



AL MAGNIFICO RETTORE  
DELL'UNIVERSITA' DEGLI STUDI DI MILANO

**ESTFANIA CALVO ALVAREZ**  
**CURRICULUM VITAE**

**INFORMAZIONI PERSONALI**

Cognome	CALVO ALVAREZ
Nome	ESTEFANIA
Data Di Nascita	06/05/1986

**OCCUPAZIONE ATTUALE**

Incarico	Struttura
Assegno di ricerca tipo B	Dipartimento di Scienze Biomediche, Chirurgiche e Odontoiatriche, Università degli Studi di Milano

**ISTRUZIONE E FORMAZIONE**

Titolo	Corso di studi	Università	anno conseguimento titolo
Laurea Magistrale o equivalente	BIOTECNOLOGIA	LEÓN, SPAGNA	2009
Specializzazione			
Dottorato Di Ricerca	SCIENZE DELLA SALUTE	LEÓN, SPAGNA	2015
Master	INNOVAZIONE IN SCIENZE BIOMEDICHE E DELLA SALUTE	LEÓN, SPAGNA	2010
Diploma Di Specializzazione Medica			
Diploma Di Specializzazione Europea			
Altro	CERTIFICATO DI SPERIMENTAZIONE ANIMALE LIVELLO "DESIGNER"	ISTITUTO PASTEUR, FRANCIA	2019

**ISCRIZIONE AD ORDINI PROFESSIONALI**

Data iscrizione	Ordine	Città



## LINGUE STRANIERE CONOSCIUTE

lingue	livello di conoscenza
SPAGNOLO	MADRELINGUA
INGLESE	CERTIFICATO C1
TEDESCO	CERTIFICATO B2
ITALIANO	LIVELLO INTERMEDIO
FRANCESE	LIVELLO INTERMEDIO

## PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
Gennaio-Giugno 2021	VINCITRICE DELL'ASSEGNO DI RICERCA DI TIPO B DI 6 MESI PRESSO IL DIPARTIMENTO DI SCIENZE BIOMEDICHE, CHIRURGICHE E ODONTOIATRICHE DELL'UNIVERSITÀ DEGLI STUDI DI MILANO (ITALIA)
Luglio-Settembre 2008	VINCITRICE DELLA BORSA DI STUDIO DI 3 MESI PER LAVORI DI RICERCA PRESSO L'ISTITUTO DI BIOTECNOLOGIA INBIOTEC DI LEÓN (SPAGNA)
Settembre 2008-Giugno 2009	VINCITRICE DELLA BORSA DI STUDIO DI 12 MESI PER LAVORI DI RICERCA PRESSO IL DIPARTIMENTO DI SCIENZE BIOMEDICHE DELL'UNIVERSITÀ DI LEÓN (SPAGNA)
Novembre 2009-Ottobre 2014	VINCITRICE DELLA PREDOCTORAL FELLOWSHIP DI 47 MESI PRESSO IL DIPARTIMENTO DI SCIENZE BIOMEDICHE DELL'UNIVERSITÀ DI LEÓN (SPAGNA)

## ATTIVITÀ DI FORMAZIONE O DI RICERCA

<p><b>Postdoctoral researcher</b></p> <p>Department of Biomedical, Surgical and Dental Sciences, Università degli Studi di Milano (Milan, Italy)</p> <p>Supervisor: Sarah D'Alessandro, PhD</p> <ul style="list-style-type: none"><li>▪ Study the induction and/or modulation of plasticity of bone-marrow derived macrophages (BMDM) by <i>Plasmodium falciparum</i> gametocytes (GCT) at different stages of development.</li><li>▪ Investigate the role of innate immune receptors (TLRs and NOD2) in the activation of BMDM by PfGCT.</li></ul>	<p><b>January-June 2021</b></p>
<p><b>Postdoctoral researcher</b></p> <p>Trypanosome Transmission Group, Pasteur Institute (Paris, France)</p> <p>Supervisor: Brice Rotureau, PhD</p> <ul style="list-style-type: none"><li>▪ Characterization of the early steps of <i>Trypanosoma brucei</i> development upon natural transmission by state-of-the-art bio-imaging technologies in animal models of disease.</li><li>▪ Functional investigation of the flagellar protein FLAM8 and flagellum sensory functions in detection of the environment and differentiation in the mammalian host and the tsetse fly insect vector.</li><li>▪ Deciphering the role(s) of <i>T. brucei</i> aquaglyceroporin channels and glycerol metabolism in host-parasite interactions.</li><li>▪ Optimization of diagnostic tools for the presence of parasites in the skin of infected individuals.</li></ul>	<p><b>April 2015-June 2020</b></p>

**Predocctoral researcher**

November 2009-February 2015

PhD in Health Sciences

Title: “*Applications of biophotonics for the development of drugs to the therapy of leishmaniasis*”

Department of Biomedical Sciences, University of León (Spain)

Supervisor: Prof. Rosa Reguera Torres, VMD

- Characterization of *in-vivo* dynamics of infection by *Leishmania major* and *L. infantum* in real time by preclinical imaging technologies.
- Development and characterization of a novel *ex vivo* splenic explant for High Throughput Screening of drug candidates for visceral leishmaniasis.
- Screening of potential leishmanicide drugs and experimental vaccines in animal models of disease for preclinical diagnostics.

**Research Associate**

September 2012-December 2012

Center of Tropical Diseases, University of Texas Medical Branch at Galveston (UTMB), Texas (United States).

Supervisor: Prof. Peter C. Melby, MD

- Characterization of a murine lymph node *ex vivo* explant of cutaneous leishmaniasis.
- Development of High Throughput Screenings for the identification of active drugs against *Leishmania major*.

**ATTIVITÀ PROGETTUALE**

Anno	Progetto
2021	2017-0846 (2017). Modulation of bone marrow macrophage plasticity by gametocytes, the transmission stages of malaria parasite. Fondazione Cariplo, Italy.
2015	ENTRYPA (ANR-JCJC-2014). Dynamics of the early steps of mammalian host infection by African trypanosomes. Agence Nationale de Recherche, France.
2015	GLYCONOV (ANR-CE-2015). Non-glycolytic pathways in glycosomes: novel functions for trypanosome development and virulence. Agence Nationale de Recherche, France.
2013	AGL2010-16078. Application of bioluminescent <i>in vivo</i> real-time imaging for the development of drugs against <i>Leishmania</i> . Ministry of Science and Innovation, Spain.
2010	Z204. Generation of bioluminescent <i>L. major</i> and <i>L. infantum</i> strains for drug testing under HTS procedures. University of León, Spain.
2009	GR238. Excellence Group. Application, mechanism of action and resistance development of antitumor topoisomerase-inhibitors drugs against different types of experimental leishmaniasis. JCyL, Spain.

**TITOLARITÀ DI BREVETTI**

Brevetto
DI2017-51: “Use of a corneometer to measure skin capacitance as a diagnostic tool for gambiense Human African Trypanosomiasis”. Co-inventor.
DI2016-14: “A new triple marker molecular construct PpyRE9::TY1::TdT designed for multiple imaging (intravital and fixed samples) at multiple scales (cell, tissue, organism)”. Protected material under MTA and registered in the CNCM (CNCM I-5089, 23-05-2016). Co-inventor.



## CONGRESSI, CONVEGNI E SEMINARI

Data	Titolo	Sede
8 <sup>th</sup> -11 <sup>th</sup> March 2020	British Society for Parasitology Annual Meeting, "Trypanosomiasis and Leishmaniasis". Poster.	Granada (Spagna)
18 <sup>th</sup> -19 <sup>th</sup> November 2019	Symposium "The future of parasitology". <b>Oral communication.</b>	Istituto Pasteur, Parigi (Francia)
13 <sup>th</sup> -14 <sup>th</sup> June 2019	European <i>In Vivo</i> Optical Imaging User Group Meeting, organized by PerkinElmer. <b>Invited speaker.</b>	Barcelona (Spagna)
27 <sup>th</sup> April- 1 <sup>st</sup> May 2019	Kinetoplastid Molecular Cell Biology Meeting. <b>Oral communication.</b>	Woods Hole, Massachusetts (USA)
30 <sup>th</sup> September- 3 <sup>rd</sup> October 2018	EMBO Workshop: Molecular advances and parasite strategies in host infection. Poster.	Les Embiez Island (Francia)
5 <sup>th</sup> -6 <sup>th</sup> December 2017	V Symposium "Trypanosomatid parasites. From the lab to the field". Poster.	Istituto Pasteur, Parigi (Francia)
27 <sup>th</sup> -29 <sup>th</sup> September 2017	Annual EIMID (European Initiative for Microbiology and Infectious Diseases) Meeting. Poster.	Università di Oxford, Oxford (Regno Unito)
4 <sup>th</sup> -7 <sup>th</sup> September 2016	British Society for Parasitology Annual Meeting, "Trypanosomiasis and Leishmaniasis". Poster.	Università di South Bohemia, České Budějovice (Repubblica Ceca)
13 <sup>th</sup> -15 <sup>th</sup> July 2016	Congress "Global Challenges in Neglected Tropical Diseases". <b>Oral communication.</b>	Università di León, León (Spagna)
26 <sup>th</sup> -27 <sup>th</sup> May 2016	IV Symposium "Trypanosomatid parasites. From the lab to the field". Poster.	Istituto Pasteur, Parigi (Francia)
23 <sup>rd</sup> -24 <sup>th</sup> November 2015	Symposium "Parasitology in the 21st century". Poster.	Istituto Pasteur, Parigi (Francia)
5 <sup>th</sup> -8 <sup>th</sup> September 2011	XXVI Congress of the Spanish Society of Biochemistry and Molecular Biology (SEBBM). Poster.	Barcelona (Spagna)
14 <sup>th</sup> -17 <sup>th</sup> September 2010	XXV Congress of the Spanish Society of Biochemistry and Molecular Biology (SEBBM). Poster.	Córdoba (Spagna)

## PUBBLICAZIONI

Libri
<b>Calvo-Álvarez E</b> and Bastin P. Dealing with Multiple Environments: The Challenges of the Trypanosome Life Cycle. Systematics & Exploration of Life. Vol. II. ISTE-Wiley publishers (London, UK); ISBN:9781784057312.
Hutchinson S*, <b>Calvo-Álvarez E*</b> , Tsagmo JM*, Lemos M*, Travaille C, Rotureau B, Bastin P. Progress in research on African trypanosomes: highlights from an exceptional decade. Life Cycle of Pathogenic Protists. I. Human Parasites. Microbiol Monographs. Edizione Springer Verlag (under editorial proofs). *Co-first authors.



Articoli su riviste
<b>Calvo-Álvarez E</b> , Bonnefoy S, Salles A, Fiona E. Benson, Paul G. McKean, Bastin P, Rotureau B. Redistribution of FLAgellar Member 8 during the trypanosome life cycle: consequences for cell fate prediction (2021). <i>Cell Microbiol</i> e13347. doi: 10.1111/cmi.13347.
Camara M, Soumah AM, Ilboudo H, Travaille C, Clucas C, Cooper A, <b>Calvo-Álvarez E</b> , Kuispond Swar NS, Camara O, Crouzols A, Camara M, Bucheton B, MacLeod A, Rotureau B. (2020) Dermal trypanosomes in suspected latent carriers and confirmed cases of Human African Trypanosomiasis: a prospective observational study. <i>Clin Infect Dis</i> ciaa897, doi: 10.1093/cid/ciaa897.
Dieme C, Marta Zmarlak N, Brito-Fravallo E, Pain A, Cherrier F, Genève C, <b>Calvo-Álvarez E</b> , Travaille C, Riehle S, Vernick KD, Rotureau B, Mitri C. (2020) Exposure of Anopheles mosquitoes to trypanosomes reduces their reproductive fitness and enhances susceptibility to Plasmodium. <i>PLoS Negl Trop Dis</i> 14(2):e0008059.
<b>Calvo-Álvarez E</b> , Cren-Travaille C, Crouzols A, Rotureau B. (2018) A new chimeric triple reporter fusion protein as a tool for in vitro and in vivo multimodal imaging to monitor the development of African trypanosomes and Leishmania parasites. <i>Infect Genet Evol</i> 63:391-403.
Capewell P, Cren-Travaille C, Marchesi F, Johnston P, Clucas C, Benson RA, Gorman TA, <b>Calvo-Álvarez E</b> , Crouzols A, Jouvion G, Jamonneau V, Weir W, Stevenson ML, O'Neill K, Cooper A, Swar NK, Bucheton B, Ngoyi DM, Garside P, Rotureau B, MacLeod A. (2016) The skin is a significant but overlooked anatomical reservoir for vector-borne African trypanosomes. <i>eLife</i> p ii: e17716.
<b>Calvo-Álvarez E</b> , Álvarez-Velilla R, Requena JM, Punzón C, Llamas MÁ, Arévalo FJ, Fresno M, Pérez-Pertejo Y, Balaña-Fouce R, Reguera RM. (2015) Infrared fluorescent imaging as a potent tool for in vitro, ex vivo and in vivo models of visceral leishmaniasis. <i>PLoS Negl Trop Dis</i> 9(3): e0003666.
<b>Calvo-Álvarez E</b> , Álvarez-Velilla R, Prada CF, Reguera RM, Balaña-Fouce R. (2015) Trypanosomatids see the light: recent advances in bioimaging research. <i>Drug Discov Today</i> p ii: S1359-6446(14)00378-X.
<b>Calvo-Álvarez E</b> , Alvarez-Velilla R, Jiménez M, Molina R, Pérez-Pertejo Y, Balaña-Fouce R, Reguera RM. (2014) First evidence of intraclonal genetic exchange in trypanosomatids using two Leishmania infantum fluorescent transgenic clones. <i>PLoS Negl Trop Dis</i> 8: e3075.
Reguera RM, <b>Calvo-Álvarez E</b> , Álvarez-Velilla R, Balaña-Fouce R. (2014) Target-based vs. phenotypic screenings in Leishmania drug discovery: a marriage of convenience or a dialogue of the deaf? <i>Int J Parasitol Drugs Drug Resist</i> doi: 10.1016/j.ijpddr.2014.05.001.
Prada CF, Alvarez-Velilla R, Balaña-Fouce R, Prieto C, <b>Calvo-Álvarez E</b> , Escudero-Martínez JM, Requena JM, Ordóñez C, Desideri A, Pérez-Pertejo Y, Reguera RM. (2013) Gimitecan and other camptothecin derivatives poison Leishmania DNA topoisomerase IB leading to a strong leishmanicidal effect. <i>Biochem Pharmacol</i> 85: 1433-1440.
<b>Calvo-Álvarez E</b> , Guerrero NA, Alvarez-Velilla R, Prada CF, Requena JM, Punzón C, Llamas MÁ, Arévalo FJ, Rivas L, Fresno M, Pérez-Pertejo Y, Balaña-Fouce R, Reguera RM. (2012) Appraisal of a Leishmania major strain stably expressing mCherry fluorescent protein for both in vitro and in vivo studies of potential drugs and vaccine against cutaneous leishmaniasis. <i>PLoS Negl Trop Dis</i> 6: e1927.
Carballeira NM, Cartagena M, Li F, Chen Z, Prada CF, <b>Calvo-Álvarez E</b> , Reguera RM, Balaña-Fouce R. (2012) First total synthesis of the (±)-2-methoxy-6-heptadecynoic acid and related 2-methoxylated analogs as effective inhibitors of the Leishmania topoisomerase IB enzyme. <i>Pure Appl Chem</i> 84: 1867-1875.
Balaña-Fouce R, Prada CF, Requena JM, Cushman M, Pommier Y, Álvarez-Velilla R, Escudero-Martínez JM, <b>Calvo-Álvarez E</b> , Pérez-Pertejo Y, Reguera RM. (2012) Indotecan (LMP400) and AM13-55: two novel indenoisoquinolines show potential for treating visceral leishmaniasis. <i>Antimicrob Agents Chemother</i> 56: 5264-5270.
Balaña-Fouce R, <b>Calvo-Álvarez E</b> , Álvarez-Velilla R, Prada CF, Pérez-Pertejo Y, Reguera RM. (2012) Role of trypanosomatid's arginase in polyamine biosynthesis and pathogenesis. <i>Mol Biochem Parasitol</i> 181: 85-93.



ALTRE INFORMAZIONI

REVIEWER DI ARTICOLI SCIENTIFICI PER RIVISTE INTERNAZIONALI ( <i>PLoS Negl Trop Dis, Antimicrob Agents Chemother, Trends in Parasitol, Acta Tropica, PLoS One</i> )
Settembre 2015 - Settembre 2016: PRESIDENTE DEL COMITATO DEI RESIDENTI DELLA CASA SPAGNOLA DELLA CITÉ UNIVERSITAIRE DI PARIGI.
4-10 aprile 2016: ORGANIZZAZIONE E COORDINAMENTO DELLA "PRIMA SETTIMANA DELLA SCIENZA" NELLA CASA SPAGNOLA CON L'OBIETTIVO DELLA DIVULGAZIONE SCIENTIFICA.
ATTIVITÀ DI DIVULGAZIONE SCIENTIFICA CON LA SOCIETÀ DI RICERCATORI SPAGNOLI IN FRANCIA (SIEF)
PATENTE DI GUIDA TIPO B

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000.

Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

Luogo e data: BERGAMO, 23/05/2021

FIRMA: ESTEFANIA CALVO ALVAREZ