

## RESEARCH GROUP BACKGROUND AND ACCOMPLISHMENTS

**2009-2014**

**JOINT RESEARCH UNIT ON GENOMICS AND HEALTH Centre for Public Health Research  
(CSISP)/Cavanilles Institute for Biodiversity and Evolutionary Biology,  
University of Valencia.**

## **CURRENT MEMBERS OF THE RESEARCH TEAM**

### **Research fellows, lecturers, senior research fellows and professors**

Prof. Andrés Moya Simarro. Professor of Genetics. Head of CSISP.  
Prof. Fernando González Candelas. Professor of Genetics.  
Prof. Amparo Latorre Castillo. Professor of Genetics.  
Dr. F. Xavier López Labrador. FIS (ISCIII) Senior Research Fellow.  
Dr. Alex Mira. Senior Research Fellow.  
Dra. M. Pilar Francino. Senior Research Fellow. Head of Department.  
Dra. María Alma Bracho Lapiedra. "Miguel Servet" FIS (ISCIII) Research Fellow.  
Dr. Giuseppe D'Auria. "Miguel Servet" FIS (ISCIII) Research Fellow.  
Dr. Rafael Sanjuán Verdaguer. "Ramón y Cajal" Research Fellow.  
Dra. María José Gosalbes Soler. CIBERESP Research Fellow. Part time Lecturer of Genetics.  
University of Valencia.  
Dr Carles Úbeda. "Ramón y Cajal" Research Fellow.  
Dr Iñaki Comas Espadas. Marie-Curie Research Fellow.

### **Research assistants and associates**

Dr. Vicente Pérez-Brocal. FIS "Sara Borrell"(ISCIII) Research Associate.  
Dra. Yvonne Valles. CSISP-Consolider (MICINN) Research Associate.  
Dr Alfonso Benítez Páez. CSISP-Consolider (MICINN) Research Associate.  
Dr. Ferran Palero Pastor. "Juan de la Cierva" (MICINN) Research Associate.

### **Scientific officers**

Dra. Nuria Jiménez Hernández. Research Officer.  
Pascual Asensi. IT Systems Administrator.  
Lúcia Martínez Priego.  
Alejandro Artacho Pérez.  
Concepción Hueso Climent.  
Dra. Manuela Torres Puente.  
M.<sup>a</sup> Loreto Ferrús Abad.  
M.<sup>a</sup> Dolores Catalán Serrallo.  
Aurea Simón Soro.

### **PhD students**

Ana Durban Vicente.  
Ana Elena Pérez Cobas.  
Pedro Belda.  
Raúl Cabrera.  
Rodrigo García López  
Jorge Francisco Vázquez Castellanos  
Maria Dzunkova  
Karina Salvatierra  
Leonor Sánchez Busó  
Juan Ángel Patiño Galindo

### **MSc students**

Marta Adriana Pinto Carbó  
Andrea García Montaner  
Silvia Moriano Gutiérrez

### **Past members of the research group**

Dr. Javier Tamames. “Miguel Servet” FIS (ISCIII). 2007-2010.  
Dr. Miguel Pignatelli. Research Fellow, CIBERESP. 2006-2010  
Dra. Araceli Lamelas. PhD student and Scientific Officer. 2004-2011  
Dr. Ignacio González Bravo. “Ramón y Cajal” Research Fellow.  
Dr. Juan José Abellán. Senior Research Fellow. 2008-2012  
Dr. Francisco Peris Bondía. PhD student 2009-2012  
Anouk Willemsen. Scientific Officer. 2009-2011  
Dr. Luis David Alcáraz. UVEG-Explora (MICINN) Research Associate. 2010-2012  
Dra. M.<sup>a</sup> Desamparados Ferrer. Scientific Officer. 2010-2011  
Dra. Mireia Coscollá. GV Research Associate.  
Beatriz Mengual. PhD student. 2009-2012

### **RECORD OF THE JOIN RESEARCH (Period 2008-2013)**

#### **GROUP ACTIVITIES**

The research team's main goal is essentially the development of new approaches for the genomic, metagenomics, epidemiological and evolutionary analysis of infectious diseases particularly those associated to the human microbiota and those which are of special health concern in the Comunitat Valenciana. As basic objectives our aim is the genome sequence identification of different pathogens and the comparative and evolutionary analyses of its DNA sequence. As applied objectives our aim is to identify pathogen genetic factors (from virulence genes to antigenic properties) that can inform the action of public health control measures.

#### **LINES OF RESEARCH**

1. Genomics of microorganisms.
2. Metagenomics of microbial communities.
3. Molecular epidemiology and evolution of microorganisms.
4. Bioinformatics and biostatistics.

#### **CURRENT COLLABORATIONS WITH OTHER RESEARCH GROUPS**

##### **Valencian Community:**

##### **- At the University of Valencia**

1. With the group of the Dr José M. García-Verdugo of the Instituto Cavanilles of the Universitat de València, on Study con Electron Microscopy of the Bacteriocytes from several species of aphids and cockroaches.

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2. With the group of the Dr Ricardo Jiménez Peydró of the Instituto Cavanilles of the Universitat de València, on the characterization de endosymbionts de cockroaches.
3. With Dr Enrique Font, on the sequencing of genes involved in vision of lizards and on Molecular Genetics of the vision in the UV in lizards.
4. With Dr Manuel Serra, on the development of molecular markers for the identification of cryptic species of rotifers.
5. With Dr Joaquín Baixeras, on evolution and bar-coding in the family Tortricidae (Lepidoptera).
6. With Dr Maria Dolores Bagues, on the population structure and genetic diversity of Triatominae and *Fasciola hepatica*.
7. With Dr Álvaro Peña, on the reconstruction of a molecular phylogeny of Hydrozoans.
8. With Dr Manel Porcar, on new methods for identification of transgenic corn based on the PCR.
9. With Dr Carmen Amaro, on the evolution and population genetics of *Vibrio vulnificus*.
10. With Drs. Concepción Gimeno, David Navarro, José Miguel Nogueira, on the molecular epidemiology and evolution of Influenza (H1N1) 2009 virus.

**National:**

1. With Dr Jose Aurelio Castro Ocón, from Universidad de las Islas Baleares, to work on the evolution of RNA viruses.
2. With Dr Vicente Catalán, from Labaqua S.A., on population genetics and molecular epidemiology of *Legionella pneumophila*.
3. With Dr Carmen Pelaz of the Instituto Carlos III, on sequencing of *Legionella* strains.
4. With Dr Roderic Guigó, de Genome España, in its node of Barcelona (IMIM, CRG, Universitat Pompeu Fabra) on the anotation of the genome of the aphid.
5. With Drs. Francisco Montero de the Universidad Complutense and Toni Gabaldón of the Centro de Regulación Genómica, on the theoretical analysis of metabolic pathways and networks.
6. With Drs. Álvaro Moreno, Universidad of the País Vasco, and Jesús Catalá, Universidad Cardenal Herrera-CEU, on historical and philosophical aspects of the origin of life.
7. With Dr Pilar Catalán, de the Universidad de Zaragoza, on the genetic and population analysis and development of molecular markers for endemic and endangered vegetal species.
8. With Dr Enrique Ortega, of the Servicio de Enfermedades Infecciosas of the Hospital General Universitario de Valencia, on the molecular epidemiology of the hepatitis C virus and the co-infection HCV-HIV.
9. With Dr. Xavier Bosch and Dr. Silvia de Sanjosé, at the Catalan Institute of Oncology, Barcelona, on the evolution of Papillomaviruses.
10. With Dr Juan Ramón González, at the Centre for Environmental Epidemiology (CREAL), Barcelona, on the development of statistical methods and tools in genomics and metagenomics.
11. With Dr Marina Berenguer, Hospital Universitari la Fe de Valencia, on the immunology and molecular epidemiology of the hepatitis C virus infection before and after liver transplantation, and the resistance to antiviral therapies.
12. With Drs. Vicente Ausina, Lurdes Matas and Elisa Martró on the molecular epidemiology of the hepatitis C virus infection and the resistance to antiviral therapies.
13. With Dr. Juan Carlos Galán, from Hospital Ramón y Cajal (Madrid), on the evolutionary analysis of infectious pathogens.

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14. With Dr. Miguel Thomson, from Centro Nacional de Microbiología (Instituto de Salud Carlos III, Madrid) on the molecular epidemiology and evolution of HIV.
15. With Dr. Africa Holguin, from Hospital Ramón y Cajal (Madrid), on the molecular epidemiology and evolution of HIV in Spanish populations.
16. With Drs. Miguel Gobernado and Juan Córdoba, Hospital Universitari la Fe de Valencia, on the molecular epidemiology and evolution of Influenza (H1N1) 2009 virus.
17. With Dr. Jordi Casabona, from CEESCAT (Badalona), on the molecular epidemiology of HIV and other sexually transmitted pathogenic microorganisms.

**International:**

1. With Drs. Jean Christophe Simon, Claude Risse and Denis Tagu, from INRA, Rennes (France), on the study of the population biology of aphids and molecular biology of life-history traits.
2. With the International Consortium for Aphid Genome, headed by Dr. David Stern (Princeton, USA).
3. With Drs. Purificación López and David Moreira from CNRS-Université Paris XI (France), in the phylogenetic study of metabolic pathways and metagenomic analysis.
4. With Dr. Edward Holmes, from Penn State University (USA) on the evolution of RNA viruses.
5. With Prof. Abelaziz Hedi, from INSA-Lyon (France), in sequencing the genome of the primary endosymbiont of *Sitophilus oryzae*.
6. With Dr. M. Hattori, RIKEN Center, Japan. Sequencing the genome of the secondary endosymbiont of the aphid *Cinara tujafilina*.
7. With Dr. Borys Wróbel, from Oceanographic Institute in Gdansk (Poland), on dating viral infection events.
8. With Prof. Eduardo P. C. Rocha, from Institut Pasteur, Univ. Paris VI (France), on the genome evolution of *Mycobacterium leprae*.
9. With Dr. François Delmotte from INRA in Bourdeaux (France), on the evolution of bacterial endosymbionts of insects.
10. With Dr. Ivan Matic, INSERM, Paris (France), on adaptive radiations in structured bacterial communities.
11. With Dr. Nikos Kyrpides, DOE Joint Genome Institute (USA), on selection for biodiesel production in bacteria.
12. With Dr. Feng Chen, DOE Joint Genome Institute (USA), and Dr. Howard Ochman, University of Arizona (USA), on metagenomics of the gastrointestinal microbiota.
13. With Dr. Parag Vaishampayan, NASA Biotechnology and Planetary Protection Group (USA), on inhibitors of antibiotic resistance.
14. With Dr. Yvonne Agerso, University of Copenhagen (Denmark) and Miriam Barlow, University of California Merced (USA) on antibiotic resistance in the gastrointestinal microbiota.
15. With Dr. Mónica Medina, University of California Merced (USA) on evolution of mitochondrial genomes.

**SCIENTIFIC/TECHNICAL RECORD**

**1. Research projects funded**

1. 2012-2015. *Red Iberoamericana sobre Pneumocystosis. IBEROP-NEUMOCYSTITIS.*  
Entidad Financiadora: Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo

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- (CYTED). Nº Expediente: P211RT0326. Importe: 30.000,00 €. Duración: 2012-2015.  
Responsable del grupo español: Andrés Moya Simarro.
2. 2012-2015. *Programación de circuitos microbianos en medicina protectiva y terapéutica. PROMPT*. Entidad Financiadora: Comunidad de Madrid. Programas de I+D en Biomedicina 2010. Nº Expediente: P2010/BMD-2410. Importe: 0 €. Duración: 2012-2015. Grupo colaborador asociado: Investigador Andrés Moya Simarro.
  3. 2012-2015. *Formación de doctores del programa nacional de formación de profesorado universitario (FPU)*. Entidad Financiadora: Ministerio de Educación. Nº Expediente: PR11/104. Importe: 60.252,00 €. Duración: 2012-2015. Investigador responsable: Juan Ángel Patiño Galindo.
  4. 2012-2015. *Formación de doctores del programa nacional de formación de profesorado universitario (FPU)*. Entidad Financiadora: Ministerio de Educación. Nº Expediente: PR11/105. Importe: 60.252,00 €. Duración: 2012-2015. Investigador responsable: Maria Dzunkova.
  5. 2012-2014. *Papel de la microbiota en la defensa frente a infecciones por Enterococo*. Entidad Financiadora: MICINN. Nº Expediente: SAF2011-29458. Importe: 140.000,00€. Duración: 2012-2014. Investigador responsable: Carles Ubeda Morant.
  6. 2012. *Metagenómica poblacional de las comunidades microbianas humanas: Aspectos experimentales y computacionales*. Entidad Financiadora: MICINN. Estancias breves FPI. Nº Expediente: EEBB-I-12-05561. Importe: 5.250,00 €. Duración: 2012. Investigador responsable: Pedro Belda Ferre.
  7. 2011-2015. *Subprograma Ramón y Cajal (RyC)*. Entidad Financiadora: MICINN. Nº Expediente: PR 10/149. Importe: 207.480,00 €. Duración: 2011-2015. Investigador responsable: Carles Ubeda Morant.
  8. 2011-2015. *Ayudas predoctorales de formación en investigación en salud (PFIS)*. Entidad Financiadora: MICINN, ISCIII. Nº Expediente: FI10/00835. Importe: Becario CSISI-UVEG. Duración: 2011-2015. Investigador responsable: Jorge Francisco Vázquez Castellanos.
  9. 2011-2014. *Role of the Microbiota in the Defense Against Antibiotic Resistant Pathogens-Flora Stop Infection*. Nº Expediente: Grant Agreement nº PCIG09-GA-2011-293894. Importe: 100.000,00 €. Duración: 2011-2014. Investigador responsable: Carles Ubeda Morant.
  10. 2011-2013. *Infraestructuras*. Entidad Financiadora: MICINN. Nº Expediente: PTAC2010-00629. Importe: 56.700, 00 €. Duración: 2011-2013. Investigador responsable: Nuria Jiménez.
  11. 2011-2013. *Secuenciación de Hemigenomas y Pirosecuenciación Ultraprofunda de aislados Clínicos del Virus de la Hepatitis C*. Entidad Financiadora: FIS (ISCIII). Nº Expediente: PI10/00512. Importe: 75.020,00 Euros. Duración: 2011-2013. Investigador responsable: Francisco Xavier López Labrador.
  12. 2011-2013. *Biodiversidad y Evolución de Papilomavirus*. Entidad Financiadora: MICINN. Nº Expediente: CG2010-16713. Importe: 100.000,00 Euros. Duración: 2011-2013. Investigador responsable: Ignacio González Bravo.
  13. 2011-2013. *Programa de Incentivación de la incorporación e intensificación de la actividad investigadora*. Entidad financiadora: I3. MICINN. Nº Expediente: PR 10/127. Importe: 63.807,74 €. Duración: 2011-2013. Investigador responsable: Pilar Francino.
  14. 2011-2012. *MTB – High throughput sequencing to reveal the causes and consequences of Mycobacterium tuberculosis genomic variation*. Entidad Financiadora: Marie Curie Actions. Nº Expediente: PR 10/132. Importe: 166.566,00 €. Duración: 2011-2012. Investigador responsable: Iñaki Comas

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15. 2011-2012. *Epidemiología molecular de las coinfecciones de VIH con virus de la hepatitis C (VHC) en nuevos diagnósticos de virus de la inmunodeficiencia humana (VIH)*. Entidad Financiadora: Conselleria de Educación. Nº Expediente: PGV/2011/008. Importe: 4.500,00 Euros. Duración: 2011-2012. Investigador responsable: Maria Alma Bracho.
16. 2011. *Ayudas para grupos de investigación de calidad contrastada. Programa Gerónimo Forteza*. Entidad Financiadora: Conselleria de Educación. Nº Expediente: FPA/2011/002. Importe: 9.300, 00 €. Duración: 2011. Investigador responsable: Ignacio González Bravo.
17. 2011. *Ayudas para la contratación de personal investigador doctor*. Entidad Financiadora: Conselleria de Educación. Nº Expediente: PR 10/112. Importe: 3.632,50 €. Duración: 2011. Investigador responsable: Ignacio González Bravo.
18. 2010-2014. *Microbioma humano*. Parte del proyecto coordinado "Microbial Comparative Genomics". Entidad financiadora: MICINN - Programa CONSOLIDER, Entidades participantes: CSISP, UVEG, U. País Vasco, U. Islas Baleares, U. Granada, E.E.Z.-CSIC, IRNAS-CSIC, U. Miguel Hernández, U. Politécnica de Madrid, IVIA. Duración: 2010-2014. Cuantía de la subvención: 380,000 € (grupo CSISP). Investigador responsable: A. Mira.
19. 2010-2013. *Adaptive Radiation in structured bacterial communities*. Entidad Financiadora: ANR (Agence Nationale de la Recherche, France) Cuantía de la subvención: 499.408 €. Investigador responsable: Ivan Matic (M. P. Francino co-PI).
20. 2010-2013. *Contrato Postdoctoral Sara Borrell*. Entidad Financiadora: FIS (ISCIII). Nº Expediente: CD09/00101. Importe: 144.000 €. Duración: 2010-2013. Investigador responsable: Vicente Pérez Brocal.
21. 2010-2013. *Formación de doctores del programa nacional de formación de profesorado universitario (FPU)*. Entidad Financiadora: Ministerio de Educación. Nº Expediente: AP2009-5234. Importe: 60.252,00 €. Duración: 2010-2013. Investigador responsable: Leonor Sánchez Busó.
22. 2010-2013. *Realización de tesis doctoral asociada al programa SAF 2009130320C02 02. BECA FPI*. Entidad Financiadora: MICINN. Nº Expediente: BES2010 036102. Importe: 54.816 €. Duración: 2010-2013. Investigador responsable: Pedro Belda Ferre.
23. 2010-2012. *Metagenómica de la microbiota humana: Aspectos experimentales y computacionales*. Entidad financiadora: MICINN. Duración: 2010-2012. Cuantía de la subvención: 150.000 €. Investigador responsable: A. Mira.
24. 2010-2012. *Metagenómica poblacional de comunidades microbianas humanas*. Entidad financiadora: Ministerio de Ciencia e Innovación. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 320.000 €.
25. 2010-2012. *Citometría de flujo y genómica de cálculos individuales aplicada al estudio de la colitis asociada a Clostridium difficile*. Entidad Financiadora: ISCIII. Nº Expediente: CP09/00049. Importe: 92.960,00 €. Duración: 2010-2012. Investigador responsable: Guiseppe D'Auria.
26. 2010-2012. *Programa de Incentivación de la incorporación e intensificación de la actividad investigadora. ( I3)* Entidad Financiadora: MICINN. Nº Expediente: PI3I2008-0381. Importe: 100.584,74 €. Duración: 2010-2012. Investigador responsable: Alex Mira Obrador.
27. 2010-2012. *Contratos de Investigación doctores del Sistema Nacional de Salud (I3 SNS)*. Entidad Financiadora: FIS, ISCIII. Nº Expediente: CES07/020. Importe: 60.000,00 €. Duración: 2010-2012.
28. 2010-2012. *Escoger bien las palabras: uso viral de codones y evasión de la respuesta inmune*. CODOVIR. Entidad Financiadora: MICINN. Nº Expediente: BFU2009-06702-E/BMC. Importe: 75.000 Euros. Investigador responsable: Ignacio González Bravo

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29. 2010-2011. *Integración de los patrones de expresión génica de diferentes cepas de MTB bajo condiciones que imitan latencia y diversidad genómica entre cepas.* Entidad Financiadora: Conselleria de Educación. Nº Expediente: APOSTD/2010/001. Importe: 79.587,00 €. Duración: 2010-2011. Investigador responsable: Mireia Coscollà.
30. 2010. *Biodiversity and Evolution of Papillomaviruses.* Entidad Financiadora: MICINN. Cuantía de la subvención: 9.000 €. Investigador responsable: Ignacio González Bravo
31. 2009-2013. *Genómica Evolutiva.* Entidad financiadora: Conselleria de Educación, Generalitat Valenciana. Prometeo 2009/092. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe total del proyecto: 65.500 € (del año 2009).
32. 2009-2012. *Factores biológicos predictores de virulencia y severidad de la infección por virus influenza A(H1N1)v pandémico.* Entidad Financiadora: MICINN-Instituto de Salud Carlos III. Proyecto GR09/0032. Entidades participantes: CIBERESP. Cuantía de la subvención: 160,750 €. Investigador responsable: Fernando González.
33. 2009-2012. *Biología de sistemas de las interacciones bacterianas en insectos: análisis genómico, estudios funcionales y evolutivos y modelización de sistemas con restricciones.* Entidad financiadora: Ministerio de Ciencia e innovación Ref: BFU2009-12895-CO2-01/BMC. Entidades participantes: Universitat de València. Investigador responsable: Profesora Amparo Latorre. Importe Total del Proyecto: 290.000 €.
34. 2009-2012. Mejora del equipamiento de secuenciación automática de ADN del Servicio Central de Soporte a la Investigación Experimental. Entidad financiadora: Ministerio de Ciencia e innovación UNLV08-003. Entidades participantes: Universitat de València. Investigador responsable: Profesora Amparo Latorre. Importe Total del Proyecto: 378.611€
35. 2009-2011. *Epidemiología molecular y evolutiva de patógenos infecciosos.* Entidad Financiadora: MICINN. Proyecto BFU2008-03000/BMC. Entidades participantes: UVEG-CSISP. Cuantía de la subvención: 70,000 €. Investigador responsable: Fernando González.
36. 2009-2011. *Pathogenomics: Desarrollo, prevención y detección diagnóstica temprana de la colitis asociada a Clostridium difficile: una red interdisciplinar.* Entidad financiadora: Socios Europeos de la Era-Net Pathogenomics. Ministerio de Ciencia e Innovación en el caso de España. Entidades participantes: Consorcio de 6 grupos europeos. Investigador responsable: Dr. Stephan Ott, coordinador. Andrés Moya del subproyecto correspondiente. Importe Total del Proyecto: 1.852.748 €, 447.000 € al grupo.
37. 2009-2011. *Contrato Predoctoral PFIS.* Entidad Financiadora: FIS (ISCIII). Nº Expediente: FI06/00669. Importe: 85.200,00 €. Duración: 2009-2013. Investigador responsable: Ana Elena Pérez Cobas.
38. 2009-2010. *Metagenómica en 2D: una alternativa a la clonación.* Entidad financiadora: Ministerio de Ciencia e Innovación. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 70.000 €.
39. 2009. *Metagenómica Caries.* Entidad Financiadora: MICINN - Programa INNOCASH. Entidades participantes: CSISP. Cuantía de la subvención: 13.260 €. Investigador responsable: A. Mira.
40. 2009. *Desenvolupament de models per a l'anàlisi estadística de l'associació entre polimorfismes genètics i malalties psiquiàtriques.* Investigador Principal: Juan José Abellán (CIBERESP, Unitat Mixta d'Investigació en Genòmica i Salut CSISP - UV/Institut Cavanilles). Financiado por la Conselleria de Sanitat de la Generalitat Valenciana. Referencia: AP-055/09. Cuantía 7.000 EUR.
41. 2009. *Variación genética inter e intra-paciente de la polimerasa NS5b del virus de la hepatitis C en muestras de la Comunidad Valenciana.* Investigador principal: F. Xavier López Labrador. Entidad financiadora: Conselleria de Sanitat, Generalitat Valenciana.



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- Proyectos de investigación en programas de salud, prevención y predicción de la enfermedad. Ref. 032/2009. Financiación total: 4.500 €.
42. 2009. *Epidemiología molecular y evolutiva de patógenos infecciosos*. Entidad Financiadora: Conselleria d'Educació (Generalitat Valenciana). Proyecto ACOMP/2009/240. Entidades participantes: UVEG-CSISP. Cuantía de la subvención: 10.000 €. Investigador responsable: Fernando González.
  43. 2009. Análisis genómico de la adaptación bacteriana a la simbiosis intracelular. Ayuda complementaria. Entidad financiadora: Generalitat Valenciana. Entidades participantes: Universitat de València. Investigador responsable: Profesora Amparo Latorre. Importe Total del Proyecto: 4.000 €.
  44. 2009. *Plataforma metagenómica para el estudio del Microbioma Humano (Metagenoplat)*. Entidad financiadora: Instituto de Salud Carlos III. Entidades participantes: Centro Superior de Investigación en Salud Pública. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 2.158.681 € (para el año 2009).
  45. 2009. *Segundo Congreso Nacional de la Sociedad Española de Biología Evolutiva*. Entidad financiadora: Conselleria de Educación de la Generalitat Valenciana. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 9000 €
  46. 2009. *Segundo Congreso Nacional de la Sociedad Española de Biología Evolutiva*. Entidad financiadora: Ministerio de Ciencia e Innovación. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 8000 €
  47. 2009. *Segundo Congreso Nacional de la Sociedad Española de Biología Evolutiva*. Entidad financiadora: Universitat de València. Entidades participantes: Universitat de València. Investigador responsable: Dr. Andrés Moya. Importe Total del Proyecto: 2000 €.
  48. 2008-2013. *Contratos Investigadores Postdoctorales*. Entidad Financiadora: FIS. ISCIII. Nº Expediente: CP07/00078. Importe: 147.654,40 €. Duración: 2008-2013. Investigador responsable: María Alma Bracho Lapiedra.
  49. 2008-2011 *Bioengineering and selection for biodiesel production in bacteria*. Entidad Financiadora: EBI (Energy Biosciences Institute, University of California Berkeley) Cuantía de la subvención: 494.518,97 €. Investigador responsable: Nikos Kyrpides (M. P. Francino co-PI)
  50. 2008-2011. *Subprograma Ramón y Cajal. (RyC)*. Entidad Financiadora: MICINN. Nº Expediente: RYC-2007-01831. Importe: 73.950,00 €. Duración: 2008-2011. Investigador responsable: Ignacio González Bravo.
  51. 2008-2010. *Targeting environmental pollution with engineered microbial systems á la carte (TARPOL)*. Entidad financiadora: Unión Europea. Entidades participantes: Universitat de València y 17 centros más de la UE. Investigador responsable: Dr. Andrés Moya, IP del consorcio. Importe Total del Proyecto: 1.000.000 € el consorcio, 300.000 € al subproyecto del grupo.
  52. 2008-2010. *Desarrollo de nuevas tecnologías ómicas y su aplicación a la síntesis de etanol*. Entidad financiadora: Ministerio de Ciencia e Innovación Educación y Ciencia. Entidades participantes: Biopolis, Universitat de València y Universidad Politécnica. Investigador responsable: Dra. Laia Pedrola. Importe Total del Proyecto: 150.000 €.
  53. 2008-2009. *Metagenómica en 2D: Una alternativa a la clonación para estudiar la diversidad microbiana*. Programa Explora. Entidad financiadora: MICINN. Duración: 2008-2009. Cuantía de la subvención: 70.000 €. Investigador responsable: A. Mira.
  54. 2007-2011. *CIBER de Epidemiología y Salud Pública (CIBERESP)*, grupo CB06/02/0050 integrado en la Agrupación "Enfermedades Infecciosas y Salud Internacional". Entidad financiadora: Instituto de Salud Carlos III. Entidades participantes: Consorcio. Investigador

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- responsable: Dr. Andrés Moya, grupo de la Unidad Mixta de Investigación en Genómica y Salud, CSISP-UVEG/Instituto Cavanilles. Importe Total del Proyecto: 100.000 € por año.
55. 2007-2009. *Metagenómica de la flora bacteriana aviar: efectos de la dieta y la filogenia* Entidad financiadora: CONACyT (México). Entidades participantes: UNAM (México), Universidad Miguel Hernández, LANGEBIO (México). Duración, desde: 2007-2009. Cuantía de la subvención: 109.950 \$USA. Investigador responsable: J. Schondube.
  56. 2007-2012. *Arthropod symbiosis: from fundamental studies to pest and disease management*. Entidad financiadora: Comunidad Europea. Entidades participantes: 18 países de la Comunidad Europea y asociados. Investigador responsable: Profesor Kostas Boursis. Importe Total del Proyecto: COST action FA0701.
  57. 2006-2009. *Análisis genómico de la adaptación bacteriana a la simbiosis intracelular*. Entidad financiadora: Ministerio de Educación y Ciencia. Número de Referencia: BFU2006-06003/BMC. Entidades participantes: Universitat de València. Prof. Amparo Latorre. 8 investigadores participantes. Importe Total del Proyecto: 160.000 €.
  58. 2004-2009. *Comparative Community Genomics of the Gut Microbiota*. Entidad Financiadora: NIH (National Institute of Health, USA) Cuantía de la subvención: \$1.010.000. Investigador responsable: M. P. Francino.

## 2. Participation in research contracts with companies or administrators.

1. 2009. Epidemiología y genómica de enfermedades infecciosas. Tipo de Contrato: Convenio. Empresa/Administración financiadora: Conselleria de Sanidad de la Generalitat Valenciana. Dr. Andrés Moya, Dra. Amparo Latorre y Dr. Fernando González. 14 investigadores participantes. Importe Total del Proyecto: 420.000 €.

## 3. Publications

### YEAR 2014

1. Asante-Poku A, Nyaho MS, Borrell S, Comas I, Gagneux S, Yeboah-Manu D. Evaluation of customised lineage-specific sets of MIRU-VNTR loci for genotyping Mycobacterium tuberculosis complex isolates in Ghana. PLoS One. 2014 Mar 25;9(3):e92675
2. Benítez-Páez A, Belda-Ferre P, Simón-Soro A, Mira A. Microbiota diversity and gene expression dynamics in human oral biofilms. BMC Genomics. 2014 Apr 7;15(1):311
3. Bos KI, Harkins KM, Herbig A, Coscolla M, Weber N, Comas I, et al. Pre-Columbian mycobacterial genomes reveal seals as a source of New World human tuberculosis. Nature. 2014 Oct 23;514(7523):494-7
4. Bracho MA, Sentandreu V, Alastrué I, Belda J, Juan A, Fernández-García E, et al. Emerging Trends in CRF02\_AG Variants Transmission Among Men Who Have Sex With Men in Spain. J Acquir Immune Defic Syndr. 2014 Mar 1;65(3):e130-3
5. Camelo-Castillo A, Benítez-Páez A, Belda-Ferre P, Cabrera-Rubio R, Mira A. Streptococcus dentisani sp. nov., a novel member of the mitis group. Int J Syst Evol Microbiol. 2014 Jan;64(Pt 1):60-5

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6. Carda-Diéguéz M, Mira A, Fouz B. Pyrosequencing survey of intestinal microbiota diversity in cultured sea bass (*Dicentrarchus labrax*) fed functional diets. *FEMS Microbiol Ecol.* 2014 Feb;87(2):451-9
7. Copin R, Coscollá M, Seiffert SN, Bothamley G, Sutherland J, Mbayo G, Gagneux S, Ernst JD. Sequence Diversity in the *pe\_pgrs* Genes of *Mycobacterium tuberculosis* Is Independent of Human T Cell Recognition. *MBio.* 2014 Jan 14;5(1)
8. Coscollá M, Fernández C, Colomina J, Sánchez-Busó L, González-Candelas F. Mixed infection by *Legionella pneumophila* in outbreak patients. *Int J Med Microbiol.* 2014 May;304(3-4):307-13
9. D'Auria G, Schneider MV, Moya A. Live Genomics for Pathogen Monitoring in Public Health. *Pathogens.* 2014; 3(1):93-108
10. D'Auria G, Džunková M, Moya A, Tomáška M, Kološta M, Kmet V. Genome Sequence of *Lactobacillus plantarum* 19L3, a Strain Proposed as a Starter Culture for Slovenská Bryndza Ovine Cheese. *Genome Announc.* 2014 Apr 24;2(2):e00292-14
11. Domínguez A, Godoy P, Castilla Catalán J, María Mayoral J, Soldevila N, Torner N, Toledo D, Astray J, Tamames S, García-Gutiérrez S, González-Candelas F, Martín V, Díaz J, Working Group TC, In Primary Health Care Workers FT. Knowledge of and attitudes to influenza in unvaccinated primary care physicians and nurses: A cross-sectional study. *Hum Vaccin Immunother.* 2014 Jun 5;10(8). [Epub ahead of print]
12. Encinas D, Garcillán-Barcia MP, Santos-Merino M, Delaye L, Moya A, de la Cruz F. Plasmid conjugation from proteobacteria as evidence for the origin of xenologous genes in cyanobacteria. *J Bacteriol.* 2014 Apr;196(8):1551-9.
13. Garcia Gutierrez S, Quintana JM, Baricot M, Bilbao A, Capelastegui A, Cilla Eguiluz CG, et al. Predictive factors of severe multilobar pneumonia and shock in patients with influenza. *Emerg Med J.* 2014 Apr;31(4):301-7
14. Garcia-Nuñez M, Millares L, Pomares X, Ferrari R, Pérez-Brocal V, Gallego M, Espasa M, Moya A, Monsó E. SEVERITY-RELATED CHANGES OF BRONCHIAL MICROBIOME IN COPD. *J Clin Microbiol.* 2014 Sep 24. [Epub ahead of print]
15. Gomar-Vercher S, Cabrera-Rubio R, Mira A, Montiel-Company JM, Almerich-Silla JM. Relationship of children's salivary microbiota with their caries status: a pyrosequencing study. *Clin Oral Investig.* 2014 Feb 15. [Epub ahead of print]
16. Köser CU, Comas I, Feuerriegel S, Niemann S, Gagneux S, Peacock SJ. Genetic diversity within *Mycobacterium tuberculosis* complex impacts on the accuracy of genotypic pyrazinamide drug-susceptibility assay. *Tuberculosis (Edinb).* 2014 Jul;94(4):451-3
17. López-Madrigal S, Beltrà A, Resurrección S, Soto A, Latorre A, Moya A, Gil R. Molecular evidence for ongoing complementarity and horizontal gene transfer in endosymbiotic systems of mealybugs. *Front Microbiol.* 2014 Aug 26;5:449

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18. Matas M, Picornell A, Cifuentes C, Payeras A, Homar F, Gonzalez-Candelas F, et al. Relating the outcome of HCV infection and different host SNP polymorphisms in a Majorcan population coinfecting with HCV-HIV and treated with pegIFN-RBV. *International microbiology : the official journal of the Spanish Society for Microbiology*. 2014 Mar;17(1):11-20
19. Manzano-Marin A, Latorre A. Settling down: The genome of *Serratia symbiotica* from the aphid *Cinara tujafilina* zooms in on the process of accommodation to a cooperative intracellular life. *Genome Biol Evol*. 2014 Jun 19;6(7):1683-98
20. Millares L, Ferrari R, Gallego M, Garcia-Nunez M, Perez-Brocal V, Espasa M, et al. Bronchial microbiome of severe COPD patients colonised by *Pseudomonas aeruginosa*. *Eur J Clin Microbiol Infect Dis*. 2014 Jul;33(7):1101-11
21. Mira-Pascual L, Cabrera-Rubio R, Ocon S, Costales P, Parra A, Suarez A, Moris F, Rodrigo L, Mira A, Collado MC. Microbial mucosal colonic shifts associated with the development of colorectal cancer reveal the presence of different bacterial and archaeal biomarkers. *J Gastroenterol*. 2014 May 9. [Epub ahead of print]
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23. Moya A. [Genomics, population and Public Health]. *Revista Española de Salud Pública*. 2014 Oct;88(5):551-3
24. Novakova J, Dzunkova M, Musilova S, Vlkova E, Kokoska L, Moya A, et al. Selective growth-inhibitory effect of 8-hydroxyquinoline towards *Clostridium difficile* and *Bifidobacterium longum* subsp. *longum* in co-culture analyzed by flow cytometry. *J Med Microbiol*. 2014 Oct 8 [Epub ahead of print]
25. Oakeson KF, Gil R, Clayton AL, Dunn DM, von Niederhausern AC, Hamil C, et al. Genome Degeneration and Adaptation in a Nascent Stage of Symbiosis. *Genome Biol Evol*. 2014 Jan;6(1):76-93
26. Patiño-Navarrete R, Piulachs M-D, Belles X, Moya A, Latorre A, Peretó J. The cockroach *Blattella germanica* obtains nitrogen from uric acid through a metabolic pathway shared with its bacterial endosymbiont. *Biol Lett*. 2014 July 1, 2014;10(7)
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28. Pérez-Lago L, Comas I, Navarro Y, González-Candelas F, Herranz M, Bouza E, et al. Whole Genome Sequencing Analysis of Inpatient Microevolution in *Mycobacterium tuberculosis*: Potential Impact on the Inference of Tuberculosis Transmission. *J Infect Dis*. 2014 Jan;209(1):98-108

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33. Scher JU, Ubeda C, Artacho A, Attur M, Isaac S, Reddy SM, et al. Decreased bacterial diversity characterizes an altered gut microbiota in psoriatic arthritis and resembles dysbiosis of inflammatory bowel disease. *Arthritis Rheumatol.* 2014 Oct 15. [Epub ahead of print]
34. Vallès Y, Artacho A, Pascual-García A, Ferrús ML, Gosalbes MJ, Abellán JJ, Francino MP. Microbial succession in the gut: directional trends of taxonomic and functional change in a birth cohort of spanish infants. *PLoS Genet.* 2014 Jun 5;10(6):e1004406
35. Vázquez-Castellanos JF, García-López R, Pérez-Brocal V, Pignatelli M, Moya A. Comparison of different assembly and annotation tools on analysis of simulated viral metagenomic communities in the gut. *BMC Genomics.* 2014 Jan 18;15(1):37.
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37. Vrolix K, Fraussen J, Losen M, Stevens J, Lazaridis K, Molenaar PC, Somers V, Bracho MA, Le Panse R, Stinissen P, Berrih-Aknin S, Maessen JG, Van Garsse L, Buurman WA, Tzartos SJ, De Baets MH, Martinez-Martinez P. Clonal heterogeneity of thymic B cells from early-onset myasthenia gravis patients with antibodies against the acetylcholine receptor. *J Autoimmun.* 2014 Jan 15. [Epub ahead of print]Camelo-Castillo A, Benítez-Páez A, Belda-Ferre P, Cabrera-Rubio R, Mira A. *Streptococcus dentisani* sp. nov., a novel member of the mitis group. *Int J Syst Evol Microbiol.* 2014 Jan;64(Pt 1):60-5

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1. Baricot M, Toledo D, Castilla J, Tornera N, Godoy P, Astray J, et al. [A study of attitudes and knowledge of influenza vaccination in primary care health professionals. Season 2011-2012]. *Vacunas.* 2013;14(1):22-29

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2. Benítez-Páez A, Álvarez M, Belda-Ferre P, Rubido S, Mira A, Tomás I. Detection of Transient Bacteraemia following Dental Extractions by 16S rDNA Pyrosequencing: A Pilot Study. *PLoS One*. 2013;3(3):e57782.
3. Cano-Gómez C, García-Casado MA, Soriguer R, Palero F, Jiménez-Clavero MA. Teschoviruses and sapeloviruses in faecal samples from wild boar in Spain. *Vet Microbiol*. 2013 Jul 26;165(1-2):115-22.
4. Carnero E, Díez J, Fortes P, Gastaminza P, Majano P, Martínez MA, Pérez-Del-Pulgar S, Quer J, López-Labrador FX; Grupo de Estudio de Hepatitis Víricas de la Sociedad Española de Virología. [Meeting Report: 20 years after the First International Symposium on hepatitis C virus and related viruses.]. *Gastroenterol Hepatol*. 2013 Dec;36(10):641-6 Spanish
5. Castilla J, Godoy P, Domínguez A, Martínez-Baz I, Astray J, Martín V, et al. Influenza vaccine effectiveness in preventing out-patient, in-patient and severe cases of laboratory-confirmed influenza. *Clin Infect Dis*. 2013 Jul;57(2):167-75
6. Castilla J, Godoy P, Domínguez Á, Martín V, Delgado-Rodríguez M, Martínez-Baz I, et al. Risk factors and effectiveness of preventive measures against influenza in the community. *Influenza Other Respi Viruses*. 2013 Mar;7(2):177-83
7. Castilla J, Martínez-Baz I, Godoy P, Toledo D, Astray J, García S, et al. Trends in influenza vaccine coverage among primary healthcare workers in Spain, 2008-2011. *Prev Med*. 2013 Sep;57(3):206-11
8. Collado MC, D'Auria G, Mira A, Francino MP. Human Microbiome and Diseases: A Metagenomic Approach. In: Watson R, Preedy V, editors. *Bioactive Food as Dietary Interventions for Liver and Gastrointestinal Disease*. Tucson, AZ, USA; London, UK.: Academic Press; 2013. p. 235-49.
9. Comas I. Vacunas y evolución ¿Por qué es importante entender la diversidad genética de los patógenos? *Mètode*. 2013;78:66-73.
10. Comas I, Coscolla M, Luo T, Borrell S, Holt KE, Kato-Maeda M, et al. Out-of-Africa migration and Neolithic coexpansion of *Mycobacterium tuberculosis* with modern humans. *Nat Genet*. 2013 Oct;45(10):1176-82
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12. Delgado S, Cabrera-Rubio R, Mira A, Suarez A, Mayo B. Microbiological Survey of the Human Gastric Ecosystem Using Culturing and Pyrosequencing Methods. *Microb Ecol*. 2013 Apr;65(3):763-72.
13. D'Auria G, Peris-Bondia F, Džunková M, Mira A, Collado MC, Latorre A, Moya A. Active and secreted IgA-coated bacterial fractions from the human gut reveal an under-represented microbiota core. *Sci Rep*. 2013 Dec 17;3:3515

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14. Delgado-Rodríguez M, Castilla J, Godoy P, Martín V, Soldevila N, Alonso J, et al. Different prognosis in hospitalized patients with influenza one season after the pandemic H1N1 influenza of 2009-2010 in Spain. *Influenza Other Respi Viruses*. 2013 Nov;7(6):1336-42
15. Domínguez A, Castilla Catalán J, Godoy P, Delgado-Rodríguez M, Saez M, Soldevila N, et al. Effectiveness of vaccination with 23-valent pneumococcal polysaccharide vaccine in preventing hospitalization with laboratory confirmed influenza during the 2009-2010 and 2010-2011 seasons. *Hum Vaccin Immunother*. 2013 Apr 1;9(4):861-869
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17. Durbán A, Abellán JJ, Jiménez-Hernández N, Artacho A, Garrigues V, Ortiz V, Ponce J, Latorre A, Moya A. Instability of the faecal microbiota in diarrhoea-predominant irritable bowel syndrome. *FEMS Microbiol Ecol*. 2013 Dec;86(3):581-9
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47. Tagu, D.; Klingler, J.P.; Moya, A.; Simon, J.-C. 2008. Early progress in aphid genomics and consequences for plant-aphid interactions studies. *Molecular Plant-Microbe Interactions* 21(6): 701-708.
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50. Torres-Puente, M.; Cuevas, J.M.; Jiménez-Hernández, N.; Bracho, M.A.; García-Robles, I.; Wrobel, B.; Carnicer, F.; del Olmo, F.; Ortega, E.; Moya, A.; González-Candelas, F. 2008. Genetic variability in hepatitis C virus and its role in antiviral treatment response. *The Journal of Viral Hepatitis* 15: 188-199.
51. Torres-Puente, M.; Cuevas, J.M.; Jiménez-Hernández, N.; Bracho, M.A.; García-Robles, I.; Carnicer, F.; del Olmo, F.; Ortega, E.; Moya, A.; González-Candelas, F. 2008. Hepatitis C virus and the controversial role of the interferon sensitivity determining region in the response to interferon treatment. *The Journal of Medical Virology* 80(2): 247-253.

#### 4. Participation in education and training programs

Participation of Dr Fernando González Candelas in the program “Biología Molecular y Biotecnología” of the Universidad de León in the academic years 2006/07 – 2008/09 (MCD2003-00680).

Official Postgraduate Program with doctorate studies “Biodiversidad” of the Universitat de València. Academic years 2006/07 - 2009/10 (MCD2006-00349).

Official Postgraduate Program with doctorate studies “Biotecnología” of the Universitat de València. Academic year 2006/07 - 2009/10 (MCD2006-00495).

#### 5. Doctoral theses

**Title:** Fraccionando la microbiota gastrointestinal humana.

PhD student: Francesc Peris-Bondia.

Supervisors: Dra Amparo Latorre Castillo, Dr. Giuseppe D’Auria.

Place and year: Facultad de CC. Biológicas, Universitat de València, 27 junio 2012.

Mark: With honours.

**Title:** Evolución de la virulencia en el virus de la estomatitis vesicular (VSV) durante la adaptación al hospedador.

PhD student: Victoria Furió Gomar-González.

Supervisors: Dr. Rafael Sanjuán Verdeguer y Dr. Andrés Moya Simarro.

Place and year: Facultad de CC. Biológicas, Universitat de València, 14 enero 2010.

Mark: Outstanding B.

**Title:** Genome evolution and systems biology in bacterial endosymbionts of insects

PhD student: Eugeni Belda Cuesta.

Supervisors: Dr. Francisco Silva Moreno y Dr. Andrés Moya Simarro.

Place and year: Facultad de CC. Biológicas, Universitat de València, 29 octubre 2010.

Mark: With honours.

**Title:** Genómica comparada y evolutiva de endosimbiontes de pulgones

PhD student: Araceli Lamelas Cabello

Supervisors: Dr. Amparo Latorre Castillo y Dr. María José Gosalbes Soler.

Place and year: Facultad de CC. Biológicas, Universitat de València, 26 -noviembre-2010.

Mark: With honours.

**Title:** Estructura poblacional y epidemiología molecular de *Legionella pneumophila* en la Comunidad Valenciana.

PhD student: Mireia Coscollá Devís.

Supervisor: Dr. Fernando González Candelas.

Place and year: Facultad de CC. Biológicas, Universitat de València, 2009.

Mark: With honours.

**Title:** Secuenciación y análisis funcional del genoma de *Blattabacterium* (Bg) endosimbionte primario de *Blattella germanica* (Blatellidae).

PhD student: María José López Sánchez.

RESEARCH GROUP BACKGROUND AND ACCOMPLISHMENTS  
JOINT RESEARCH UNIT ON GENOMICS AND HEALTH Centre for Public Health Research (CSISP)/Cavanilles Institute for Biodiversity and Evolutionary Biology, University of Valencia.

Supervisors: Dra. Amparo Latorre Castillo y Dr. Andrés Moya Simarro.  
Place and year: Facultad de CC. Biológicas, Universitat de València, 2009.  
Mark: With honours.

**Title:** Phylogenomics and the evolution of  $\alpha$ -Proteobacteria.  
PhD student: Iñaki Comas Espadas.  
Supervisors: Dr Fernando González Candelas and Dr Andrés Moya Simarro.  
Place and year: Facultad de CC. Biológicas, Universitat de València, 2008.  
Mark: With honours.

**Title:** Molecular diversity and evolution of *Ty3/Gypsy* and *Retroviridae* LTR Retroelements and their evolutionary relationships with aspartic peptidases of clan AA.  
PhD student: Carlos Lloréns Candelas.  
Supervisor: Dr Andrés Moya Simarro.  
Place and year: Facultad de CC. Biológicas, Universitat de València, 2008.  
Mark: With honours.

**Title:** Dinámica experimental de infecciones múltiples del virus de la estomatitis vesicular (VSV).  
PhD student: Francy Yolima Elizabeth Carrillo Cruz  
Supervisors: Dr José Manuel Cuevas Torrijos and Dr Andrés Moya Simarro  
Place and year: Facultad de CC. Biológicas, Universitat de València, 2008.  
Mark: Outstanding B.

## 6.- Software

Abellán, Juan J., Abellán, Carlos, González, Juan R. BayesGen: Association analysis of genomic data using a Bayesian shared component model. Technical report 1120, COBRA 2010 [Internet]. Available from: [http://www.creal.cat/media/upload/arxiu/jr/bayesGen\\_vignette.pdf](http://www.creal.cat/media/upload/arxiu/jr/bayesGen_vignette.pdf)

González, Juan R., Abellán, Carlos., Abellán, Juan J. A Bayesian shared component to analyze copy number data in genetic studies. [Internet]. 24 p. Available from: <http://www.math.ntnu.no/inla/r-inla.org/papers/shared-component-genes.pdf>

## 7.- Patents

Inventores: ALEJANDRO MIRA OBRADOR  
Título: COMPOSICIONES Y PROBIÓTICOS/PREBIÓTICOS ANTICARIES  
Descripción breve de su contenido: Anticaries probiotic bacteria with applications in pharma and consumer products.  
Objetivos: To obtain a natural probiotic product capable of reduce the incidence of dental caries.  
País de prioridad: ESPAÑA  
Número de patente: WO2012028759  
Fecha de concesión: EN ESPERA  
Entidad titular: FISABIO-CSISP (100%)  
Tipo de protección de la patente: INTERNACIONAL  
Países a los que se ha extendido: Europa; Estados Unidos; Japón; Australia; Rusia; Méjico; Brasil; China; India; Corea; Canadá; Israel; Sudáfrica.  
Empresas que la están explotando: En negociación

RESEARCH GROUP BACKGROUND AND ACCOMPLISHMENTS  
JOINT RESEARCH UNIT ON GENOMICS AND HEALTH Centre for Public Health Research (CSISP)/Cavanilles Institute for Biodiversity and Evolutionary Biology, University of Valencia.

Inventores: ALFONSO MUÑOZ-POMER, RICARDO FUTAMI, ANDRES MOYA, CARLOS LLORENS

Título: CHECKALIGN 2.0

Descripción breve de su contenido: CODIGO FUENTE SOFTWARE

Objetivos: ANALISIS BIOINFORMATICOS

País de prioridad: ESPAÑA

Número de patente: V-2137-10

Fecha de concesión: EN ESPERA

Entidad titular: BIOTECH VANA S.L

Tipo de protección de la patente: NACIONAL

Países a los que se ha extendido: WORLDWIDE (DISPONIBLE ONLINE)

Empresas que la están explotando: BIOTECH VANA S.L.

Inventores: RICARDO FUTAMI, ALFONSO MUNOZ-POMER, JOSE MARIA VIU, LAURA DOMÍNGUEZ-ESCRIBÁ, LAURA COVELLI, GUILLERMO PABLO BERNET, JOSÉ MARÍA SEMPERE, ANDRÉS MOYA, CARLOS LLORENS

Título: GPRO 1.0

Descripción breve de su contenido: CODIGO FUENTE SOFTWARE

Objetivos: ANALISIS BIOINFORMATICOS

País de prioridad: ESPAÑA

Número de patente: V-13-11

Fecha de concesión: EN ESPERA

Entidad titular: BIOTECH VANA S.L

Tipo de protección de la patente: NACIONAL

Países a los que se ha extendido: WORLDWIDE (DISPONIBLE ONLINE)

Empresas que la están explotando: BIOTECH VANA S.L.

Inventores: ALFONSO MUÑOZ-POMER, RICARDO FUTAMI, LAURA COVELLI, LAURA DOMÍNGUEZ-ESCRIBÁ, GUILLERMO BERNET, GONZALO FUSTER, ANDRES MOYA, CARLOS LLORENS

Título: BIOTECHVANA TIME (TOOL FOR IN-PLACE MOLECULAR EDITING)

Descripción breve de su contenido: CODIGO FUENTE SOFTWARE

Objetivos: ANALISIS BIOINFORMATICOS

País de prioridad: ESPAÑA

Número de patente: V-1683-10

Fecha de concesión: EN ESPERA

Entidad titular: BIOTECH VANA S.L

Tipo de protección de la patente: NACIONAL

Países a los que se ha extendido: WORLDWIDE (DISPONIBLE ONLINE)

Empresas que la están explotando: BIOTECH VANA S.L.

Inventores: CARLOS LLORENS, RICARDO FUTAMI, LAURA COVELLI, LAURA DOMÍNGUEZ-ESCRIBÁ, ALFONSO MUÑOZ-POMER, JOSE MARIA VIU, GONZALO FUSTER, ANDRÉS MOYA

Título: THE GYPSY DATABASE (GYDB) OF MOBILE GENETIC ELEMENTS RELEASE 2.0

Descripción breve de su contenido: BASE DE DATOS Y CODIGO FUENTE SOFTWARE

Objetivos: SERVICIOS ORIENTADOS A LA INVESTIGACION BIOLOGICA

País de prioridad: ESPAÑA

Número de patente: V-1307-10

Fecha de concesión: EN ESPERA

Entidad titular: BIOTECH VANA S.L

Tipo de protección de la patente: NACIONAL

Países a los que se ha extendido: WORLDWIDE (DISPONIBLE ONLINE)

Empresas que la están explotando: BIOTECH VANA S.L.

## 8.- Scientific prizes.

2013.

- Premio Fundación Lilly de Investigación Biomédica Preclínica 2013. Prof. Andrés Moya Simarro.

2012.

- II Premio de Investigación Biomedal en Microbiología Molecular. Pedro Belda-Ferre, Luis David Alcaraz, Raúl Cabrera-Rubio, Héctor Romero, Aurea Simón-Soro, Dr.Miguel Pignatelli y Dr. Alex Mira.
- Premio Nacional de Genética 2012. Prof. Andrés Moya Simarro.
- XV Premios a los Mejores Artículos científicos publicados en GACETA DENTAL. Tercer premio. Áurea Simón Soro.

2010

- “VI Edición Premios Idea” VI Ed. Idea Award. Fundación Ciudad de las Artes y las Ciencias - Comunitat Valenciana. Metagenómica dirigida, buscando la diversidad escondida del microbioma humano. Driven Metagenomics, searching hidden diversity of humane microbiome.  
Dr. Giuseppe D’Auria.