



Universidad Peruana Cayetano Heredia  
Lima - Perú.

1972 - 1976

Faculty of Medicine  
Universidad Peruana Cayetano Heredia  
Lima – Perú

### TITLES:

22/Oct/2011

Doctor in Sciences

15/Feb/1984

Master in Science with mention in Biochemistry

08/Abr/1981

Licentiate in Biology

19/Abr/1978

Bachelor in Biology

### POST GRADUATE STUDIES

17/Aug/1994 - 17/Sep/1994

Department of Genetic  
University of British Columbia,  
Vancouver, Canada.  
Supervisor : Dr. Robert McMaster

25/Aug/1986 -28/Nov/1986

Department of Tropical Public Health, Harvard School  
of Public Health, Harvard University, Boston, U.S.A.  
Supervisor: Dr. Dyann Wirth

01/Sep/1978 - 29/Nov./1980

Kemisk Institut, Aarhus Universitet, Denmark.  
Project: Purification of the elongation factor EF-2 form yeast  
and DNA sequencing of the EF-G gen from *E.coli*.  
Supervisors:Prof. B.F.C. Clark y Dr. Roger Garrett.

**WORK POSITION**

01/Apr/95 - Present	President Bio Links S. A.
01/Jun/11 - Present	Head of the Cellular and Molecular Sciences Department Faculty of Sciences Universidad Peruana Cayetano Heredia
01/Apr/94 - Present	Full Professor Biochemistry Division Universidad Peruana Cayetano Heredia
01/Apr/91 - 30/Jun/97	Head of the Division of Biochemistry Universidad Peruana Cayetano Heredia
08/Jan/84 - 30/Mar/94	Associate Professor Biochemistry Division Universidad Peruana Cayetano Heredia
03//Jan/81 - 31/Dic/83	Assistant Professor Biochemistry Division Universidad Nacional Federico Villareal
01/Aug/81 - 31/Dic/81	Assistant Professor Genetic Course Universidad Particular Ricardo Palma

**OTHER ACTIVITIES**

10/01/1982 - 30/04/92	Research Associate Instituto Nacional en Salud Dr. Hugo Lumbreras Cruz
01/08/1984 - Present	Member of the Instituto de Medicina Tropical "Alexander von Humboldt" Universidad Peruana Cayetano Heredia

- 2003 – 2006 Member of the Latin-American Network on Molecular Epidemiology (LANMEp) Coordinator Committee, supported by the Latin America and the Caribbean (Biolac) of the United Nations University.
- 2005 – 2007 Member of the Faculty of Sciences and Philosophy Council, Universidad Peruana Cayetano Heredia. elected like Representative of the faculty professors.
- 2005 – 2006 Member of the Vice Rectorado de Investigación (Research Council), like representative of the Faculty of Sciences and Philosophy.

#### PATENTS:

WO/2015/001383 - PEPTIDES AND METHODS FOR THE DETECTION OF LEISHMANIASIS (World Intellectual Property Organization – Patent Cooperation Treaty (WIPO/PCT); International Publication Date: January 8, 2015)

#### PUBLICATIONS:

1. Jara M, Valencia BM, Adui V, Alba M, Lau R, Arevalo J, Llanos-Cuentas A, Boggild AK. (2016). Quantitative kinetoplast DNA assessment during treatment of mucosal leishmaniasis as a potential biomarker of outcome: a pilot study. *Am. J Trop. Med. Hyg.* 94: 107-13.
2. Suárez M, Valencia BM, Jara M, Alba M, Boggild AK, Dujardin JC, Llanos-Cuentas A, Arevalo J, Adui V. (2015). Quantification of *Leishmania* (*Viannia*) kinetoplast DNA in ulcers of cutaneous leishmaniasis reveals inter-site and inter-sampling variability in parasite load. *PLoS Negl. Trop. Dis.* 9(7):e0003936.
3. Adui V, Lye LF, Akopyants NS, Zimic M, Llanos-Cuentas A, Garcia L, Maes I, De Doncker S, Dobson DE, Arevalo J, Dujardin JC, Beverley SM. (2016). Association of the endobiont double-stranded RNA virus LRV1 with treatment failure for human leishmaniasis caused by *Leishmania braziliensis* in Peru and Bolivia. *J. Infect. Dis.* 213: 112-21.
4. Cabanillas BJ, Le Lamer AC, Olagnier D, Castillo D, Arevalo J, Valadeau C, Coste A, Pipy B, Bourdy G, Sauvain M, Fabre N. (2014). Leishmanicidal compounds and potente PPAR $\gamma$

- activators from *Reinealmia thyrsoidea* (Ruiz & Pav.) J.Ethnopharmacol. 157: 149-55.
5. Barletta F, Vandelannoote K, Collantes J, Evans CA, Arévalo J, Rigouts L. (2014). Standardization of a TaqMan- based Real-Time PCR for the detection of *Mycobacterium tuberculosis*-complex in human sputum. *Am J Trop Med Hyg.* 91(4):709-14.
  6. Vanaerschot M., Dumetz F., Roy S., Ponte-Sucre A., Arevalo J., Dujardin J.C. (2014). Treatment failure in Leishmaniasis: drug resistance or another (epi.) phenotype? *Expert Rev Anti Infect Ther.* 12: 937-46.
  7. Chamakh-Ayari R, Bras-Gonçalves R, Bahi-Jaber N, Petitdidier E, Markikou-Ouni W, Aoun K, Moreno J, Carrillo E, Salotra P, Kaushal H, Negi NS, Arevalo J, Falconi-Agapito F, Privat A, Cruz M, Pagniez J, Papierok GM, Rhouma FB, Torres P, Lemesre JL, Chenik M, Meddeb-Garnaoui A. (2014). *In vitro* evaluation of a soluble *Leishmania* Promastigote Surface Antigen as a potential vaccine candidate against human leishmaniasis. *PLoS One.* 2014 May 2;9(5):e92708.
  8. Nühs A, Schäfer C, Zander D, Trübe L, Tejera Nevado P, Schmidt S, Arevalo J, Aداui V, Maes L, Dujardin JC, Clos J. (2014). A novel marker, ARM58, confers antimony resistance to *Leishmania* spp. *Int J Parasitol Drugs Drug Resist.* 4(1):37-47.
  9. Trelles Di Lucca AG, Trinidad Chipana EF, Talledo Albújar MJ, Dávila Peralta W, Montoya Piedra Y & Arévalo Zelada JL (2013). Slow wilt: Another form of Marchitez in oil palm associated with trypanosomatids in Peru. *Tropical Plant Pathology*, vol. 38(6):522-33.
  10. Cruz, I., Millet, A., Carrillo, E., Chenik, M., Salotra, P., Verma, S., Veland, N., Jara, M., Aداui, V., Castrillón, C., Arévalo, J., Moreno, J., Cañavate, C. (2013). An approach for interlaboratory comparison of conventional and real-time PCR assays for diagnosis of human leishmaniasis. *Exp. Parasitol.* 134: 281-9.
  11. Jara M., Aداui V, Valencia BM, Martinez D, Alba M, Castrillon C, Cruz M, Cruz I, Van der Auwera G, Llanos-Cuentas A, Dujardin JC, Arevalo J. (2013). A real-time PCR assay for detection and quantification of *Leishmania* (*Viannia*) in skin and mucosal lesions: an exploratory study of parasite load and clinical parameters. *J. Clin. Microbiol.* 51: 1826-33.
  12. Veland N., Valencia BM, Alba M, Aداui V, Llanos-Cuentas A, Arevalo J, Boggild AK. (2013). Simultaneous infection with *Leishmania* (*Viannia*) *braziliensis* and *L. (V.) lainsoni* in a Peruvian patient with cutaneous leishmaniasis. *Am. J Trop. Med. Hyg.* 88: 774-7.

13. Valencia BM, Veland N, Alba M, Adai V, Arevalo J, Low DE, Llanos-Cuentas A, Boggild AK. (2012). Non-invasive cytology brush PCR for the diagnosis and causative species identification of American cutaneous leishmaniasis in Peru. *PLoS One*. 7:e49738.
14. Fraga J., Veland N, Montalvo AM, Praet N, Boggild AK, Valencia BM, Arévalo J, Llanos-Cuentas A, Dujardin JC, Van der Auwera G. (2012). Accurate and rapid species typing from cutaneous and mucocutaneous leishmaniasis lesions of the New World. *Diagn Microbiol Infect Dis*. 74:142-50.
15. Cabanillas B.J., Le Lamer AC, Castillo D, Arevalo J, Estevez Y, Rojas R, Valadeau C, Bourdy G, Sauvain M, Fabre N. (2012). Dihydrochalcones and benzoic acid derivatives from *Piper dennisii*. *Planta Med*. 78:914-8.
16. Valencia C., Arevalo J., Dujardin J.C., Llanos Cuentas A., Chappuis F. , Zimic M. (2012). Prediction score for antimony treatment failure in patients with ulcerative leishmaniasis lesions. *Plos Negl Dis*. 6:e1656.
17. Reyes-Uribe P, Pereira-Dos-Santos T, De Jesus JB, Mesquita-Rodrigues C, Arevalo J, Cupolillo E, Cuervo P. (2012). Comparative zymographic of metallopeptidase of *Leishmania (Viannia) peruviana* and *Leishmania (Viannia) braziliensis* isolates from Peru. *Parasitol Int*. 61:513-9.
18. Odiwuor S, Veland N, Maes I, Arévalo J, Dujardin JC, Van der Auwera G. (2012). Evolution of the *Leishmania braziliensis* species complex from amplified length polymorphisms and clinical implications. *Infect Genet Evol*. 12:1994-2002.
19. Veland N, Boggild AK, Valencia C, Valencia BM, Llanos-Cuentas A, Van der Auwera G, Dujardin JC, Arevalo J. (2012). *Leishmania (Viannia)* species identification on clinical samples from cutaneous leishmaniasis in Peru: assessment of a molecular step-wise approach. *J Clin Microbiol*. 50:495-8.
20. Arevalo J., Diagnostico Laboratorial da Infecção por *Leishmania* sp. In *Leishmanias e a Leishmaniose tegumentar nas Americas*. Aldina Barral & Jackson Costa eds. pp. 146-153. (2011) (ISBN 978-85-60356-07-2).
21. Boggild AK, Valencia BM, Veland N, Pilar Ramos A, Calderon F, Arevalo J, Low DE, Llanos-

- Cuentas A. (2011). Non-invasive cytology brush PCR diagnostic testing in mucosal leishmaniasis: superior performance to conventional biopsy with histopathology. *PLoS One*. 6:e26395.
22. Bañuls AL, Bastien P, Pomares C, Arevalo J, Fisa R, Hide M. (2011) Clinical pleiomorphism in human leishmaniasis, with special mention of asymptomatic infection. *Clin Microbiol Infect*. 17:1451-61.
23. Aduai V, Maes I, Huyse T, Van den Broeck F, Talledo M, Kuhls K, De Doncker S, Maes L, Llanos-Cuentas A, Schönian G, Arevalo J, Dujardin JC. (2011). Multilocus genotyping reveals a polyphyletic pattern among naturally antimony-resistant *Leishmania braziliensis* isolates from Peru. *Infect Genet Evol*. 11:1873-80.
24. Aduai V, Castillo D, Zimic M, Gutierrez A, Decuypere S, Vanaerschot M, De Doncker S, Schnorbusch K, Maes I, Van der Auwera G, Maes L, Llanos-Cuentas A, Arevalo J, Dujardin JC. (2011). Comparative gene expression analysis throughout the life cycle of *Leishmania braziliensis*: diversity of expression profiles among clinical isolates. *PLoS Negl Trop Dis*. 5:e1021.
25. Veland N, Espinosa D, Valencia BM, Ramos AP, Calderon F, Arevalo J, Low DE, Llanos-Cuentas A, Boggild AK, Veland N, Espinosa D, Valencia BM, Ramos AP, Calderon F, Arevalo J, Low DE, Llanos-Cuentas A, Boggild AK. (2011). Polymerase Chain Reaction Detection of *Leishmania* kDNA from the Urine of Peruvian Patients with Cutaneous and Mucocutaneous Leishmaniasis. *Am J Trop Med Hyg*. 84:556-561.
26. Aduai V, Schnorbusch K, Zimic M, Gutiérrez A, Decuypere S, Vanaerschot M, DE Doncker S, Maes I, Llanos-Cuentas A, Chappuis F, Arévalo J, Dujardin JC. (2011). Comparison of gene expression patterns among *Leishmania braziliensis* clinical isolates showing a different in vitro susceptibility to pentavalent antimony. *Parasitology*. 138:183-93.
27. Boggild AK, Pilar Ramos A, Valencia BM, Veland N, Calderon F, Arevalo J, Low DE, Llanos-Cuentas A. (2011). Diagnostic Performance of Filter Paper Lesion Impression PCR in Secondarily Infected Ulcers and Non-ulcerative Lesions of Cutaneous Leishmaniasis. *J Clin Microbiol*. 49:1097-100.
28. Dujardin JC, Herrera S, do Rosario V, Arevalo J, Boelaert M, Carrasco HJ, Correa-Oliveira R, Garcia L, Gotuzzo E, Gyorkos TW, Kalergis AM, Kouri G, Larraga V, Lutumba P, Macias

- Garcia MA, Manrique-Saide PC, Modabber F, Nieto A, Pluschke G, Robello C, Rojas de Arias A, Rumbo M, Santos Preciado JI, Sundar S, Torres J, Torrico F, Van der Stuyft P, Victoir K, Olesen OF. (2010). Research priorities for neglected infectious diseases in Latin America and the Caribbean region. *PLoS Negl Trop Dis*. 2010 Oct 26;4(10):e780.
29. Cabanillas BJ, Le Lamer AC, Castillo D, Arevalo J, Rojas R, Odonne G, Bourdy G, Moukarzel B, Sauvain M, Fabre N. (2010). Caffeic acid esters and lignans from *Piper sanguineispicum*. *J Nat Prod*. 73:1884-90.
30. Boggild AK, Ramos AP, Espinosa D, Valencia BM, Veland N, Miranda-Verastegui C, Arevalo J, Low DE, Llanos-Cuentas A. (2010). Clinical and demographic stratification of test performance: a pooled analysis of five laboratory diagnostic methods for American cutaneous leishmaniasis. *Am J Trop Med Hyg*. 83:345-50
31. Rougeron V, Meeûs TD, Hide M, Waleckx E, Dereure J, Arevalo J, Llanos-Cuentas A, Bañuls AL. (2010). A battery of 12 microsatellite markers for genetic analysis of the *Leishmania* (*Viannia*) *guyanensis* complex. *Parasitology*. 137:1879-84
32. Torres DC, Aduai V, Ribeiro-Alves M, Romero GA, Arévalo J, Cupolillo E, Dujardin JC. (2010). Targeted gene expression profiling in *Leishmania braziliensis* and *Leishmania guyanensis* parasites isolated from Brazilian patients with different antimonial treatment outcomes. *Infect Genet Evol*. 10:727-33.
33. Talledo M, Gavilan M, Choque C, Aiquipa L, Arévalo J, Montoya Y. (2010). Comparative allele distribution at 16 STR loci between the Andean and coastal population from Peru. *Forensic Sci Int Genet*. 4:e109-17.
34. Aponte, J.C., Vaisberg, A.J., Castillo D., Gonzalez, G., Estevez, Y., Arevalo, J., Quiliano, M., Zimic, M., Verastegui, M., Malaga, E., Gilman, R.H., Bustamante, J. M., Tarleton, R.L., Wang, Y., Franzblau, S.G., Pauli, G.F., Sauvain, M. and Hammond, G.B. (2010) Trypanoside, anti-tuberculosis, leishmanicidal, and cytotoxic activities of tetrahydrobenzothienopyrimidines. *Bioorg. Med. Chem* 18:2880–6.
35. Boggild, A-K., Valencia, B-M., Espinosa, D., Veland, N., Ramos, A.P., Arevalo, J., Llanos Cuentas, A., and Low, D.E. (2010). Detection and species identification of *Leishmania* DNA from filter paper lesion impressions for patients with American Cutaneous Leishmaniasis. *Clin- Infect- Dis*.50:e1-6.



36. Vargas-Inchaustegui, D., Hogg, A. E., Tulliano, G.F., Llanos-Cuentas, A., Arevalo, J., Endsley, J. J. and Soong, L.. (2010). CXCL10 production by human monocytes in response to *Leishmania braziliensis* infection. *Infect. Immun.* 78:301-8
37. Aponte, J. C., Castillo, D., Estevez, Y., Gonzalez, G., Arevalo, J., Hammond G.B. and Michel Sauvain. (2010). *In Vitro* and *In Vivo* Anti-*Leishmania* Activity of Polysubstituted Synthetic Chalcones. *Bioorg. Med. Chem. Lett.* 20:100-3
38. Oddone R. Schweynoch, C., Schonian, G., Dos Santos de Sousa, C., Cupolillo, E., Espinosa, D., Arevalo, J, Noyes, H., Mauricio, I. and Kuhls, K. (2009). Development of a multilocus microsatellite typing approach for discriminating strains of the *Leishmania* subgenus )L. Viannia. *J. Clin. Microbiol.* 47:2818-25.
39. Espinosa, D., Boggild, A.K., Deborggraeve, S., Laurent, T., Valencia, C., Pacheco, R., Miranda Verastegui, C., Llanos Cuentas A., Leclipteux, T., Dujardin, J. C., Buscher, P. Arevalo, J. (2009). The *Leishmania* OligoC'TesT as a simple, rapid and standardized tool for the molecular diagnosis of cutaneous Leishmaniasis in Peru. *J. Clin. Microbiol.* 47:2560-3.
40. Rougeron, V., De Meeus, T., Hide, M., Waleckx, E., Bermudez, H., Arevalo, J., Llanos Cuentas, A., Dujardin, J.C., De Doncker, S., Le Ray, D., Ayala, F.J., Bañuls, A.L. (2009). Extreme inbreeding in *Leishmania braziliensis*. *Proc. Natl. Acad. Sci. USA.* 106:10224-9
41. Maurer-Cecchini A, Decuyper S, Chappuis F, Alexandrenne C, De Doncker S, Boelaert M, Dujardin JC, Loutan L, Dayer JM, Tulliano G, Arevalo J, Llanos-Cuentas A, Chizzolini C. (2009). Immunological determinants of clinical outcome in Peruvian patients with tegumentary leishmaniasis treated by pentavalent antimonials. *Infect Immun.* 77:2022-9.
42. Boggild, A.K., Miranda-Verastegui, C., Espinosa, D., Arevalo, J., Martinez-Medina, D., Llanos-Cuentas, A. and Low, D.E. (2008). Optimization of microculture and evaluation of miniculture for the isolation of *Leishmania* parasites from cutaneous lesions in Peru. *Am. J. Trop. Med. Hyg.* 79: 847-852.
43. Lanfranco, M.F., Loayza-Muro, R., Clark, D., Nuñez, R., Zavaleta, A., Jimenez, M., Meldal, M., Coombs, G.H., Mottram, J.C., Izidoro, M., Juliana, M.A., Juliano, L., Arevalo, J. (2008). Expression and substrate specificity of a recombinant cysteine proteinase B of *Leishmania*

- braziliensis. Mol. Biochem. Parasitol. 161:91-100.
44. Deborggraeve, S., Laurent T., Espinosa, D., Van der Auwera, G., Mbuchi, M., El-Safi, S., Al-Basheer, A. A., Arévalo, J., Miranda-Verastegui, C., Leclipteux, T., Mertens, P., Dujardin, J.C., Herdewijn, and P., Büscher, P. (2008). Leish OligoC-TesT: towards a simplified and standardised PCR format for diagnosis of leishmaniasis. J. Infect. Dis. 198: 1565-1572
  45. Rougeron V., Waleckx E., Hide M., De Meeus T., Arevalo J., Llanos-Cuentas A., Bañuls AL., 2008. Permanent Genetic Resources: A set of 12 microsatellite loci for genetic studies of *Leishmania braziliensis*. Mol. Ecol. Resour 8:351-3.
  46. Llanos-Cuentas, Tulliano G., Araujo-Castillo R., Miranda-Verastegui C., Santamaria-Castrellon G., Ramirez, L, Lazo M., De Doncker S., Boelaert M., Robays J., Dujardin J.C., Arevalo J., Chappuis F. (2008). Clinical and parasite species risk factors for pentavalent antimonial treatment failure in cutaneous leishmaniasis in Peru. Clin. Infect. Dis. 46: 223-31.
  47. Gamboa D, Torres K, Doncker SD, Zimic M, Arevalo J, Dujardin JC. (2007). Evaluation of an in vitro and in vivo model for experimental infection with *Leishmania (Viannia) braziliensis* and *L. (V.) peruviana*. Parasitology 135:319-26.
  48. Gamboa D, Van Eys G, Victoir K, Torres K, Adai V, Arevalo J, Dujardin JC. (2007). Putative markers of infective life stages in *Leishmania (Viannia) braziliensis*. Parasitology. 134:1689-1698.
  49. Deborggraeve, S., Laurent T., Espinosa, D., Van der Auwera, G., Mbuchi, M., El-Safi, S., Al-Basheer, A. A., Arévalo, J., Miranda-Verastegui, C., Leclipteux, T., Mertens, P., Dujardin, J.C., Herdewijn, and P., Büscher, P. (2008). Leish OligoC-TesT: towards a simplified and standardised PCR format for diagnosis of leishmaniasis. J. Infect. Dis. 198: 1565-1572
  50. Estevez Y, Castillo D, Pisango MT, Arevalo J, Rojas R, Alban J, Deharo E, Bourdy G, Sauvain M. (2007). Evaluation of the leishmanicidal activity of plants used by Peruvian Chayahuita ethnic group. J Ethnopharmacol. 114:254-259.
  51. Perez, J. E., Veland, N., Espinosa D., Torres, K., Ogusuku E., Llanos-Cuentas A, Gamboa D., Arevalo J. (2007). Isolation and molecular identification of *Leishmania (Viannia) peruviana* from naturally infected *Lutzomyia peruensis*(Diptera: Psychodidae) in the

Peruvian Andes. *Memorias do Instituto Oswaldo Cruz*. 102:655-8.

52. Castillo D, Arevalo J, Herrera F, Ruiz C, Rojas R, Rengifo E, Vaisberg A, Lock O, Lemesre J-L, Gornitzka H, Sauvain M. (2007). Spirolactone iridoids might be responsible for the antileishmanial activity of a Peruvian traditional remedy made with *Himatanthus sucuuba* (Apocynaceae). *J. Ethnopharmacol.* 112:410-4.
53. Dujardin JC, DE Doncker S, Jacquet D, Banuls AL, Balavoine M, VAN Bockstaele D, Tibayrenc M, Arevalo J, Le Ray D. (2007). Clonal propagation and the fast generation of karyotype diversity: an in vitro *Leishmania* model. *Parasitology* 134:33-39.
54. Arevalo J., Ramirez L., Adai V., Zimic M., Tulliano G., Miranda-Verastegui C., Lazo M., Loayza-Muro R-, De Doncker, S., Maurer A., Chappuis F., Dujardin JC, Llanos-Cuentas A. (2007). The influence of *Leishmania* (*Viannia*) species on the response to antimonial treatment of patients with American Tegumentary Leishmaniasis. *J. Infect. Dis.* 195:1846 - 51.
55. Rigouts L, Nolasco O, de Rijk P, Nduwamohoro E, VanDeun A, Ramsay A, Arevalo J, Portaels F. (2007). Newly developed primers for the comprehensive amplification of the *rpoB* gene and detection of rifampin resistance in *Mycobacterium tuberculosis*. *J Clin Microbiol.* 45:252-4.
56. Adai V; Verdonck K; Best I; Tipismana M; Arévalo J; Vanham, G; Campos M; Zimic, M; Gotuzzo E. (2006). Sybr green-based quantitation of htlv-1 proviral load in peruvian patients with neurological disease and asymptomatic carriers: Influence of clinical status, sex and familial Relatedness. *Journal of NeuroVirology* 6:456–465.
57. Osoreo F, Nolasco O, Verdonck K, Arevalo J, Ferrufino JC, Agapito J, Huayanay L, Gotuzzo E, Maguina C. (2006). Clinical evaluation of a 16S ribosomal RNA polymerase chain reaction test for the diagnosis of lymph node tuberculosis. *Clin Infect Dis.* 43:855-9.
58. Yardley V, Ortuno N, Llanos-Cuentas A, Chappuis F, Doncker SD, Ramirez L, Croft S, Arevalo J, Adai V, Bermudez H, Decuypere S, Dujardin JC. 2006. American tegumentary leishmaniasis: is antimonial treatment outcome related to parasite drug susceptibility? *J Infect Dis.* 194:1168-75.
59. Zhang W.W., Miranda-Verastegui C., Arevalo J., Ndao M., Ward B., Llanos-Cuentas A.,

- Matlashewski G. (2006). Development of a genetic assay to distinguish between *Leishmania viannia* species on the basis of isoenzyme difference. *Clin. Inf. Dis.* 42:801-9.
60. Decuypere S., Vandesompele J., Yardley V., De Doncker S., Laurent T., Rijal S., Llanos-Cuentas A., Chappuis F., Arévalo J., Dujardin J-C. (2005). Differential polyadenylation of ribosomal RNA during post-transcriptional processing in *Leishmania*. *Parasitology* 131:321-9.
61. Victoir K, Arevalo J, De Doncker S, Barker DC, Laurent T, Godfroid E, Bollen A, Le Ray D, Dujardin JC. (2005). Complexity of the major surface protease (msp) gene organization in *Leishmania (Viannia) braziliensis*: evolutionary and functional implications. *Parasitology* 131:207-14
62. Garcia, A.L., Kindt, A., Quispe-Tintaya KW, Bermudez, H, Llanos, A., Arevalo, J., Bañuls, A.L., De Doncker, S., Le Ray, D. & Dujardin, J.C. (2005) American tegumentary leishmaniasis: antigen-gene polymorphism, taxonomy and clinical pleomorphism. *Infection, Genetics and Evolution*, *Infect Genet Evol.* 2005 Mar;5(2):109-116.
63. Caceres, A., Villaseca, P., Dujardin, J.C., Bañuls, A.L., Inga, R., Lopez, M, . Arana, M. and J. Arevalo. (2004). *Lutzomyia ayacuchensis*, (Dipter: Psychodidae) vector of Andean cutaneous Leishmaniasis (Uta) in Parinacochas, Ayacucho, South Peru. *Amer. J. Trop. Med. Hyg.* 70(6):607-12.
64. Garcia, L., Kindt, A., Bermudez, H., Llanos Cuentas, A., De Doncker, S., Arevalo, J., Quispe, KW. and Dujardin, JC. (2004). Culture-independent species typing of Neotropical *Leishmania*: clinical validation of a PCR-based assay targeting heat shock protein 70 genes. *J. Clin. Microbiol.* 42:2294-7.
65. Osoreo, F., Maguiña-Vargas, C., Bustamante Rufino, B., Ferrufino Llach, J., Velando, R., Agapito, J., Verdonck, K., García, C., Iglesias, D., Herrera, V., Arévalo Zelada, J. and Nolasco, O. (2004). Micosis ganglionar: Reporte de 7 casos en el Hospital Cayetano Heredia, Lima-Peru y revisión de la literatura. *Rev. Med. Hered.* 15:211-17.
66. Victoir, K., De Doncker, S. Cabrera, L., Alvarez, E., Arevalo, J., Llano Cuentas, A., Le Ray, D. and Dujardin, J.C. (2003). Direct identification of *Leishmania* specie in biopsies from patients with American Tegumentary Leishmaniasis. *Trans. R. Soc. Trop. Med. Hyg.* 97:80-87.

67. St Hilaire PM, Alves LC, Herrera F, Renil M, Sanderson SJ, Mottram JC, Coombs GH, Juliano MA, Juliano L, Arevalo J, Meldal M. (2002). Solid-phase library synthesis, screening, and selection of tight-binding reduced peptide bond inhibitors of a recombinant *Leishmania mexicana* Cysteine protease B. *J Med Chem.* 2002 May 9;45(10):1971-82.
68. Dujardin JC, Victoir K, De Doncker S, Guerbouj S, Arévalo J, Le Ray D. (2002). Molecular epidemiology and diagnosis of *Leishmania*: what have we learnt from genome structure, dynamics and function? *Trans R Soc Trop Med Hyg.* (Apr) 96 Suppl 1:81-86.
69. Zimic, M. , Guerra D. & Arévalo J. (2002). DNA Thermodynamics pressure: a potential contributor to genome evolution. *Trans Roy Soc Trop Med Hyg.* 96 Suppl 1:15-20
70. Química y Biología (Chemistry and Biology). Text Book of the Peruvian BSc Program. (2000). J. Arévalo, D. Ugaz, I. Díaz, P. Morales, O. Lock, J. Robles, Ed. Cesar Ruiz de Somocurcio – Metrocolor S.A. Lima, Peru.
71. D.J. Dujardin, J. Henriksson, K. Victoir, S. Brisse, D. Gamboa, J. Arevalo and D. Le Ray (2000). Genomic Rearrangements in Trypanosomatids: an Alternative to the “One Gene” Evolutionary Hypotheses ?. *Mem Inst Oswaldo Cruz.* 95:527-534.
72. Bañuls AL, Dujardin JC, Guerrini F, De Doncker S, Jacquet D, Arevalo J, Noel S, Le Ray D, Tibayrenc M. (2000). Is *Leishmania* (*Viannia*) *peruviana* a distinct species? A MLEE/RAPD evolutionary genetics answer. *J Eukaryot Microbiol.* 47:197-207.
73. Kebede, A., De Doncker S., Arevalo, J., Le Ray, D. and Dujardin, J.C. (1999). Size polymorphism of mini-exon gene bearing chromosome among natural populations of *Leishmania*, subgenus *Viannia*. *Int. J. Parasitol.* 29:549-557.
74. Torrico, M.C., De Doncker, S., Arevalo, J., Le Ray, D. and Dujardin, J.C. (1999). In vitro promastigote fitness of putative *Leishmania* (*Viannia*) *braziliensis*/*Leishmania* (*Viannia*) *peruviana* hybrids. *Acta Tropica* 72:99-110.
75. Dujardin, J.C., Banuls, A.L., Dujardin, J.P., Arevalo, J., Tibayrenc, M. and Le Ray, D. (1998). Comparison of chromosome and isoenzyme polymorphism in geographical populations of *Leishmania* (*Viannia*) *peruviana*. *Parasitology* 117:547-554.

76. Torrez, M., Lopez, M., Le Pont, F., Martinez, E., Munoz M., Hervas D., Yaksic N., Arevalo, J., Sossa D., Dujardin, J. P. (1998) *Lutzomyia nuneztovari anglesi* (Diptera:Psychodidae) confirmed as a vector of *L. braziliensis* complex in the Yungas (Bolivia). *Acta Tropica* 71: 311-316.
77. Inga, R., De Doncker, S., Gomez, J., López, M., García, R., Le Ray, D., Arevalo, J. and Dujardin, J.C. (1998). Relation between variation in copy number of ribosomal RNA encoding genes and size of harbouring chromosomes in *Leishmania* of subgenus *Viannia*. *Mol.Biochem.Parasitol.* 92:219-228.
78. Victoir, K., Bañuls, A.L., Arevalo, J., Llanos-Cuentas, A., Hamers, R., Noël, S., De Doncker, S., Le Ray, D., Tibayrenc, M. and Dujardin, J.C. (1998). The gp63 gene locus, a target for genetic characterisation of *Leishmania* belonging to subgenus *Viannia*. *Parasitology*, 117:1-13.
79. Victoir, K., J.C. Dujardin, S. DeDoncker, D.C. Barker, J. Arevalo, R. Hamers and Le Ray. (1995). Plasticity of gp63 gene organization in *Leishmania* (*Viannia*) *braziliensis* and *Leishmania* (*Viannia*) *peruviana*. *Parasitology*. 111:265-273
80. Dujardin, J.C., Bañuls, A.L., Victoir, K.; De Doncker, S., Arevalo, J., Llanos-Cuentas, A. Tibayrenc, M. and Le Ray, D. (1995). From population to genome: ecogenetics of *Leishmania* (*Viannia*) *braziliensis* and *L.(V)* *peruviana*. *Ann.Trop.Med.Parasitology*, 89:S1,45-53.
81. Dujardin, J.C., Bañuls, A.L., Llanos-Cuentas, A., Alvarez, E., De Doncker, S., Jacquet, D., Le Ray, D., Arevalo, J. and Tibayrenc, M. (1995). Putative *Leishmania* hybrids in the Eastern valley of Huanuco, Peru. *Acta Tropica* 59:293-307.
82. Espinoza, J., Anita C. Skinner, Clive Davies, Alejandro Llanos-Cuentas, Jorge Arevalo, Christopher Dye, W. Robert McMaster, James W. Ajioka and Jenefer M. Blackwell. (1995) Extensive polymorphism at the Gp63 locus in field isolates of *Leishmania peruviana*. *Molecular and Biochemical Parasitology*. 72:203-213.
83. Dujardin; J.P. Dujardin; M. Tibayrenc; C. Timperman; S. DeDoncker; D. Jacket; J. Arévalo; A. Llanos-Cuentas; H. Guerra; H. Bermudez; R. Hamers and D. Le Ray. (1995). Karyotype plasticity in Neotropical *Leishmania*: and index for measuring genomic distance among *L.(V.) peruviana* and *L. (V.) braziliensis* populations. *Parasitology*. 110:21-30.

84. Clark, D., Albrecht M. and Jorge Arévalo. (1994). "Ascorbate Redox Cycle in Trypanosoma cruzi epimastigotes and trypomastigotes. Mol. Biochem. Parasitol. 66 :143-145.
85. Dujardin, J.C., De Doncker, S., Victoir, K., Le Ray, D., Hammers, R. and Arévalo, J. (1994). Size polymorphism of chromosomes bearing gp63 genes in *Leishmania* of the braziliensis complex: indication of a rearrangement of the gp63 genes in *L. braziliensis* and *L. peruviana*. Annals of Tropical Medicine and Parasitology. 88:445-448.
86. Perez, E., Ogusuku, E., Inga, R., López, M., Monje, J., Paz, L., Nieto, E., Arévalo, J. and H. Guerra. (1994) "Lutzomyia spp. (Diptera: Psychodidae) Natural Leishmania Infected with Leishmania in the peruvian Andes: Epidemiological aspects". Transactions of the Royal Society of Tropical Medicine and Hygiene. 88: 161-164.
87. Dujardin, J.C., Llanos-Cuentas, A., Caceres, A., Arana, M., Guerrini, F., Dujardin, J.P., Gomez, J., Arroyo J., De Doncker, S., Jacquet, D., Hamers, R., Guerra, H., Le Ray, D. and J. Arévalo. (1993). Molecular karyotype variation of *Leishmania* (*Viannia*) *peruviana*: indications of geographical populations in Peru distributed along a North-South cline. Ann. Trop. Med. Parasitol. 87 (4): 335-347.
88. Dujardin, N. Gajendran, J. Arévalo, A. Llanos-Cuentas, H. Guerra, J. Gomez, J. Arroyo, S. De Doncker, D. Jacquet, R. Hamers, D. Le Ray (1993). Karyotype polymorphism and conserved characters in the *Leishmania* (*Viannia*) *braziliensis* complex explored with chromosome derived probes. Ann. Soc. belge Med. Trop. 73:101-118.
89. Lopez, M., Orrego, C., Cangalaya, M., Inga R., Arévalo, J. (1993). Diagnosis of *Leishmania* via the Polymerase Chain Reaction a Simplified Procedure for Field Work. Am.J.Trop.Med.Hyg. Vol 49, (3):348-356.
90. Harris, E., López, M., Arévalo, J., Belli, A., Morán, J., and C. Orrego. (1993) Short Courses on DNA detection and Amplification for Public Health in Central and South America. Journal of Biochemical Education. 21:16-22.
91. Arévalo J., Inga R. and M. Lopez. (1993). Polymerase Chain Reaction Detection of *Leishmania braziliensis*". In Diagnostic Molecular Microbiology, Principles and Application. (American Society of Microbiology Book). D. H. Persing, R. F. Smith, F. C. Tenover, and T. J. White, eds. pp 456-461

92. Arévalo, J., Inga, R., Llanos-Cuentas, A., Perez, E. and M. López. The Polymerase Chain Reaction: a better tool for Clinical and Entomological field work. (1993). In, Current Trends in Leishmania Research. CSIR Golden/Jubilee Publications.
93. Bermudez, F. Torrico, E. Rojas, F. Balderrama, D. Le Ray, H. Guerra, J. Arévalo (1993). Leishmaniasis in the lowlands of Bolivia, prevalence of the disease in two groups of localities with different settlement ages in Carrasco Tropical. Archs. Inst. Pasteur Tunis, 70 (3-4):443-453.
94. López, R. Inga, N. Cueva, E. Alvarez and J. Arévalo. (1993) PCR: A tool for diagnosis of American Tegumentary Leishmaniasis in a Health Post of Rural Endemic Areas. Archs.Inst.Pasteur Tunis,70(3-4) :499-504.
95. Dujardin, J. Arévalo, A. Llanos-Cuentas, A. Caceres, D. Le Ray. (1993) From pulsed field to field: Contribution of Molecular karyotyping to epidemiological studies on new world Leishmaniasis. Archs. Inst. Pasteur Tunis, 70 (3-4) 505-415.
96. Montoya Y, Arevalo J, Gomez J, Llanos-Cuentas A, Barker DC. (1993). Genes coding for antigens recognized by sera from Andean cutaneous Leishmaniasis patients from Peru. Arch Inst Pasteur Tunis. 70: 397-403.
97. Arana, M., Evans, D. A., Zolessi, A., Llanos-Cuentas A. and J. Arévalo. Biochemical characterization of *Leishmania (Vianna) braziliensis* and *Leishmania (Vianna) peruviana* by isoenzyme electrophoresis. (1990). Transactions of the Royal Society of Tropical Medicine and Hygiene. 84:526-529.
98. Arévalo J., López M. and J. Bellatin. Application of non radioactive methods for the detection of DNA sequences to Tropical and infectious diseases research. (1989). Laboratory manual. Ed. UNDP/UNESCO.
99. López, M., Montoya, Y., Cruzalegui, F., Llanos-Cuentas, A., and Arévalo, J. (1989). Biotynilated kDNA from *Leishmania braziliensis*. In: Leishmaniasis: The first centenary (1885-1985). New strategies for control. Ed: Hart, D. Plenum Publishing Corporation. 163: 525-532.



100. Martin López, Ysabel Montoya, Margarita Arana, Francisco Cruzalegui, Janet Braga, Alejandro Llanos-Cuentas, Guillermo Romero and Arévalo, J.. (1988). The use of nonradioactive DNA probes for the characterization of Leishmania isolates from Peru. American Journal of Tropical Medicine and Hygiene 38:308-14.
101. Romero, G., Arana, M., López, M., Montoya, Y., Bohl, R., Campos, M., Arévalo, J. and Llanos-Cuentas, A. (1987), "Characterization of Leishmania sp. from Peru. Transactions of the Royal Society of Tropical Medicine and Hygiene. 81:14-24.
102. Arévalo, J., Panebra, A. and Santa Cruz, C. (1985). "Relevance of Hemin for in vitro differentiation of Trypanosoma cruzi". Journal of Protozoology 32:553-555.
103. Bravo, R., Fey, S., Bellatin, J., Larsen, P.M., Arévalo, J. and Celis, J. "Identification of a nuclear and a cytoplasmic polypeptide whose relative proportions are sensitive to changes in the rate of proliferation". (1981). Experimental Cell Research 136:311-319.

## PATENTS

International PCT Application n° PCT/IB2013/055423 filed on July 2, 2013 (Ref.IRD : Deharo/Diagleish - Réf.UNIV PERUANA CAYETANO : to be quoted - O/Ref. : CB/if/F078500015/WO/PCT

## GENE BANK:

- ◆ **Arevalo J.**, Lopez C., Evangelista W. y **Zimic M.** Theoretical structure of Cystein Protease of Leishmania braziliensis. PDP entry 1XTH. November 2004.
- ◆ Lanfranco M.-F., Zavaleta A., Maillard R. y **Arevalo J.** Leishmania braziliensis cystein proteinase complete cds. November 2004

## PARTICIPATION IN COURSES:

- ◆ Ethical and Regulatory Aspects of Clinical Research. Long distance teleconferences. Course Organized by NIH-IRB. Lima, October 6 - November 17 and December 8, 2004

- ◆ I Congreso Nacional de Derecho Genético, Lambayeque, October 23-25, 1997.
- ◆ II Jornada de PCR y Análisis Genético. Organized by the Applied Biosystems Division of Perkin Elmer, Cali, Colombia. April, 25-26, 1996
- ◆ Ciclo de Conferencias en Biotecnología, Soporte para el Desarrollo Industrial. Organized by el Programa Bolivar, La Sociedad Nacional de Industrias y el Consejo de Aprobación y Control de Proyectos de Investigación Tecnológica Industrial, Lima, Perú. December 1995.
- ◆ Señales Celulares. Organized by Universidad Peruana Cayetano Heredia, Lima, Perú, June 1990.
- ◆ Application of Immunology and Molecular Biology to the rapid diagnosis of infectious diseases. Organizado por D. H. Engers (World Health Organization), Geneva, Switzerland. October 1986.
- ◆ Latin-american course on Laboratory Diagnosis of Chagas Disease. Organized by Dr. Pilar Nieto de Alderete. (Human Health Program), Tucuman, Argentina. June 1982. 1 week.
- ◆ Immunology of Parasites. Organized by Dr. Yves Carlier (Instituto Boliviano de Biología de Altura y el Instituto Pasteur, Francia); La Paz, Bolivia. August, 17 - 28, 1981.
- ◆ DNA Sequencing Techniques. Organizado por Dr. G. Bernardi (Curso EMBO), Paris, Francia. March 26- April 02, 1980.
- ◆ Molecular Biology Techniques. Organizado por Dr. Jorge Allende (PNUD - UNESCO), Santiago, Chile. July 28 to August 25, 1977.

#### **PONENT AND INSTRUCTOR IN COURSES AND NATIONAL/ INTERNATIONAL CONGRESS**

- ◆ ¿Esta bien establecido el diagnóstico de las enfermedades tropicales desatendidas?: Conventional or high technology diagnosis. Colloquium on Neglected Tropical Diseases of Latin America. (2009). November 12th – 14th.

- ◆ Diversidad genética de la Leishmania y sus implicancias en la Clínica y la Epidemiología. IV Congreso Peruano de Parasitología, Cusco, November 27-30, 2008.
- ◆ Resistencia a antimoniales. IV Congreso Peruano de Parasitología, Cusco, November 27-30, 2008.
- ◆ Situação atual da resistência a drogas nas Leishmanioses. Seminário Ibero-americano de Atualizações em Leishmanioses. Rede CYTED. FIOCRUZ-CNP. July 7th , 2008.
- ◆ Molecular epidemiology of Leishmaniasis: modern tools for an ancient problem. Seminar at the University of Texas Medical Branch (UTMB). Galveston, U.S.A., November 2, 2006.
- ◆ The Alexander von Humboldt Tropical Medicine Institute: partner for challenging research and teaching on infectious diseases. Seminar at the University of Texas Medical Branch (UTMB). Galveston, U.S.A., November 1, 2006.
- ◆ Plantas Medicinales. Taller Nacional 2005. Organizado por el PECEP – CONCYTEC. 17 – 18 Noviembre 2005.
- ◆ Estrategias Moleculares en Parasitología. Curso Internacional Teórico Práctico Red SAREC. Instituto Peruano de Energía Nuclear & Universidad Peruana Cayetano Heredia. 12 – 21 Noviembre 2003.
- ◆ Técnicas en Biología Molecular. Universidad Nacional de San Agustín. Arequipa, 21 – 25 May 2001.
- ◆ Biociencias. Foro Ciencia y Tecnología: La Educación en el Futuro. Organizado por la Academia Nacional de Ciencia y Tecnología. Lima, 13 de Enero del 2000.
- ◆ Molecular basis of ionic channels function. Escuela Latinoamericana de Biofísica (ELB) International course, organizado por Universidad Peruana Cayetano Heredia – CNR Genova Italia, Lima, 15 – 20 November 1999.
- ◆ Congreso Nacional de Derecho Genético, Universidad Nacional Pedro Ruiz Gallo, Círculo de Estudios Jurídicos “Eduardo J. Couture”, Chiclayo, 23-25 de October, 1997
- ◆ Biología Molecular Forense: Determinación de Paternidad: La Prueba del ADN, Universidad Nacional San Cristobal de Huamanga, Ayacucho. June 06, 1997. (Ponent).

- ◆ Avances en Citogenética y Biología Molecular, Departamenteo de Biología, Universidad Peruana Cayetano Heredia, Lima. November 15-16, 1996. (Ponent).
- ◆ Introducción a la Biotecnología, Facultad de Ciencias y Filosofía, Universidad Peruana Cayetano Heredia, Lima. September 16-17, 1996. (Ponent).
- ◆ Biología Molecular: Fundamentos y Aplicaciones (Manipulación del DNA), Universidad Nacional de San Agustín, Arequipa. June 18-25, 1996. (Instructor).
- ◆ III Congreso Nacional de Ingeniería Agroindustrial "Calidad y Productividad para el Desarrollo Agroindustrial", Organizado por el Colegio de Ingenieros del Perú. October, 25-28, 1995.
- ◆ Aplicaciones de PCR en Parásitos: Leishmaniasis, Organizado por Laboratorio de Biología Molecular del Instituto Nacional de Salud, Lima, Perú October 18-19, 1995. (Ponent).
- ◆ Elisa y Western blot, I Jorganda Científica Internacional de Estudiantes de Ciencias Biológicas. Universidad Nacional del Altiplano. Puno, August 09-11, 1995 (Ponent).
- ◆ Obtención de proteínas de parásitos y su aplicación en la elaboración de pruebas diagnósticas y de vacunas. II Congreso Peruano de Parasitología, Sociedad Peruana de Parasitología. Universidad Nacional de Trujillo, Perú. July 2-5, 1995. (Ponent).
- ◆ Polimorfismo Genético de la Leishmania, II Congreso Peruano de Parasitología, Sociedad Peruana de Parasitología, Universidad Nacional de Trujillo, Perú. July 2-5, 1995. (Ponent).
- ◆ Enfermedad de Chagas. II Congreso Peruano de Parasitología, Sociedad Peruana de Parasitología, Universidad Nacional de Trujillo, Perú. July 2-5, 1995. (Ponent).
- ◆ Curso de Teórico-Práctico de Post-Grado "Técnicas de Biología Molecular", Universidad San Antonio Abad del Cusco. August 04-11, 1993.
- ◆ Application of non radioactive methods to the detection of DNA sequence to research on Tropical and Infectious diseases. Curso Internacional organizado por Jaime Bellatin (PNUD/UNESCO - TDR/WHO - IDRC - CONCYTEC). August 14-26, 1989.
- ◆ Molecular Biology techniques. Theoretical and practical course, Universidad Nacional Mayor de San Marcos. Lima. September 19-30, 1989.

- ◆ Tópicos Selectos en Biología Molecular. Curso Teórico Práctico. Universidad San Agustín, Arequipa. 19-24, de 1988.
- ◆ Arana M. y Arévalo J. Leishmaniasis en el Perú: Caracterización por electroforesis de isoenzimas. XV Congreso Peruano de Química. (1987).
- ◆ Biotecnología. Simposium de Ciencia y Tecnología para el Desarrollo. Organizado por el CONCYTEC. Lima. July 1986.
- ◆ Tecnología de ADN Recombinante. Curso Nacional de Directores en Biotecnología. Lima. November 1985.
- ◆ Secuenciamiento de ADN. IV Reunión Nacional de Bioquímica. Trujillo, Perú. October 14-17, 1981.

#### RESEARCH WORKS IN INTERNATIONAL CONGRESSES:

- ◆ Enzymatic characterization of a novel hydrophobic cysteine proteinase activity in *Leishmania braziliensis* promastigotes R. Loayza-Muro, C. Jeri, M. Meldal, G. H. Coombs, M. Izidoro, M. A. Juliano, L. Juliano & **J. Arevalo** . (Abril 10 -15, 2005) Worldleish 3, Sicilia, Italia. (oral presentation)
- ◆ Use of Real Time PCR for detection of Leishmania parasites from patients with American Tegumentary Leishmaniasis. K. Rothgiesser, A. Perez, R. Maillard, G. Tulliano, C. Miranda, A. Llanos-Cuentas, J.C. Dujardin & **J. Arevalo** (Abril 10 -15, 2005) Proceeding of Worldleish 3 (Palermo) 2005, p.99. (obtained the 2<sup>nd</sup> price in the Diagnostic poster session)
- ◆ In vivo and in vitro infectivity of Leishmania braziliensis and Leishmania peruviana metacyclic parasites. Gamboa D, Torres K, **Arévalo J**, Dujardin JC. Proceedings of Worldleish 3 (Palermo) 2005, p.302.
- ◆ Clinical and treatment determinants of response to antimonial therapy among patients with cutaneous Leishmaniasis in Peru. F. Chappuis, C. Miranda, M. Lazo, G. Tulliano, M. Boelaert, J-C Dujardin, **J. Arevalo**, A. Llanos. (Abril 10 -15, 2005) Proceedings of Worldleish 3 (Palermo) 2005, p.21. Sicilia, Italia

- ◆ Rate of unresponsiveness of cutaneous and mucosal Leishmaniasis in Peru. A. Llanos, G. Tulliano, C. Miranda, M. Lazo, **J. Arevalo**, F. Chappuis, J-C Dujardin, M. Boelaert. (Abril 10 - 15, 2005) Proceedings of Worldleish 3 (Palermo) 2005, p.37. Sicilia, Italia
- ◆ *In vivo* and *in vitro* infectivity of *Leishmania braziliensis* and *Leishmania peruviana* metacyclic parasites. Gamboa D., Torres K., **Arevalo J.** & J-C. Dujardin. (Abril 10 -15, 2005) Proceedings of Worldleish3 (Palermo) 2005, p. 302. Sicilia, Italia.
- ◆ Treatment failure and resistance among natural populations of *Leishmania*: a multidisciplinary research consortium. Dujardin JC, Decuypere S, DeDoncker S, Boelaert M, Yardley V, Croft S, Rijal S, **Arevalo J**, Llanos-Cuentas A, Bermudez H, Maurer A, Chappuis F. (Abril 10 -15, 2005) Proceedings of Worldleish3 (Palermo) 2005, p.25.
- ◆ Effect of previous antimonial therapy on the rate of cure in both cutaneous and mucosal leishmaniasis..Llanos A, Tulliano G, Miranda C, Lazo M, Arevalo J, Razuri H, Chappuis F, Dujardin JC, Boelaert M. Proceedings of Worldleish3 (Palermo) 2005, p.37. Sicilia. Italia.
- ◆ Molecular epidemiology of neotropical leishmaniasis: antigen-gene polymorphism, taxonomy and pathology.Garcia AL, Quispe Tintaya KW, Bermudez H, Llanos A, Arevalo J, Bañuls AL, De Doncker S, Le Ray D, Dujardin JC. Proceedings of Worldleish 3 (Palermo) 2005, p.303. Sicilia, Italia.
- ◆ Molecular markers for Sb(V) resistance in natural populations of *Leishmania*.Decuypere S, Yardley V, De Doncker S, Laurent T, Rijal S, Llanos-Cuentas A, Chappuis F, Arevalo J, Dujardin JC. Proceedings of Worldleish 3 (Palermo) 2005, p.23. Sicilia, Italia.
- ◆ Molecular markers for Sb(V) resistance in natural populations of *Leishmania donovani*. Decuypere S, Yardley V, De Doncker S, Laurent T, Rijal S, Llanos-Cuentas A, Chappuis F, Arevalo J, Dujardin JC. Proceedings of COST B22 meeting in Glasgow; 2005..
- ◆ Leishmaniases, treatment failure and drug resistance: the need for multidisciplinary studies. Dujardin JC, Decuypere S, DeDoncker S, Laurent T, Boelaert M, Yardley V, Croft S, Rijal S, **Arevalo J**, Llanos-Cuentas A, Bermudez H, Maurer A, Chappuis F. Proceedings of the COST B22 meeting of Glasgow; 2005.
- ◆ HTLV-I proviral load in Peruvian patients with HTLV-1-associated myelopathy/tropical spastic paraparesis compared to their relatives and asymptomatic carriers.Adaui V, **Arevalo J**, Best I, Verdonck K, Tipismana M, González E, Tipismana M, Gotuzzo E. Abstract 05-A-1748-

IDSA. 43rd Annual Meeting of the Infectious Diseases Society of America (IDSA); San Francisco, US; October 2005.

- ◆ DNA Thermodynamic Pressure: A Potential Contributor to Genome Evolution. M. Zimic and **J. Arevalo**. (1999). in International Society of Molecular Evolution Meeting, 11-15 January, Puntarenas, Costa Rica. (oral presentation)
- ◆ Molecular Basis of the Chromosome Size Variation in *Leishmania peruviana*.. J. Espinoza, J.Blackwell, **J. Arevalo** and J. Ajioka.
- ◆ **Arevalo**, H. Bermudez M. Tibayrenc, A.L. Bañuls, J.C. Dujardin and D. Le Ray. Clonal variability of the parasite as a predictive tool for different clinical manifestaions in tegumentary leishmaniasis of Peru and Bolivia.
- ◆ Llanos-Cuentas, H. Bermudez, C. Davies, A.L. Bañuls, M. Tibayrenc, D. Le Ray, J.C. Dujardin and **J. Arevalo**. Clinical variability of American Tegumentary Leishmaniasis in Peru and Bolivia: Relationship wsith Polymorphism of the Parasite within the *Leishmania braziliensis* Complex of Species (Syn. Subgenus Viannia)
- ◆ Inga, S. De Doncker, J. Gomez, M. Lopez, R.Garcia, D. Le Ray **J. Arevalo** and J.C. Dujardin. (1997). Ribosomal Genes in Leishmania of Subgenus Viannia: Relationship between Copy Number and size Variation of Harboured Chromosomes
- ◆ Bañuls A.L., Dujardin J.C., Guerrini F., **Arevalo J.**, Solano M., Bermudez H., De Doncker S., Jacquet D., Le Ray D. and Tibayrenc M. (1997). Genetic Epidemiology of Peruvian and Bolivian Leishmaniosis. *Euroleish VI*, Peru. Oral communication and poster.
- ◆ Bañuls, A.L., Brisse S., Noël S., Dujardin J.C., Guerrini F., **Arevalo J.**, Le Ray D., and Tibayrenc M.. (1997). Nomenclature and epidemiology of New World *Leishmania*: a Phylogenetic approach. Pages 20. *International Workshop on Molecular Epidemiology and Evolutionary Genetics of Pathogenic Microorganisms*, Montpellier. Oral communication.
- ◆ Bañuls, A.L., Dujardin J.C., Guerrini F., De Doncker S., Jacquet D., **Arevalo J.**, Le Ray, D. and Tibayrenc, M. (1997). Genetic tools for molecular epidemiology of New World Leishmaniases. Pages 117 in A. Özcel, ed. *Worldleish 1. Acta Parasitologica Turcica*, Turkey. Oral communication.
- ◆ Bañuls, A.L., Guerrini F., Dujardin J.C., De Doncker S., Jacquet D., **Arevalo J.**, Le Ray D.,

and Tibayrenc M. (1997). Status of *Leishmania (Viannia) peruviana*. Pages 123 in A. Özcel, ed. *Worldleish 1. Acta Parasitologica Turcica*, Turkey. Oral communication.

- ◆ Dujardin, J.C., Henriksson J., Bañuls A.L., Tibayrenc M., **Arevalo J.**, and Le Ray D.(1997). Comparison of chromosomal polymorphism in *Leishmania (Viannia) braziliensis*, *L. (V.) peruviana* and *Trypanosoma cruzi*. *International Workshop on Molecular Epidemiology and Evolutionary Genetics of Pathogenic Microorganisms*, Montpellier. Oral communication.
- ◆ Dujardin, J.C., Victoir K., Bañuls A.L., **Arevalo J.**, Tibayrenc M., and Le Ray D. (1997). Use and limits of molecular karyotyping for genetic studies of *Leishmania*. Pages 116 in A. Özcel, ed. *Worldleish 1. Acta Parasitologica Turcica*, Turkey. Oral communication.
- ◆ J.C.Dujardin, K. Victoir, S De Doncker, R. Inga, A. Kebede, A.L. Bañuls, M. Tibayrenc, **J. Arevalo**, A. Llanos Cuentas, C. Davies, H. Bermudez and D. Le Ray. (1997). Chromosomal Polymorphism in Natural Populations of *L.(V.) Braziliensis* and *L.(V.) Peruviana*: a Link between Gene Dosage and Phenotypic Polymorphism
- ◆ Victoir, K., Bañuls A.L., Noël S., **Arevalo J.**, Llanos-Cuentas A., Hamers R., De Doncker S., Le Ray D., Tibayrenc M., and Dujardin J.C. (1997). The gp63 gene locus: a target for genetic characterisation of *Leishmania* of the *Viannia* subgenus . *International Workshop on Molecular Epidemiology and Evolutionary Genetics of Pathogenic Microorganisms*, Montpellier. Oral communication.
- ◆ Victoir, K., Dujardin J.C., Bañuls A.L., De Doncker S., **Arevalo J.**, Hamers R., Le Ray D., and Tibayrenc M. (1997). Gene plasticity of the GP63 gene in *Leishmania (Viannia) peruviana* and *Leishmania (Viannia) braziliensis*. Pages 63 in A. Özcel, ed. *Worldleish 1. Acta Parasitologica Turcica*, Turkey. Poster.
- ◆ Guerra, H., Llanos, A., Chang, **J., Arévalo**, J., Echevarria, J., Perez, E., Lopez, M.. (1995) Control de Leishmaniasis en Latinoamérica y Rol de la Biología Molecular. XII Congreso Latino Americano de Parasitología. Santiago de Chile. Octubre 21 – 27.
- ◆ García. R., **Arévalo**, J., Orrego, C. and López, M. (1995) Estudio de la Organización de los genes ribosomales de *Leishmania peruviana* mediante Long PCR. XII Congreso Latino Americano de Parasitología. Santiago de Chile. Octubre 21 – 27.
- ◆ Guerra, H., Llanos, A., Chang, J., **Arévalo**, J., Echevarria, Campos, P., J., Perez, E., Lopez, M.. (1995) Experiencia de Control de Leishmaniasis en el Perú. XII Congreso Latino



Americano de Parasitología. Santiago de Chile. Octubre 21 – 27.

- ◆ **Arévalo, J.** Linking basic and applied research through STD networks. The LEISHBOLPE experience. Liverpool, UK, 16-19, October, 1994.
- ◆ Alcántara M., Arana M., Lezama H., Inga R. and **Arévalo J.** Effect of Polyamine biosynthesis inhibitors on the rate of putrescine transport in Leishmania, Liverpool, UK, 16-19, October, 1994.
- ◆ J.C.Dujardin, **J. Arévalo**, A. Llanos-Cuentas, M. Tibayrec, A. L Banouls, K. Vitoir and D. Le Ray. Eco-Genetics of *L.(V.)Braziliensis* and *L.(V.)Peruviana*: from Population to Genome.
- ◆ Lezama H., Lu H., Echevarria J., Llanos-Cuentas A., **Arévalo J.**, Chang K., Bellatin J., León C. IV Congreso Latinoamericano de Medicina Tropical (IV CLAMT). 1993.
- ◆ **Arévalo, J.**, STD2/3 BOLPE CEC Field Projects, IV Euroleish Workshops. Epidemiology, health Strategies and Tools in Lishmaniasis, Tunis, Tunisia 15 - 20, May, 1993.
- ◆ **Arévalo, J.**, Diagnosis and Post treatment relapse predictive value of the PCR in Leishmaniasis Application of Diagnostics for Field Use. April 30, 1993. NIAID, International Genter for Tropical Disease Research Second Annual Meeting.
- ◆ **Arévalo, J.** "Evaluación de la PCR en el diagnóstico de la Leishmaniasis tegumentaria y en el estudio de los insectos vectores del parásito. Granada, España, September 28 - October 04, 1992.
- ◆ López, R. Inga, E. Perez and **J. Arévalo**. "Detection of Leishmania by enzymatic amplification of parasite DNA: A simplified procedure for clinical and entomological field work". Advances in Modern Biotechnology, vol 1, 1992. Biotecnología Habana'92, June 8-12. Organized by Centro de Ingeniería Genética y Biotecnología, La Habana, Cuba.
- ◆ Harris, M. López, **J. Arévalo**, A. Belli, J. Morán, C. Orrego. "The Introduction and Implementation of DNA-based diagnostics via short courses in Central and South America". Advances in Modern Biotechnology, vol 1, 1992. Biotecnología Habana'92, Junio 8-12. Organized by Centro de Ingeniería Genética y Biotecnoloía, La Habana, Cuba.
- ◆ **Arévalo J.**, Inga R. and López M. The Polymerase Chain Reaction: A procedure for clinical

and entomological Field Work. International Symposium on Current Trends in Leishmania Research. Calcuta, India, February 12-14, 1992.

- ◆ **Arévalo J.** Heterogeneity of Leishmania isolates from Andean and Amazonic jungle regions. Third Euroleish Meeting. Murcia, Spain, 10 -14, March, 1992.
- ◆ **Arévalo J.** Estudios sobre la infectividad de Leishmania peruviana Agente causal de la leishmaniasis andina. IV Simposio Iberoamericano sobre Biología Molecular de Agentes Infecciosos. Bogotá, Colombia. 06 de December 1991.
- ◆ Cáceres, A., Villaseca. P., Inga, R., López, M., **Arévalo, J.** and Llanos-Cuentas, A. Lutzomyia ayacuchensis (Diptera:psychodidae phlebotominae) probable vector of Andean cutaneous Leishmaniasis "Uta", in Lucanas, Parinacochas (Ayacucho,Perú). V Pan American Congress of infectology. II Peruvian Congress of Infectious and Tropical Diseases. Lima, Perú. April 1991.
- ◆ López and **J. Arévalo.** Study of the Heterogeneity of Leishmania (V) braziliensis and Leishmania (V) peruviana by PCR. Second CEC Meeting on Leishmania. Macuto, Venezuela, 12th - 17th November, 1990.
- ◆ López, R. Inga and **J. Arévalo.** Diagnosis of Leishmaniasis under field conditions. PCR, the first choice. Second CEC Meeting on Leishmania. Macuto, Venezuela, 12th - 17th November, 1990.
- ◆ López, M., Orrego, C., Cangalaya, M.A., Inga, R.M. and Arévalo, J. Detection of Leishmania braziliensis from minimally processed human biopsies via the Polymerase Chain Reaction (PCR). International Symposium "Molecular Genetics and the Human Genome Project: perspectives for Latin America". Santiago de Chile. Junio 28-30, 1990.
- ◆ López, C. Orrego, M.A. Cangalaya, R.M. Inga and **J.L. Arévalo.** Detection of Leishmania braziliensis from minimally processed Human biopsies via the Polymerase Chain Reaction. ASM Annual Meeting, Anaheim, Calif. 13-17 May, 1990.
- ◆ López , M., Orrego, C., Cangalaya, M., Inga, R. and **Arévalo, J.** In vitro amplification of a kinetoplast DNA sequence to detect Leishmania parasites in biopsies. 3rd Cuban and International Seminar on Interferon. 2nd Cuban and International Seminar on Biotechnology. 1st. Iberoamerican Congress on Biotechnology. April 17-22, 1989. International Conference Center, La Habana, Cuba.

- ◆ Lezama, H., Paredes, E. and **Arévalo, J.** In vitro infection studies with Andean and Sylvatic Leishmaniasis. 12th International Colloquium Innate Resistance, Acquired Immunity and Tolerance to Trypanosomatids. Amberes, Belgium. September 14-17, 1988.
- ◆ López , M., Orrego, C., Cangalaya, M. and **Arévalo, J.** Characterization of kDNA minicircles from *Leishmania braziliensis braziliensis* and *Leishmania braziliensis peruviana*; their potential use for the diagnosis of American Leishmaniasis. PSTC Conference on Biotechnology for Health and Agriculture. US Agency for International Development. Washington, D.C., USA. June 6-9, 1988.
- ◆ López , M., Montoya Y., Arana, M., Cruzalegui, F., Braga, J. Llanos Cuentas, A., Romero G. and **Arévalo, J.** The use of non radioactive DNA probes for the characterization of Leishmaniasis in Peru. First Latin-american Congress of Biotechnology. Tucumán, Argentina, October 4-8, 1987.
- ◆ López M., Montoya Y., Llanos-Cuentas A. and **Arévalo J.** 1987. Biotinylated DNA probes for the characterization of *Leishmania* isolates. Leishmaniasis: The first centenary. New Strategies for Control. NATO-ASI. Zakynthos, Greece. September 1987.
- ◆ Llanos-Cuentas, E.A., Campos, M., Arévalo, J., López, M., Montoya, Y., Arana, M., Maguiña, C., Alvarez, H. Leishmaniasis con compromiso mucosos en el Perú. XXII Congreso da Sociedade Brasileira de Medicina Tropical, Belo Horizonte, March, 02-07, 1986.
- ◆ **Arévalo J.**, Panebra A. and Santa Cruz. *Trypanosoma cruzi*: In vitro differentiation of the epimastigote form to the tripamastigote form. Argentinean Congress of Protozoology and Meeting on Chagas disease. Córdoba, Argentina. Oct. 29 - Nov 02, 1984.

#### ORGANIZATION OF INTERNATIONAL EVENTS:

- ◆ EMBO Practical Course on Data Mining and Sequence Analysis. (Organiser). Supported by EMBO, Wellcome Trust, ICRO, UNESCO and CONCYTEC. Lima, Peru. 03 - 16 November 2003.
- ◆ Euroleish VI Workshop - Epidemiology of Leishmaniasis. (Organiser). Supported by the European Comisión. Lima, Perú 06 - 12 de July, 1997.
- ◆ Internacional workshop "Problemas y Perspectivas de la Aplicación del PCR al Diagnóstico

de la Leishmaniasis". (Organiser). Supported by the TDR/WHO. Lima, Perú. 17 - 21 July 1993.

- ◆ International workshop "Evaluation of Different Leishmania DNA detection procedures for Diagnosis purposes. Cali-Colombia. (Organiser). Supported by PNUD/UNESCO. Cali, Colombia. October 16-29, 1990.
- ◆ International workshop "Application of non radioactive methods to the detection of DNA sequence to research on Tropical and Infectious diseases". (Co-organizer). Supported by PNUD/UNESCO - TDR/WHO - IDRC - CONCYTEC. Lima, Peru. August 14-26, 1989.
- ◆ Seminario/Taller "DNA probes for Leishmania Detections". (Co-organiser). Supported by CIDEIM. Cali, Colombia. April, 1989.

#### **SCHOLARSHIPS :**

1975 - 1977	Ford Foundation
1978 - 1980	DANIDA (Danish Government)
1986	Research Training Grant of the Tropical Disease Research Programme of the World Health Organization.
1987	British Council

#### **RESEARCH PROJECTS:**

P.I.	=	Principal Investigator
Co P.I.	=	Co Principal Investigator
I	=	Investigator

2015 – 2017	Identificación y producción por phage display de un panel de anticuerpos monoclonales de dominio único para el diagnóstico de Leishmaniasis cutánea en centros de atención primaria de salud. INNOVATE. contrato N° 148-PNICP-PIAP-2015. PI.
-------------	--

- 2009 – 2012 Pre-clinical studies of a PSA-based human vaccine candidate targeting visceral, cutaneous and mucocutaneous Leishmaniasis and development of the associated procedures for further clinical trials. European Commission – FP7 Program. Node PI.
- 2008 – 2009 Demostración de la capacidad inmunogénica distinta de las especies de Leishmania causantes de la Uta y Espundia en un nuevo modelo murino de infección dérmica. Fondo Concursable de la UPCH. Investigador Responsable del Fondo.
- 2008 – 2010 Institutional collaboration between Instituto de Medicina Tropical Prince Leopold de Amberes, Bélgica y el Instituto de Medicina Tropical "Alexander von Humboldt". Cooperación Belga (AGCD). Co-PI (Scientific Coordinator)
- 2007 – 2010 Mecanismos de Control e Inmunoprolifexia na Leishmaniose". CYTED. Peruvian Node Coordinator.
- 2006 – 2008 Control strategies for visceral leishmaniasis (VL) and mucocutaneous leishmaniasis (MCL) in South America: applications of molecular epidemiology" European Commission – INCO Program. Node PI
- 2005 – 2006 Plantas Medicinales del Peru Provisoras de Nuevos Compuestos con Actividad Anti-Leishmania: Búsqueda de nuevas drogas. PROCOM - Concejo Nacional de Ciencia y Tecnología (CONCYTEC). PI
- 2003 – 2007 Institutional collaboration between Instituto de Medicina Tropical Prince Leopold de Amberes, Bélgica y el Instituto de Medicina Tropical "Alexander von Humboldt". Cooperación Belga (AGCD). Co-PI (Scientific Coordinator)
- 2001 – 2005 Molecular tools for monitoring emergence and spreading of drug resistance among natural populations of Leishmania. European Commission – INCO Program. Node PI.
- 1998 – 2002 Institutional collaboration between Instituto de Medicina Tropical Prince Leopold de Amberes, Bélgica y el Instituto de Medicina Tropical "Alexander von Humboldt". Cooperación Belga (AGCD). PI
- 1999 – 2004 Production and characterization of mutant leishmania lacking protease genes

- as attenuated live vaccines. European Commission – Inco Program. Node PI.
- 1998 - 2002 Leishmania polymorphic chromosomes: molecular epidemiology targets International Center of Genetic Engineering and Biotechnology (ICGEB). PI
- 1998 –2003 Synthetic inhibitors of parasitic proteases as drug candidates to combat diseases in South American and other developing regions. European Commission – INCO Program. Node PI.
- 1998 -2002 Regional Technical Co-operation project on “Diagnosis and Epidemiology of Chagas Disease and Leishmaniasis using radionuclide DNA probe Technology. IPEN. Node PI.
- 1997 - 1999 Clinical variability of American Tegumentary Leishmaniasis in Peru and Bolivia: Relationship of Genetic polymorphism and Differential Gene expression with clinical variability. European Commission – INCO Program. Node PI.
- 1993 - 1996 A study of the molecular basis to chromosomal size variation in Leishmania peruviana with particular reference to gp63 containing chromosomes. Supported by the Commission of the European Communities. Node PI.
- 1992 - 1995 Clonal Variability Analysis of The Parasite as a Predictive Tool for Different Clinical Manifestations in Leishmaniasis. Supported by the Commission of the European Communities. Node PI.
- 1991 - 1993 Obtención de una Vacuna sintética contra la leishmaniasis. Supported by Corporación Andina de Fomento (CAF). Node PI.
- 1990 - 1993 Multicentric Studies to validate PCR for the diagnosis of leishmaniasis in Latin America. Supported by TDR and CYTED-D. PI.
- 1990 - 1993 Epidemiology and Ecogenetic of Tegumentary leishmaniasis in representative foci of Bolivia and Peru. Supported by the Commission of the European Communities. Node PI.
- 1988 - 1993 Diagnosis of Trypanosomiasis and Leishmaniasis in different endemic areas in Latin America. Supported by PNUD/UNESCO/ONU. (Col.P)

- 1990 - 1992      Assessment of the polymerase chain reaction as a predictive test for relapse in American Leishmaniasis" Supported by the TDR/WHO. (PI)
- 1990 - 1993      Virulence of polymorphisms in the epidemiology of *Leishmania peruviana*. The Wellcome Trust (Co-PI)
- 1989 - 1991      Cellular Immunity Patients with Leishmaniasis in Peru. PSTC 8.312. Supported by the AID. (PI)
- 1986 - 1988      The use of kDNA schizodeme analysis and specific kDNA probes for the characterization of *Leishmania* subspecies from Peru. Supported by TDR/WHO Program. (PI)
- 1984 - 1986      Characterisation of Peruvian *Leishmania* and the infectivity of Andean isolates. Cooperative agreement between the Instituto de Medicina Tropical "Alexander von Humboldt" and the Tropical Medicine Institute of Hamburg "Bernhard Nocht". Supported by the CEE. (Co PI)
- 1984 - 1985      Characterisation of *Leishmania* sp. from Peru. Supported by the TDR/WHO Program. (I)
- 1982 - 1983      Comparison of the Epidemiology and Tripanosomatigote forms of *Trypanosoma cruzi*, CONCYTEC. (PI)

#### **EVALUATION AND CONSULTING EXPERIENCE:**

- ◆ FEBS Journal manuscript reviewer. January 2006.
- ◆ Evaluator of the STD – Program Grant Call. 1993. Bruxelles, Belgium.
- ◆ Member of the Steering Committee on Leishmaniasis, Special Programme for Research and Training in Tropical Diseases (TDR), de la Organización Mundial de la Salud. TDR/WHO. (1989 - 1992)
- ◆ Member of the Consejo Nacional de Ciencia y Tecnología, CONCYTEC (National Research Council) (1988 - 1991)

- ◆ Member of the Oficina de Investigación Científica Universidad Peruana Cayetano Heredia (1992 -1997)
- ◆ Member of the Ethical Committee, Universidad Peruana Cayetano Heredia. (1992 - 1999)
- ◆ Evaluator of the CONCYTEC (National Research Council). (1999 - 2001)

**PRIZES:**

1988 Third World Academic of Sciences – Academia Nacional de Ciencias

1996 Enterprising Creativeness

1997 Physiological Sciences “Alberto Hurtado”. Universidad Peruana Cayetano Heredia

2001 Honorary Distinction and Medal for Extraordinary Merit — College of Biologists of Peru

2010 Full member of the National Academy of Sciences of Peru

2011 Honour for merit in the Grade of Officer, Cayetano Heredia Order

**LANGUAGES:**

- English