



**Proceedings and
abstracts book**



SPONSORS

DIAMOND PLUS

DNDi

Drugs for Neglected Diseases *initiative*
Iniciativa Medicamentos para Enfermedades Olvidadas
Iniciativa Medicamentos para Doenças Negligenciadas

DIAMOND



GOLD



THE **END** FUND | ENDING
NEGLECTED
DISEASES

SYMPOSIA



BILL & MELINDA
GATES *foundation*



care®



Global Health Strategies



LIVERPOOL SCHOOL
OF TROPICAL MEDICINE
Since 1898



PATH
Program for Advanced
Therapeutics Development



World Health
Organization

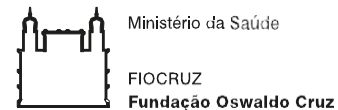
OTHER



UNIVERSIDAD
DE ANTIOQUIA
Facultad de Medicina



PECET
Programa de Estudio y Control de Enfermedades Tropicales



Ministério da Saúde
FIOCRUZ
Fundação Oswaldo Cruz



Fundación
Universidad
de Antioquia



Tropical Medicine and
Infectious Disease
an Open Access Journal by MDPI



IDDO
INFECTIOUS DISEASES DATA OBSERVATORY



ThermoFisher
SCIENTIFIC



PARASiTE



El conocimiento
es de todos Minciencias



SUS+ MINISTÉRIO DA
SAÚDE



PAHO



PANAFOTSA
Pan American Center for Foot-and-Mouth
Disease and Veterinary Public Health



CIDEPRO
INNOVACIÓN PARA LA SALUD Y EL
BIENESTAR DE LAS COMUNIDADES



© CIDEPRO Colombia

ISSN:

PECET, Universidad de Antioquia
Sede de Investigacion Universitaria -SIU-
Calle 62 # 52 – 59, lab 632

First edition: August 23, 2022

Text correction: Sara Maria Robledo

Design and layout: Valeria Velez Wolff

Made in Colombia

Partial or total reproduction is authorized by any mean or any purpose by quoting the respective source.

The content of the work corresponds to the right of expression of the authors and do not compromise the institutional position of the University of Antioquia, PECET and/or CIDEPRO Colombia.

Medellin, Colombia.



SCIENTIFIC AND ORGANIZING COMMITTEE

Ivan Dario Velez

Chair

PECET Colombia – University of Antioquia

Jorge Alvar

Co-chair

DNDi

Sara Robledo

PECET Colombia – University of
Antioquia

Felix Tapia

Central University of Venezuela

Alexis Mendoza

Central University of Venezuela

Gabriela Delgado

Universidad Nacional de Colombia

Nancy Saravia

CIDEIM

Carlos Muskus

PECET Colombia – University of
Antioquia

Carlos Costa

Federal University of Piauí

Felipe Guhl

Andes University

Ana Cristina Patiño

PECET Colombia – University of
Antioquia

Elisa Cadavid

PECET Colombia – University of
Antioquia



Content

1. WELCOME TO THE WORLDDLEISH7.....	7
2. GENERAL SCHEDULE.....	9
3. SYMPOSIUMS	11
S1. ROLE OF ASYMPTOMATICS IN THE TRANSMISSION OF LEISHMANIASIS, SLEEPING SICKNESS AND CHAGAS DISEASE	12
S2. NEW VACCINES AND IMMUNOTHERAPIES FOR CANINE LEISHMANIASIS.....	16
S3. EMERGING FOCI AND CHANGING EPIDEMIOLOGY OF LEISHMANIASIS	21
S4. ELIMINATING VL AS A PUBLIC HEALTH PROBLEM IN THE WHO SOUTH-EAST ASIA REGION: THE LAST MILE CHALLENGES AND OPPORTUNITIES THROUGH THE NEW REGIONAL STRATEGY	28
S5. INFLAMASOMES AND Leishmania	38
S6. PATHOGENESIS OF KALA-AZAR.....	44
S7. INNOVATION IN R&D TO CONTRIBUTE TO VL ELIMINATION	54
S8. SAND FLY SALIVA AND IMMUNE RESPONSE OF BITTEN HOSTS	59
S9. ELIMINATING VL IN INDIA: THE LAST MILE CHALLENGES AND OPPORTUNITIES	66
S10. NEW TRENDS IN THE DIAGNOSIS OF CHAGAS DISEASE.....	75
S11. NEW INSIGHTS IN POSTTRANSCRIPTIONAL REGULATION IN Leishmania: IMPLICATIONS IN THE PARASITE DEVELOPMENT AND DISEASE CONTROL	84
S12. VL-HIV COINFECTION	94
S13. "ATYPICAL" CUTANEOUS LEISHMANIASIS	99
S14. EPIDEMIOLOGY OF LEISHMANIASIS IN AMERICA.....	109
S15. ANIMAL MODELS FOR VISCERAL LEISHMANIASIS: SUITABILITY AND APPLICATIONS	120
S16. DRUG RESISTANCE AND TREATMENT FAILURE IN LEISHMANIASIS: A 21ST CENTURY CHALLENGE	129
S17. VL ELIMINATION AS A PUBLIC HEALTH PROBLEM IN INDIA	136



WORLD LEISH7

S18. VECTOR COMPETENCE AND Leishmania-SAND FLY INTERACTIONS.....	142
S19. DRUG TARGET IDENTIFICATION.....	150
S20. LEISHMANIASIS VACCINE: PAST, PRESENT AND FUTURE	158
S21. NEW GUIDELINE FOR THE TREATMENT OF LEISHMANIASIS IN THE AMERICAS: WHAT HAS CHANGED?	169
S22. MOLECULAR PATHOLOGY AND STRATIFICATION OF LEISHMANIASIS.....	172
S23. FUTURE PROSPECTS IN THE TREATMENT OF CUTANEOUS LEISHMANIASIS FORM.....	179
S24. LEISHMANIASIS AND MOVEMENT: IMPORTED LEISHMANIASIS BY TRAVELERS AND MIGRANTS.....	187
S25. BIOMARKERS FOR DIAGNOSIS OF LEISHMANIASIS.....	193
S26. CELL BIOLOGY AND Leishmania INFECTION	198
S27. Leishmania EXTRACELLULAR VESICLES: IMPACT ON DISEASE PROGRESSION	204
S28. VECTOR SURVEILLANCE AND CONTROL FOR VISCERAL LEISHMANIASIS ELIMINATION.....	211
S29. A GLOBAL VISCERAL LEISHMANIASIS DATA PLATFORM	222
S30. IMMUNOPATHOGENESIS AND HOST-DIRECTED THERAPIES IN LEISHMANIASIS	228
S31. RESERVOIRS OF LEISHMANIASIS.....	234
S32. GENOMICS AND EPIDEMIOLOGICAL SURVEILLANCE.....	241
S33. EXPERIENCE WITH mHEALTH AND LEISHMANIASIS.....	251
S34. EMPOWERING PEOPLE WITH CUTANEOUS LEISHMANIASIS THROUGH INTERDISCIPLINARY RESEARCH AND COMMUNITY-BASED INTERVENTIONS (ECLIPSE)	254
S35. DATA FOR DECISION MAKING FOR VL ELIMINATION	265
S36. LEISHMANIASIS AND IMMUNOSUPPRESSION	273
S37. LEISHVET: ANIMAL LEISHMANIOSIS: IS A CHANGE OF MIND NEEDED?	282
S38. THE CUTANEOUS LEISHMANIASIS IN THE MAGHREB REGION	291



WORLD LEISH7

S39. DRUG RESISTANCE & QUIESCENCE: UNRAVELLING MECHANISMS AND EXPLOITATION FOR BETTER/NEW DRUGS	296
S40. IMMUNOLOGICAL PERSPECTIVES OF LEISHMANIASIS: BEYOND THE TH1/TH2 PARADIGM	302
S41. WHAT CAN SOCIAL SCIENCES CONTRIBUTE TO UNDERSTANDING AND ADDRESSING LEISHMANIASIS?: EXAMPLES FROM THE FIELD.....	307
S42. MUCOCUTANEOUS LEISHMANIASIS	315
S43. BRASILEISH. ANIMAL LEISHMANIOSIS: IS A CHANGE OF MIND NEEDED?	325
S44 NEW HOPE FOR LEISHMANIASIS: HOW TO COMMUNICATE TO A BROADER NON-SCIENTIFIC AUDIENCE.....	334
4. ORAL COMMUNICATION	336
4.1 CANINE LEISHMANIASIS	337
4.2 DIAGNOSIS - TREATMENT AND RESISTANCE - CLINIC	359
4.3 DRUG DISCOVERY & DEVELOPMENT.....	418
4.4 EPIDEMIOLOGY/ECOEPIDEMIOLOGY/MOLECULAR EPIDEMIOLOGY/PREVENTION AND CONTROL.....	478
4.5 IMMUNOLOGY - CELL BIOLOGY – PATHOGENESIS - VACCINES.....	547
4.6 OMICS - MOLECULAR BIOLOGY – BIOCHEMISTRY - OTHERS.....	633
4.7 SOCIAL INNOVATION - IMPLEMENTATION RESEARCH - OPERATIVE RESEARCH	701
4.8 VECTORS & RESERVOIRS.....	727
5. POSTER	753
5.1 CANINE LEISHMANIASIS	754
5.2. DIAGNOSIS-TREATMENT AND RESISTANCE-CLINIC.....	827
5.3. DRUG DISCOVERY & DEVELOPMENT.....	962
5.4. EPIDEMIOLOGY – ECOEPIDEMIOLOGY - MOLECULAR EPIDEMIOLOGY - PREVENTION AND CONTROL.....	1035
5.5. IMMUNOLOGY - CELL BIOLOGY – PATHOGENESIS - VACCINES.....	1088

WORLD LEISH7



5.6 OMICS - MOLECULAR BIOLOGY – BIOCHEMISTRY - OTHERS.....	1207
5.7. SOCIAL INNOVATION - IMPLEMENTATION RESEARCH - OPERATIVE RESEARCH	1367
5.8 VECTORS & RESERVOIRS.....	1392
6. LIST OF CHAIR, CO-CHAIR & SPEAKERS.....	1470
7. LIST OF PARTICIPANTS	1480



1. WELCOME TO THE WORLDDLEISH7



WORLD LEISH7

Every four years, leishmaniacs from around the world gather in WorldLeish to discuss the latest advancements around these neglected tropical diseases and the seventh version was not an exception. In 2022, we had the participation of around 700 people, from 47 countries. Also, we had a great response from 536 students and professionals from around the world who sent us their abstracts to be part of the event as a poster or oral communications presentation and we are glad to say that we counted 195 oral presentations and 341 posters.

The experience and knowledge of the 210 speakers enriched the 44 Symposia, 8 Round Tables, 4 Special Meetings, 5 Plenary talks and 4 Successful stories that took place in those 6 days.

For Colombia and specifically the University of Antioquia, it was an honor to be the host of this Congress. And, for PECET, is a recognition for its almost 40 years of effort, research and hard work to treat leishmaniasis.

I would like to express my gratitude for your participation in this seventh version of the congress. Thanks to the knowledge and contributions, of all participants, it has been a complete success.

We know that it was not easy at all, however seeing all of you in Cartagena filled us with deep pride for the great challenge undertaken and the achievement reached.

May these events strengthen our "leishmaniac" spirit and recharge us to continue working in favor of this NTD.

Thank you very much.

With the expression of my admiration and respect.



Ivan Dario Vélez
Chair WorldLeish7



2. GENERAL SCHEDULE

WORLD LEISH7

MONDAY August 1st	Time	TUESDAY August 2nd	WEDNESDAY August 3rd	THURSDAY August 4th	FRIDAY 27 August 5th	Time	SATURDAY August 6th	
		REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION		REGISTRATION	
	7:00 - 8:00	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION			
	8:00 - 9:00	PLENARY TALK #1	PLENARY TALK #2	PLENARY TALK#3	PLENARY TALK #4	8:30 - 9:30	PLENARY TALK #5	
	9:00 - 9:30	SUCCESSFUL STORY #1	SUCCESSFUL STORY #2	SUCCESSFUL STORY #3	SUCCESSFUL STORY #4	9:30 - 10:00	COFFEE BREAK	
	9:30 - 10:00	COFFEE BREAK					10:00 - 11:30	SPECIAL MEETING #4
	10:00 - 11:30	SATELITE SYMPOSIUMS (sessions 1 - 5)	SATELITE SYMPOSIUMS (sessions 12-16)	SATELITE SYMPOSIUMS (sessions 23-27)	SATELITE SYMPOSIUMS (sessions 33 -38)		AWARDS	
	11:30 - 13:00	SATELITE SYMPOSIUMS (sessions 6 -11)	SATELITE SYMPOSIUMS (sessions 17 - 22)	SATELITE SYMPOSIUMS (sessions 28 - 44) SPECIAL MEETING #2	SATELITE SYMPOSIUMS (sessions 39 - 44)	11:30 - 12:00.		
	13:00 - 14:00	LUNCH	LUNCH	POSTER PRESENTATION Session 3	LUNCH	12:00 - 13:10	CLOSING LECTURE	
	14:00 - 15:30	SPECIAL MEETING #1	ROUND TABLE (1 - 4)	LUNCH/ FREE AFTERNOON			ROUND TABLE (5 - 8)	
14:00 - 19:00	15:30 - 16:30	ORAL COMMUNICATIONS (sessions 1 - 7)	ORAL COMMUNICATIONS (sessions 15 - 21)				ORAL COMMUNICATIONS (sessions 29 - 35)	
17:30 - 18:00	16:30 - 17:30	POSTER PRESENTATION Session 1	POSTER PRESENTATION Session 2				POSTER PRESENTATION Session 4	
	17:30 - 18:00	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK			13:10 - 13:30	CLOSING REMARKS
18:00 - 19:00	18:00 - 19:00	ORAL COMMUNICATIONS (sessions 8 - 14)	ORAL COMMUNICATIONS (sessions 22 - 28)	ORAL COMMUNICATIONS (sessions 36 - 41)				
19:00 - 20:30		WELCOME RECEPTION						



5. POSTER



P3-046.1: SMALL MOLECULES TARGETING *Leishmania braziliensis*: POTENTIAL TARGETS FOR CHEMOTHERAPY

Leslye T. Avila¹, Laíse B. Oliveira¹, Hernane Barud², Jair L. Siqueira-Neto^{3,4}, Scott E. Schaus⁵, Lauren E. Brown⁵, Camila I. de Oliveira^{1,6}

¹Instituto Gonçalo Moniz, Fiocruz-Bahia, Salvador, , Brazil; ²Universidade de Araraquara, Uniara, Araraquara, SP, Brazil; ³Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, San Diego, CA, USA; ⁴Center for Discovery and Innovation in Parasitic Diseases, University of California, San Diego, CA, USA; ⁵Center for Molecular Discovery (BU-CMD), Department of Chemistry, Boston University, Boston, MA, USA; ⁶Instituto Nacional de Ciência e Tecnologia em Doenças Tropicais (INCT-DT), Salvador, Bahia, Brazil

Cutaneous Leishmaniasis (CL) caused by *L. braziliensis* presents as several clinical forms, which range from a localized ulcerated lesion to disfiguring lesions in mucosal areas. *L. braziliensis* can also cause disseminated leishmaniasis, a severe form of disease that frequently presents with mucosal involvement. CL affects 1.5 million people worldwide, and the current first line treatment are pentavalent antimony compounds that present toxicity and are subject to parasite resistance, making it evident the need for better therapeutical options. One of the challenges in the development of novel antileishmanial compounds is achieving potent activity against the intracellular stage of the parasite, the stage present in the mammalian host, without harming the host cell. Previously, we identified a compound series that displayed effective antiparasitic activity against *L. braziliensis*. Herein, we explored these compounds and evaluated their effectiveness employing murine macrophages, followed up by experiments *in vivo*. Macrophages infected with *L. braziliensis* and exposed to the compound series in a dose dependent manner showed that molecules Cpd1 and Cpd2 reduced the percentage of infected cells and the number of intracellular amastigotes in a significant manner. Similar results were obtained upon infection with *L. major* and both compounds also did not

WORLD LEISH7



exhibit cellular toxicity. Parasite killing was accompanied by an increase in the production of TNF and superoxide and both molecules are associated macrophage effector functions. Lastly, in a pre-clinical mouse model of CL caused by *L. braziliensis*, we observed that topical application of Cpd1, in gel-based form employing bacterial cellulose, impaired lesion development and significantly reduced parasite burden. These results indicate that this compound series can be further explored for the development of novel chemotherapeutic alternatives for CL caused by *L. braziliensis*, the causative agent of localized, mucosal and disseminated leishmaniasis.

Keywords TREATMENT; CHEMOTHERAPY; BIOCURATIVE

SPONSORS

DIAMOND PLUS

DNDi

Drugs for Neglected Diseases *initiative*
Iniciativa Medicamentos para Enfermedades Olvidadas
Iniciativa Medicamentos para Doenças Negligenciadas

DIAMOND

GOLD

 THE **END** FUND | ENDING NEGLECTED DISEASES

SYMPOSIUM

LIVERPOOL SCHOOL OF TROPICAL MEDICINE
Since 1898

OTHER

UNIVERSIDAD DE ANTIOQUIA
Facultad de Medicina

PECET
Programa de Estudio y Control de Enfermedades Tropicales

Ministério da Saúde
FIOCRUZ
Fundação Oswaldo Cruz

Fundación Universidad de Antioquia

Tropical Medicine and Infectious Disease
an Open Access Journal by MDPI

IDDO
INFECTIOUS DISEASES DATA OBSERVATORY

El conocimiento es de todos | Minciencias

SUS+ MINISTÉRIO DA SAÚDE



PANAFOTSA
Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health

CIDEPRO
INNOVACIÓN PARA LA SALUD Y EL BIENESTAR DE LAS COMUNIDADES