

RESEARCH GROUP BACKGROUND AND ACCOMPLISHMENTS

2012-2017

**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

Dra. M. Pilar Francino. Senior Research Fellow. Head of Department.
Prof. Andrés Moya Simarro. Professor of Genetics.
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. María Alma Bracho Lapiedra. "Miguel Servet" FIS (ISCIII) Research Fellow.
Dr. Giuseppe D'Auria. "Miguel Servet" FIS (ISCIII) 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. M.^a Desamparados Ferrer García. Scientific Officer.
Dra. Victoria Furió Gomar González.
Dra. Arantxa López López

Scientific officers

Dra. Nuria Jiménez Hernández. Research Officer.
Pascual Asensi. IT Systems Administrator.
Llúcia Martínez Priego.
Alejandro Artacho Pérez.
Concepción Hueso Climent.
Dra. Manuela Torres Puente.
M.^a Loreto Ferrús Abad.
M.^a Dolores Catalán Serrallo.
Sandra García Esteban.
Paula Corell
Xavier Pons Tamarit
David Pérez Villarroya
Luis Miguel Villamayor Cebolla

PhD students

Rodrigo García López
Jorge Francisco Vázquez Castellanos
Maria Dzunkova
Juan Ángel Patiño Galindo

MSc students

Claudia García Sánchez
Sara Alfonso Díaz
Miguel Ángel Moreno

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. Mireia Coscollá. GV Research Associate.
Beatriz Mengual. PhD student. 2009-2012
Dr. Rafael Sanjuán Verdaguer. "Ramón y Cajal" Research Fellow.
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.
Dra. Ana Durban Vicente.
Dra. Ana Elena Pérez Cobas.
Dr. Pedro Belda Ferre.
Dr. Raúl Cabrera Rubio.
Dra. Karina Alejandra Salvatierra
Dra. Leonor Sánchez Busó
Dra. Aurea Simón Soro.
Marta Adriana Pinto Carbó. MSc student.
Andrea García Montaner. MSc student.
Silvia Moriano Gutiérrez. MSc student.

RECORD OF THE JOIN RESEARCH (Period 2012-2017)

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.
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 Bargues, 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.
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 Risper 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 tujaefilina*.
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 Agero, 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 (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 Papilomaviruses*. 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
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
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. 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).
31. 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.
32. 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 €.
33. 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€

2. Participation in research contracts with companies or administrators.

3. Publications

YEAR 2017

1. Blasco G, Moreno-Navarrete JM, Rivero M, Perez-Brocal V, Garre-Olmo J, Puig J, Daunis IEP, Biarnes C, Gich J, Fernandez-Aranda F, Alberich-Bayarri A, Moya A, Pedraza S, Ricart W, Lopez M, Portero-Otin M, Fernandez-Real JM. The gut metagenome changes in parallel to waist circumference, brain iron deposition and cognitive function. *J Clin Endocrinol Metab*. 2017.· DOI: [10.1210/jc.2017-00133](<http://dx.doi.org/10.1210/jc.2017-00133>)

2. Caro-Perez N, Martinez-Rebollar M, Gregori J, Quer J, Gonzalez P, Gambato M, Garcia-Gonzalez N, Gonzalez-Candelas F, Costa J, Esteban JI, Mallolas J, Forns X, Laguno M, Perez-Del-Pulgar S. Phylogenetic analysis of an epidemic outbreak of acute hepatitis C in HIV-infected patients by ultra-deep pyrosequencing. *J Clin Virol.* 2017;92:42-7. · DOI: [10.1016/j.jcv.2017.05.008](<http://dx.doi.org/10.1016/j.jcv.2017.05.008>)
3. Dzidic M, Abrahamsson TR, Artacho A, Bjorksten B, Collado MC, Mira A, Jenmalm MC. Aberrant IgA responses to the gut microbiota during infancy precede asthma and allergy development. *J Allergy Clin Immunol.* 2017;139(3):1017-25 e14. · DOI: [10.1016/j.jaci.2016.06.047](<http://dx.doi.org/10.1016/j.jaci.2016.06.047>)
4. Falgueras-Cano J, Carretero-Diaz JM, Moya A. Weighted fitness theory: an approach to symbiotic communities. *Environ Microbiol Rep.* 2017;9(1):44-6. · DOI: [10.1111/1758-2229.12515](<http://dx.doi.org/10.1111/1758-2229.12515>)
5. Faner R, Sibila O, Agusti A, Bernasconi E, Chalmers JD, Huffnagle GB, Manichanh C, Molyneaux PL, Paredes R, Perez Brocal V, Ponomarenko J, Sethi S, Dorca J, Monso E. The microbiome in respiratory medicine: current challenges and future perspectives. *Eur Respir J.* 2017;49(4). · DOI: [10.1183/13993003.02086-2016](<http://dx.doi.org/10.1183/13993003.02086-2016>)
6. Ferrer M, Mendez-Garcia C, Rojo D, Barbas C, Moya A. Antibiotic use and microbiome function. *Biochem Pharmacol.* 2017;134:114-26. · DOI: [10.1016/j.bcp.2016.09.007](<http://dx.doi.org/10.1016/j.bcp.2016.09.007>)
7. Ferrer MD, Rodriguez JC, Alvarez L, Artacho A, Royo G, Mira A. Effect of antibiotics on biofilm inhibition and induction measured by real-time cell analysis. *J Appl Microbiol.* 2017;122(3):640-50. · DOI: [10.1111/jam.13368](<http://dx.doi.org/10.1111/jam.13368>)
8. Garcia-Nunez M, Marti S, Puig C, Perez-Brocal V, Millares L, Santos S, Ardanuy C, Moya A, Linares J, Monso E. Bronchial microbiome, PA biofilm-forming capacity and exacerbation in severe COPD patients colonized by *P. aeruginosa*. *Future Microbiol.* 2017;12:379-92. · DOI: [10.2217/fmb-2016-0127](<http://dx.doi.org/10.2217/fmb-2016-0127>)
9. Gutierrez-Preciado A, Vargas-Chavez C, Reyes-Prieto M, Ordonez OF, Santos-Garcia D, Rosas-Perez T, Valdivia-Anistro J, Rebollar EA, Saralegui A, Moya A, Merino E, Farias ME, Latorre A, Souza V. The genomic sequence of *Exiguobacterium chiriquhua* str. N139 reveals a species that thrives in cold waters and extreme environmental conditions. *PeerJ.* 2017;5:e3162. · DOI: [10.7717/peerj.3162](<http://dx.doi.org/10.7717/peerj.3162>)
10. Isaac S, Scher JU, Djukovic A, Jimenez N, Littman DR, Abramson SB, Pamer EG, Ubeda C. Short- and long-term effects of oral vancomycin on the human intestinal microbiota. *J Antimicrob Chemother.* 2017;72(1):128-36. · DOI: [10.1093/jac/dkw383](<http://dx.doi.org/10.1093/jac/dkw383>)
11. Latorre A, Manzano-Marin A. Dissecting genome reduction and trait loss in insect endosymbionts. *Ann N Y Acad Sci.* 2017;1389(1):52-75. · DOI: [10.1111/nyas.13222](<http://dx.doi.org/10.1111/nyas.13222>)

12. Llop P, Latorre A, Moya A. Experimental Epidemiology of Antibiotic Resistance: Looking for an appropriate animal model system. In: Baquero F, Bouza E, Gutiérrez-Fuentes J, Coque T, editors. Transmission in Microbial Biological Processes: ASM Press; 2017.
13. Llorca L, Perez-Perez G, Urruzuno P, Martinez MJ, Iizumi T, Gao Z, Sohn J, Chung J, Cox L, Simon-Soro A, Mira A, Alarcon T. Characterization of the Gastric Microbiota in a Pediatric Population According to Helicobacter pylori Status. *Pediatr Infect Dis J*. 2017;36(2):173-8. DOI: [10.1097/INF.0000000000001383](<http://dx.doi.org/10.1097/INF.0000000000001383>)
14. López-López A, Camelo-Castillo A, Ferrer MD, Simon-Soro Á, Mira A. Health-Associated Niche Inhabitants as Oral Probiotics: The Case of Streptococcus dentisani. *Front Microbiol*. 2017;8(379). DOI: [10.3389/fmicb.2017.00379](<http://dx.doi.org/10.3389/fmicb.2017.00379>)
15. Manzano-Marin A, Szabo G, Simon JC, Horn M, Latorre A. Happens in the best of subfamilies: establishment and repeated replacements of co-obligate secondary endosymbionts within Lachninae aphids. *Environ Microbiol*. 2017;19(1):393-408. DOI: [10.1111/1462-2920.13633](<http://dx.doi.org/10.1111/1462-2920.13633>)
16. Marti JM, Martinez-Martinez D, Rubio T, Gracia C, Pena M, Latorre A, Moya A, C PG. Health and Disease Imprinted in the Time Variability of the Human Microbiome. *mSystems*. 2017;2(2). DOI: [10.1128/mSystems.00144-16](<http://dx.doi.org/10.1128/mSystems.00144-16>)
17. Millares L, Bermudo G, Perez-Brocal V, Domingo C, Garcia-Nunez M, Pomares X, Moya A, Monso E. The respiratory microbiome in bronchial mucosa and secretions from severe IgE-mediated asthma patients. *BMC Microbiol*. 2017;17(1):20. DOI: [10.1186/s12866-017-0933-6](<http://dx.doi.org/10.1186/s12866-017-0933-6>)
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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

Fecha: 24/07/2015

Título : Dental Caries Etiopathogenesis: Microbial Composition, Functional Activity and Host Recognition.

Doctorando: Áurea Simón Soro.

Director/es: Dr.Alejandro Mira Obrador, Dra. Inmaculada Tomás Carmona.

Universidad: Universidad de Santiago de Compostela.

Calificación: Sobresaliente Cum Laude.

Fecha: 16/07/2015

Título: OMICS APPROACHES TO STUDY THE ORAL MICROBIOME

Doctorando: Pedro Belda Ferré.

Director/es: Dr.Alejandro Mira Obrador.

Universidad: Universitat de València.

Calificación: Sobresaliente Cum Laude.

Fecha: 23/06/2015

Título :Genetic and genomic variability of Legionella pneumophila: applications to molecular epidemiology and public health.

Doctorando: Leonor Sánchez Busó.

Director/es: Dr.Fernando González Candelas.

Universidad: Universidad Politécnica de Valencia.

Calificación: Sobresaliente Cum Laude.

Fecha: 15/05/2015

Título: Effects of antibiotics and Clostridium difficile infection on the human gut microbiota.

Doctorando: Ana Elena Pérez Cobas.

Director/es: Dra. María José Gosalbes, Dra. Amparo Latorre, Dr.Andrés Moya.

Universidad: Universitat de València.

Calificación: Sobresaliente Cum Laude.

Fecha: 03/12/2014

Título: Análisis taxonómico y funcional del microbioma humano mediante aproximaciones clásicas, moleculares y metagenómicas.

Doctorando: Karina Alejandra Salvatierra.

Director/es: Dr. Xavier F. López-Labrador.

Universidad: Universitat de València.

Calificación: Sobresaliente Cum Laude.

Fecha: 06/06/2014

Título: Análisis taxonómico y funcional del microbioma humano mediante aproximaciones clásicas, moleculares y metagenómicas.

Doctorando: Raúl Cabrera Rubio.

Director/es: Dr. Alejandro Mira Obrador.

Universidad: Universitat de València.

Calificación: Sobresaliente Cum Laude.

Fecha: 27/06/2012

Título: Fraccionando la microbiota gastrointestinal humana.

Doctorando: Francesc Peris-Bondia.

Director/es: Dra Amparo Latorre Castillo, Dr. Giuseppe D'Auria.

Universidad: Universitat de València.

Calificación: Sobresaliente Cum Laude.

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

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

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.