFN (Istituto Nazionale di Fisica Nucleare) and University of Padova (Italy). My work was focused in the local and standalone muon track reconstruction algorithms in CMS. Also I was in charge of the CMS muon alignment geometry validation, produced by the CMS alignment group. Results from these studies have produced a high number of publications in Journal of Instrumentation (JINST). In 2008 I joined the CMS Cosmic Muon Analysis group to coordinate the cosmic-muon charge ratio measurement using stand-alone muons with the CMS detector. We measured the ratio of positive- to negative-charge cosmic muons, as a function of the muon momentum and its vertical component, using data collected by the CMS experiment in 2006 and 2008. I have been one of the main authors and editor of the paper published in Physics LetterB (PLB), Vol.692,83-104. This paper has been referenced by Nature Physics Vol. 6, (2010), as one of the highlight research (http://dx.doi.org/10.1038/nphys1786). From 2009 to 2011 I have been a postdoctoral fellow by CPAN (Spanish Center for Particle, Astroparticle and Nuclear Physics) to work as an associate researcher at the Instituto de Física de Cantabria (CSIC-UC). Since December 2011 I am a JAE-DOC research fellow at IFCA (CSIC-UC). My principal research line, since beginning of 2010, has been the search of the Standard Model Higgs boson. I am main author of \diamondSearch for the standard model Higgs boson decaying to a W pair in the fully leptonic final state in pp collisions at $\sqrt{s} = 7 \text{ TeV}$$\diamond$, published in Physics Letters B, Vol. 710 (2012). Cited 83 times. Among the different possible Standard Model decay modes of the Higgs boson, the WW channel represents one of the most important channels contributing to the final significance of the observation of the new boson, published in \diamondObservation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC\diamond, published in Physics Letters B, Vol. 716, (2012). Cited 257 times. Since January 2012 I am the Muon Object Coordinator inside the CMS Higgs group. Also I coordinated the analysis of the first top quark pair production cross section with two isolated leptons in the final state inside the Top Physics analysis group of the CMS experiment. I have been main author of the paper: \diamondFirst measurement of the cross section for top quark pair production in proton-proton collisions at $\sqrt{s} = 7\text{TeV}$$\diamond$, published in Physics Letter B, Vol. 695, (2011). Cited 97. Since July 2011 I am the Project Coordinator of the offline muon Data Quality Monitoring (DQM) and muon certification team within the</p> |



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| | | | | | CMS Muon Physics Object Group (Muon POG). I present the results of my work in 13 international conferences. |
| 23 | Química | RYC-2012-10662 | SERNA MERINO, PEDRO | peserme@hotmail.com | <p>Pedro Serna was born in Melilla in 1979. He graduated as a chemical engineer (1997-2003) by the Universitat de València (grade: 9.1/10). In 2002, he joined the Instituto de Tecnología Química (UPV-CSIC) at the Universidad Politécnica de Valencia to complete a final degree project on the startup of an automated multiparallel batch reactor. The application of advanced experimental methods to investigate new solid catalysts culminated in the thesis entitled Combinatorial Catalysis for Fine Chemical Processes, directed by Prof. Avelino Corma and sponsored by the Spanish Government (FPU grant).</p> <p>The most outstanding achievement by Dr. Serna as a PhD student was the discovery that gold nanoparticles on some metal oxides are able to hydrogenate selectively NO₂ groups in the presence of other readily reducible functionalities. These catalysts, easy to recover and re-use, opened the door for substitution of current technology in the manufacture of substituted anilines and oximes, whereby large amounts of toxic residues are typically generated gold catalysts, in contrast, form water as the only by-product. Several subsequent works on the principles that rule the catalytic chemistry of gold were reported, as well as others optimizing the performance of the materials. 8 publications were released in the best scientific journals such as Science, Nature Protocols, Angew. Chem. (cover picture granted) or J. Am. Chem. Soc. The impact of this investigation is extraordinary, leading to 4 international patents and more than 700 citations (Web of Science database). In 2008, the Thomson Reuters included Corma and Serna's publication in Science within its Hot Papers Database.</p> <p>Dr. Serna's thesis is also remarkable in the use of structured titano-silicates for the oxidation of alkenes to epoxides. A key factor here was the implementation of enhanced experimental strategies to explore the multiple design variables, including the nature of the support, the active sites local structure, and the catalyst composition. This research has a broad scope, raising interest in diverse disciplines such as catalysis, materials science, combinatorial chemistry or biomass exploitation, and has also fulfilled the expectations in terms of number (6) and quality of the publications (e.g. J. Catal., J. Comb. Chem)</p> <p>In 2009, Dr. Serna moved to the University of California-Davis as a postdoc to work with Prof. Bruce Gates. He was granted with a prestigious Marie Curie fellowship to investigate the catalytic performance of supported subnanometric rhodium and iridium sites, with special emphasis in the use of infrared and X-Ray Absorption spectroscopies for precise characterization of the metal even in its working state. As a result, 1 provisional USA</p> |



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| | | | | | <p>patent and 7 publications in top-ranked journals (e.g. J. Am. Chem. Soc., Angew. Chem. or Chem. Eur. J) have been released to date in some of these papers, Dr. Serna shares the degree of corresponding author with Prof. Gates.</p> <p>Currently, Dr. Serna is finishing his Marie Curie grant at ITQ, whereby he expects to capitalize on his experience in the preparation of catalysts with unique structures, use of analytical and operando spectroscopic techniques (e.g. IR, XANES, EXAFS), elucidation of kinetics and reaction mechanisms, and application of high-throughput and data-mining tools, for facing new challenges in catalysis.</p> |
| 24 | Física y Ciencias del Espacio | RYC-2012-11253 | BARREIRO MEGINO, AMELIA | ameliabm@gmail.com | <p>The applicant holds a PhD in Solid State Physics in the program of "Materials Science" of the Physics Department of the Autonomous University of Barcelona (UAB) under the supervision of Prof. Adrian Bachtold. During her PhD, she published several papers as a first author in high profile journals such as Science and Physical Review Letters. Indeed, she received the "Extraordinary Prize" (premio extraordinario) from the UAB for her PhD thesis. She acquired expertise in topics related to mass transport at the nanoscale and also on the quantum transport properties of graphene.</p> <p>After her PhD the applicant moved to Delft to work as a postdoc in the group of Prof. Lieven Vandersypen in the prestigious Kavli Institute of Nanoscience at the Technical University of Delft. She conceived novel research lines based on her expertise acquired during her PhD regarding in-situ electronic transport measurements in the TEM and the shaping of graphene via electroburning to build nanogap size electrodes for molecular transport or for room temperature quantum dots. Proof of this is that she published several papers as a first and/or corresponding author. In Delft, she acquired experience in directing and supervising students and on writing applications for grants and fellowships. Indeed, the applicant received the very prestigious VENI personal grant to fund her salary and research line during 3 years, but she rejected it to move to Columbia University, where she is currently. In Columbia University, she is working with Prof. Philip Kim, one of the key players and pioneers in the field of the quantum transport properties of graphene. In this group, the applicant is expanding her scientific horizons to the quantum transport properties of other novel 2D materials. This is a largely unexplored field which is just starting to boost right now and will help her to establish her own research line in the future.</p> <p>The applicant has been widely recognized for her scientific achievements since a very young stage, earning two best poster awards in the international Trends in Nanotechnology (TNT) conferences. Most importantly, she has earned the prizes as the "Best Young Experimental Physicist 2009" in Spain by the Real Sociedad Española de</p> |



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| | | | | | Física and also received the "Agustín de Betancourt y Molina" prize as the "Best Young Spanish Researcher 2010 in Spain" by the Real Academia de Ingeniería de España. |
| 25 | Ciencias de la Tierra | RYC-2012-12131 | PENA GONZALEZ, LEOPOLDO DAVID | leopoldo@ldeo.columbia.edu | <p>I have obtained a Bachelor and a Masters degree in Marine Sciences by the Univeristy of Vigo (2001, 2003) and a Ph.D. in Earth Sciences by the University of Barcelona (2008). After that I was awarded with a Lamont Postdoctoral Fellowship at the Lamont-Doherty Earth Observatory of Columbia University (LDEO, New York) (2008-2011). Currently I am a Lamont Assistant Research Professor at LDEO (2011).</p> <p>My main interests are Paleoceanography and Paleoclimatology of the Quaternary and the study of past and present oceanographic and geological processes. Some of my current lines of research include: Tropical Pacific paleoceanography and climatic teleconnection processes between high and low latitudes, variability in the Agulhas Current thermohaline valve and its impact on global climate change, Mediterranean Sea circulation during Heinrich events, Glacial-interglacial CO2 budgets and carbon pump in the ocean, dust provenance studies in Antarctic ice cores and modern chemical oceanography through the international GEOTRACES program. I have also developed a strong interest on analytical method development and have participated in two international laboratory intercalibration efforts. My analytical skills include: stable isotopes (IRMS), trace elements (ICPMS), radiogenic isotopes (TIMS, Multi Collector-ICPMS), Isotope dilution, laser ablation, electron microscopy (SEM) and others.</p> <p>Over the last 4 years I have made efforts to establish myself as an independent researcher through R+D management activities. In this sense, I have obtained funding from sponsored USA federal grants (NSF) and other agencies as Principal Investigator (and co-PI) for the total amount of \$1.068.198 (812.118€). An additional \$531.050 (416.435€) is currently pending evaluation by the funding agencies. These funds include scientific costs (including participation in scientific expeditions) and also financial support for undergraduate and graduate students involved. I am actively involved in international R+D networks such as the international GEOTRACES program. I have also acquired experience in assessment and review of R+D projects as a proposal reviewer for the National Science Foundation (US) and as a journal reviewer for Geology, The Holocene, Geochimica et Cosmochimica Acta, Earth and Planetary Science Letters among others.</p> <p>I have a total of 23 published contributions, 18 to journals in the SCI, 244 citations, h-index: 9, i10-index: 9. I</p> |



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| | | | | | <p>have also published one book chapter and 4 contributions to non-SCI journals. Some publications include high ranked journals like Nature, Paleoceanography, PNAS, G3 and others. Maintaining and active international profile is important, thus I have 59 contributions presented in international conferences, workshops and seminars, 6 as invited speaker and 2 young scientist awards.</p> <p>I also have a great interest in mentoring and educational activities. I am Ph.D. supervisor of one student and have been mentor of many internship students over the past years. I participate actively in educational activities such as the LDEO Open House, an outreach effort to the general public to bring science awareness closer to society. I am also the Thermal Ionization Mass Spectrometry laboratory manager where I am responsible for training students, postdocs and visiting scientists.</p> |
| 26 | Química | RYC-2012-09965 | GARCIA GARCIA, PATRICIA | patricia.garcia@ubu.es | <p>Patricia García-García earned her B. Sc. in Chemistry with honors from the Universidad de Oviedo in 2002 (Premio Extraordinario Fin de Carrera). Then she developed in the ♦ Instituto de Química Orgánica y Organometálica ♦ of this University a Degree Thesis awarded with Premio Extraordinario de Licenciatura and after that she started her Ph.D. Thesis in the same Institution supported by a FPU fellowship. In February 2007 she received the Ph.D. degree with honors (Premio Extraordinario de Doctorado) for her contributions to the reactivity of alkynyl Fischer carbene complexes, under the supervision of Profs. José Barluenga and Enrique Aguilar. During this period she also spent some months in the group of Prof. Walsh in the University of Pennsylvania and in the group of Prof. Wood in Yale University, working in asymmetric catalysis and total synthesis, respectively. After defending her Ph.D. Thesis she stayed some months in the Universidad de Oviedo working on catalysis with gold-complexes and then she moved to Germany where she spent 27 months working in the area organocatalysis in the group of Prof. List, initially with a contract from the Max-Planck Society and later with a MEC postdoctoral fellowship. In September 2009 she joined the group of Prof. Sanz in the Universidad de Burgos where she holds a ♦ Juan de la Cierva ♦ contract from December 2009. Her current research interests keep centered in catalysis, including transition-metal catalysis and organocatalysis. As a result of her research career the applicant has published 26 articles in international journals, from which the following ones can be highlighted: 6 Angew. Chem. Int. Ed. (1 selected as VIP, 1 highlighted in Synfacts, 1 highlighted in Angew. Chem. Int. Ed.), 2 J. Am. Chem. Soc., 4 Chem. Eur. J., 1 Adv. Synth. Cat., 3 Org. Lett. and 2 Chem. Commun. (1 review). She has also made two contributions to the online publication Encyclopedia of Reagents for Organic Synthesis. It is noteworthy that she has published in the top journals along all the stages of her career, including Ph.D., short stays and different postdoctoral periods. Therefore, she has a remarkable impact factor average for her 26 articles of 7.20 (JCR 2011) and an h-index of 12. Moreover, she has presented</p> |



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| | | | | | 26 communications in national and international congresses, including several oral communications, and has registered three patents, one of which has already been granted. Besides, along her career the applicant has participated in 15 projects obtained in competitive calls, including several international ones during her stays abroad. Furthermore, the applicant has co-supervised four Master Thesis and is currently co-supervising another one, as well as two Ph.D. Thesis. |
| 27 | Física y Ciencias del Espacio | RYC-2012-10957 | REDONDO MARTIN, JAVIER | redondo@mpp.mpg.de | <p>I am a spanish researcher specialised in particle physics, astrophysics, cosmology and their interconnection. I got my bachelor's degree in the Autonomous University of Barcelona (supervisor: Eduard Massó) on 01/06/2007 with the mark excellent cum laude and later the extraordinary prize in physics. Since then, I have employed as postdoc fellow 2 years in the Theory department of DESY (Hamburg) and 3 years in the Max-Planck Institute for Physics (Munich). Currently I am employed in the Arnold Sommerfeld centre of the Ludwig-Maximilians University in Munich, also as a postdoc.</p> <p>My research field is physics beyond the standard model. Most of my work has been devoted to the phenomenology of very weakly interacting slim particles (WISPs) such as axions or hidden photons, their connection to the mysteries of dark matter and dark radiation, and their experimental discovery. I participate in two experimental collaborations: the Any-light-Particle Search ALPS and the Solar-Hidden Photon Search (SHIPS).</p> <p>I have published 32 papers in the most respected journals of the field (all first quartile): JCAP, PRL, PLB, JHEP, PRD, etc. and a number of proceedings that have received altogether around 1100 citations (number provided by the INSPIRE engine). My h-index is 20.</p> <p>This work has been presented in more than 30 international conferences, and in seminars in selected institutions.</p> <p>I was awarded the 'acreditació de recerca' to obtain a permanent researcher contract in catalan universities (by AQU-Catalunya).</p> <p>I frequently referee papers for JCAP, PLB, PRD and PRL.</p> <p>My teaching experience contains a number of basic University courses (as assistant) and laboratory tutoring during my PhD years and 2 recent graduate courses. I have supervised the PhD thesis of Dr. Davide Cadamuro and I am currently supervising a diploma student (Hendrik Vogel) and co-supervising a PhD (Nicolas Viaux). I have been member of the PhD tribunal of Dr. J. Galán (20/01/12) (UNIZAR) and I am appointed for the PhD tribunal of A. Payez (University of Liège, Belgium).</p> |



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| 28 | Física y Ciencias del Espacio | RYC-2012-11537 | BATTAGLIA , GIUSEPPINA | gbattaglia80@googlemail.com | <p>The main focus of G.Battaglia's research are dwarf galaxies, primary laboratories for studies of stellar populations, the build-up of large galaxies like our Milky Way (MW), and dark matter profiles. Her research is aimed at understanding the mechanisms which drive the evolution of these small galaxies and the reason for the various observed dwarf morphological types. As a template, she studies the dwarf galaxies of the Local Group, which currently are the only ones accessible for the most detailed observations, i.e. from the properties of their resolved stellar populations.</p> <p>By using data from wide-field cameras and multi-object spectrographs on 8m-class telescopes mainly from the Dwarf Abundances and Radial velocity Team (DART) and follow-up programs, she has played a key role within DART, by leading the study of the wide-area properties of the sample of MW dwarf spheroidal galaxies (dSphs), resulted in highly cited papers. Among the main results of her work are:</p> <ul style="list-style-type: none"> - Leap forward in the observational picture of the wide-area metallicity and internal kinematic properties of MW dSphs. These have revealed to be much more complex than previously thought (e.g. Tolstoy et al. 2004, Battaglia et al. 2006, 2008, 2011), as they exhibit metallicity gradients, multiple "chemo-dynamical" populations and velocity gradients. For one of these systems it is likely that the observed velocity gradient may be due to internal rotation, which would change the historical view of these systems as entirely dominated by random stellar motions and make them more similar to the other main type Local Group dwarf galaxies, i.e. dwarf irregulars. - Introducing the use of multiple "chemo-dynamical" components in the mass modeling of the Sculptor dSph. These allowed to place stronger constraints on the dark matter distribution of this galaxy, showing that it is more likely to be embedded in a cored dark matter halo rather than a cusped one (Battaglia et al. 2008). - First finding of unambiguous signs of tidal disruption, such as tidal tails and isophote twists, in a classical dwarf galaxy orbiting the MW, other than Sagittarius (Battaglia et al., ApJL, accepted). This is an important result as it is very likely that tidal disruption affects the dark matter mass determinations of MW dSphs (which have enormous dynamical mass-to-light ratios). <p>G.Battaglia obtained her PhD degree in Astronomy in 2007, at the University of Groningen (NL). She was the first</p> |



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| | | | | | <p>woman and foreign at the Kapteyn Astronomical Institute whose PhD thesis was awarded the distinction cum laude.</p> <p>G.Battaglia obtained an ESO postdoctoral fellowship at Garching bei Muenchen (D), until April 2011. While at ESO, as part of the European Extremely Large Telescope (E-ELT) Design Reference Mission, she also carried out simulations on testing the feasibility of one of the major E-ELT science cases. In Oct 2011 G.Battaglia was awarded a Marie Curie fellowship. Both postdoctoral fellowships are very competitive and prestigious, and are awarded mainly on the basis of scientific excellence and independence.</p> <p>G.Battaglia is co-author of 29 referee publications (1195 citations), of which 10 first author (504 citations). Her H-index is 19. She has participated into 24 international conferences and workshops, presenting 19 contributed talks and one by invitation; she was invited to give 3 colloquia.</p> |
| 29 | Química | RYC-2012-11749 | FAÑANAS MASTRAL, MARTIN | martinfm12@gmail.com | <p>Martín Fañanás Mastral received his B.Sc in Chemistry from the University of Oviedo in 2002. Then, he started his PhD studies in the ♦Enrique Moles♦ Institute for Organometallic Chemistry at the University of Oviedo under the guidance of Prof. José Barluenga. These studies were supported by a FPU fellowship from the Spanish Ministry of Science. His PhD work was focused on the development of new cascade reactions of Group 6 Fischer carbene complexes and its application in organic synthesis. During his PhD studies, the candidate performed a short term stay at the University of Cambridge (Prof. Steve Ley) working on total synthesis of natural products. He obtained his PhD degree in November 2007 with the maximum qualification "excellent cum laude" and his thesis was awarded with the PhD extraordinary award from the University of Oviedo. The quality of the research performed during the PhD was recognized by seven publications in high impact factor journals such as Angewandte Chemie - International Edition or Chemistry ♦ A European Journal, among others. Subsequently, he worked as a researcher at the University of Oviedo (2008), working on gold chemistry (one publication in Organometallics). In January 2009 he joined the group of Prof. Ben Feringa at the University of Groningen, as a postdoctoral researcher, funded by a fellowship from the Spanish Ministry of Science and Innovation (total duration: 2 years). After that he was appointed as a senior postdoctoral researcher by the University of Groningen, where he is currently developing his research. He has participated in 2 international research projects and he is supervising 4 PhD and 2 Master students. The main topic of his current research is the development of novel catalytic asymmetric transformations, in particular allylic substitution reactions. Thirteen articles have been</p> |



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| | | | | | already published from his postdoctoral stay, including the first catalytic highly enantioselective C-C forming reaction with the readily available but extremely reactive organolithium reagents (Nature Chemistry). As a result of his scientific career, the candidate has published 21 research articles in peer-reviewed journals with high impact factors: Nature Chemistry (1), Angewandte Chemie - International Edition (4), Journal of the American Chemical Society (2), Chemical Communications (2), Organic Letters (2), Chemistry \diamond A European Journal (5), Organometallics (2), European Journal of Organic Chemistry (1), ACS Catalysis (1), Synthesis (1). His papers have received more than 140 citations and his h-index is 7 (source: Scopus, November 20th 2012). Finally, the applicant's work has been presented in several conferences either as oral presentations (12 oral communications) or as posters (15 contributions). |
| 30 | Física y Ciencias del Espacio | RYC-2012-10604 | ZORNOZA GOMEZ, JUAN DE DIOS | zornoza@ific.uv.es | <p>Research topics: Neutrino telescopes, Astroparticles, High Energy Physics, Dark Matter</p> <p>Degree in Physics (University of Valencia)</p> <p>Doctorate in Physics (University of Valencia)</p> <p>Research activities:</p> <ul style="list-style-type: none"> -Beca de Colaboración -Beca asociada a proyecto -Beca FPI -Contrato Marie Curie -Contrato Juan de la Cierva -Contrato Consolider (MultiDark) <p>Languages: English, French, Catalan</p> <p>Summary of publications: 51 papers, 4 papers as corresponding author (Ap.J., Phys.Rev.Lett., NIM), 1 paper as contributor, 1 paper as editor.</p> <p>Stays in international research centers:</p> <ul style="list-style-type: none"> -Institut fur Kernphysics (Mainz, two months) -Centre des Particules de Marseille (Marseilles, three months) -DAPNIA/CEA (Saclay, three months) |



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| | | | | | <p>-University of Madison-WI (Madison, two years)</p> <p>Summary of conferences: 47 contributions in total (31 talks in international conferences, 6 posters in international conferences, 3 talks in national conferences, 5 seminars, 2 doctoral courses as invited professor)</p> <p>Doctoral Thesis supervised: 2 (one with "Premio Extraordinario de Doctorado") + 2 in preparation</p> <p>Other merits:</p> <ul style="list-style-type: none"> - Coordinator of the Point Source Group of ANTARES since 2008 - Member of the Publication Committee of ANTARES since 2007 until 2010 - Member of the Conference Committee of ANTARES since 2008 - Chairman of the Conference Committee of ANTARES since 2010 until 2012 - Member of the Institutional Board of ANTARES since 2009 - Coordinator of the Neutrino Group of MULTIDARK (program Consolider) since 2010 - Coordinator Calibration Group of ANTARES since 2007 until 2008 - Member of the Steering Committee of ANTARES since 2007 until 2008 and since 2010 <p>Projects as Principal Investigator:</p> <ul style="list-style-type: none"> - ♦Data analysis in AMANDA and IceCube simulations", funded with 255,187 euros by the Marie Curie Program of the European Union (Sixth Framework Program) - ♦Estudio de LEDs pulsados para KM3NeT y búsqueda de fuentes puntuales de neutrinos con ANTARES y KM3NeT♦, funded with ♦17.057,72 by the program ♦Ayudas Pre-Competitivas♦ de la Generalitat Valenciana - ♦Calibración de ANTARES y búsqueda de fuentes puntuales♦, funded with ♦4,600 by the ♦Programa Nacional de Internacionalización de la I+D♦, subprogram ♦Actuaciones relativas a Infraestructuras Científicas Internacionales♦ <p>15 Projects as Participant, including Projects funded by the European Union with the Sixth and Seventh Framework programs.</p> <p>Awards:</p> |



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| | | | | | <p>- Award to the best presentation in the conference ♦Commemorating the 150th Anniversary of the Birth of Nikola Tesla♦, organized by the European Commission, the Croatian Ministry of Science and the Serbian Ministry of Science (October 2006).</p> <p>- ♦Premio Extraordinario de Bachillerato♦, by the Spanish Ministry of Education and Science.</p> <p>Teaching experience:</p> <p>- 2001-2002: ♦Experimental techniques in Physics♦ (40 hours) in the Department of Atomic, Molecular and Nuclear Physics of the University of Valencia.</p> <p>- 2002-2003: ♦Numerical techniques♦, (30 hours) in the Department of Atomic, Molecular and Nuclear Physics of the University of Valencia.</p> <p>Other:</p> <p>- 43 talks in ANTARES, AMANDA/IceCube and MultiDark meetings</p> <p>- 12 internal notes in ANTARES</p> |
| 31 | Física y Ciencias del Espacio | RYC-2012-12007 | WEIDNER , CARSTEN | cweidner@iac.es | <p>The bulk of my research efforts are concentrated on issues related to the stellar initial mass function (IMF) and star-formation on star cluster and galactic scales from a theoretical and computational point of view. The interesting question here is how local star-formation, which proceeds within a few Myr, ties into galaxy formation and evolution, which works on cosmological time scales over many Gyr.</p> <p>With this work, I have shown in well-cited publications (Kroupa & Weidner 2003; Weidner & Kroupa 2005) and in several invited and contributed talks on international conferences, that the integrated galactic stellar initial mass function (IGIMF), the IMF of all stars in a galaxy, can be steeper than the IMF of individual star clusters. Under the assumption that the majority of stars form in embedded star clusters of which 90% dissolve quickly (Lada & Lada 2003) this steepening has a profound influence on the chemical evolution and other parameters of a galaxy (e.g. supernovae rates and mass-to-light ratios). Also, we were able to show that the IGIMF can readily explain the observed mass-metallicity-relation of galaxies (Koeppen, Weidner & Kroupa 2007). Recently, we found beyond that in strong starbursts it is also possible for IGIMF to become top-heavy due to crowding of pre-stellar cores (Weidner, Kroupa & Pflamm-Altenburg 2011). Such behaviour has been observed for the early universe by several different groups using various indirect measurements (e.g. Baugh et al. 2005; van Dokkum 2008;</p> |



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| | | | | | <p>Habergham et al. 2010, Gunawardhana et al. 2011).</p> <p>The IGIMF theory has so far been successfully applied to a number of astrophysical problems. It can explain the observed Hα-cutoff for disk galaxies (Pflamm-Altenburg & Kroupa 2008) and has predicted a discrepancy in the star-formation rates of a galaxy when measured in Hα and the UV (Pflamm-Altenburg, Weidner & Kroupa 2007; 2009). This discrepancy has been observed (Meurer et al. 2009; Lee et al. 2009).</p> <p>Tied in with the research on the IGIMF is my work on star clusters. I found strong evidence for a fundamental upper mass limit for stars (Weidner & Kroupa 2004) as well as a general limitation of the upper mass of stars in dependence of the parent star cluster mass (Weidner & Kroupa 2006; Weidner, Kroupa & Bonnell 2010). This relation might be the result of stellar feedback from the most massive star terminating star formation in a molecular cloud but further research is ongoing to verify this possibility.</p> <p>An important issue is also the question of how massive star clusters form. They are born of Giant Molecular Clouds (GMC) and can be observed over large cosmological distances. This lead to the realisation that shear forces in disk galaxies might suppress the formation of very massive clusters, while in dwarf galaxies much lower levels of shear are found (Weidner, Bonnell & Zinnecker 2010). This would promote massive cluster formation in dwarfs, as well as in the interaction regions of colliding galaxies.</p> |
| 32 | Matemáticas | RYC-2012-10449 | PALAZUELOS CABEZON, CARLOS | carlospalazuelos@mat.ucm.es | <p>I obtained my PhD in February 2009 at Departamento de Análisis Matemático of Universidad Complutense de Madrid (UCM) getting a grade of Sobresaliente ``suma cum laude`` and special mentions of Doctorado Europeo and Premio Extraordinario de Doctorado (2008/2009). The title of the thesis, Tensor Products and Applications to Quantum Information Theory, displays the expertise that I obtained during my PhD in both fields, Functional Analysis and Quantum Information Theory (QIT). The two research stays enjoyed during my PhD confirms this point, being the first one on operator algebras theory at the University of Reading (U.K.) and the second one on QIT at the Institut de Ciències Fotòniques in Barcelona (Spain). After enjoying a postdoctoral contract at Departamento de Análisis Matemático of UCM for 8 months, I spent one year (2010) at the University of Illinois at Urbana-Champaign (USA) as visiting assistant professor. At the same time I also obtained a grant from the Royal Swedish Academy of Science to spend one month and a half as an invited guest researcher at the Institut Mittag-Leffler. From the first of January 2011 on, I have enjoyed a Juan de la Cierva contract at Instituto de Ciencias Matemáticas of Consejo Superior de Investigaciones Científicas. During this postdoctoral period functional analysis and QIT have directed my research. In fact, QIT has been an excellent source of purely</p> |



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| | | | | | <p>mathematical problems, whose solutions have found direct and deep applications in the field of QIT. This research has been expressed by means of 11 published papers (7 of them in the first quarter of the JCR ranking) and 3 preprints (available in arxiv). The interconnection between mathematics and physics is evident from both points of views, the topics treated in these works and also the journals where they have been published.</p> <p>Examples of this fact are the works ``Unbounded violation of tripartite Bell inequalities'' (Comm. Math. Phys.), where we solved an old open question posed by Tsirelson in the context of operator algebras with applications to violations of Bell inequalities, ``Large violations of Bell inequalities with low entanglement'' (Comm. Math. Phys.), where we answered several questions about quantum nonlocality and its connection with quantum entanglement, ``Superactivation of quantum nonlocality'' (Phys. Rev. Lett.), where we solved an open question posed in the Hannover lists of open problems in QIT and ``Rank-One quantum games'' (arXiv:1112.3563), where we used the operator space version of Grothendieck's theorem to provide efficient algorithms to approximate the entangled value of certain games. The 201 citations obtained by the 11 published papers presented in this application and also the 11 talks (and several seminars) where these works have been presented, in 5 of them by invitation, show how this research has been very welcomed by the scientific community. I have participated in 15 research projects which include National, European and International (no European) projects. I have been a contracted researcher in two of them, principal researcher in one of them (devoted to the organization of a conference in quantum information theory) and a researcher member of the project in the rest. Finally, I have been referee for different physics and mathematical journals like Communication in Mathematical Physics, Journal of Mathematical physics, Quantum Information and Computation and Journal of Mathematics Analysis and Applications.</p> |
| 33 | Ciencias de la Tierra | RYC-2012-11024 | GEYER TRAVERA, ADELINA | ageyer@ictja.csic.es | <p>I started my scientific career as lab assistant in the summer of 2001 with a pre-graduate research fellowship at the Institute of Earth Sciences Jaume Almera-ICTJA. Since then, I have been awarded with 5 additional research grants (1 pre-graduate, 1 post-graduate and 3 post-doctoral) to carry out my research in four different centres: University of Barcelona-UB, ICTJA, International Center for Numerical Methods for Engineering-CIMNE and University of Bristol (UK). In 2002 I obtained my Bachelor degree in Geology at the UB with National Honours Degree award, and in 2007 I finished my PhD in Earth Sciences at the ICTJA. During my PhD research, I also enrolled in the Master Course in Numerical Methods in Engineering offered by CIMNE obtaining the corresponding Master degree in 2008.</p> <p>Since I started my PhD research at the ICTJA, I have already produced 18 scientific publications in high-impact international journals (9 as first author) collecting a total of 112 quotes (Source: WOS) and an h-index of 7. I</p> |



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| | | | | | <p>have also co-authored 2 book chapters and 3 other research works currently under review.</p> <p>Since 2005, I have presented 34 contributions to international conferences including 24 posters and 10 talks (4 of them invited). Besides, I have 3 contributions to national conferences and 4 to international workshops (1 as keynote).</p> <p>I have participated in several R&D projects: 4 international and 12 national. Regarding R&D management experience, I am currently PI of a 2-year national project (32,000 EUR total budget) to evaluate the volcanic hazard in Deception Island (Antarctica). This project involves 6 researchers and includes the preparation and coordination of a one-month field campaign for 3 researchers on Deception Island during the 2013 austral summer.</p> <p>About my participation in Executive Committees, I am Secretary General of the Union Commission on Data and Information-UCDI of the International Union of Geodesy and Geophysics-IUGG (since 2008) and Deputy Secretary of the International Association of Volcanology and Chemistry of the Earth's Interior-IAVCEI (since 2007). I have also been Commissioner of the IAVCEI Commission on Collapse Calderas (2008-2012). I am member of several international scientific associations including: European Geoscience Union-EGU (since 2005), American Geophysical Union-AGU (since 2011) and IAVCEI (since 2007).</p> <p>During the last two years I have gained experience organizing R&D activities, such as the 1st and 2nd International Course on Collapse Calderas and the 4th International Workshop on Collapse Calderas, activities supported by IAVCEI. Moreover, as Secretary General of the UCDI, I have organized the first session on Data Science/Informatics and Data Assimilation in Geosciences at the EGU General Assembly 2012 and 2013 and also at the IAVCEI Scientific Assembly 2013. As Commissioner of the IAVCEI Commission on Collapse Calderas, I have organized sessions at the AGU Fall Meeting 2012 and the IAVCEI Scientific Assembly 2013.</p> <p>In the last 5 years I have carried out some teaching work in both official and unofficial courses at national and international level.</p> <p>Currently, I am supervisor of a PhD researcher on internal dynamics of magmatic systems at the UB and co-supervisor of a PhD researcher focused on thermodynamic and petrologic modelling of magma chambers at the University of Granada.</p> |
| 34 | Física y Ciencias del Espacio | RYC-2012-11847 | PALENZUELA LUQUE, CARLOS | esychia@yahoo.es | <p>I got my PhD in September 2004 at the University of the Balearic Islands (UIB), Spain. Although my main field of research is Numerical Relativity, in the last few years my interests have moved towards Relativistic Astrophysics. Currently, they cover not only Relativity and its use to study strongly gravitating systems, but also the dynamics of relativistic magnetized plasmas and the numerical techniques required to solve such systems. The gravitational</p> |



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| | | | | | <p>wave detector LIGO is being currently upgraded and will likely make observations by 2015, at which point the strong-field gravity results will be more prominent.</p> <p>I have worked in different institutions over the last eight years (3 years at Louisiana State University, 2 years at the Max Planck for Gravitational Physics and 3 years at the Canadian Institute for Theoretical Astrophysics), which gave me the possibility to learn the expertise of several groups. I have a strong history of collaboration, and these relationships continue even after I have moved on to a different institution. I have enjoyed mentoring graduate students and younger postdoctoral researchers along these years, co-supervising Miguel Meguevand and Chawla Sarvnipun in LSU and Susana Valdez in CITA. My dedication to teaching lead me to write and publish a book on foundations of Numerical Relativity with Carles Bona. The first edition is already sold out, and the second edition has been extended to include also relativistic magnetohydrodynamics.</p> <p>I have 35 published articles, 9 as a first author (with an average of 4 authors per paper, none of them from a large collaboration), in refereed journals with high impact factor; 1 in Science (as a first author), 1 in PNAS, 2 PRLs, 1 ApJL, 2 MNRAS, 19 PRDs and 4 CQG, among others. I am co-author of an invited review in Living Reviews in Relativity (impact factor 17.46), and also have several contributions to conference proceedings. My refereed papers got more than 600 citations, and my H-index is 16 (counting my first paper in condensed matter). I am a flexible and adaptive researcher who goes to areas of importance, as demonstrated by my papers in PRL, PNAS, and specially in Science. My research has appeared in the cover of Review of Modern Physics (Vol 82, Issue 4, 2010), and has attracted the attention of the media, with articles in Highbeam Research (September, 2010), CBCnews (August, 2010) and Science Daily (July, 2011). I got the Jeffrey L. Bishop Award for excellence in research in Astrophysical dynamics (2011), and one of my articles has been included as 2011-2012 CQG Highlights.</p> <p>I have participated in 23 international conferences, presenting 1 invited focus review, 7 invited talks and 15 contributed talks. I have been involved in 4 research projects, both in Europe and in the USA. I am referee of several scientific journals, including Physical Review D, Classical, Quantum Gravity and The Astrophysical Journal. I have been member of the PhD tribunal for Daniela Alic and Carles Bona-Cases, and also worked one year as Assistant teacher at the University of the Balearic Islands.</p> |
| 35 | Química | RYC-2012-09804 | PARDO MARIN, EMILIO JOSE | Emilio.Pardo@uv.es | The attached Curriculum Vitae (CV) shows my scientific and academic achievements during my predoctoral (FPU grant, University of Valencia) and postdoctoral contracts: [31 months, Postdoctoral grant of the Spanish Ministry of Science and Contract from the CNRS, Université Pierre et Marie Curie (Paris); 4 months, AIDO (Valencia) and |



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| | | | | | <p>Juan de la Cierva position (since 01/01/2010, University of Valencia].</p> <p>I am coauthor of 52 articles in international well indexed scientific journal that have been cited 843 times (first author in 22 and corresponding author in 17 of them) in the most prestigious journals in the field of Chemistry and Materials Science [Advanced Materials (2), Angewandte Chemie (2), JACS (7), Coordination Chemistry Reviews (1), Small (1), Chemical Communications (8), Chemistry-A European Journal (5), Inorganic Chemistry (11), Journal of Materials Chemistry (1), Dalton Transactions (3), etc]. Moreover, some of this work has illustrated several covers of prestigious journals (5 covers: Small, Chemistry-A European Journal, Inorganic Chemistry, Dalton Transactions and EurJIC) and some of these manuscripts have been classified as Hot or VIP (very important paper) indicating their importance. At this respect, I have an h-index value (Hirsch) of 18 (source and date: ISI WEB OF KNOWLEDGE/WEB OF SCIENCE, 23rd November 2012). Further evidence of the wide spreading and importance of my work comes, from the almost 50 contributions presented at national and international scientific meetings (see CV attached).</p> <p>Moreover, I have been involved in a quite large number of research projects as co-participant including both Spanish: 4 Projects from the Spanish Ministry of Science and Education (or Science and Technology), 3 Complementary Research Actions for research groups from the Generalitat Valenciana (Region Government), and Europeans: 1 TMR Network of the EU (Chemolna, EU-FP6), 1 Network of Excellence of the EU (MAGMANET, EU-FP6), 1 NMP project from the seventh framework programme of the EU, 1 Long Term Project at the ESRF (EUROPEAN SYNCHROTRON RADIATION FACILITY) and 1 Network of European Associated Laboratories (LEA). Finally, I have been recently awarded with two research projects as a principal investigator (PI) from my institution (UVEG) and the Government of Valencia respectively (see CV attached).</p> <p>Finally, I have already lectured ca. 330 hours in the degree of Chemistry of the University of Valencia. In addition, I would like to mention my efforts to direct younger researchers. I have co-directed one PhD thesis (Jesús Ferrando Soria, 26/06/2012). I have also recently started the direction of another young researcher (Alvaro Acosta). Moreover, I have directed several final projects (including Erasmus students) and also master final projects.</p> |
| 36 | Ciencias de la Tierra | RYC-2012-12217 | HAMPEL , MIRIAM | miriam.hampel@icman.csic.es | <p>The candidate obtained an intermediate degree in Biological Sciences at the Julius-Maximilians-Universität Würzburg (Germany) in 1993 and a degree in Marine Sciences at the University of Cadiz (UCA) in 1997. From 1995 to 1997 she was research assistant at the Department for Marine Invertebrates (UCA).</p> <p>In 1997, she worked at AstraZeneca in Brixham (UK) to evaluate the effects of endocrine-disrupting chemicals on <i>T. battagliai</i>. This work produced two publications (3rd co-author).</p> <p>In 1998, she started her PhD: Effects of the anionic surfactant Linear Alkylbenzene Sulphonate (LAS) on marine</p> |



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| | | | | | <p>organisms: Ecotoxicological implications at the Institute for Marine Sciences of Andalusia (ICMAN-CSIC). The work was carried out as part of the EC funded project: PRISTINE (ENV4&#8208;CT97&#8208;494) and industry sponsored fellowships between the CSIC and Petroquímica Española SA. The data collected produced 9 publications in indexed journals (6 as 1st author and 3 as co-author) and two book chapters (2nd and last author).</p> <p>In 2004, she was awarded with a postdoctoral fellowship of the Fundação para a Ciência e a Tecnologia (FCT) at the Instituto de Investigação das Pescas e do Mar (IPIMAR) to study the effects of surfactants on the snail <i>H. ulvae</i>. The work produced was published in 2 indexed journals (1st author). Within the fellowship, the candidate performed two training stages: at the Institute of Aquaculture (IoA), University of Stirling (UK) and at the University of Valencia to gain experience in the use of molecular tools (transcriptomics and proteomics).</p> <p>In 2007 she was awarded with a Marie Curie Intra European Fellowship at the IoA with the project: SALMONPHARM. Several international congress contributions (oral and poster) have been presented and one article has been published (1st author) as a result of this project. Another two are submitted.</p> <p>In 2008 she returned to the ICMAN with a post doctoral contract (JAE-Doc) to apply the experience gained at the IoA to the local sea bream, and to implement the molecular techniques for environmental studies. She was also awarded by the EU through a Marie Curie European Reintegration Grant (ERA4PHARM). In April 2011 she was awarded with a mobility grant from the CSIC to visit the Department of Comparative Biomedicine and Food Science, University of Padova to employ a microarray for the sea bream.</p> <p>The candidate is also collaborating in other projects at the ICMAN, mainly in the molecular-based and analytical tasks. She is co-supervising one PhD and two master theses, as part of the project SCARCE (Consolider-Ingenio 2010 CSD2009-00065) and the other as part of the Project of Excellence funded by the Andalusian Government: "Functionalized nanoparticles for hyperthermia application and evaluation of ecotoxicity". A paper about the toxicity of gold nanoparticles in the clam has been recently accepted for publication in Environmental Pollution.</p> <p>In January 2011, the EC signed the project GENERA (FP7-PEOPLE-2009-IRSES - Proposal n° 247559) within the framework of the Marie Curie Action IRSES. The project was entirely conceived and written and is being coordinated by the candidate, including the contact with adequate partners and the budget negotiation (286000€).</p> <p>She is contracted as researcher under the category of licentiate the performance of technical and professional activities at the ICMAN.</p> |
| 37 | Física y Ciencias | RYC-2012-12266 | CHANG , DARRICK | projects@icfo.es | I received a Bachelor of Science degree in physics, graduating with distinction from Stanford University in 2001. I subsequently obtained a one-year Fulbright fellowship for theoretical physics research at the University of Turku |



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| | del Espacio | | EDWARD | | <p>in Finland, and then graduated from Harvard University with a PhD in physics in 2008, with a specialty in theoretical quantum optics. My work at Harvard included pioneering contributions to the field of quantum plasmonics, with novel proposals to use these systems for quantum information processing and single-photon nonlinear optics. I received a three-year independent postdoctoral fellowship at the Institute for Quantum Information at the California Institute of Technology, where I collaborated closely with experimental groups to develop new paradigms and applications of quantum optomechanical systems and atom-nanophotonics interfaces.</p> <p>Since October 2011, I have been a group leader at the Institute of Photonic Sciences in Barcelona. My current research interests lie in the field of theoretical quantum nanophotonics. In particular, we investigate how state-of-the-art nanophotonic systems can be leveraged toward future quantum technologies, and develop theoretical tools to understand the emerging quantum phenomena. This research is highly interdisciplinary and lies at the interface of quantum optics, nonlinear optics, nanophotonics, condensed matter physics, optomechanics, and quantum information science. We also collaborate closely with leading experimental groups around the world. In total, I have 25 papers published (or under review) in high-impact, peer-reviewed journals, including 5 within the Nature family of journals. These papers have been cited over 1200 times in total. In addition, I have obtained one patent for my work in quantum plasmonics, and have recently received a Marie Curie Career Integration Grant to facilitate my current research efforts in atom-nanophotonics interfaces.</p> |
| 38 | Física y Ciencias del Espacio | RYC-2012-11843 | DEL VALLE REBOUL, ELENA | elena.delvalle.reboul@gmail.com | <p>I graduated in Physics in 2004 with the best grades (◆Premio Extraordinario Fin de Licenciatura◆ UAM) and a special mention in the National Physics Awards (◆Premio Nacional Fin de Carrera◆) at the Universidad Autónoma de Madrid, ranked the top University in Spain (ARWU, 2012). I was awarded a FPU grant by the Spanish MEC to pursue research in the group of C. Tejedor at the UAM in which period (2005-2009) I also made 2 research stays (2 months at the International Centre of Condensed Matter Physics in Brasilia and 4 months at the University of Southampton). During my PhD, I published 1 Nature and 2 Phys. Rev. Lett., among 13 other papers. I presented my work in 7 International Conferences (winning the PLMCN7 best student presentation award) and 4 seminars. I was a Physics lab teacher at the UAM for 3 years. In March 2009, I completed my PhD in Theoretical Physics with ◆Sobresaliente cum Laude◆. My dissertation, ◆Quantum Electrodynamics with Quantum Dots in Microcavities◆, was published as a monograph (VDM 2010).</p> <p>On the basis of a research project, I was awarded a Newton International Fellowship, a highly competitive grant appointed each year by The British Academy and The Royal Society to 50 recipients worldwide in all fields. I led</p> |



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| | | | | | <p>my own research under this scheme in the group of A. Kavokin at the University of Southampton (2009-2011). As principal investigator, I administrated a research budget of £16000. Since then, I am a Newton Alumnus with a follow-up funding of £6000 per year for 10 years to foster scientific collaboration with the UK. I was then awarded the prestigious Humboldt Research Fellowship (2011-2013) to join M. Hartmann's group at the Technische Universität München, which is ranked 1st of the German universities and 43rd in Science worldwide. As principal investigator in this grant, I manage a 19200 research budget.</p> <p>Overall, I have published 41 papers in peer-reviewed journals, 18 of them in high impact journals (>2.8): 1 article in Nature with over 210 citations, 4 in Phys. Rev. Lett., 7 in Phys. Rev. B, 3 in Phys. Rev. A, 2 in New J. Phys., 1 in EPL and 1 Opt. Express. I am single author for 5 of these papers and 1st author of another 17 (3 of them in Phys. Rev. Lett.) I am 2nd author of a chapter in the book Quantum Optics with Semiconductor Nanostructures (Woodhead Publishing 2012). I have been recently invited to contribute to a focus issue Cavity and Circuit Quantum Electrodynamics in Solids in New J. Phys. and to the special issue Numerical Simulation of Optoelectronic Devices in IEEE (JSTQE). My work gathers over 600 citations with a Hirsch factor h=11. I have presented my work in 21 international conferences (4 invited and 13 contributed talks) and 9 seminars. I have enjoyed fruitful collaborations with both theoretical (F. Troiani, G. Morigi, I. Shelykh, A. Kavokin, F. Laussy, M. Glazov, J. Villas-Bôas, A. Fernandez-Dominguez, M. Hartmann) and experimental (L. Viña, D. Sanvitto, J. Finley) groups. I have co-supervised the PhD research of 4 students (UAM and TUM).</p> <p>I am proficient in French, English (CPE 2000) and fluent in German (B2 level of the Goethe-Institut). I am a qualified Social and Intercultural Mediator (UAM 2007), secondary school teacher (CAP, UCM 2006) and Monitor de tiempo libre (2000) with extensive experience in non-formal education (human rights, responsible consumption).</p> |
| 39 | Química | RYC-2012-10014 | DE GONZALO CALVO, GONZALO | gonzocalvo@yahoo.es | <p>Entre 1994 y 1998 obtuve mi Licenciatura en Química por la Universidad de Oviedo. Posteriormente me incorporé al Grupo de Bioorgánica de dicha Universidad dirigido por el Prof. Vicente Gotor. Realicé mi Memoria de Investigación en 2000 y en 2003 defendí mi Tesis Doctoral con la máxima calificación. Mi Tesis desarrollaba la síntesis de precursores de Paroxetina mediante metodologías quimioenzimáticas, así como la preparación de hidroxicianhidridinas quirales empleando biocatalizadores. En 2004 y 2005 realicé una estancia posdoctoral en el</p> |



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| | | | | | <p>Istituto di Chimica del Riconoscimento Molecolare del CNR (Milán, Italia), con una beca FICYT del Principado de Asturias. Mi investigación, supervisada por el Dr. G. Carrea, se centró en el estudio de Baeyer-Villiger monooxigenasas (BVMOs) como catalizadores en la síntesis de compuestos ópticamente activos. En 2006 me reincorporé al grupo del Prof. Gotor para trabajar en la preparación de diferentes compuestos quirales empleando lipasas. En septiembre de ese año obtuve una beca del HFSP (Unión Europea) para realizar una estancia de tres meses en la Universidad Karl-Franzens de Graz (Austria), bajo la supervisión del Prof. W. Kroutil, obteniendo y estudiando nuevas alcohol deshidrogenasas como catalizadores en la preparación de alcoholes quirales. En el año 2007 logré un contrato Juan de la Cierva (Ministerio de Educación y Ciencia) en la Universidad de Oviedo bajo la dirección del Prof. Gotor para dirigir dentro del grupo la línea de investigación dedicada a las BVMOs y colaborar en otros proyectos de biocatálisis aplicada a la síntesis de compuestos de interés. En 2010 fui contratado por el GBB Institute de la Universidad de Groningen para trabajar en el proyecto FP7 OXYGREEN, dedicado a la preparación y/o mejora de nuevos biocatalizadores oxidativos y su aplicación en Síntesis Orgánica para la preparación de compuestos de alto interés. En 2011 regresé a la Universidad de Oviedo, para trabajar por unos meses en el proyecto europeo BIONEXGEN, para desarrollar nuevos procesos biocatalíticos. En julio de 2011, fui contratado por la empresa Antibióticos S.A. como investigador en el Departamento de I+D, a través de un contrato INNCORPORA-Torres Quevedo. Mi labor consiste en coordinar y gestionar proyectos para la síntesis de nuevas penicilinas semisintéticas, así como la obtención y purificación de productos de valor añadido de caldos de fermentación. Soy el coautor de 49 artículos de investigación en revistas de alto interés en el campo de la Biocatálisis, la Biotecnología y la Química Orgánica (Angew. Chem. Int. Ed.; Chem. Commun.; Adv. Synth. Catal.; Org. Lett.; J. Mat. Chem.), siendo primer autor en 14 de ellos y teniendo un índice h de 14. Asimismo, he publicado tres revisiones y dos capítulos de libros y he sido editor invitado para un número especial en la revista de química orgánica Curr. Org. Chem. He presentado mis resultados como pósteres o comunicaciones orales en numerosos congresos internacionales. Desde el año 2010, estoy acreditado por la ANECA como profesor ayudante doctor y profesor contratado doctor. He impartido docencia en el Departamento de Química Orgánica e Inorgánica de la Universidad de Oviedo en la Licenciatura en Química, Ingeniería Química y Grado en Biología. Finalmente, he sido codirector de dos memorias de investigación y dos Tesis Doctorales en la Universidad de Oviedo.</p> |
| 40 | Física y Ciencias del Espacio | RYC-2012-10861 | UYTTERHOEVEN, KATRIEN | katrien@iac.es | <p>La mayor parte de mi carrera profesional la he desarrollado fuera de España. Durante mi tesis (Bélgica) trabajé durante 1 año como astrónoma de soporte en el telescopio Mercator en La Palma. Después obtuve varios contratos postdoctorales en diferentes centros europeos (República Checa, Reino Unido, España y Francia), así como un Marie Curie Fellowship en Italia, una beca de visitante de KIS y un German Research Foundation (DFG) Grant en Alemania.</p> |



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| | | | | | <p>Mis principales logros incluyen la consecución de la Marie Curie (2006-2008) y el DFG Grant (2011-2013), y el haber sido elegida como directora del grupo científico de estrellas pulsantes de la Secuencia Principal dentro del KASC (Kepler Asteroseismic Science Consortium) y como miembro del Comité Directivo de KASC en 2012, después de haber servido 4 años como directora de 2 subgrupos sobre estrellas gamma Dor. Soy también co-solicitante de 2 propuestas de financiamiento exitosas de la Comisión Europea (FP7).</p> <p>Desde 2012 soy miembro del Comité Organizador del IAU, comisión de estrellas variables. He sido co-directora de la conferencia ESF sobre Sismología Solar y Estelar (Austria, 2012) y editor de las actas de la conferencia. He organizado la 5a Reunión Ibérica de Asterosismología en Tenerife (2012). Serví también como miembro del SOC de 4 conferencias y talleres internacionales.</p> <p>Mi línea de investigación principal tiene como objetivo describir la estructura interna de las estrellas y comprender los complejos procesos físicos que tienen lugar dentro ellas. De este modo podemos refinar nuestro conocimiento sobre la estructura estelar y los modelos evolutivos de estrellas. Como los interiores estelares no son directamente observables, la única manera de aprender su estructura interna es a través del análisis y la modelización de las oscilaciones estelares, usando una técnica llamada asterosismología. Las oscilaciones pueden ser caracterizadas a partir de series temporales fotométricas y espectroscópicas.</p> <p>Mi experiencia incluye el estudio sísmico de varias estrellas pulsante de la Secuencia Principal, tal como estrellas beta Cep, delta Sct, gamma Dor y de tipo solar. El satélite Kepler está revolucionando nuestro conocimiento de los interiores estelares, gracias a sus series temporales de precisión sin precedente para unos millares de estrellas. Estoy involucrada en varios de los resultados pioneros de Kepler. En particular, soy co-autora de 1 artículo publicado en la revista Nature y 2 artículos en Science.</p> <p>En general, soy (co-)autora de 79 artículos en revistas arbitradas. Mi índice H es 19.</p> <p>Como Responsable científico del Proyecto SONG en el IAC, soy responsable de las pruebas científicas del nodo prototipo en el Observatorio del Teide, Tenerife. SONG (Stellar Observations Network Group) es un proyecto dedicado al estudio asterosismológico de estrellas brillantes, además de estudiar planetas extrasolares, y tiene como objetivo la construcción de una red global de telescopios robóticos de 1-m.</p> |



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| | | | | | Soy una de los principales líderes de la campaña de apoyo a las misiones espaciales CoRoT y Kepler con observaciones desde tierra. He obtenido tiempo de observación de manera exitosa en telescopios en los mejores observatorios del mundo (>235 noches conseguidas como I.P.). Soy una observadora con gran experiencia tanto en lo referente a observaciones fotométricas y de espectroscopia (>400 noches). |
| 41 | Química | RYC-2012-11908 | GAITA ARIÑO, ALEJANDRO | gaita@uv.es | <p>As a Chemistry undergraduate of the University of Valencia (UV), Mr. Alejandro Gaita-Ariño joined the Research Unit in Molecular Materials, obtained a collaboration grant and started his research under the supervision of Prof. Coronado. He presented his first results in a scientific meeting before graduating with a qualification of ◆Excellent◆ in 1999. He obtained a FPU Scholarship and completed his PhD (Excellent Cum Laude) in 2004. His main contributions were the theoretical and experimental study of anisotropic magnetic exchange in magnetic polyoxometalates (POMs) and the theoretical analysis of electron transfer and magnetic exchange in mixed-valence POMs.</p> <p>He then started the co-supervision of the thesis of M. A. AIDamen (completed in 2009) and the undergraduate work of S. Cardona-Serra (thesis to be completed in 2013). Two short research stays in Basel under Prof. D. Loss, a solid state physicist, resulted in a proposal for a spin qubit (Nature Nano., 2007, front cover and highlighted through a News and Views). This was a preliminary step toward a new line of research in the Institute of Molecular Science (ICMol), and came about due to the scientific initiative of Dr. Gaita-Ariño. He was invited to present this work at the EMRS (Strasbourg, 2007).</p> <p>The next postdoctoral period took place at the University of British Columbia (UBC), under supervision of Prof. Stamp, a theoretical physicist. This project, summarized in a feature article (J. Mat. Chem., 2008) was funded through a self-driven Marie Curie Fellowship of interdisciplinary character. The project resulted in the opening of the aforementioned line of research in the ICMol, where three PhD students have worked in this subfield under his supervision since then: M. A. AIDamen, S. Cardona-Serra and J. J. Baldoví. The most relevant contribution of this period at the UBC is the first reported polyoxometalate single-ion magnet (JACS, 2008, 192 citations), where Dr. Gaita-Ariño was corresponding author and which opened, in practice, the field of Single Ion Magnets, currently the hottest field in molecular magnetism. His stay at the UBC also resulted in a relevant contribution in the completely unrelated field of low-temperature elastic properties of disordered systems (PRL, 2011 as first author and an invited conference by the Israel Physics Society).</p> <p>Back in the UV, has been dedicated to the rational design of single ion magnets and spin qubits based on mononuclear lanthanoid complexes. Mainly due to the productivity of this new research path, which has been undertaken by three PhD students in the ICMol as well as national and international collaborators, Dr. Gaita-Ariño has already coauthored 10 papers in 2012, including a Chemical Science (as corresponding author), a PRL,</p> |



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| | | | | | <p>a JACS and a Coord. Chem. Rev.. Furthermore, he has been invited to give conferences about it at the 62nd Fujihara Seminar entitled Frontiers and Perspectives in Molecule-Based Quantum Magnets, at the symposium Frontiers in Metal-Oxide Cluster Science 2012, and at the March Meeting in 2013.</p> <p>Alejandro Gaita Ariño has published 28 peer-reviewed papers in primary journals in Chemistry, Materials Science and Physics (h-index=13) and 3 book chapters, and is a regular reviewer of the ACS. Not counting present-year publications, his papers have received an average of over 42 citations.</p> |
| 42 | Física y Ciencias del Espacio | RYC-2012-10370 | HOYOS BADAJOZ, CARLOS | choyos@post.tau.ac.il | <p>Name: Carlos Hoyos Badajoz Nationality: Spanish Phone: +972 3-640-7311 E-mail: choyos@post.tau.ac.il Address: School of Physics and Astronomy Tel Aviv University 69978 Tel Aviv, Israel</p> <p>* Education: - June 2006, PhD in Theoretical Physics, Cum Laude Department of Theoretical Physics, Universidad Autonoma de Madrid, Madrid (Spain) Thesis: Large N methods applied to holography and planar equivalence. PhD Advisor: J.L.F. Barbon Sobresaliente Cum Laude Premio Extraordinario de Doctorado (Excellence award) -June 2004, Diploma de Estudios Avanzados (Master thesis) Universidad Autonoma de Madrid, Madrid (Spain) -June 2002, Graduate in Physics Universidad Autonoma de Madrid, Madrid (Spain) Premio Extraordinario de Licenciatura (Excellence award)</p> <p>* Research positions and grants - October 2011-</p> |



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| | | | | | <p>Postdoctoral Fellow, School of Physics and Astronomy, Tel Aviv University, Tel Aviv (Israel) - October 2008-October 2011, Research Associate, Department of Physics, University of Washington, Seattle WA (USA) - October 2006-October 2008, Senior Research Assistant, Department of Physics, Swansea University, Swansea (UK) - January 2003-October 2006, Graduate F.P.U. grant, Department of Theoretical Physics, Universidad Autonoma de Madrid and Instituto de Fisica Teorica (UAM-CSIC), Madrid (Spain) Advisors: E. Alvarez and J.L.F. Barbon - October 2002-January 2003, UAM graduate grant, Universidad Autonoma de Madrid, Madrid (Spain) Advisors: E. Alvarez and J.L.F. Barbon - 2001-02, Undergraduate collaboration grant, Department of Theoretical Physics, Universidad Autonoma de Madrid, Madrid (Spain) Advisor: Belen Gavela</p> <p>* Teaching experience -Physics 401C (Supervised Individual Study), Summer 2010. Physics Department, University of Washington, Seattle WA (USA)</p> <p>*Languages: -English -French</p> <p>* Other professional experience - Referee for Physical Review Letters, Journal of High Energy Physics, Physi-</p> |



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| | | | | | <p>cal Review D, Journal of Physics G: Nuclear and Particle Physics, European Physical Journal C</p> <p>* Presentations in national and international workshops:</p> <ul style="list-style-type: none"> -Workshop on holographic applications, out-of-equilibrium phenomena, gravity & analogue gravity 31/10/2012 Ecole Normale, Paris (France) -Gravity Theories and their Avatars: 2012 14/7/2012 Crete Center of Theoretical Physics, Heraklion (Greece) -HOLOGRAV: 2012 19/4/2012 Swansea University, Swansea (UK) -Paris Meeting on Holography at Finite Density 17/11/2011, AstroParticle et Cosmologie in Paris 7, Paris (France) -Large-N Gauge theories 5/5/2011, Galileo Galilei Institute, Florence (Italy) -Strongly Correlated Systems and Gauge/Gravity Duality 1/2/2011 Aspen Center for Physics, Aspen CO (USA) -XIV Mexican School on Particles and Fields 8/11/2010, Morelia -AdS Holography and the Quark-Gluon Plasma 7/9/2010, Erwin Schr &#776;edinger Institute, Vienna (Austria) -AdS4/CFT3 and the Holographic States of Matter 14/10/2010, Galileo Galilei Institute, Florence (Italy) -Large-N and Beyond, 7/7/2009, Swansea University, Swansea (UK) -From Strings to Things: String Theory Methods in QCD and Hadron Physics, 6/4/2008, Institue for nuclear Theory, Seattle WA (USA) -Exploring QCD: Deconfinement, Extreme Environments and Holography, 23/8/2007, Newton Institute, Cambridge (UK) -Gravity, strings and gauge theories, 8-11/2/2006, Santiago de Compostela -XXVIII Spanish Relativity Meeting: Beyond General Relativity |



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| | | | | | 23-25/9/2004. Miraflores |
| 43 | Química | RYC-2012-11231 | PIZARRO ARRANZ, ANA M | ana.pizarro.75@gmail.com | 1999, Degree in Chemistry, Universidad Autónoma de Madrid (UAM), focused on Inorganic Chemistry. 2000, Advanced Studies Diploma in the Department of Inorganic Chemistry, UAM. 2000-2004, FPI PhD grant. July 2006, PhD in Chemistry (UAM), entitled Synthesis and Cytotoxic Activity of Novel trans-Platinum Complexes. Hydrolysis of trans-[PtCl ₂ (NH ₃)(2-methylbutylamine)]. I specialized in characterization of new Pt(II) and Pt(IV) coordination complexes with trans geometry. I received training in cell biology experiments to carry out cytotoxicity assays on Pt-based antiproliferative complexes. Between 2001 and 2002 I visited the labs of Prof Peter J Sadler FRS at Edinburgh University on three occasions (overall 11 months) where I acquired expertise in the use of multinuclear and multidimensional NMR to help characterize the aquated species of Pt(II) and Pt(IV). This resulted in a high impact publication (Pizarro et al. Angew Chem 2003). In 2004 I was awarded with an Intra-European Marie Curie Fellowship (METCOMPLINK), to work for two years in the School of Chemistry (The University of Edinburgh), under the guidance of Prof Sadler. I specialized in the synthesis and characterization of functionalized organometallic ruthenium(II) anticancer complexes. I gained proficiency in elemental analyses using ICP-MS and ICP-OES instruments. In 2007 I wrote my first book chapter on the interaction of metal coordination complexes with nucleic acids. I was offered to continue in the Sadler group and help Prof Sadler to settle his large research group in The University of Warwick from June 2007. At The University of Warwick I was invited to lead and teach the module Chromatography in the MSc course entitled 'Analytical Science: Methods and Instrumental Techniques' (AS:MIT). This experience helped enhance my mentoring skills, as well as my analytical skills in HPLC separations of metal-containing complexes. I started up, established and was responsible for the cell biology unit in Life Sciences at Warwick for the Sadler group. My roles included training of PhD students and design of new cell biology assays that helped shape research projects in my direction. Currently I am lecturing Chemistry at ICAI (Universidad Pontificia Comillas). SCIENTIFIC PUBLICATIONS: Author in 22 papers in journals from the JCR, in the following fields: Chemistry, Pharmacology and Pharmacy, and Biochemistry and Chemical Biology. Among them: 2 Angew Chem, 1 Proc Natl Acad Sci USA, 1 Chem Sci, 3 J Med Chem, 1 Anal Chem, 1 Chem Eur J, 2 Inorg Chem. 2 reviews (1 in Chem Comm, and 1 in Biochimie, the latter awarded top-cited article for 2009-2011 by Elsevier). Author of 4 book chapters, two in specialized books, one in a text book for undergraduate university students (Molecular Biology of Cancer), and one in the second edition of the Comprehensive Inorganic Chemistry (following the 1973 edition). The chapter written in the Molecular Biology of Cancer book (Cancer Chemistry: Designing New Drugs for Cancer Treatment) represents a milestone in my research trajectory since I believe knowledge gained in this area will help shape the future of my independent career. Inventor in 1 patent. Avg IMPACT FACTOR 5.085. CITED 300 times, H-INDEX of 10. PRESENTATIONS IN |



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| | | | | | CONFERENCES: more than 30, 3 of them oral presentations. |
| 44 | Física y Ciencias del Espacio | RYC-2012-11585 | CAAMANO FRESCO, MANUEL | manuel.fresco@usc.es | <p>The candidate started his research in nuclear physics with a Master-PhD at the Univ. of Santiago de Compostela (USC) on the analysis of fragmentation reactions performed at the FRS spectrometer in GSI (Germany). Right after, his doctorate focused on the experimental finding of the 7H with the then new active-target MAYA in GANIL (France). The candidate proved the unambiguous discovery of the 7H resonance, the most exotic system ever found, along with a first study revealing a surprisingly \diamondsolid\diamond configuration. During this period, the candidate also became fully involved in the study of light nuclei with MAYA and the development of analysis and tracking reconstruction tools.</p> <p>Later, the candidate and GANIL received ECR/EURATOM funding for two years of postdoctoral stay to study a new experimental approach to produce and study exotic fissioning systems, based on transfer-induced fission reactions measured in inverse kinematics at the spectrometer VAMOS. The results showed that, for the first time, it was possible to measure fragment distributions \diamond features as a function of the characteristics of the fissioning system.</p> <p>After his stay in GANIL, the candidate moved back to the USC; firstly with a contract from the Spanish CPAN, and then with a \diamondJuan de la Cierva\diamond granted by the Ministerio de Ciencia e Innovación. There, his work in fission continued with the proposition of a new experiment with an improved detection setup. The candidate was spokesperson of both the commissioning of the new setup in 2010 and the experiment in 2011, both in GANIL. The data is now being analysed by a doctorate student supervised by the candidate. Meanwhile, the candidate revisited the current understanding of the relation between the so-called even-odd effect in the fragment distribution and the energy dissipated in fission, finding big discrepancies that force to revise the current picture of the process.</p> <p>On the light-nuclei side, the candidate designed a new experiment allowing a precise study of the 7H with the active target MAYA with unprecedented accuracy. His proposition was approved with the highest priority in 2010, running in 2011 in GANIL. In parallel, the candidate is still involved in all the activity with MAYA and the project ACTAR, an international effort to build a new iteration of the detector.</p> <p>Among these activities, the candidate opened new lines of research. His experience with active targets helped him to develop a new technique allowing the study of direct proton-capture reactions at extremely low energy. This is especially relevant for the study of $N=Z$ nuclei close to the drip-line and of the stellar rp-process. The candidate proposed a series of Letters of Intent in forthcoming upgraded facilities, HIE-ISOLDE at CERN and Spiral2 at GANIL, to start a program of systematic measurements of the properties of these nuclei and their proton-capture rates.</p> |



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| | | | | | Being more prosaic, the scientific output of the candidate can be summarized in more than 40 peer-reviewed articles, more than 20 contributions to national and international conferences and seminars. The candidate is also responsible for a collaboration project between French and Spanish institutes, and spokesperson of 6 experiments in GANIL and CERN. In addition to other teaching duties, the candidate was the supervisor of two PhD thesis (one ongoing) and graduate students in France and Spain. |
| 45 | Química | RYC-2012-10702 | ATIENZAR CORVILLO, PEDRO | pedatcor@itq.upv.es | Pedro Atienzar received his B.Sc. in Chemical Engineering at the Universidad Politécnica de Valencia (UPV) (1996-2002). Then, he started his Ph.D. studies at the Instituto de Tecnología Química-ITQ(UPV-CSIC) under the supervision of Prof. Hermenegildo García with a FPU predoctoral fellowship from the Spanish Ministerio de Educación, Ciencia y Tecnología. He obtained his Ph.D. in Chemistry from the Universidad Politécnica de Valencia (UPV) in March 2007, receiving the Cum Laude qualification. His thesis involved the synthesis, photophysical properties and applications of single wall carbon nanotubes. He performed his postdoctoral research with a postdoctoral fellowship from the Spanish Ministerio de Educación, Ciencia y Tecnología with Prof. Jenny Nelson at the Imperial College London which consistently rated amongst the world's best universities. During this period he carry out a project focus of hybrid organic-metal oxide and polymeric solar cells, as a result of the research published 7 papers and 1 patent. Since December 2009, he is performing research at the ITQ, focusing on new multifunctional materials for their use in renewable energy generation and storing. Currently, he is contracted with a Juan de la Cierva Fellowship from the Spanish Ministry. During his research collaborate with several companies such as FMC FORET or ABENGOA RENOVABLES; also he was consultant of SOLARPRESS that is a UK company on the field of polymeric solar cells. He is co-author of more than 30 high-profile publications, 21 of them with impact factor >5; 1 Nature Materials (32.841), 1 Angewandte (13.455), 1 Anv. Func. Mat. (10.179), 2 Energy of Environmental Science (9.61), 1 JACS (9.907), 2 Chem. of Mat. (7.286), 1 J. Phys. Chem, Lett (6.213), 3 Chem. Commun. (6.169), 2 carbon (6.008), 3 J. Mat. Chem. (5.97), 4 Chemistry-A European Journal (5.925), receiving a total of 1100 citations with an h-index = 15. He has attended several international congresses, presenting four oral communications. The applicant has 6 patents (3 national and 3 international, one of them as individual inventor) and he is also a peer to review of manuscripts to ACS journals (Journal of American Chemical Society, Crystal Growth & Design, Journal of Physical Chemistry). |
| 46 | Física y Ciencias del Espacio | RYC-2012-11133 | ECIJA FERNANDEZ, DAVID | david.ecija.fernandez@ph.tum.de | Dr. David Ecija is an expert in surface science focusing on scanning tunneling microscopy and spectroscopy (STM/STS) studies regarding the growth, characterization and manipulation of functional organic, inorganic and hybrid architectures on surfaces. His activity has resulted in the publication of 23 articles in high index impact of factor journals and 102 communications to congresses. His publication record includes 1 Nature Nanotechnology, 1 Nature Chemistry, 3 NanoLetters, 2 Angewandte Chemie Int. Ed., 2 ACS Nano, 1 JACS, 4 PRB, 1 ChemComm and 3 Journal of Physical Chemistry C. |



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| | | | | | <p>The researcher obtained a Master Degree (◆Licenciado◆) in Solid State Physics and a Master Degree (◆Licenciado◆) in Fundamental Physics at the Universidad Autónoma de Madrid (UAM) in July 1999.</p> <p>From January 2000 to August 2004 he held a position as an industrial physicist in Telefónica at the Technology Department. He participated in projects related to a new generation of communication networks and services, involving world leading partners like Alcatel-Lucent, Ericsson, Cisco and Hewlett-Packard. Meanwhile, he received a Postgraduate Course degree in Business Management at the Universidad Complutense de Madrid in July 2000 and he obtained a Master in Mobile Communications Systems at the Universidad Politécnica de Madrid (UPM) in July 2001.</p> <p>From October 2002 to July 2007, and in parallel with his position at Telefónica, he developed his PhD at the Department of Condensed Matter (UAM), being directed by Professor Rodolfo Miranda Soriano and by Dr. José María Gallego, obtaining full marks (◆Sobresaliente Cum Laude◆) at his dissertation. In a first stage, he built a room temperature STM in order to research the growth of inorganic copper-nitride and iron-nitrides on metallic surfaces. Later on, he implemented a new UHV system, which hosts a SPECS variable-temperature STM, to study the growth of molecules of biological importance (porphyrins) on metallic and on insulator substrates, with the objective of creating bio-mimetic systems on surfaces.</p> <p>From August 2007 to June 2009 he started his first PostDoc at the TIREMISU lab at the Department of Condensed Matter (UAM), under the direct supervision of Dr. Roberto Otero and Dr. José María Gallego. During this period, the researcher centered his attention in the interaction of donor and acceptor molecules on metallic surfaces, with the final goal of designing more efficient solar organic cells and novel light emitting devices.</p> <p>Since September 2009 he is researching at Professor Johannes V. Barth's group (Chair of Molecular Nanoscience) at the Technical University of Munich (TUM). He had first enjoyed a Marie Curie Intra-European Fellowship, followed by a contract by the ERC advanced grant MolArt. During this period he has developed two independent lines of research amenable to scanning tunneling microscopy and spectroscopy studies. His first line of research centers on novel assembly protocols based on coordination chemistry, introducing the lanthanide elements, aiming at creating hitherto unknown functional nanodevices on surfaces appealing for magnetism, molecular recognition (sensors), nanomechanics and nanoelectronics. His second line of research deals with complex surface-confined donor/ acceptor architectures, focusing on the design of nanosystems with unexpected optoelectronic properties.</p> |
| 47 | Química | RYC-2012-10364 | ALONSO GOMEZ, JOSE LORENZO | lorenzo@uvigo.es | J.L. Alonso Gómez worked during his PhD Thesis on the synthesis of allene-acetylenic systems, both cyclic and acyclic (Angew. Chem. Int. Ed. and Chem. Eur. J.) and on isotope exchange (Org. Lett.) at Vigo University with Prof. Cid. During his postdoctoral period at ETH Zurich with Prof. Diederich, he developed the enantioselective |



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| | | | | | <p>synthesis of allenes and macrocycles resulting in publications in Angew. Chem. Int. Ed., two in Chem. Eur. J., and two in Eur. J. Org. Chem. Additionally, he was the codirector of two Biannual Projects and a Master Thesis. In 2009, he moved to Columbia University as a visiting scientist in order to study the chiroptical properties of allene derivatives with Prof. Berova, results of which were published in two Angew. Chem. Int. Ed. and two Chem. Eur. J. During this period he studied exciton chirality with Prof. Harada, who was visiting the same university. In 2010, the candidate obtained the Isidro Parga Pondal research contract at Vigo University until end of 2012. His research moved from alleno-acetylenic molecules to chiral allenophanes, where the incorporation of aromatic spacers into the chiral systems aimed at further understanding and controlling the chiroptical responses to enable the design of materials with properties à la carte (Chem. Eur. J., co-director of two Master Theses, a Minor Thesis, and a PhD Thesis). This research has been funded by a MCINN project (2011) where the candidate is the IP, and a second MCINN project (2012-2014), continuation of the former, also coordinated by the candidate. Additionally, he obtained a Research Fellowship for International Young Scientists from the NSFC for exploring spiranes as building blocks in the project ♦Cavitand Capped Chiral Capsules♦ (2013) in collaboration with Central South University in China. Currently the candidate is supervising one Master student and two PhD students at Vigo University and one undergraduate student and one graduate student at Central South University in China.</p> <p>In order to obtain very strong chiroptical responses, the candidate is interested in chiral self-assemblies. In the last year he got familiar with the use of nanoparticles and explored their collective chirality with Prof. Liz at Vigo University (Angew. Chem. Int. Ed., NanoToday, and J. Phys. Chem. Lett.). With the aim of exploring the chiral amplification of macrocycles and molecular cages through self-assembly on surfaces, he established collaboration with Prof. Barth at TU Munich. The candidate stayed two months in 2011 at TU Munich to perform scanning tunneling microscopy (STM) on a chiral derivative synthesized in Vigo. The positive preliminary results lead to a stay of one of the PhD students of the candidate at TU Munich in 2012 to design novel cages for the formation of 2D networks on surfaces. The synthesis of the designed chiral cage has already been achieved by the same PhD student in Vigo and at the moment the candidate is carrying out a second two-month stay in Munich to perform new STM measurements. The construction of 2D networks with 3D chirality on surfaces is of great interest for the design of functional materials, such as logic gates, sensors and catalysts.</p> <p>Alonso Gómez has developed a web site in order to make this research more visible: webs.uvigo.es/lorenzo.</p> |
| 48 | Matemática | RYC-2012- | CABRAS , | stefano.cabras@uc3m.es | Stefano Cabras nació en Cagliari, Cerdeña, (Italia) en 1974. En 1999 terminó la licenciatura en Economía en la |



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| | as | 11455 | STEFANO | | <p>Universidad de Cagliari. En mayo del 2000 empezó el Doctorado en Estadística en la Universidad de Florencia que concluyó en Julio de 2004 con la tesis titulada "Control of the false discovery rate with frequentist p-values in Microarray data analysis" (tesis homologada en España).</p> <p>Durante este período realizó el Master in Statistics en el Departamento de Estadística de Carnegie Mellon University (Pittsburgh, PA - USA), donde también trabajó como profesor asistente.</p> <p>En el curso académico 2004-2005 trabajó en el Departamento de Estadística de la Universidad Carlos III de Madrid como profesor visitante.</p> <p>Desde el 2005 es profesor investigador funcionario en la Università di Cagliari (Italia) en el Departamento de Matemáticas y Informática, donde ha impartido distintos cursos de estadística.</p> <p>Desde el 2011 es profesor visitante en el Departamento de Estadística de la Universidad Carlos III de Madrid, donde además de las tareas docentes está encargado de la organización de los seminarios y es miembro de la comisión permanente del Departamento.</p> <p>A lo largo de estos años, su actividad de investigación se ha ocupado de distintos temas de estadística teórica y aplicada, reflejándose en diversas publicaciones en revistas de reconocido prestigio internacional. En los temas de investigación más teóricos, sus intereses han hecho particular hincapié en temas de estadística bayesiana objetiva, dando lugar a diversas publicaciones en prestigiosas revistas como Journal of the American Statistical Association, Statistical Modelling, Scandinavian Journal of Statistics o Journal of Statistical Planning and Inference. En concreto se ha ocupado de argumentos como: test de hipótesis múltiples, eliminación de parámetros molestos en ámbito bayesiano objetivo, inferencia bayesiana en modelos para valores extremos y para datos asimétricos, además de estimación de modelos no paramétricos.</p> <p>Con respecto a la investigación en estadística aplicada, ha trabajado, entre otras, en las siguientes disciplinas: antropología, robótica, geología, economía y biología, dando lugar a publicaciones en prestigiosas revistas como IEEE Transactions on Systems, Man, and Cybernetics, Annals of Human Biology o American Journal of Tropical Medicine and Hygiene.</p> <p>Ha participado en numerosos congresos, nacionales e internacionales, destacando diversas ponencias invitadas.</p> |



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| | | | | | <p>En cuanto a su colaboración y trabajo en proyectos de investigación, cabe destacar que ha formado parte de diversos equipos de investigación que han recibido financiación mediante un proyecto europeo, proyectos nacionales (italianos y españoles), además de otros proyectos públicos financiados por entidades locales (italianas y españolas). También ha participado en la promoción de la transferencia tecnológica a empresas mediante varios contratos.</p> <p>Durante los últimos años, ha impartido cursos de estadística básica y avanzada en titulaciones y maestrías en distintas universidades y realizado estancias en centros de investigación de distintos países (principalmente Italia y España, pero también Brasil y Venezuela).</p> <p>En Julio 2010 obtuvo la acreditación a Titular de Universidad en Ingeniería y Arquitectura por la Agencia Nacional de Evaluación de la Calidad y Acreditación de España.</p> |
| 49 | Ciencias de la Tierra | RYC-2012-11314 | MARCHESI , CLAUDIO | claudio@iact.ugr-csic.es | <p>I graduated in Geology at the Padua University (Italy) in December 2000. In 2001, my graduate thesis was awarded the prize for the best national dissertation in Mineralogy at the presence of the President and the Minister of the Scientific Research of Italy. In 2001-2002 I was a graduate student visitor of the Department of Mineralogy and Petrology of the University of Granada, where I started my PhD thesis in July 2002. I took my Diploma of Advanced Studies (ASD) in October 2003 and my PhD degree in Earth Sciences in December 2006, obtaining the highest grade and the European Doctorate mention. In 2007, I was a University of Granada post-doctoral researcher. In 2008 I was around one year at the prestigious, GEMOC ARC Excellence National Key Center (Sydney, Australia) where I specialized in Re-Os analyses by LA-MC-ICP-MS. In 2009 I was granted a highly competitive European FP7 Marie Curie Intra-European Fellowship to work at Géosciences Montpellier (CNRS, Montpellier, France) and Durham University (United Kingdom) where I specialized in ultra-clean lab procedures for separation of Sr-Nd-Pb-Hf-Os radiogenic isotopes and their analysis via TIMS and MC-ICP-MS. Since 2011 I work as a CSIC-JAE-Doc researcher at the Instituto Andaluz de Ciencias de la Tierra (CSIC-UGR) where I lead the set-up of an ultra-clean, metal free geochemical laboratory and ICP-MS lab (0.7 Mϕ), I am leading an EU-FP7 Grant, and supervising one PhD student. As result of these professional activities, I have acquired a strong background in theoretical and analytical petrology and geochemistry applied to the petrogenesis of igneous rocks. I am trained in modern analytical techniques such as EMPA, ICP-MS (solution and laser-ablation), ion-exchange separation chemistry (Pb, Sr, Nd, Hf and platinum-group elements), TIMS, SIMS and MC-ICP-MS (solution and laser-ablation). I have gained teaching experience as a lecturer at the University of</p> |



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| | | | | | <p>Granada (Ore Mineralogy - BSc in Geology). Since 2002, I am member of a research group funded by the Junta de Andalucía and I have participated in 10 projects financed by public calls (4 by international calls). I have presented 47 contributions in 22 prestigious international congresses (e.g., AGU, EGU, Goldschmidt Conference), five of them as invited communications. I have been convener of a session at the EGU General Assembly 2012 in Vienna. Since 2002, I have published 20 papers in journals of the Science Citation Index, 12 within the last two years. 19 of these papers are within the first quartile of its knowledge area at the year of publication (ISI-JCR), most of them in some of the top journals in Geosciences, such as Earth and Planetary Science Letters, Journal of Petrology, Contributions to Mineralogy and Petrology, Lithos and Chemical Geology (in all of them as first author). I am the first author of nine out of my 20 publications and second of four of them. According to the ISI Web of Knowledge my papers have been cited 170 times (158 after excluding self-citations), especially within the last two years, and my h-index is 6; four of my publications have been cited 30 or more times. I have acted as referee for Earth Science international journals. I currently maintain active collaborations with researchers in France, Australia, United Kingdom, Canada and USA.</p> |