

## HERNANDO ANTONIO DEL PORTILLO OBANDO

**ICREA RESEARCH PROFESSOR**

**PhD:** Molecular Parasitology

**ORCID:** 0000-0002-5278-3452



### LABORATORY HEAD

*Plasmodium vivax* and exosomes research group – PVREX

(<http://pvrex.com>)

### PRESIDENT

Grupo Español de Investigación e Innovación en vesículas Extracelulares – GEIVEX

(<http://geivex.org>)

### CO-FOUNDER AND CSO

INNOVEX THERAPEUTICS SL (<http://innovexther.com>)

## AFFILIATION

**ICREA** at **ISGlobal** Institute for Global Health, Hospital Clínic - Universitat de Barcelona, Barcelona, Spain and **IGTP** Institut d'Investigació Germans Trias i Pujol, Badalona, Spain

## PROFESSIONAL ADDRESS

Ctra. de Can Ruti. Camí de les Escoles, s/n, 08916 BADALONA (Barcelona), Spain  
phone +34 93 930330536, Movil +34 690737229 e-mail [hernandoa.delportillo@isglobal.org](mailto:hernandoa.delportillo@isglobal.org)

## EDUCATION

June 1985	Ph.D. Biology, University of Georgia Athens, GA, USA Professor Raymond T. Damian, Advisor Thesis: Immunochemical analysis of baboon IgG subclasses
June 1981	M.Sc. Biology, Wake Forest University Winston-Salem, USA. Dr. Ronald V. Dimock, Advisor. Thesis: Host-induced negative phototaxis in the association <i>Unionicola formosa</i> - <i>Anodonta</i> sp.
December 1977	B.Sc. Biology and Chemistry Universidad de La Salle, Bogotá, Colombia Thesis: Karyotype of <i>Aotus griseimembra</i>

**PROFESSIONAL EXPERIENCE:**

- 2015 ICREA at Barcelona Institute for Global Health (ISGlobal) and Institut d'Investigació Germans Trias i Pujol (IGTP), Spain
- 2007-2015 ICREA Research Professor  
Barcelona Centre for International Health Research – CRESIB
- 2001-2006 Associate Professor  
Dept. of Parasitology  
University of São Paulo, São Paulo, Brazil
- 1991-2001 Assistant Professor, Dept. of Parasitology  
University of São Paulo, São Paulo, Brazil
- 1987-1990 Post-Doctoral Fellow, Unité d'Immuno-  
parasitologie, Institut Pasteur, France  
Dr. Peter H. David, Advisor  
Research Area: Molecular Biology of *Plasmodium vivax*
- 1985-1987 Post-Doctoral Fellow, Dept. of Medical  
and Molecular Parasitology, NYU Medical  
Center, New York, N.Y.,  
Dr. Vincenzo Enea, Advisor  
Research Area: Molecular Biology of *Plasmodium falciparum*

**SCHOLARSHIPS**

- 1998-1999 Visiting Professor Fellowship from the University  
of Heidelberg
- 1985-1990 Fellowship from the World Health  
Organization (WHO).
- 1981-1985 Ph.D. Research Assistantship.  
As part of a National Institutes of Health Grant  
given to Professor Raymond T. Damian.

## TRAINING ABROAD

1998- 1999	Prof. Herman Bujard. Center for Molecular Biology, University of Heidelberg. Sabbatical year (March – October)
1997	Prof. Herman Bujard. Center for Molecular Biology, University of Heidelberg. Expression of malarial proteins in a heterologous inducible tTA system (May).
1995	Dr. Andy P. Waters, Department of Parasitology, University of Leiden. Transfection of Malaria Parasites (July -October).

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2. Carmen Fernandez-Becerra\*, Maria Bernabeu, Angélica Castellanos, Bruna R. Correa, Thomas Obadia, Miriam Ramirez, Edmilson Rui, Franziska Hentzschel, Maria López-Montañés, Alberto Ayllon-Hermida, Lorena Martin-Jaular, Aleix Elizalde-Torrent, Peter Siba, Ricardo Vencio, Myriam Arevalo-Herrera, Sócrates Herrera, Pedro L. Alonso, Ivo Mueller and Hernando A. del Portillo\*. (\*equal correspondence). *Plasmodium vivax* spleen-dependent genes encode antigens associated with cytoadhesion and clinical protection. *Proc Natl Acad Sci U S A.* 2020;117(23):13056-13065. doi:10.1073/pnas.1920596117
3. Marcelo A.M. Brito, Bàrbara Baro, Tainá C. Raiol, Alberto Ayllon-Hermida, Izabella P. Safe, Katrien Deroost, Erick F. G. Figueiredo, Allyson G. Costa, Maria del P. Armengol, Lauro Sumoy, Anne C.G. Almeida, Bidossessi W. Hounkpe, Erich V. De Paula, Càrmen Fernandez-Becerra, Wuelton M. Monteiro, Hernando A. del Portillo\* and Marcus V.G. Lacerda\* (\*equal correspondence). Morphological and Transcriptional Changes in Human Bone Marrow During Natural Plasmodium vivax Malaria Infections [published online ahead of print, 2020 Jun 18]. *J Infect Dis.* 2020;jiaa177. doi:10.1093/infdis/jiaa177

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5. Montaner-Tarbes S, **Del Portillo HA**, Montoya M, Fraile L. Key gaps in the knowledge of the Porcine Respiratory Reproductive Syndrome Virus (PRRSV). *Front Vet Sci*. 2019 Feb 20;6:38. doi: 10.3389/fvets.2019.00038. eCollection 2019. Review.
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## PATENTS

1. Title: Exosomes derived from reticulocytes infected with *Plasmodium* sp., method for obtaining them and uses thereof. Hernando A del Portillo, Lorena Martin Jaular, Carmen Fernandez Becerra. International Application Number: WO

2011/080271. Priority Date, 28.12.2009. Extended to Countries: ES FR GB GR JP US.

Exploiting it: Innovex Therapeutics S.L.

<https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2011080271&tab=PCTBIB>

[LIO](#)

2. Title: Exosomes and their use as vaccines. Hernando A del Portillo, Francesc E Borrás, Lorenzo Fraile, Sergio Montaner Tarbes, Maria Montoya. International Application Number: WO/2016/193422. Priority date: 03.06.2015 ES. Extended to Countries: EU,CA,MX,IR,USA,RU. Exploiting it: Innovex Therapeutics S.L.

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## BOOKS AND CHAPTERS

1. Ivo Mueller, Quique Bssat, Marcus VG Lacerda & Hernando A. del Portillo. "Plasmodium vivax: Insights on burden and patho-biology". (in Advances in malaria research". 2016. Ed. By The Wiley-IUBMB book series.
2. Carmen Fernandez-Becerra, Edmilson Rui, Miriam Ramirez, Takafumi Tsuboi and Hernando A. del Portillo. Small scale expression of soluble recombinant Plasmodium vivax proteins using the cell free wheat germ system and its use in Bioplex suspension array technologies (in Methods in Malaria Research). 2013, pp304-307. Ed. EVIMalaR Glasgow, UK, 2013 MR4/ATCC, Manassas, VA, USA.
3. Bioinformatics in Tropical Disease Research: A Practical Approach. NCBI Books. Editors: Alan M Durham, Arthur Gruber, Chuong , **Hernando A del Portillo**. Bethesda (MD) : National Library of Medicine (US), NCBI ; 2008
4. Mauro F. de Azevedo and **Hernando A. Del Portillo**. Control of Gene Expression in Plasmodium. in: Bioinformatics in Tropical Disease Research: A practical and case-study Approach. Bethesda (MD) : National Library of Medicine (US), NCBI ; 2008
5. Barrera J, Cesar Jr RM, Martins Jr DC, Merino EF, Vêncio RZN, Leonardi FG, Yamamoto MM, Pereira CAB & **del Portillo HA**. (2006) Constructing probabilistic genetic networks of Plasmodium falciparum from dynamical expresión signals of the intraerythrocytic developmental cycle. Critical Assessment of Microarray Data Analysis. Duke University Press.
6. **del Portillo HA**, Certa U, Lagsley G and Herrera S. Basic techniques for the Molecular Biology of Plasmodia. CALI / COLOMBIA: EDICIONES UNIVALLE, 1989.

## FUNDING

### Approved Grants (PI/Co-PI)

2020	Exosome-based vaccine against Covid-19. ISGlobal seeding money 20k€
2018 – 2020	Exosome-based biomarkers of persistent vivax malaria liver infection. NIH-R21 (Co-PI). National Institutes of Health 2018 - 2020
2017 -2020	Mechanistic insights into the anaemia and splenomegaly caused by plasmodium vivax, a neglected human malaria parasite Ministerio de Economía y competitividad Español I+D+I. (IP)
2016 – 2017	Identification of biomarkers for accelerating malaria elimination. SUMA –ISGlobal. (IP)
2015 -2017	Red de excelencia en investigación e innovación en exosomas Ministerio de Economía Español I+D+I. (IP)
2015 – 2017	Exosomas: nuevos comunicadores intercelulares y su aplicabilidad como agentes terapéuticos en enfermedades parasitarias desatendidas. Fundación Ramón Areces. (IP)
2013 - 2015	<i>Plasmodium vivax</i> : molecular basis of severe pathology and development of a reticulocyte-derived exosome nanovesicle vaccine. Ministerio de Economía Español I+D+I (IP)
2013 - 2015	Senior Visiting Professorship. “Ciencia sem Fronteiras, CAPES, Brazilian Government. (IP)
2011 - 2015	Towards the establishment of a permanent European virtual Institute dedicated to malaria research: EVIMalaR. Full Member
2011 - 2014	Desarrollo del cultivo in vitro de la malaria humana de Plasmodium vivax a través de la construcción de un modelo microfluídico tri-dimensional del bazo humano. MICINN PROYECTOS EXPLORA. (IP)
2011 - 2013	Establishment of a continuous <i>in vitro</i> culture system for bloodstages of <i>Plasmodium vivax</i> . GSK Tres Cantos, Open Lab. (IP)
2009 - 2013	Interdisciplinary <i>P. vivax</i> Research Consortium (iVAX) Planning Grant. Bill and Melinda Gates Foundation. (IP)
2009 - 2012	MEC I+D Programme 2009-2011 Vaccine development against Plasmodium vivax. (IP)



## Curriculum Vitae Hernando A. del Portillo

- 2009 - 2013                      Groups de Recerca de Catalunya (SGR). (IP)
- 2007 -2011                      Fundación Privada CELLEX (Co-IP)  
Antigen discovery and vaccine development against *Plasmodium vivax* malaria.
- 2006 – 2007                      CNPq Edital Universal “ Expressão diferencial de receptores de macrófagos durante infecções de Plasmodium yoelii” (IP)
- 2005 – 2007                      FAPESP (Processo No 04/08811-9). Grupo de Estudo em Terapias e Mecanismos Moleculares de Interesse a Saude Humana” (IP)
- 2002 – 2006                      FAPESP (Processo No 01/09401-0). Aproximação Genômica e Pós-Genômica ao Estudo das Malárias Humanas de *Plasmodium vivax* e *Plasmodium falciparum* na Amazônia (IP)  
<http://malariadb.ime.usp.br/researchers.html>
- 2001 – 2006                      TDR-WHO (ID A10382) Bioinformatics and Applied Genomics programme Grant, Universidade de São Paulo (IP)  
<http://malariadb.ime.usp.br/courses.html>
- 2000-2002                      FAPESP (Processo 00/09352-7). “Plasmodium vivax: variação antigênica e desenvolvimento de uma vacina utilizando a região C-terminal da proteína MSP1 como alvo”. (IP)
- 1994-1997                      FAPESP (Processo 94/0227-2). “*Plasmodium vivax*: estudos moleculares sobre a proteína de superfície do merozoito 1, sua organização genômica e seu ciclo celular” (IP)
- 1995-1996                      FAPESP (Processo 95/0897-0). “Utilização de DNA e proteínas recombinantes no estudo da imunogenicidade da proteína de superfície do merozoito 1 de *Plasmodium vivax*” (IP)
- 1992-1994                      FAPESP (Processo 92/2064-8). “Mapeamento dos epítopes B da região N-terminal da Proteína de Superfície do Merozoito 1 de *Plasmodium vivax* reconhecidos predominantemente por soros humanos” (IP)
- 1991-1992                      WHO-IMMAL grant (ID 910134). “Construction of live vaccines of Salmonella expressing B-cell epitopes from the MSA-1 antigen of *Plasmodium vivax*” (IP)
- 1990-1992                      FAPESP (Processo 90/2937-6). “Polimorfismo genético em populações naturais de *Plasmodium vivax* em Rondônia” (IP)

## Curriculum Vitae Hernando A. del Portillo

- 1990-1991 WHO- Re-entry grant (ID 890549). "Genetic Polymorphism in Natural Parasite Populations of *Plasmodium vivax* in Rondônia, Brazil" (IP)
- 1996-1999 INCO-DC Programme (IC18-CT96-0052). "Regulation of development in malaria parasites".

### Approved Grants (collaborator – full member)

- 2020 – 2021 Ministerio de Ciencia, Innovación y Universidades (RED2018-102411-T). Red traslacional para la aplicación clínica de vesículas extracelulares (Tentacles). Coordinator: Maria Yañez-Mo.
- 2020 – 2022 COLCIENCIAS (67512). Caracterización de exosomas en gestantes y no gestantes con coinfección malariageohelmintiasis y su efecto inmunomodulador en placenta y sangre periférica. Coordinator: Jaime Carmona Foseca.
- 2017 – 2020 REGEVA: Noves estratègies per controlar el virus de la síndrome respiratori i reproductiu porcí. Comunitat RIS3CAT. ACCIO/Fondos FEDER. Coordinator: Pinsos del Segre
- 2010 Development of Assays to Evaluate Binding of *Plasmodium vivax* Duffy Binding Protein with its Receptor. Malaria Vaccine Initiative
- 2008-2011 FP7 Programme Health 2007-2.2.2-4 *Plasmodium vivax* Infection in Pregnancy. Coordinator: Clara Menendez.
- 1996-1999 INCO-DC Programme (ERBIC18CT960066). "Analysis of var genes from *Plasmodium vivax* and *P. falciparum*". Coordinator: Allister Craig.
- 1996-1999 INCO-DC Programme (IC18-CT96-0071). "Plasmodial chromatin: structure and function". Coordinator: Artur Scherf
- 1998-2000 INCO-DC Programme (IC18CT980364). "Analysis of var gene expression from *P. falciparum* and *P. vivax* in the field. Coordinator: Michael Lanser
- 1995-1996 INCO-DC Programme (TS3-CT93-0029). "Regulation of sexual development in malarial parasites. Coordinator: Andy P. Waters

## ACADEMIC-ADVISORY EXPERIENCE

### Assistant Research Professor

2007 - Carmen Fernandez-Becerra. Spain.  
Research area: Cell and molecular biology of malaria  
Project: Function of variant proteins in vivax malaria

### Post-Doctoral Fellows

2016 – Melisa Gualdrón  
Research area: host-parasite immunological interactions and biomarkers of hypnozoites

2014 - 2015 Bárbara Baro  
CsF Postdoctoral Fellowship  
Research area: molecular basis of anemia in *P. vivax*  
Present position: Researcher: Lihir (Papua New Guinea), Malaria Elimination Programme

2014 - 2015 Katrien de Roost  
CsF Postdoctoral Fellowship  
Research area: molecular basis of anemia in *P. vivax*  
Present position: postdoctoral Fellow The Francis Crick Institute

2013- 2015 Armando Menezes  
CNPq postdoctoral Fellow  
Research area: Function of exosomes in malaria infections.  
Present position: Researcher Fellow Rene Rachou Institute

2008 - 2014 Lorena Martin  
CRESIB Post-Doctoral Fellowship  
Project: Role of reticulocyte-derived exosomes in vivax malaria  
Present position: postdoctoral Fellow Institut Marie Curie

2010 - 2013 Núria Antón  
GSK Tres Cantos Postdoctoral Fellow  
Project: Development of an in vitro culture for *P. vivax*  
Present position: unknown

2010 - 2012 Francisco Javier López  
MCINN  
Project: bioinformatics and transcriptional analysis *P. vivax*  
Present Position: The Sanger Centre

## Curriculum Vitae Hernando A. del Portillo

- 2009 - 2011 Edmilson Rui  
CNPq Post-Doctoral Fellowship  
Project: high-throughput expression of malarial proteins for antigen discovery  
Present position: industry position
- 2009 - 2010 Luis Izquierdo  
Ramón y Cajal Fellowship  
Project: *P. falciparum*, glycobiology and novel drug discovery  
Present Position: Associate Research Professor ISGlobal
- 2007 - 2009 Anna Rosanas-Urgell  
CRESIB Post-Doctoral Fellowship  
Project: Molecular epidemiological studies in PNG  
Present Position: Head Parasitology Antwerp Tropical Medicine
- 2007- 2008 Marina Brucett, Spain  
CRESIB Post-Doctoral Fellowship  
Project: Immunogenicity of Vir proteins in Natural Infections  
Present Position: unknown
- 2002 - 2005 Emilio Fernando Merino. Argentina.  
FAPESP Fellowship  
Research Project: large-scale analysis of vir genes from wild isolates  
Present Position: Staff scientist Virginia tech
- 1999-2003 Carmen Fernandez-Becerra. Spain  
FAPESP and CNPq Fellowships  
Research Project: Discovery and biology of vir genes  
Present Position: Associate Research Professor at ISGlobal
- 1997-1999 Gerhard Wunderlich. Germany.  
FAPESP fellowship  
Research Project: DNA vaccines - Plasmodium vivax  
Present Position: Associate Professor. University of Sao Paulo, Brazil
- 1991-1994 Gabriela L. Levitus. Argentina.  
BID Fellowship  
Research Project: Naturally acquired immune responses in *P. vivax* infections  
Present Position: Director ArgenBio, Argentina
- 1990-1993 Frédéric Mertens. Belgium.  
BID Fellowship

Research Project: Naturally acquired immune responses in *P. vivax* infections

Present Position: Associate Professor. University of Bahia, Brazil

## PhD Students

- 2018 - Iris Aparici. ISGlobal, Universitat. De Barcelona. Molecular insights into the pathology of *P. vivax*. FPI Fellowship
- 2016 - Haruka Toda. ISGlobal, Universitat. De Barcelona. In vitro culture of *P. vivax*. AGAUR PhD Fellowship
- 2015 - 2019 Miriam Diaz Varela. Universitat. De Barcelona. Molecular basis of vaccine protection. AGAUR PhD Fellowship
- 2015 - 2019 Sergio Montaner-Tarbes. Universitat de Lleida. Exosome vaccine development against animal diseases. AGAUR Industrial PhD Fellowship
- 2012 - 2108 Aleix Elizalde Torrent. PhD Student. Role of the spleen in *Plasmodium vivax* infections. FPU Fellowship  
Present position: postdoctoral fellow IRSICaixa, Spain
- 2011 - 2016 Mariana de Niz Hidalgo. PhD Student. Imaging the spleen in malaria. EVIMalaR PhD fellowship.  
Present position: postdoctoral fellow Institute de Medicina Molecular, Portugal
- 2008 - 2013 Maria Bernabeu (CRESIB fellowship). Subcellular localization of variant proteins from *P. vivax* in heterologous systems.  
Present position: EMBL, CRG, Barcelona, Spain.
- 2007 - 2012 Mireia Ferrer. Spain (Catalonian Generalitat Fellowship). Thesis: Structure and function of the spleen in murine malaria models  
Present position: postdoctoral fellow Vall d'Hebron Research Institute, Spain
- 2004 - 2010 Pamela Sánchez Orjuela. Colombia (CNPq Fellowship). Thesis: Molecular studies of drug resistance in *Plasmodium vivax*

## *Curriculum Vitae* Hernando A. del Portillo

- Present Position: Post-doctoral Fellow, U. San Diego, USA
- 2004 - 2007 Ariane Machado Lima. Brazil (CNPq Fellowship). Thesis: Computational predictions of non-coding RNA in Plasmodium  
Present Position: Assistant Professor, USP. Brazil
- 2002 - 2006 Mauro Ferreira de Azevedo. Brazil (FAPESP Fellowship) Thesis: Functional analysis of Plasmodium through reverse genetics  
Present Position: Assistant Professor Universidade Federal de São Paulo (UNIFESP)
- 2000-2005 Sergio Rodriguez Malaga. Chile (CAPES Fellowship). Thesis: role of the spleen in Plasmodium infections  
Present Position: unknown
- 2001-2004 Juliana Martha Sá. Brazil (FAPESP fellowship). Thesis: Molecular basis of chloroquine resistance in *P. vivax*  
Present position: Staff scientist NIAID-NIH
- 1997-2002 Karin Kirchgatter. Brazil. Thesis: Associations of severe *P. falciparum* malaria and var gene sequences  
Present Position: Senior Research Fellow Malaria Reference Diagnostic Centre, Brazil
- 1995-2000 Camila Indiani de Oliveira. Brazil (FAPESP/CNPq Fellowships). Thesis: DNA vaccines in *P. vivax*  
Present Position: Associate Professor. FIOCRUZ, Brasil
- 1996-1999 Lindsay A Pirrit. Scotland (FAPESP Fellowship). Thesis: Telomerase in *P. falciparum*  
Present Position: English Editor. Scotland
- 1995-1999 Márcia Aparecida Sperança. Brasil (FAPESP/CNPq Fellowships). Thesis: Molecular studies of the cell cycle in malaria  
Present Position: Associate Professor. University of Marília. Brazil
- 1995-1998 Irene da Silva Soares. Brasil (FAPESP fellowship). Thesis: Naturally Acquired Humoral IgG responses against the Merozoite Surface Protein 1 of Plasmodium vivax (PvMSP1)  
Present Position: Associate Professor University of Sao Paulo. Brazil
- 1994-1997 Anamaria A Camargo. Brasil (FAPESP/CNPq Fellowships). Thesis: Genome organization in Plasmodium vivax  
Present Position: Research Professor Ludwig Institute

### Masters Students

- 2018 Alberto Ayllon. Functional characterization of variant genes preferentially expressed in the bone marrow of *P. vivax* patients. Master Clinical Research International Health Track. ISGlobal – Universitat de Barcelona.  
Co-Supervisor: Carmen Fernandez-Becerra
- 2018 Pamela Allison Manco Urbina. Immunogenicity of *P. vivax* proteins whose expression is dependent on the spleen or are associated with exosomes in natural infections. Master Universitari en Bioquímica, Biologia Molecular I Biomedicina. Universitat Autònoma de Barcelona  
Co-Supervisor: Carmen Fernandez-Becerra
- 2018 Concha Ortiz Cartagena. Estudio del potencial biomarcador de proteínas exosomales en la detección de infecciones latentes causadas por hipnozoitos de *Plasmodium vivax*. Master en Microbiología Avanzada. Universitat de Barcelona.  
Co-Supervisor: Melisa Gualdrón-López
- 2014 Miriam Diaz Varela. Masters Student. Universidad Pompeu Fabra. Immunogenicity of reticulocyte-derived exosomes.
- 2014 Ana Gamez. Masters Student. Universidad de Barcelona. Proteomics composition of reticulocyte-derived exosomes.
- 2014 Pei-An Li. Masters Student. Universidad Autònoma de Barcelona. Targeted expression of reporter genes into exosomes.
- 2012 - 2013 Richard Thomson Luque. Establishment of a continuous in vitro culture system for blood stages of *Plasmodium vivax*. Quit the programme.
- 2013 Carlos Yauli. Expression profile of reticulocyte-derived exosomes in malarial infections
- 2009 - 2010 Pablo Suárez (La Caixa fellowship). Transcriptional profile of erythropoiesis.

### Visiting Students

- 2018-2019 Carlos Castro. Universidad de Antioquia, Medellin, Colombia

## *Curriculum Vitae* Hernando A. del Portillo

2018	Christian Sanchez. GEIVEX Mobility Fellowship. Universitat de Valencia, Spain
2017	Mariano García Martínez. Escuela Nacional de Ciencias Biológicas. Instituto Politécnico Nacional. Laboratorio de Inmunología molecular II, Mexico
2016	Anne Almeida and Marcelo Brito. Fundação de Medicina Tropical Dr. Heitor Vieira Dourado, Manaus, Brazil Marcel y Anne de Brazil
2011 - 2012	Carolina Bustamante (CNPq Fellowship) Functional analysis of drug-resistance genes.

### Undergraduate Students

#### ISGlobal/CRESIB

2013 -	Joao Segui Barber
2014	Aïda Sabaté Ripollés
2012	Franziska Hentschel
2011	Cristian Gonzalez
2011	Maria López
2009 -	Cristina Pelligero
2009 -	Pablo Suarez
2008	Maria Bernabeu

#### University of Sao Paulo

2006	Michelle Marini Horikawa
2004-2005	Andréa Sendoda
2001	Marcelo Demarchi Goissis
2000	Mauro Ferreira de Azevedo
1997	Jay Lee.
1995-1997	Daniela Fernandez Coura
1991-1992	Melisa Porto Pimentel
1991-1993	Anamaria A Camargo
1992-1994	Márcia A Speranca
1995	Lúcio Castillo
1993	Alex Ulbritch
1993	Tatiana Grohmann

#### ACADEMIC TEACHING EXPERIENCE

- Annual lecturer, Universidad Pompeu Fabra Human Biology
- Annual Lecture UAB Immunology



## Curriculum Vitae Hernando A. del Portillo

- Coordinator: Workshop on Isolation & Characterization of EVs from different Biological Fluids. Barcelona March 2017
- Coordinator: Workshop on Exosomes and Parasites. ICOPA 2014

### Graduate

- Coordinator TDR-WHO Bioinformatics in Tropical Disease Research (<http://clinmaldb.usp.br/courses.html>)
- Molecular Parasitology
- Control of Gene Expression in *Plasmodium*

### Undergraduate

- Practical course on Recombinant DNA Technology and Gene Expression (every summer)
- Genomics and Post-Genomics approaches in Biomedical Sciences
- Parasitology

### CONGRESS ORGANIZER/CO-ORGANIZER SINCE IN SPAIN (2007)

International Conference on Plasmodium vivax Research (ICPVR) Paris June 26-28. 2019. Scientific Organizing Committee.

International Society of Extracellular vesicle (ISEV), Barcelona, Spain 3-26 May 2018. Co- Organizer GEIVE / Scientific Organizing Committee.

VI International Conference on Plasmodium vivax Research (ICPVR) Manaus, Brazil June . President Scientific Organizing Committee.

3rd International Symposium of GEIVEX (Grupo Español de Investigación e Innovación en vesículas Extracelulares). Therapeutic applications of extracellular vesicles. San Sebastián, Spain. 29-30 Sept 2016. Scientific Organizing Committee.

5th International Conference of research on Plasmodium vivax malaria. Bali, Indonesia 19-22 May 2015. Scientific Organizing Committee.

2<sup>nd</sup> GEIVEX (Grupo Español de Investigación e Innovación en vesículas Extracelulares), Oct, Tarragona, Spain 2014. President Scientific Organizing Committee

XIII Biology of Malaria Parasites (BioMalPar) meeting, Heidelberg, Germany 2013. Scientific Organizing Committee

EviMalaR clusters 1&3 International meeting, Barcelona, Spain 2011. President Scientific Organizing Committee

**SELECTED INTERNATIONAL ORAL PRESENTATIONS**

- Invited speaker: Exosomes in human infectious diseases conference. Nassau. Bahamas. 5-8 March 2020
- Invited speaker: XXIV Congreso Nacional de Inmunología, Monterrey, México. 26-29 Abril 2020
- Invited speaker: Malaria Vaccines for the World (MVW), Oxford, UK. May 10 2019.
- Invited speaker: German Society of Extracellular Vesicles (GSEV), Frankfurt Germany. March 7<sup>th</sup> 2019.
- Invited Speaker: “Exosomes in *P. vivax*: why all this excitement. ICOPA Daegu, South Korea. August 2018-09-12
- Invited Speaker: “Exosomes in *Plasmodium vivax* malaria: from basics to translation”. CIDR, USA May 2018.
- Invited presentation: Exosomes as vaccines. Innovation Task Force. European Medicinal Agency. London October 2017
- Invited Speaker: Malaria Eradication. Keystone Symposium. Mexico January 2015
- Invited Speaker: Reticulocyte-derived exosomes as a new vaccine and platform. ISEV ExoTherapeutics. Singapore October 2015
- Conference chair: Role of exosomes and exosomic cargo in the immune synapse, cancer and neural cells. XXXIX Congreso de la Sociedad Española de Bioquímica y Biología Molecular SEBBM, Salamanca, Spain, 05-09 Sept 2016.
- Invited Speaker: Reticulocyte-derived exosomes as a new vaccine and platform against *Plasmodium vivax*. 5th International Conference of research on *Plasmodium vivax* malaria. Bali, Indonesia 19-22 May 2015
- Invited Speaker: MeHAD COST Action. Helsinki April 2015
- Conference Chair: Symposium *Plasmodium vivax* malaria; Symposium Vaccines against *Plasmodium vivax* International Congress in Parasitology – ICOPA, Mexico D.F. 11-15 August 2014

- Invited Speaker: Reticulocyte-derived exosomes and *P. vivax*. Functional studies of the spleen. International Congress in Parasitology – ICOPA, Mexico D.F. 11-15 August 2014
- Closing Lecturer PAIC, Manaus, Brazil August 2014
- Invited Conference Universidad de Los Andes, Bogotá, Colombia Mayo 2014
- Invited speaker. Seminars series Institute of Cellular Biology, Bern, Switzerland 2014
- Participant 3<sup>rd</sup> Pan European SME Event Vision 2020. Barcelona 04 April 2014.
- Invited Speaker: Reticulocyte-derived exosomes: an intercellular communicator in *Plasmodium vivax* malaria? Keystone Symposia: The Science of Malaria Eradication. Merida, Yucatán, Mexico 2-7 Feb 2014. 2
- Invited Speaker: Role of reticulocyte-derived exosomes in *Plasmodium vivax* malaria. Gordon Research Conference: Molecular and Cell Biology of Malaria. Toscana, Italy 04-09 August 2013.
- Invited Speaker: The role of the spleen in *vivax* malaria . American Society of Tropical Medicine and Hygiene 62nd Annual Meeting. Washington DC, 13-17 Nov 2013.
- Organizer and Invited Speaker: 9th Annual Biomalpar Meeting – Evimalar Conference. Heidelberg, Germany 13-15 May 2013.
- Mechanistic insights into splenomegaly. 2o Congreso Nacional de Medicina Tropical. Lisboa 22-23 April 2013.
- Further insights into the role of the spleen in *Plasmodium vivax* malaria. “Evimalar Clusters 1&2 meeting”. Max Planck Institute, Berlin (Germany). 29<sup>th</sup>-31<sup>th</sup> October 2012.
- *Reticulocyte - derived exosomes from malaria infections: a new conveyer of immune responses*. Conferencia: “XVIII International Congress for Tropical Medicine and Malaria”. Royal Tulip Hotel, Rio de Janeiro (Brazil). September, 27, 2012.
- ISEV Chair and Lecturer Symposium: Extracellular Vesicles and Parasitic Diseases, International Society Extracellular Vesicles – ISEV, 18-21 April 2012. Gothenborg, Sweden.
- The Science Behind Malaria Control and Eradication. Gordon Research Conference. Lucca, Italy. July 31- August 5, 2011.

- Member of Organising Committee – III Reunión de la Plataforma Ibérica de Malaria. Lisboa, Portugal. June 23-24, 2011.
- “On human spleen cytoadhesion of Plasmodium Vivax” – Division of Parasitology : MRC National Institute for Medical Research. U.K, London. June 21,2011.
- “Resistance to Existing Drugs and New Drug Development” – Research Advances in Malaria – Drug Development and Malaria. Tres Cantos, Madrid. June 2-3, 2011.
- “Biology and Pathology of the Malaria Parasite” – 7<sup>th</sup> Annual BioMalpar Conference. EMBL Advanced Training Centre - Heidelberg, Germany. May 16-18, 2011.
- Role of the spleen and cytoadherence in Plasmodium vivax malaria. Institut Pasteur – Paris, France. March, 16-18, 2011
- “The Immunobiology and Pathophysiology of the Malaria Parasite” – EviMalR Cluster 1 meeting. St. Catherine’s College, Oxford. December 15-17, 2010.
- Invited Speaker. International Centre for Genetic Engineering & Biotechnology, New Delhi, INDIA. International Scientific Meeting “Recent Developments in Malaria Research” New Delhi India . December 1-3, 2010
- ASTMH 2010 Co-Chair Symposium P. vivax
- XII Reuniao de Pesquisas em Malaria. Ouro Preto, Brazil. October 3-6, 2010.
- ICOPA 2010 Chair Symposium P. vivax
- “Novel spleen immune evasion mechanism in reticulocyte-prone non-lethal malaria parasites”. Vivax Malaria Research III and beyond. Panamá. May 24-28, 2009
- “Role of the spleen in Plasmodium vivax malaria”. Gordon Research Conferences – Molecular approaches in Emergent and Re-Emergent Tropical Diseases. Jan 25-29, 2009 Galveston TX, USA.
- “Key gaps in knowledge of Plasmodium vivax”. MalERA BMGF Foundation. Montreaux 20-24 Nov - 2008
- “Role of the spleen in Plasmodium vivax malaria”. XI Reuniao de pesquisas em malaria Manaus, Brazil 26-29 Oct - 2008

- “Antigen Discovery and Vaccine Development at the Barcelona Centre for International Health Research – CRESIB”. Cambridge Healthtech Institute’s Second Annual Protein Expression Europe Lisbon, Portugal 20-21 October 2008
- “Severe *P. vivax* and drug resistance genes” 9th Workshop on Imported Infectious Diseases. Madrid, Spain Sep3-4 2008
- “*P. vivax*: virulence and role of the spleen”. Indo-US VAP Workshop Development of Vaccines for *Plasmodium vivax* Malaria June 17-18, 2008, Hyatt Regency, New Delhi, India.
- “Antigens and variations” Next Steps for Plasmodium Post-genomic Research” Wellcome Trust London, England. April 8-9, 2008
- “Molecular basis for the establishment of chronic infections in Plasmodium vivax malaria. Molecular approaches to Malaria. Lorne, Australia. 2008
- “The *Plasmodium vivax* Cellex Consortium”. WHO MALVAC Meeting, Sitges, Spain Marzo 31- Abril 4 2007
- “Molecular basis for the establishment of chronic infections in Plasmodium vivax malaria. Corcega, France. COST Meeting. 2007
- “Molecular basis for the establishment of chronic infections in Plasmodium vivax malaria. São Paulo Research Conference. Nov 2006
- “Probabilistic genetic networks analysis of three *Plasmodium falciparum* strains from dynamical expression signals”. International Society for Computational Biology – ISMB- 6-10 Agosto de 2006. Fortaleza, Brasil. ISMB
- “*Plasmodium vivax* malaria: MSP1 vaccine development and Molecular Basis of Virulence. Hospital Clinic. Barcelona. April 2006.
- “Molecular basis of virulence and drug resistance in Plasmodium vivax. Vivax malaria research: 2005 and beyond. 9-10 de Dezembro de 2005. TIGR, Rockville, USA.
- “Apicomplexa parasites: can nuclear encoded genes lacking a bipartite signal sequence be transported to the apicoplast? VII Congreso Argentino de Protozoología y Enfermedades Parasitarias. Mendoza, Argentina 16-19 Octubre de 2005.

- “*Plasmodium vivax*: virulence and drug resistance”. Instituto Gulbenkian. Lisbon, Portugal. Feb 2005.
- “Gene expression studies: shuttling between *Plasmodium falciparum* and *P. vivax*”. New Frontiers in malaria parasite and anopheles mosquito engineering. Les Treill, France 1-5 October 2004.
- “Molecular approaches to study virulence and chloroquine resistance in *Plasmodium vivax*”. Second International Malaria Research Conference. Johns Hopkins Malaria Research Institute. March 25-26, 2004 Baltimore, USA.
- “Molecular approaches to study virulence and chloroquine resistance in *Plasmodium vivax*”. MAM 2004, Lorne, Australia, Feb 1-5, 2004.
- “Bioinformatics Approaches to Accelerate the Discovery of Alternative Control Strategies against Human Malaria”. Primer Simposio Internacional de Genomica de Microorganismos y vectores del tropico. Bogota, Colombia Agosto 13-16, 2003.
- “Molecular basis of antigenic variation in *P. vivax* malaria”. Vivax Malaria Research: 2002 and beyond. Bangkok, Thailand, Feb. 3-8, 2002
- “Genome Studies on *Plasmodium vivax*”. 11<sup>th</sup> Meeting on the Malaria Genome Sequencing Consortium, Hinxton, UK. Hinxton, UK. June 2001.
- A superfamily of variant genes encoded in the subtelomeric region of *Plasmodium vivax*. WoodsHole Parasitology Meeting. Woods Hole, USA. September 2000.
- Keynote Lecture: “Molecular aspects of vivax malaria”. VII EC Malaria Contract Holder’s Meeting. Heidelberg. September 1999.
- “Progress to establish an inducible system for malaria”. Malaria Genome Project Task Force - Improvement of Reverse Genetic Systems in Malaria Parasites for Functional Analysis. London, February 1999.
- “Construction and use of cdc2-chimeras to investigate cell cycle control in the human malaria parasite *Plasmodium vivax*”. British Society of Parasitology. 10th Malaria Meeting. Edinburgh September 1998
- “Construction and characterization of a *Plasmodium vivax* genomic library in yeast artificial chromosomes”. 2nd Global Meet on Parasite Diseases: Ross Centenary. Hyderabad, India .August, 1997.
- “Construction and characterization of a *Plasmodium vivax* genomic library in yeast artificial chromosomes”. VII Molecular Parasitology Meeting, Woods Hole, MA, USA September 1996.

- "*Plasmodium vivax*: molecular studies and vaccine development. International Symposium on Molecular and Immunological Aspects of Host-Parasite Interactions. Wurzburg, Germany. June 1996.
- "DNA-mediated immunisation using five recombinant plasmids encoding different regions of the Merozoite Surface Protein 1 of *Plasmodium vivax*". University of Laussane, Switzerland, June 1996.
- "*Plasmodium vivax*: estudios moleculares y desarrollo de vacunas". Centro de Investigaciones Biológicas. Madrid, Spain. June 1996
- "Genome organisation and promoter elements in *Plasmodium vivax*". Transfection of Malaria Parasites. Oegstgeest, The Netherlands, July 1995.
- "Cloning of the *crk2* gene of *Plasmodium vivax*". Gametocyte Network Meeting, Nijmegen, The Netherlands, April 1995.
- "Advances towards the development of an MSP1 vaccine candidate against *Plasmodium vivax*". Naval Medical Research Institute, Rockville, MD, USA, September-1994.
- "New advances toward the development of an asexual blood stage MSP-1 vaccine of *P. vivax*". IVth CEC Malaria Contract Holders Meeting, Cali, Colômbia, setembro 1993.
- "Molecular studies on the MSP-1 protein of *P. vivax*". IVth International Congress on Malaria and Babesiosis. Rio de Janeiro, agosto 1991.
- "Cloning and Expression of the Major Merozoite Surface Antigen of *Plasmodium vivax*". First TDR/RF Scientific Meeting. Bangalore, India. December 1989.
- "Cloning of the Merozoite Surface Antigen 1 (MSA-1) of *Plasmodium vivax*". Tenth Meeting of the Scientific Working Group on IMMAL. Geneva, Switzerland. April 1988.

## OTHERS

**Editorial Board:** Malaria Journal, Parasitology International, PLoS Neglected Tropical Diseases

### Reviewer "ad hoc"

Cell, Blood, mBIO, nbj Vaccines, Cellular Microbiology, Trends in Parasitology, Molecular Microbiology, Molecular and Biochemical Parasitology, Experimental Parasitology, Malaria Journal, Infection and Immunity, PLoS ONE, Antimicrobial

## *Curriculum Vitae* Hernando A. del Portillo

Agents, Vaccine, Acta Tropica, International Journal for Parasitology, Malaria Journal.

### **Consultant**

- Consultant CORPOGEN- Colômbia, HTP methods for the screening of antimalarial compounds
- Consultant of viral vaccines. Biomanguinhos Rio de Janeiro
- Consultant OPAS Drug resistance in the Brazilian Amazon
- Scientific Advisory Board Malaria Resource and Research Center (MR4)