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AYUDAS RAMÓN Y CAJAL – CONVOCATORIA 2022

Turno de personas con discapacidad

Nombre: ****** ********

Referencia: **RYC2022-038448-I**

Área Temática: **Ciencias físicas**

Correo Electrónico: **andresdelpinomolina@gmail.com**

Título: **Cosmology in the Local Group**

Resumen de la Memoria:

My research experience started in 2009 and covers different fields in Physics and Astrophysics. In 2014 I defended my Thesis "Stellar Populations and Kinematics of the Fornax dSph Galaxy" (Universidad de La Laguna / Instituto de astrofísica de Canarias), which represents the most detailed and comprehensive study of the Fornax dwarf spheroidal galaxy (dSph) up to date. Among other remarkable results, I demonstrated the presence of multiple rotating stellar populations in Fornax that are linked to different star formation events, and that the galaxy is the remnant of a merger of galaxies that started at redshift z ~ 1. These results were possible thanks to Beacon, a new software tool that I developed that makes use of unsupervised hierarchical clustering techniques to detect chemo-kinematic patterns in resolved stellar systems..

In 2014 I became part of the Galaxies Research Group at the Nicolaus Copernicus Astronomical Center (CAMK). There, I developed search engines that would find overdensities of barred galaxies around the most massive galaxies in the Virgo Cluster using the NED, LEDA and Galaxy Zoo astronomical databases. These codes helped us to characterize the influence of massive halos on the formation of bars and spiral arms in galaxies. I also characterized simulated galaxies from an observational point of view, exploring the capabilities of BEACON on simulated galaxies from high-resolution N-body models and the ILLUSTRIS cosmological simulation. This research lead to the application of my methods on the Andromeda II dSph galaxy, showing that the two stellar populations present in the galaxy are different not only in their age and metallicity, but also in their kinematics.

In 2017 I became a member of the HSTPROMO collaboration at theSpace Telescope Science Institute (STScI). During these last four years I have focused my efforts on designing software tools that could be used by the collaboration to analyze Gaia data. The codes and pipelines I developed have helped to produce remarkable scientific results. Some of the tools I developed, such GetGaia or GaiaHub, are currently being used by researchers at University of California, Santa Cruz in USA (UCSC), the University of Virginia (UVA), STScI and IAC, and allowed us to characterize, for the first time, the 3D structure and 3D dynamics of the Satellites of the MW. For example, the internal rotation and barred structure of the Sagittarius dwarf spheroidal galaxy, the stellar bridges between the Large and the Small Magellanic Clouds, the rotation of the Milky Way Satellites and the relation of their internal kinematics with their distance to the Milky Way.

In September 2021 I started a tenure track position at Centro de Estudios de Física del Cosmos de Aragón (CEFCA) where I am leading the Milky Way and Local Group line of research. I am also a member of the Time Allocation Committee for the Javalambre Astronomical Observatory. Lastly, I am also responsible for the Journal Club and the students program at CEFCA, and closely involved with the outreach department, leading some of the activities carried out in Teruel with the general public.

Resumen del Currículum Vitae:

I am an expert in resolved stellar populations in the Local Group. I am interested in the evolution and formation of stellar systems through the analysis of their chemistry, star formation histories (SFH), and dynamics. I have experience with commonly used photometry techniques such as precise Point-Spread-Function photometry PSF photometry in crowded stellar fields or Color-Magnitude Diagrams (CMD) fitting techniques. I am also an expert in machine learning and have developed numerous software tools that are publicly available for the astronomical community and being used worldwide. I am supervising one PhD student and have advised three other PhD students in the USA and Chile. I am also supervising the work of two junior Postodcs working at the Space Telescope Science Institute (STSci). Lastly, I have also supervised a MSc thesis in computer vision. I have been involved in the organization of seven international conferences and workshops; e.g. The Local Group: assembly and evolution (STScI, 2020); Python and astro-statistics Workshop (Nicolaus Astronomical Center, CAMK Torun, 2016). I have also organized and taught two courses of Python for astronomers and I have been involved in numerous outreach activities in Spain and the USA. I am author of around 50 papers and participated in almost 30 international meetings. I am P.I. of four large multinational projects amounting for a total of ~1 million Euro, and investigator in 10 projects amounting for more than 2 million Euro in total. I am also member of several large international collaborations such as the HSTPROMO, the OCCASO and the Spanish Network for the Scientific Exploitation of Gaia (REG) collaboration. I have a tenure track position at Centro de Estudios de Física del Cosmos de Aragón (CEFCA) where I am leading the Milky Way and Local Group line of research. I am also a member of the Time Allocation Committee (TAC) for the Javalambre Astronomical Observatory. Lastly, I am also responsible for the Journal Club and the students program at CEFCA, and closely involved with the outreach department, leading some of the activities carried out in Teruel with the general public.

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AYUDAS RAMÓN Y CAJAL – CONVOCATORIA 2022

Turno de personas con discapacidad

Nombre: ****** ********

Referencia: **RYC2022-036215-I**

Área Temática: **Cultura: filología, literatura y arte**

Correo Electrónico: **vpignagnoli@unizar.es**

Título: **Post-postmodernist U.S. fiction, Narrative co-construction, and digital storytelling**

Resumen de la Memoria:

I am a narrative theorist and a literary scholar specialized in contemporary U.S. literature and literature in the age of social media. I have been interested in reading from margin to center and what lies on the threshold of a narrative since my doctoral studies in Italy, the U.S., and the Netherlands. Because fictional worlds and the actual world are contiguous entities, I wanted to understand what happened when the thresholds, and in particular digital thresholds, were crossed. This led me, during my postdoctoral research fellowships in Italy and Spain, to the creation of new tools and the development of new frameworks to analyze the changing poetics of fiction after postmodernism.

In narrative theory, I contributed to the development of a theory for narrative communication that attends to the lack of critical apparatuses for explication of readerly differences and the lack of attention to the co-building of storyworlds and actual worlds. I also studied the interrelation of contemporary U.S. fiction and digital paratexts extensively. My main achievements in these areas include a new theory of paratextuality for narratives in the digital age, a narrative analysis of the fiction/nonfiction distinction in contemporary literature and social media, and a poetics of post-postmodernist fiction.

My remarkable research output (22 scientific articles, 4 special issues, 1 monograph, 2 edited volumes) has appeared in leading international journals such as Narrative, Poetics Today, Neohelicon, Enthymema, and the EJES (European Journal of English Studies). My monograph, Post-Postmodernist Fiction and the Rise of Digital Epitexts, has been published in the prestigious Theory and Interpretation of Narrative series of the OSU Press. It presents a new theory of paratextuality to rethink Genette s original conceptualization in rhetorical terms and accommodate the audience s input in the narrative communication and the new digital interactions on the internet and social media. My co-edited volume, Narrative Co-Construction: Author-Audience Interactions and Narrative Theory, brings together leading narrative scholars elaborating upon or benefitting from employing the theory of co-construction I developed with Malcah Effron (MIT) and Margarida McMurry (U of Birmingham) (Narrative 2019). My theory-building article, Changing Dominants, Changing Features? The Fiction/Nonfiction Distinction in Contemporary Literary and Instagram Narratives" (EJES 2019) has been later published also as a book chapter, together with distinguished scholars such as Alison Gibbons, Timotheus Vermeulen, and Robin van den Akker, in the volume Fact and Fiction in Contemporary Narratives, as per Routledge s initiative to publish significant scientific contributions originally published in special issues as books (2021).

My current research project focuses on the co-construction of work in contemporary literature, institutional narratives, and social media storytelling. The project s output one edited collection, one monograph, and 6 ground-breaking scientific articles will push the knowledge possibilities of contemporary work inquiries beyond the conventional boundaries of the scholarship in literary studies, postclassical narratology, and American studies and towards interdisciplinary dialogues with economics, the social sciences, and digital media studies.

Resumen del Currículum Vitae:

I am a Juan de la Cierva Incorporación Research Fellow at the University of Zaragoza, Spain, Department of English and German Philology. My scientific contributions include 22 scientific articles, 4 special issues, 1 monograph, and 2 edited volumes. They have appeared in leading international journals such as Narrative, Poetics Today, Neohelicon, Enthymema, and the EJES (European Journal of English Studies, and prestigious publishing houses such as The Ohio State University Press, Palgrave, Routledge, and Lexington.

I organized 14 panels and seminars at international conferences in the UK, the USA, Italy, the Netherlands, and Spain, and 1 international conference in Rome. I contributed to international conferences and workshops in Italy, the USA, France, Denmark, the UK, Belgium, the Netherlands, Lithuania, Spain, and Germany with 33 oral presentations and 4invited talks.

I graduated in English from the University of Parma, Italy (summa cum laude) in 2009, and I received a doctorate in North American Literature from Ca Foscari University of Venice, Italy, in 2014 (European Doctorate Certificate, awarded). I have been awarded 12 grants and prizes from various institutions, including the Italian Association of North American Studies, the University of Parma, Ca Foscari University of Venice, and the University of Zaragoza (total ca. 145,000). In 2016 and in 2018, I was granted by the Spanish Ministry of Science and Innovation a Juan de la Cierva Formación Grant and a Juan de la Cierva Incorporación Grant (2018).

I have been conducting research activities at many institutions in Europe and in the U.S.: Georgia State University, USA (2012), The Ohio State University, USA (2012 and 2018), the University of Groningen, Netherlands (2013-2014), and Aarhus University, Denmark (2012 and 2013), The University of Graz, Austria (2011). I have been the PI of 3 research projects and a member of 4 research projects in Italy and Spain. I have been collaborating with scholars from international institutions, such as MIT (USA), The University of Birmingham (UK), and the University of Toronto (Canada).

I taught extensively (almost 600 contact hours) at undergraduate and master levels in Italy (Torino) and Spain (Zaragoza). I have also been invited to give guest lectures at summer schools and PhD seminars in 2021 (LMU Munich, DE), 2017 (Torino, IT), 2016 (AISCLI Torino), 2015 (Venice, IT), 2013 (RUG, NL). I supervised 3 graduate students (TFM) and 8 undergraduate students (TFG).

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I have been a reviewer for 14 international journals and a member of the Proposal Review Committee for 4 international conferences of the International Society for the Study of Narrative. I was the co-chair (2016-2019) of a scientific association (AISNA early-career branch). I am a board member of the Society for Contemporary Literature (ALA) and a member of 5 scientific associations.

Since 2015, I have been collaborating with a renowned Italian literary magazine (L Indice dei Libri del Mese) with outreach reviews of American novels for the non-academic public.

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Turno de personas con discapacidad

Nombre: ****** ********

Referencia: **RYC2022-038082-I**

Área Temática: **Ciencias físicas**

Correo Electrónico: **horacio.guzman@uam.es**

Título: **Doctor en Física de la Materia Condensada y Nanotecnología**

Resumen de la Memoria:

My most recent research activity at the Jozef Stefan Institute(JSI) in Ljubljana started in October 2019 till the beginning of 2023. After 2 years at the JSI I have formed my own subgroup in computational biophysics within the physics department. Currently, the team consists of 3 students and myself, along with several on-going collaborations in Germany, USA and Chile. The research performed in my group has a primary focus on the molecular understanding of electrostatic and mechanical properties of biomacromolecules, such as the ones involved in virus capsids assembly/disassembly and RNA structure-function interrelation. Some research highlights of this period are: (i) the quantitative determination of the mechanical stability of the corona spike protein, which describes the gain in stability for viral attachment, in respect to the former corona spike(2002), and (ii) the identification of a dual regime of adsorption for RNA fragments onto flat substrates highlighting the key role conformational entropy has in the adsorption process. In addition, we were able to reconstruct the whole RNA genome of the STMV at phosphates resolution.

Previously, I was a postdoc fellow at the Max Planck Institute for Polymer Research where my research was primarily on the molecular dynamics study of biomolecules and polymers, with a strong focus on the development of advanced Coarse-Grained(CG) and multiscale molecular parsimonious models. One highlighted(press rel. LANL2019) result of this period was the development of a multiple resolution algorithm, which preserves the physical results and improves performance by more than 150%.

During my PhD studies at the UAM, I have closely interacted with experimental researchers at the ICMM-CSIC, where my research focused on the computational and theoretical modeling of soft matter interacting with a nanoscale probe. In this period, I have contributed predictive models to the determination of the peak interaction forces in dynamic AFM. In addition, to finite element simulations of contact mechanics.

Along my career I have worked in 10 Research Projects (ERC, DFG, CAM, ARRS, Fondecyt), and I am currently a Co-PI of 2 of these projects.

My research line perspective in the mid-term applies my accumulated skills in a vast amount of theoretical/computational fields, e.g., continuum, free-energy, electrostatics, nanomechanics, polymer theory, molecular simulations, enhanced sampling, data-driven analysis, among others, to study from multiple scales the mechanical and electrostatic properties of the assembly and disassembly of virus capsids, with and without their RNA genome. The main interests within this research line are to understand: (1) the underlying mechanisms triggered by electrostatics and mechanical crowding of virus-like capsids during disassembly; (2) the 3D structure of the genetic material inside the capsids by complementing our predictions with high-resolution images and chemical probing experiments; (3) boost the co-design of next-gen nanocarriers. Point 2 will profit from Prof. Perez all-atom simulations of nucleic acids, from which I will complement these simulations by building CG models and hence being able to extend those mechanical properties studies to larger nucleic acid fragments and reach experimental relevant scales for viruses.

Resumen del Currículum Vitae:

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Turno de personas con discapacidad

Nombre: ****** ********

Referencia: **RYC2022-037702-I**

Área Temática: **Biomedicina**

Correo Electrónico: **anah473@gmail.com**

Título: **Patient Derived Lymphoma Organoids as an Ex Vivo Tool to Unravel Pathogenic Mechanisms and to Evaluated Evaluate Novel Fascin Inhibitors**

Resumen de la Memoria:

Mi campo de especialización son los tumores hematológicos y los mecanismos patogénicos involucrados en la iniciación, evolución y resistencia. Tengo experiencia en la identificación de nuevas dianas y en la actualidad también trabajo en el reposicionamiento de drogas, como los inhibidores de fascina. Con mi experiencia y la que estoy adquiriendo actualmente, donde estoy trabajando en la creación de organoides derivados de pacientes con cáncer colorrectal y linfoma, me gustaría desarrollar una línea de investigación que combine estas áreas. Con todo esto, la línea de investigación es la siguiente: Organoides de linfoma derivados del paciente como herramienta ex vivo para desentrañar mecanismos patogénicos y evaluar nuevos inhibidores de la fascina. La fascina es una proteína de unión estructural a la actina esencial para la formación de filopodios y otras estructuras citoesqueléticas celulares. La fascina se expresa a un bajo nivel o ausente en las células epiteliales adultas pero su expresión se ha descrito como una proteína clave en el fenotipo tumoral invasivo y metastásico. El primer artículo que vinculó la expresión de fascina y el cáncer se publicó en 1997 y se encontró en el subtipo de linfoma de Hodgkin. La elevada expresión de fascina en las células tumorales se correlaciona con una menor supervivencia en pacientes con cáncer de mama, colon, esófago, pulmón, vejiga, páncreas, próstata y linfoma de Hodgkin. Actualizando el papel de la fascina en el linfoma, encontré una falta de estudios que sobre la expresión de fascina por RT-qPCR, RNA-seq o microarrays. Por lo tanto, se necesita realizar estos estudios ya que la fascina se ha postulado como una diana terapéutica emergente para combatir la invasión y la metástasis. Nuestro grupo ha caracterizado los efectos antitumorales de medicamentos como el antidepresivo imipramina, el antirretroviral raltegravir y otros nuevos como el monastrol. Diferentes estudios también han demostrado que la fascina está involucrada en la resistencia a la quimioterapia. Recientemente se ha descrito el efecto sinérgico entre el inhibidor de fascina, G2 y el inhibidor de punto de control inmunológico, anti-PD1. Los ICPI están indicados en aquellos LH que han sido refractarios. Estos pacientes podrían beneficiarse de la sinergia entre los ICPI y los compuestos antifascina. En esta línea de investigación también propongo estudiar organoides de linfoma derivados de pacientes que han sido resistentes a la quimioterapia. Del mismo modo, evaluaremos en modelos animales si la adición de un inhibidor de la fascina mejora la respuesta a la anticuerpo monoclonal anti-C20.A pesar de estos hallazgos, no hay una línea estable de investigación evaluando los efectos de estos compuestos en los diferentes subtipos de linfoma. La hipótesis principal de esta línea que propongo es que los compuestos anti fascina son han demostrado eficacia solos o en combinación con otros medicamentos en diferentes tipos de cáncer, y su eficacia también podría ser una realidad en los diferentes subtipos de linfoma. Mis objetivos generales son caracterizar la expresión de fascina en nuestra serie clínica, mediante secuenciación de tercera generación por nanoporo así como probar el efecto de los fármacos anti-fascina en líneas celulares de linfoma y en organoides derivados de pacientes con linfoma y, finalmente, en modelos murinos.

Resumen del Currículum Vitae:

Durante mi formación como bióloga el campo de la investigación biosanitaria despertó un gran interés en mi. El siguiente paso fue un Máster en Hematología y Oncología Clínica Experimental en la Universidad de Murcia (UMU), bajo la dirección del Dr. Jerez Cayuela que culminó con la tesis de máster: "Infraexpresión de la deubiquitinasa BAP1 en neoplasias mieloides: un nuevo mecanismo predominante en la leucemia mielomonocítica crónica" presentada en la sesión plenaria del congreso de la SEHH en 2014. Seguí en esta línea con un doctorado enfocado en el estudio del transcriptoma en neoplasias mieloides y la búsqueda de nuevas terapéuticas. Durante el doctorado la UMU me concedió una beca para hacer una estancia en el Instituto Gustave Roussy en París durante 3 meses bajo la dirección del Dr. Eric Solary. El doctorado culminó con la tesis titulada: Aplicaciones traslacionales en neoplasias mieloides de la secuenciación de nueva generación de ARN: nuevas dianas de letalidad sintética e inmunoterapia(diciembre 2018) con resultado Cum laude, mención internacional y premio extraordinario . En 2018 fui adjudicataria de una beca de la Fundación Española de Hematología y Hemoterapia junto con la farmacéutica Abbvie para trabajar en la leucemia linfocítica crónica durante dos años (2018-2019). Los resultados preliminares de este proyecto fueron presentados en ASH como comunicación oral. Para continuar con mi carrera investigadora, comencé mi formación postdoctoral en febrero de 2020 en la Universidad de Oxford en el grupo de la Dra. Boultwood trabajando en el análisis bioinformático de bases de diferentes bases de datos para la identificación de nuevas dianas en los SMD financiado por la fundación Séneca de la Región de Murcia hasta el 31 de diciembre de 2021. El 1 de enero de 2022 comencé con un contrato Margarita Salas de la Universidad de Murcia para trabajar en el grupo de Investigación en Patología Molecular y Farmacogenética del Hospital Universitario Santa Lucía de Cartagena.

Estos años se pueden resumir como:

-Máster en Hematología y Oncología Clínica y Experimental.

-Doctorado Internacional en Integración y Modulación de señales en Biomedicina.

Premio Extraordinario de Doctorado.

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-15artículo científicos. 1 como autora de correspondencia y 3 como primera autora. El artículo que corresponde a el segundo capítulo de mi tesis fue premiado como mejor publicación por el colegio oficial de biólogos y la real academia de medicina de Murcia.
- 6 capítulos científicos de libro
-49 contribuciones a congresos nacionales e internacionales. 10 comunicaciones orales como primera autora en congresos nacionales, uno de ellos presentado en sesión plenaria. 2 comunicaciones orales como primera autora en congresos internacionales. 8 póster como primera autora. 29 comunicaciones orales y póster como colaborador.
- Participación en 7 proyectos de I+D+i financiados en convocatorias competitivas.
-4 becas competitivas concedidas:
4a. Estancia predoctoral financiada por la escuela internacional de doctorado de la UM. Proyecto: Caracterización y modificación genética células madre pluripotentes inducidas establecidas a partir de pacientes con leucemia mielomonocítica crónica. 3 meses (6/2016-9/2016). Institut de cancérologie Gustave Roussy. Paris. France.
-Dirección de un TFM ya finalizado y dirección actualmente de 2 TFGs, 1 TFM internacional y una tesis doctoral.

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Turno de personas con discapacidad

Nombre: ****** ********

Referencia: **RYC2022-035922-I**

Área Temática: **Biomedicina**

Correo Electrónico: **alvaro.sebastian8@gmail.com**

Título: **Nuevas dianas terapéuticas y biomarcadores en neuropatologías**

Resumen de la Memoria:

Realicé mi tesis doctoral en el laboratorio de la Dra. Marta Nieto (Centro Nacional de Biotecnología) con el objetivo principal de estudiar las funciones de los factores de transcripción Pax6, Cux1 y Cux2 en el desarrollo de la corteza cerebral. Describimos como los genes Cux son necesarios para la expresión de reelina en las interneuronas corticales; regulan la salida del ciclo celular en precursores neurales de la zona subventricular y son reguladores intrínsecos y complementarios de la ramificación dendrítica, el desarrollo de las espinas y la formación de la sinapsis en las neuronas corticales de las láminas superiores. También desarrollé mis principales proyectos en los que demuestro que Cux1 y Cux2 regulan, de manera autónomo celular, la correcta invasión, estabilización y refinamiento de los axones de las neuronas ubicadas en las capas superiores de la corteza cerebral. Además, describo un papel novedoso del factor de transcripción Pax6 en la neurona posmitótica, su expresión es suficiente y necesaria para responder al ligando extracelular SFRP1 elongando su axón.

Durante mi primera etapa posdoctoral en el grupo del Prof. Miguel Díaz (Universidad Complutense de Madrid), nos cuestionamos si alteraciones en la transmisión purinérgica formaban parte de los mecanismos moleculares que subyacen a las enfermedades neurodegenerativas y neuropatologías. Usando un modelo múrido de hipofosfatasia infantil, pude implementar mi conocimiento previo en neurodesarrollo para encontrar una novedosa causa purinérgica de las crisis convulsivas asociadas. También encontramos una regulación purinérgica de la neuroinflamación. Como la implicación de los receptores purinérgicos en la regulación de la proteostasis en células de la glía o el papel negativo de la sobreexpresión de P2X7 en la microglía en ambientes de neuroinflamación.

En una segunda etapa posdoctoral, mi interés en la búsqueda de nuevas dianas en neurodegeneración y neuroprotección me llevó a incorporarme al grupo de la Dra. Teresa Iglesias Vacas (Instituto de Investigaciones biomédicas "Alberto Sols"). Nuestro objetivo principal fue estudiar el papel de las proteínas PKD1 y Kidins220 en la enfermedad neurodegenerativa de Huntington mediante el uso de modelos múridos, muestras de pacientes y cultivos primarios de neuronas. Describimos que la proteólisis temprana de Kidins220 mediada por la calpaina en las neuronas del estriado podría tener un importante papel en el desarrollo de la enfermedad. Durante estos 3 años, adquirí experiencia dirigiendo trabajos científicos como demuestra la co-dirección de dos trabajos fin de máster y mi primer artículo como co-autor de correspondencia.

Desde enero de 2020 dirijo de forma independiente mi propia línea de investigación dentro del grupo del Prof. Miguel Díaz-Hernández (UCM). Mi principal objetivo es estudiar si la reducción de TNAP es una posible terapia para frenar la progresión de la enfermedad de Alzheimer. En concreto, estudiaremos los posibles beneficios terapéuticos que tendría la depleción genética de la TNAP sobre la toxicidad inducida tanto por tau como por beta amiloide. Ya hemos demostrado los efectos beneficiosos de la disminución de TNAP en el modelo de tauopatía. El estudio de esta disminución en el modelo de amiloidosis junto con el comportamiento de la microglia sería uno de los principales objetivos de la RyC.

Resumen del Currículum Vitae:

- Licenciado en Biología (2000-2005) por la Universidad Autónoma de Madrid
- Doctorado en Biología Molecular (2006-2011) por la Universidad Autónoma de Madrid (Dra. Marta Nieto López CNB). Estudio de la regulación transcripcional de la guía axonal. Papel de los factores de transcripción Cux1, Cux2 y Pax6.
- Estancias breves: laboratorio de la Prof. Paola Bovolenta (6 meses. Instituto Cajal. Madrid2009/2010) y del Prof. Françoise Guillemot (2 meses. NIMR. Londres, RU. 2010) para aprender las técnicas de electroporación ex utero e inmunoprecipitación de la cromatina respectivamente.
- Estancia posdoctoral en la Universidad Complutense de Madrid (Prof. Miguel Díaz-Hernández) (2012-2016). Para estudiar si alteraciones en la transmisión purinérgica formaban parte de los mecanismos moleculares que subyacen a las enfermedades neurodegenerativas y neuropatologías.
- Estancia posdoctoral en el instituto de investigaciones biomédicas "Alberto Sols" (Dra. Teresa Iglesias Vacas) (2016-2019). Para estudiar el papel de las proteínas PKD1 y Kidins220 en la enfermedad neurodegenerativa de Huntington
- Inicio de mi línea de investigación independiente (UCM), estudio si la reducción de TNAP es una posible terapia para frenar la progresión de la enfermedad de Alzheimer. Consigo autofinanciación por la adquisición de los contratos competitivos Posdoctoral UCM (2020-2022) y Profesor Ayudante Doctor (2022).
- Mi análisis bibliográfico incluye 24 publicaciones (18 en cuartil Q1) que han sido citadas cerca de 700 veces. Soy primer o segundo autor en el 70,8 % de las publicaciones. Con un indice-h: 12.
- He contribuido a 16 proyectos científicos como equipo de trabajo liderando diversas líneas de investigación. Muchos de estos proyectos se utilizaron para financiar mis contratos.
- He presentado 46 aportaciones a congresos (23 de ellos internacionales) e impartido 9 presentaciones orales
- He dirigido o estoy dirigiendo trabajos de investigación: 2 TFGs, 6 TFMs y 1 tesis doctoral
- He recibido 12 cursos de especialización (como el manejo de animales de investigación)
- He sido premiado en 3 ocasiones
- En cuanto a actividades de evaluación, soy Review Editor in Frontiers in Molecular Neuroscience (desde mayo 2018). He sido tribunal de tesis en 1 ocasión (D Juan Carlos Gil Redondo, UCM 2020)

- En cuanto a la docencia, estoy acreditado por la ANECA como Prof. Ayudante Dr; Prof. Contratado Dr.; Prof. Universidad Privada desde 2021. He impartido un total de 358 horas en los grados de veterinaria, medicina, fisioterapia y pediatría, así como en el Máster de Neurociencias todos en la UCM. En cuanto al desglose por asignaturas, Bioquímica Básica (18h), Bioquímica Humana (6h), Bioquímica y Biología Molecular (202h), Biología (8h),

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Genética, Bioquímica y Biología Molecular (2h), Química, zoología y botánica aplicada a la veterinaria (92h), Técnicas experimentales en neurociencias (30h). También he recibido 13 cursos de formación docente (174 horas) - He participado en tareas de divulgación: Semana de la ciencia (5 participaciones, 40 horas)

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Nombre: ****** ********

Referencia: **RYC2022-035701-I**

Área Temática: **Ciencias y tecnologías químicas**

Correo Electrónico: **rporcar@ccia.uned.es**

Título: **Advanced polymeric materials in Green Chemistry to obtain compounds with high added value.**

Resumen de la Memoria:

Dr. Raúl Porcar possesses a high multidisciplinary profile, contributing with high-impact works in fields involving the use of advanced polymeric materials for application in areas like catalytic/biocatalytic transformations, responsive materials, Flow Chemistry and Green Chemistry, and having being involved in very diverse fundamental and applied research projects.

After completing a Bachelor's Degree in Chemistry at Jaume I University in Castellón (UJI) in 2006, he did a Master's Degree in Sustainable Chemistry in the Group of Sustainable Chemistry and Supramolecular Chemistry, directed by the prestigious Professor Santiago V. Luis in the Inorganic and Organic Chemistry Department (UJI). In 2007, he was awarded with a FPU fellowship, joining a PhD program in this research group working on catalytic processes based on supported catalysts and neoteric solvents. In 2011, he obtained his PhD (Cum Laude) and continued up to now at UJI as a professor and researcher. In this period, he had the opportunity to lead and develop his own research line on advanced polymeric materials and neoteric solvents for catalytic/biocatalytic transformations and flow processes.

The applicant's scientific career focuses on contributions in the fields of Advanced Polymeric Materials, Bio-Catalytic Transformations, Flow Chemistry and Sustainable Chemistry, with high-impact work and results, as a professor/researcher (Universitat Jaume I of Castellón (UJI) 2007-20). He has contributed with 33 research articles (high impact journals, Q1) and 1 book chapter; it has received 418 citations (14.93 citations/articles) with a h-index of 13; and has presented 73 contributions in national/international conferences. He has participated in 18 R&D projects (3 as IP, 2009, 2014, 2019), he has participated in 1 R&D project of a private entity (2018); he has been awarded with 3 awards (Teaching/Research Activities Recognition UJI 2016; Best Oral Communication Award, JOEB 2018; V Edition UNED-Santander 2021 research awards); and he has organized 2 R&D activities. In addition, he has established collaborations with Dr. R. Fernández-Lafuente (CSIC, Madrid), Dr. V. Gotor (Oviedo University), Dr. J. Sánchez (Montpellier University, France), Dr. P. Lozano (Murcia University) and Dr. I. Alfonso (CSIC, Barcelona).

Finally, underline that despite the applicant having a 35% degree of disability, he has demonstrated excellent and exceptional career progression, and the ability to be an independent research leader.

Resumen del Currículum Vitae:

The applicant's research career focuses on the interface of various areas of materials and chemistry, specifically in Advanced Polymeric Materials, Catalytic/Biocatalytic Transformations, Flow Chemistry and Sustainable Chemistry. He has contributed to these fields that support the project proposal with 33 research articles in high-impact SCI journals reviewed (quartile Q1) and 3 book chapters, having received 491 citations, with an average of 14.88 citations/articles, and achieving an h-index of 13; and has presented 73 contributions in national and international congresses (poster/oral communications). In addition, from 2009 to 2022, it has participated in 19 R+D projects financed through competitive calls from public or private entities, being IP in 4 of them. In addition, he has participated in 1 R+D project of a private entity (KRYPTONITE PROJECT, 2018). On the other hand, he has been awarded 3 research prizes (Banco Santander Awards for the Recognition of Teaching and Research Activities of the Teaching and Research Staff of the UJI, 2016; Award for the Best Short Oral Communication at the II Spanish Conference on Biocatalysis, 2018; UNED-Santander Research, Transfer and Dissemination, UNED, 2021), and he has organized 2 R&D activities. In addition, he has established collaborations with Dr. R. Fernández-Lafuente (CSIC, Madrid), Dr. V. Gotor (Oviedo University), Dr. J. Sánchez (Montpellier University, France), Dr. P. Lozano (Murcia University) and Dr. I. Alfonso (CSIC, Barcelona). He has been accredited as Assistant Professor, Contracted Professor and Professor at the Private University (ANECA, 2017), Professor at the University (ANECA, 2020), and he has obtained the i3 Certification (Incentive Program, Incorporation and Intensification of Research Activity, Ministry of Science, and Innovation, 2019). In 2020, he has obtained a position of Assistant Professor Doctor, Faculty of Sciences, UNED (Madrid), and, in 2022, he has obtained a position of Contract Professor Doctor, Faculty of Sciences, UNED (Madrid).

In his teaching career he has collaborated in the Supervision and Tutoring of 6 doctoral projects, 9 Master's projects and 10 Bachelor's projects, furthermore he has directed 5 Master's project (TFM) and 4 Bachelor's project (TFG), and has carried out > 500h of teaching (Chemistry Degree, Agrifood Engineering Degree, Environmental Sciences Degree, Master in Sustainable Chemistry, Master in Chemical Science and Technology, Master in Agri-environmental and Agri-food Sciences, Master in Teacher Training in Education).

It is important to underline that although Dr. Raúl Porcar has a degree of disability of 35%, he has demonstrated excellent and exceptional career progression, and the ability to be an independent research leader.

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Nombre: ****** ********
Referencia: **RYC2022-036981-I**
Área Temática: **Ciencias y tecnologías químicas**
Correo Electrónico: **marivi_morales@hotmail.com**
Título: **Heterogeneous catalysis for sustainable chemical processes and biomass valorization**

Resumen de la Memoria:

My scientific career started in 2012 (Master thesis) and has focused on the field of heterogeneous catalysis. It includes international and national stays in 5 public research institutions and most of the time I have been hired with funds raised by myself, having gained 7 competitive grants within my research career (achieved through general access since I was not recognized with a disability certificate until 2021). The main lines of research I have developed can be systematized into:

i) Valorization reactions of bioalcohols (bioethanol, biobutanol). My doctoral thesis (2014-2017, international mention, extraordinary award, UNED) was focused on catalytic transformation reactions of bioethanol into added-value products. I handed and interpreted data from catalytic tests (fixed-bed and batch type reactors) and physico-chemical characterization techniques such as XPS, XRD, TG-DTA-DSC, TPR and IR. I also assumed the responsibility of the writing of 6 manuscripts derived from my thesis. I dealt with the start-up of a new research line of the group, which led to the beginning of another PhD thesis. Nowadays I co-supervise a PhD thesis (ICP-CSIC) on biobutanol dehydration reaction, and related to this research area I was the PI of a project from ALBA call 2022-I.

ii) Design and application of nanostructured carbon materials (graphite, graphene) as heterogeneous catalysts (functionalization by heteroatom doping) or catalysts supports (of metal nanoparticles, metallic oxides). I have studied carbon nanomaterials in several type of catalytic reactions throughout my career: alcohols dehydrogenation (PhD thesis), nitroarenes reduction (predoctoral stay in Porto University, Portugal, 2015), photo-oxidation reactions (postdoctoral stay in CEMHTI-CNRS, France, ERC-project, 2018), and electrocatalysis (international collaborations).

iii) Study on deactivation mechanisms and reactivation approaches of heterogeneous catalysts (metallic nanoparticles, zeolites). Postdoctoral period in UNED (2017) and postdoctoral stay in EBRI-Astron University, UK (2017).

iv) Synthesis, characterization, and optimization of catalytic performance of supported monometallic and bimetallic nanoparticles, with emphasis on non-noble metallic nanoparticles (Cu, Ni, Co) in hydrogenation reactions. Determination of the catalytic active sites. Postdoctoral experience at ICP-CSIC (2018-2022).

v) Selective hydrogenation and hydrogenolysis reactions of 5-hydroxymethylfurfural towards added-value products and biofuels. Study of reaction mechanisms, kinetics, catalysts stability, etc. in batch-type reactors. At the beginning of this project, I was awarded a JdC-formación fellowship (ICP-CSIC, 2019) which later renounced in favor of a competitive postdoctoral contract from UNED (2020-2022).

vi) Partial hydrogenation of acetylene to ethylene (and butenes) using formic acid as hydrogen source. Design and testing of Cu-based catalysts. This is my new research line since I gained a position as an Assistant Professor and supervise a PhD thesis on this matter (UNED, 2022-nowadays).

Despite having a position as a university professor, I would be really excited to start an independent career facing novel goals defined by an innovative cross-disciplinary approach, working at the interface of nanomaterials science, catalysis, and chemical reaction engineering.

Resumen del Currículum Vitae:

PhD in Chemistry (extraordinary doctorate award, international mention, UNED, 2017), Master Chem. Sci. & Tech. (UNED, 2012) and B. Eng. Ind. Chem. (best academic record award and best first-year student award, UPM, 2009).

After working a short period at industry as an engineer, I started my research career in 2012 through a couple of competitive fellowships from the SECAT at the UNED, where I carried out my Master thesis. In 2014 I pursued my PhD counting with a competitive grant (FPI-UNED). Within that period, I was involved in the development of nanomaterials (nanostructured carbon materials, metallic nanoparticles) applied as heterogeneous catalysts for bioethanol valorization reactions (dehydrogenation and condensation). I carried out a three-month placement in 2015 at the University of Porto (Portugal).

Since I attained the doctoral degree in just three years (January 2017), UNED awarded me a special grant consisted of a postdoctoral one-year contract (POP-UNED). Within that period, I performed a two-months postdoctoral stay in 2017 at the European Bioenergy Research Institute (EBRI, Birmingham, UK). In January 2018 I moved to CEMHTI-CNRS in Orléans (France) as a postdoctoral researcher in an ERC project, where I focused on the discipline of light-activated materials and set-up an experimental procedure to carry out selective photo-oxidation reactions. However, my health condition significantly worsened and 6 months later I had to interrupt this postdoctoral training and to come back to Spain.

In September 2018, I joined the ICP-CSIC (Madrid) and continued developing my knowledge in the field of nanocatalysis, as well as in the chemistry of carbonaceous nanomaterials. In November 2019 I was awarded the "Juan de la Cierva-formación" fellowship (MICIU), which later renounced in favor of a competitive Postdoctoral contract from UNED (September 2020- April 2022) to carry out a project on the catalytic hydrogenolysis or hydrodeoxygenation reactions of furan derivatives. Nowadays I am Assistant Professor at UNED, but still actively collaborate with the ICP-CSIC.

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The quality and relevance of my work is demonstrated by a record of 21 publications (10 first author, 6 corresponding author), and 4 more in preparation (assuming the writing and the submission process). From my published record, 18 papers are Q1 and 12 are in the top 10% best journals of its category according to SJR (SCOPUS). The total citations number is 253 and h-index=10. Additionally, my research work has been presented in 21 conferences (11 international, 9 oral), sharing the award for the best poster contribution on one occasion. I have participated in 10 research projects in total, funded through competitive calls of public entities; 1 ERC Consolidator grant, 6 national projects (1 as PI), 1 project from C. Madrid and 2 by UNED (1 as PI).

I have supervised 6 final bachelor's degree projects (TFG), 3 traineeship students of bachelor's degree, 1 traineeship from SECAT, 2 Master thesis and 2 Ph.D. thesis on going (one of them to be defended next June 2023) and count on 636 h of accredited university lecturing.

I am reviewer in international scientific journals (Carbon, Appl, Catal, A: Gen., Appl. Catal. B: Environ. Etc). I am also licensed by ANECA as Associate Professor (Profesor Contratado Doctor) since 2022.