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Título:

Research on Vector-Borne Disease Epidemiology

Resumen de la Memoria:

Diseases emerging as human and/or animal pandemics constitute an increasing concern worldwide. Within the diseases emerging in the past decades (Jones et al., Nature 451:990-4, 2008), vector-borne diseases (West Nile, Japanese encephalitis, bluetongue or Crimean-Congo fever (CCHF)) are well represented (Kilpatrick & Randolph, Lancet 380:1946-55, 2012). Identifying ecological factors underlying the maintenance and prevalence of vector-borne pathogens (VBP) is paramount to design sustainable and efficient control strategies that diminish the risk of VBP transmission. Research in VBP epidemiology requires a multidisciplinary approach because it depends on abiotic, habitat, host, vector and pathogen factors.

In my career I have been trained under a multidisciplinary view to disentangle this complex network of factors. I selected model VBP for my studies: tick-borne pathogens such as Anaplasma, Rickettsia and Borrelia burgdorferi. My studies contributed to test the hypothesis that increasing wild ungulate population trends would result in increasing tick densities and tick-borne pathogen incidence; wild ungulates significantly influence tick population dynamics and pathogen prevalence. These studies were used to develop new tick-borne pathogen control strategies. I've also contributed to generate VBP risk maps to prevent health risks. Recently, I focused on VBP with a higher health impact, such as Culicoides spp.-bluetongue virus (BTV) and phlebotomine sandfly-Leishmania infantum. I've worked to disentangle the role of wild ruminants in the epidemiology of BTV in Europe. My recent research on L. infantum and its vectors identified ecological drivers of its main vector in Spain and analysed the implication of new wild hosts as L. infantum reservoirs.

Currently, I focus my research efforts in determining the species of the Culicoides genus constituting the link for bluetongue virus and Schmallenberg virus transmission between wild and domestic ruminants in the framework of a coordinated project submitted to a recent INIA call. I'm also interested in the study of factors conditioning ecological niches of phlebotomine sandfly-borne pathogens as model to understand common driving factors of VBP ecological niches in the framework of a EU-wide coordinated project that will be submitted before April 2014 to the recently opened Marie Skłodowska-Curie Innovative Training Networks (ITN) call within the European Union HORIZON 2020 Work Programme. I am co-principal investigator and coordinator in this ITN proposal.

Resumen del Currículum Vitae:

I started collaborating in research on parasites and disease monitoring in wildlife at the Animal Health Department of the University of Murcia (Spain). After getting my Veterinary Medicine degree (score: 3.11 over 4) in 2002, I gained a competitive pre-doctoral FPU grant and I started a PhD. on Wildlife Disease Epidemiology at the Spanish Wildlife Research Institute (IREC). Since then I've worked in research lines on Wildlife Disease Epidemiology and Vector-Borne Disease Epidemiology. I enjoyed two pre-doctoral stances in the laboratories of Dr. Enric Mateu (Autonomous University of Barcelona, Spain; 1 month - 2005) and of Dr. Thomas Müller (Friedrich-Loeffler Institute, Germany; 2 months - 2005). After finishing my PhD. (score: Excellent with Honours) in 2006, I gained a competitive post-doctoral contract awarded by the regional Government of Castilla - La Mancha (Spain) to work on Tick Ecology and Tick-Borne Disease Epidemiology in Scotland (United Kingdom) in collaboration with Dr. Lucy Gilbert (The Macaulay Land Use Research Institute MLURI; 6 months - 2007), and also enjoyed a stance (2 months - 2008) at the laboratories of Dr. Alan Bowman (University of Aberdeen, Scotland) for training on Borrelia burgdorferi molecular diagnostic and genotyping. During that time, I gained a post-doc contract funded by the Spanish Ministry of Health and I continued in MLURI for 8 additional months (2008). In September 2008, I moved to the Basque Institute for Agricultural Research and Development (NEIKER; Basque Country, Spain) to work on the epidemiology and control of Coxiella burnetii with Dr. Ana L. García-Pérez. After two years at NEIKER (2008-2010), I moved to IREC with a competitive post-doctoral contract awarded by the Spanish Research Council (CSIC; 2010-2011). By 1/1/2012 I started a competitive Juan de la Cierva post-doctoral contract awarded by the current Spanish Ministry for Economy and Competitiveness to continue working on my main research line at the moment, Vector-Borne Disease Epidemiology. In Feb-May 2012 I enjoyed a stance at the University of Torino (Dr. Ezio Ferroglio; 3 months) for training on molecular diagnosis and genotyping of Leishmania infantum.

Along my research career I have participated in 16 competitive projects funded by public bodies (2 of them funded by EU FP7) and in 14 contracts with private/public entities. In three of these projects/contracts I was the principal investigator. I've published 61 papers in SCI journals; cited 1178 times; my H index is 22. I have published 8 book chapters, 15 papers in divulgation journals and contributed 41 communications to national and international conferences. I have supervised 5 MSc. degree research works and a



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PhD. presented in June, 2012. I currently supervise two PhD. students. I have reviewed 36 papers for 16 SCI journals and 17 projects in competitive tenders for Spanish and French research evaluation agencies. I also have been in charge of organization and lecturing of the Masters of Science on Basic and Applied Research on Game Resources of the University of Castilla - La Mancha for the last 5 years. I co-organized and participated in the workshop **Interspecies Barriers** and in the 2nd edition of the **One Health Course** in the framework of EU FP7 Antigone project.



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Título:

Ecosystem effects of fishing disturbance

Resumen de la Memoria:

Hilmar Hinz main research line has been focusing on the wider ecosystem effects of fishing. In particular his research focused on understanding the effect of chronic fishing disturbance on benthic communities. He studied the effects of fishing disturbance on various benthic fauna components ranging from macro- to meiofauna along gradients of fishing intensities. Within these studies he was able to demonstrate that the findings of earlier experimental work could not be readily extrapolated to larger scales. Furthermore he has been investigating the environmental impacts of different fishing gears on different habitats in various studies. More recently Hilmar Hinz has been investigating the effects of fishing induced benthic community change on prey availability and condition of fish. His second line of research is focused on understanding the importance of benthic habitats for demersal fish species. Demersal fish species may use benthic habitats for shelter and food. Which habitats components are essential to provide for the specific needs of fishes is often not well understood. Within several studies he has been investigating the association of demersal fish species with different habitat parameters. In his current position at the IEO in Palma de Mallorca he is investigating the importance of macro-algae beds in coastal system for juvenile fish species. In particular he is interested in studying how energy/carbon is transferred from algae to demersal fish. The projection of his research is to combine his two main research lines to investigate the wider ecosystem effects of fishing disturbance on the condition and health of commercial target species. The stocks of many demersal fish species have collapsed under increasing exploitation pressure and despite fishery closures some have failed to recover or have recovered much slower than expected. One reason for this may lay with the indirect effects of fishing disturbance on the target species that prey on benthic species. Within this line of research he will focus on studying the changes of benthic community structure and link this to changes in the distribution, feeding types and strategies of fish and crustacean communities. Furthermore, effects on condition, reproductive quality and quantity will be studied as a proxy of fish population health.

Resumen del Currículum Vitae:

Hilmar Hinz graduated in Marine Biology from Newcastle in 1994. He further undertook a Masters Degree in Biology at the University of Oldenburg (Germany) and worked on several national and EU funded research projects for the Senckenberg Institute (Wilhelmshaven, Germany). In 2001 he joined the Coastal Resource Ecology and Management group led by Dr. M.J. Kaiser in Bangor (Wales,UK) at the School of Ocean Sciences working on Essential Fish Habitats. In 2005 he completed his part-time PhD on the habitat use of flatfishes. He further worked on the effects of fishing disturbance on benthic communities within the framework of two European projects: COST-IMPACT and RESPONSE. In 2006 he worked at the Marine Biological Association of the United Kingdom investigating the environmental context of aggregate extraction in the English Channel. In 2007 he investigated the effects of marine reserves on the recovery of benthic invertebrates in Lyme Bay (UK) as a researcher at Bangor University. Between 2009-2013 he has been working to provide scientific evidence to the Isle of Man and Welsh Governments to increase the long term sustainability of their fisheries. Hilmar Hinz has been awarded a Marie Curie Fellowship and is now investigating the trophic links between sub-littoral algal beds and fish in the Mediterranean at the IEO in Palma de Mallorca. Hilmar Hinz is an author of in total 40 peer reviewed publications of which he is first author on 10 and last author on 6. He has a current H-factor of 15 (Google Scholar). Additionally he has been publishing science reports for local governments and conservation agencies.



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Título:

Estudio de las proliferaciones de plancton gelatinoso, causas y consecuencias

Resumen de la Memoria:

La línea de investigación que desarrollo desde el año 2007 se centra en el estudio de las proliferaciones de plancton gelatinoso en los mares Mediterráneo y Antártico, su impacto en el ecosistema marino así como también su impacto socio-económico. Dentro de mi línea de trabajo estudio algunas de las preguntas científicas más importante en la actualidad en relación a la dinámica de los sistemas planctónicos, los cambios que están sucediéndose, entre ellos las marcadas proliferaciones de plancton gelatinoso que se registran en la mayoría de los mares del mundo. Así como también las posibles causas de estos cambios. Existe una relación los incrementos en la frecuencia de proliferaciones de plancton gelatinoso y los cambios ambientales más notables como por ejemplo los incrementos de temperatura o aumentos de nutrientes en las zonas costeras? Son las zonas del planeta donde la influencia de las actividades humanas en los mares son más marcadas, las zonas donde las proliferaciones de plancton gelatinoso son más frecuentes? Que parámetros ambientales pueden explicar la dinámica del plancton gelatinoso? Como afectan las proliferaciones de estos organismos a actividades humanas como pesquerías, acuicultura y turismo? Esta son algunas de las preguntas que se intentan responder a través de los estudios que llevamos a cabo en el grupo de investigación que he formado en el Instituto de Ciencias del Mar de Barcelona. A su vez a través de algunas de las tesis doctorales estamos planteando medidas de mitigación que puedan contribuir de forma significativa al manejo integrado de las zonas costeras afectadas por estas proliferaciones.

Desde mi llegada al ICM en el año 2007 se me ofreció la posibilidad de continuar la línea de investigación de Francesc Pages quien lamentablemente había fallecido. Acepte este desafío, había llegado allí para realizar un Post-Doc con Francesc. A partir de ese momento comencé a trabajar de lleno en la temática, el grupo se consolidó a través de los estudiantes que llegaron a realizar sus trabajos de Tesis y con la ayuda y asesoramiento del Josep-Maria Gili así como con la colaboración con numerosos investigadores en la temática. En la actualidad puedo realizar mis investigaciones de forma independiente, dirigir la Tesis de mis estudiantes y he conseguido buena financiación para llevar adelante los temas propuestos. En cuanto a las temáticas actuales que trabaja mi grupo, el impacto de las proliferaciones de plancton gelatinoso sobre las pesquerías y acuicultura, es una de las que considero más relevante y donde quisiera profundizar.

Resumen del Currículum Vitae:

En el CVN podrá verse en detalle lo que sintetizo a continuación. Soy Dra. en Biología de la Universidad de Buenos Aires homologado a Dra. de la Universidad de Barcelona. Tengo formación también en profesorado de Biología ya que he cursado y completado el Profesorado en Biología en la Universidad Nacional de Córdoba, Argentina. La nota media de la carrera según transformación del baremo Argentino al Español es de 3,4. He disfrutado 2 becas Doctorales en Argentina y Alemania (Alfred Wegener Institut) que me permitieron completar mi Tesis doctoral sobre el estudio del zooplancton Antártico con énfasis en los organismos gelatinosos. A posterior he obtenido dos becas postdoctorales y un contrato de Titulado Superior en el ICM-CSIC para coordinar allí los proyectos relacionados a los temas de plancton gelatinoso lo cual implicó formar y dirigir el grupo de investigación en la temática. En la convocatoria del año 2011 obtuve el contrato JAE-DOC del que disfruto en la actualidad, en la temática de las proliferaciones del medusas.

Mi línea de investigación actual es el estudio de las proliferaciones de plancton gelatinoso en los mares Mediterráneo y Antártico. Con énfasis en el impacto ambiental y socio-económico de estas proliferaciones. Sobre todo interesa el impacto sobre las pesquerías y la acuicultura. Estas líneas de investigación las llevo a cabo a través de financiación nacional (pública y privada) y Europea que he conseguido en los últimos años. Las línea de investigación se lleva adelante también en base a la colaboración con investigadores sobre la temática pertenecientes a instituciones de varios países de la cuenca Mediterránea y países como Argentina, Japón, Alemania, Australia, tal como puede verse en las publicaciones que se detallan en el CVN.

En cuanto a la formación de recursos humanos, participo en la dirección (como Directora o Co-Directora) 6 Tesis Doctorales en temáticas relacionadas a las líneas de investigación que llevo a cabo. He Co-dirigido una Tesis Doctoral que se completó en Enero del presente año. He dirigido 1 Tesis de fin de carrera ya completada y estoy dirigiendo 1 en la actualidad. He dirigido 10 Tesis de Master completadas por estudiantes de diferentes universidades Españolas y estoy dirigiendo 2 en la actualidad.

En la actualidad soy investigadora principal en 3 proyectos internacionales (1 del programa 7mo Marco Europeo y 2 de otras convocatorias Europeas LIFE+ y ENPI). Además soy investigadora principal en un proyecto Antártico de 3 años financiado por la Fundación Total y en 4 contratos con empresas y administraciones públicas. Participo en un proyecto del Plan Nacional Español:



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FISHJELLY que estudia las interacciones medusas y peces, tanto interacciones negativas como positivas.

A lo largo de mi carrera he participado en 15 proyectos científicos de I+D competitivos y en 11 convenios/contratos con empresas o entidades públicas.

He publicado 36 trabajos en revistas indexadas y 9 en revistas no indexadas, además de 10 capítulos de libros y 5 publicaciones en revistas de divulgación científica. He presentado 70 trabajos en congresos y conferencias internacionales.

En el marco de los proyectos de investigación en los que participo y/o dirijo he participado en 8 campañas Antárticas tanto en barcos como en bases y en 3 campañas oceanográficas en el Mediterráneo.



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Título:

Gut microbiota and associated nutrition strategies of manipulation

Resumen de la Memoria:

My research career has been mainly devoted to the study of the gut microbiota in livestock animals and means of manipulation through nutrition. My PhD work was focused on the study of the microbial population of the rabbit caecum, and part of it was conducted through two European Marie Curie Training Sites at the Rowett Research Institute (Aberdeen, UK) My postdoctoral activity includes research contracts in three different organizations:

- University of Reading, UK (2006-2008) in the Microbial Ecology and Health Group and collaboration with Imperial College of London, where I was focused on the study of prebiotics and their effect on the gut microbiota of healthy and inflammatory bowel disease companion animals and in collaboration with the company Hills Pets Nutrition. I was also involved in the elaboration of the book Prebiotics and Probiotics Science and Technology (2009).

- University of Zaragoza (2008-2009), where I was responsible for the development and implementation of molecular tools to study the microbial ecosystem in the gut of ruminant and monogastric farm animals. The Animal Nutrition Institute, CSIC (2009-2014) in Granada, where I have been working on the development of nutritional additives to manipulate rumen fermentation and developing the concept of Microbial Nutritional Programming. My work at CSIC is also complemented by two research stages at Aberystwyth University (UK) to foster my expertise in the use of molecular tools to understand the gut microbial ecology. During this period I have participated in four European projects, 10 research contracts with private companies and active involvement in the Rumen Microbial Genomics Network and Global Rumen Census project.

Over the last years I have been taken an active role in coordinating projects (principal investigator of 3 contracts with nutritional companies), co-supervised masters and PhD work and develop my involvement in dissemination within the livestock sector.

Resumen del Currículum Vitae:

Licenciada en Veterinaria en la Universidad de Zaragoza en 2001. Gracias a una beca AECl visite la Universidad Autónoma de Baja California durante 3 meses. Mi formación investigadora comenzó en el laboratorio de Nutrición Animal durante la tesina de licenciatura en el departamento de Producción Animal y Ciencia de los Alimentos (2002). A continuación fui becaria en un proyecto OTRI-Gallina Blanca Purina con el Dr. Carlos Castrillo, durante 6 meses.

En enero del 2003 comencé mi tesis doctoral en el mismo departamento titulada **◆Caracterización de la población cecal del conejo: Efecto del plano de alimentación y adición de antibióticos sobre la biodiversidad y el reciclaje de nitrógeno◆**. Durante el proceso de esta tesis realice dos estancias (6 meses cada visita) en el Rowett Research Institute (Aberdeen, Escocia) dentro de la red de formación de doctores Marie Curie en los programas **◆Anaerobe◆** (2003 con Dr. Newbold) y **◆Stable Isotopes◆** (2004 con Prof. Lobley), lo que me permitió obtener el Doctorado Europeo en 2006.

Mi estancia posdoctoral (2006-2008) transcurrió en la Universidad de Reading en el grupo Microbial Ecology and Health, testando los efectos de un nuevo galactooligosacárido en la microbiota de gatos y perros sanos y afectados de colon irritable con la compañía Hills Pets Nutrition (USA). Las colaboraciones con el Imperial College de Londres fueron continuas por la complementariedad de ambos campos (metabólica). Durante este periodo, en colaboración con la Universidad de Zaragoza y unos laboratorios, también utilizamos la plata coloidal como prebiótico en pollos y cerdos.

La concesión del proyecto del Plan Nacional (Desarrollo de estrategias globales de alimentación y manejo para mejorar la salud y el bienestar en las granjas cunícolas) en colaboración con la Universidad Politécnica de Valencia, me facilitó regresar a mi laboratorio de origen. En este tiempo pude poner a punto las metodologías aprendidas y supervisar a estudiantes tanto de master como de doctorado, nacionales e internacionales, así como colaborar en la organización de los simposios **◆Avances metodológicos en microbiología digestiva◆**.

En 2009 obtuve un contrato como investigadora posdoctoral (JAEDoc) del Consejo Superior de Investigaciones Científicas en el grupo de pequeños rumiantes del Instituto de Nutrición Animal de la EEZ (Granada). Con este grupo, hemos estudiado los mecanismos de acción de distintos compuestos que modifican la fermentación ruminal en el ganado ovino y caprino. Durante estos tres años además he participado en la consecución y coordinación del proyecto europeo FP7 **◆SMethane◆** en colaboración con otros 4 grupos de investigación donde hemos ofrecido una plataforma tecnológica a cinco empresas europeas con el fin de desarrollar aditivos para reducir las emisiones de metano de los rumiantes (2010-2012). Actualmente estoy contratada dentro del proyecto SOLID-Sustainable Organic and Low Input Dairying donde participando 25 grupos de investigación europeos. Además he participado en el desarrollo de



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varios contratos de investigación con empresas europeas y he sido investigador principal en tres de ellos.



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Título:

Sanidad Animal. Estudio de la interacción entre hospedador y patógeno en enfermedades infectocontagiosas de rumiantes, principalmente aquellas causadas por protozoos.

Resumen de la Memoria:

My scientific career started as an undergraduate student during the last year of the Veterinary Degree at the University of León, when I received a grant from the Spanish Government (Ministry of Education) and produced a minor thesis on maedi visna, a lentiviral infection of ruminants. I continued the research on this topic for my PhD thanks to two predoctoral grants from the regional (FPI, Junta de Castilla y León) and national Governments (FPU, MEC). My PhD thesis obtained the maximum calcification (Sobresaliente cum laude) and the Extraordinary Doctorate Award of the Veterinary Faculty, University of León (2007).

After finishing my PhD I moved to Moredun Research Institute, Edinburgh, UK with a permanent postdoctoral position as Veterinary Research Immunopathologist, where I worked for 3 years and 4 months. In this time I participated in several research projects focused on analyzing the host-pathogen relation in different diseases of ruminants (i.e. neosporosis, toxoplasmosis, malignant catharral fever, infectious bovine rhinotracheitis and louping ill). My role in these projects was centered in analyzing the immune response developed by the host as a consequence of the infection and how the vaccination or host strain could influence over this response. At this time I was granted a research project as co-Principal investigator, and had the opportunity to supervise degree and PhD students.

As my second Postdoctoral position I moved to the Instituto de Ganadería de Montaña (CSIC-University of León), Spain, under a JAE-doc contract (CSIC) for three years. In 2011 I was granted a research project (Ref. AGL2011-30205) by the Spanish Government (MICIN) as Principal Investigator, which allowed me to initiate a new line of research in the institute based in the study of protozoan diseases of ruminants. Within this line of research, I have been also granted as Principal Investigator two research projects: one within the European NADIR Transnational Access Projects and other from the BSAS/Biosciences KTN program. Currently, I also participate in an international research project (National Swiss Foundation) on this subject.

During my scientific career I have published 45 peer-reviewed papers, 30 of them in journals within the first quartile of the area of research, 11 as first and 1 as last author. I have participated in 13 research projects (6 national and 7 international), 3 of them as Principal Investigator, and 11 research contracts, 4 of them as Principal Investigator. Co-supervised 2 PhD theses, 2 final year dissertations and 1 master thesis. I have also published 16 papers in knowledge transfer journals.

Resumen del Currículum Vitae:

My CV could be divided into the following lines of research:

-Research line on protozoan diseases of ruminants. In this area, my work has been mainly focused in studying the pathogenesis of the abortion. As part of this work, I have participated in:

- ◆ 6 research projects, 3 of them as Principal Investigator.
- ◆ 8 scientific publications, all of them within the first quartile of the area (Veterinary Sciences) and 6 of them published in Veterinary Research, the journal located at the highest position of the area.
- ◆ Co-supervision of 1 final year dissertation, 1 Master Thesis and 1 PhD thesis.

-Internationalization of the research activity. Since the beginning of my research activity, I have been actively collaborating with international groups. This collaboration is shown by:

- ◆ My participation in 8 research projects funded by international bodies, 2 of them from the European Commission (6th and 7th Framework Programmes), and 2 of them as Principal Investigator. I also participated in 1 research contract with the Scottish Government.



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- ◆ Publication of 17 research articles in collaboration with international scientists, 12 of them within the first quartile of the area where published.
- ◆ Part of my post doctoral research activity (42 months so far) has been carried out in a worldwide recognized international research institute (Moredun Research Institute, UK).
- ◆ My participation in 1 international research group and 1 international research network.
- ◆ The co-supervision of 1 PhD thesis and 1 final year dissertation in international institutions.

-Line of research on Maedi visna. This was the line of research I developed during my PhD, where we studied the pathogenesis of the nervous form of this lentiviral disease of sheep. As part of this work, I participated in:

- ◆ The publication of 11 research articles, 6 of them in journals within the first quartile of the area where published.
- ◆ 2 national research projects.

-Collaboration with other Lines of Research. As part of my research activity, I have been actively collaborating with other lines of research carried out in those institutions where I have developed my career. My collaborations have been focused in two main areas:

- ◆ The analysis of the host (ruminant) immune response against infectious diseases:
 - The publication of 12 research articles, 9 of them in journals within the first quartile of the area where published.
 - My participation in 5 research projects, 3 of them funded by international bodies.
 - The co-supervision of 1 PhD thesis and 1 final year dissertation.

- ◆ Animal health and diagnostic pathology on livestock:
 - The publication of 14 articles in scientific journals, 8 of them within the first quartile of the area where published.
 - My participation in 1 international contract

-Knowledge transfer activity. A significant component of my scientific activity has been to collaborate with the pharmaceutical and livestock industry and with the farmer and veterinary community as well. This has been achieved through:

- ◆ My participation in 11 research contracts, 10 of them with pharmaceutical or livestock companies and 4 of these as Principal Investigator.
- ◆ The publication of 16 articles on animal health in specialized journals of the livestock sector
- ◆ The delivery of 6 seminars or oral presentations to farmers or veterinary clinicians.



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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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Título:

Dissecting the genetic architecture of complex traits in livestock species using genetics, genomics and bioinformatics methodologies

Resumen de la Memoria:

I graduated in Veterinary Medicine in 2000 at the Autonomous University of Barcelona (UAB). In January 2001 I started my doctorate studies in the Animal Production programme at the Department of Animal and Food Sciences of the UAB with a PhD fellowship FI from Generalitat de Catalunya. The main goal of my PhD project was to obtain transgenic mice able to express the human follicle stimulating hormone (hFSH) in their mammary gland. In parallel, I worked in the regulation of milk protein gene expression at DNA level and in the identification and characterization of genes and polymorphisms that affect productive traits in livestock species. In April 2005 I defended my PhD thesis with qualification of Excellent Cum Laude. My thesis got the extraordinary award from UAB. After finishing the PhD thesis I participated actively in two contracts of special relevance with companies. In June 2006 I was granted with a postdoctoral fellowship Beatriu de Pinós from AGAUR (Generalitat de Catalunya) to do a postdoctoral stay in the Institut National de la Recherche Agronomique (INRA) in Jouy en Josas (France). During this period, I develop new tools to study the milk protein gene regulation at the chromatin and nuclear levels and I demonstrated for the first time the nuclear organization of milk protein genes in mouse mammary epithelial cells. In January 2008 I incorporated at the Research Centre on Animal Health (CRESA) in Barcelona with a postdoctoral contract Juan de la Cierva (MICCIN). During the four years of contract I worked in the African swine fever virus team and I actively collaborated with other teams of CRESA, leading different works and supervising PhD students (ASFV, TTsuV, PCV2, Haemophilus parasuis, IA teams). The principal aim of my work consisted in the development of immunization libraries to characterize new African swine fever (ASF) antigens to be used as vaccine candidates in DNA vaccines. In parallel, I developed my own project on host-pathogen interactions and viral pathogenesis describing, for the first time, the dramatic modifications suffered by the host nucleus early after ASF virus infection. Since January 2012 I am working in the Center for Research in Agricultural Genomics (CRAG) with a postdoctoral contract in the research group of Dr Josep M. Folch Albareda. The main research line in which I am working is the identification, characterization and functional validation of genetic variants affecting important economical traits in livestock species using state-of-the-art genetics, genomics and bioinformatics methodologies. Recently, we have identified a strong candidate causal mutation in the ELOVL6 gene to explain a QTL affecting palmitic and palmitoleic acid composition in pig chromosome 8, and currently we are working in the characterization of the functional mechanism underlying this complex trait. During my research trajectory, I participated in nine R+D+I projects and two R+D+I contracts with companies. I am member of the workpackage #1 on the rabbit genome in a European COST action (RGB-Net). I am author and coauthor of 35 articles indexed in SCI and one book chapter and I am co-inventor of two patents. I have supervised three master theses and one European doctoral thesis, and currently I am co-directing two PhD theses and two Master theses in the Animal Genetics field.

Resumen del Currículum Vitae:

After obtaining my degree in Veterinary Medicine in 2000 at the Autonomous University of Barcelona (UAB), I developed my research career in different fields ranging from basic to practical research that enabled me to become a multidisciplinary researcher. During my research trajectory, I participated in nine R+D+I projects (two of them international) and two R+D+I contracts with companies. I have been granted with different fellowships: FI from AGAUR (Generalitat de Catalunya) to perform my doctorate studies in the Department of Animal and Food Science at UAB, obtaining the ♦Extraordinary PhD award♦ from UAB, Beatriu de Pinós postdoctoral fellowship from AGAUR to perform a postdoctoral stage in the Institut National de la Recherche Agronomique in Jouy en Josas (France) and Juan de la Cierva postdoctoral fellowship of Spanish Ministry of Science and Innovation to perform a postdoctoral stage in the Research Centre on Animal Health in Barcelona. Since January 2012, I am working as a postdoc in the Center for Research in Agricultural Genomics (Barcelona). The main research line in which I am working is the identification, characterization and functional validation of genetic variants affecting important economical traits in livestock species using state-of-the-art genetics, genomics and bioinformatics methodologies. I am author and coauthor of 35 articles indexed in SCI (4 under review; 15 as a first author, 10 as second author, two as a co-director and three as a principal researcher). The relevant positions (first, second or last author) acquired in the scientific publications reflect my leadership, independent thinking and work capacity. In addition, approximately 30% of my publications are the result of collaborative work with teams in other countries, demonstrating my participation in international collaborations. From the 31 already published articles, 20 are in the Q1 of their respective categories. Importantly, the rest of articles (with the exception of two) are published in journals with an impact factor equivalent or superior to the first journal of the Animal Science category. I am author of one book chapter (first author and corresponding author) and I am co-inventor of two patents. In addition, I contributed 57 times (included invited talks) to international and national symposia, with four



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articles directed to general public and with the elaboration of a webpage to give support to the users of the **DAG expression** software. I taught seminars and laboratory practices of Genetics subject from the Veterinary Medicine degree. I have supervised three master theses and one European doctoral thesis, which have obtained the maximal qualifications, and currently I am co-directing two PhD theses and two Master theses in the Animal Genetics field. Also, I have supervised the final degree work of several students. I am reviewer of manuscripts for the BMC Veterinary Research, Molecular Biotechnology, Spanish Journal of Agricultural Research among others. In 2012, I was granted with an International Training School Award from the European Cooperation in Science and Technology (COST action). Last year, I obtained the AQU accreditation for tenured assistant professor. Currently, I am member of the workpackage #1 on the rabbit genome in a European COST action (RGB-Net) and the Molecular Genetics applied to Animal Breeding group of UAB (2009SGR100).