WORLD LEISH 7

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# 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

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Universidad Nacional de Colombia

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CIDEIM

**Carlos Muskus**
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**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 WORLDLEISH7

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

| MONDAY August 1st | | Time | TUESDAY August 2nd | WEDNESDAY August 3rd | THURSDAY August 4th | FRIDAY 27 August 5th | Time | SATURDAY August 6th |
|---|---|---|---|---|---|---|---|---|
| | | 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 | COFEE BREAK |
| | | 9:30 - 10:00 | COFEE 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) | 11:30 - 12:00. | AWARDS |
| | | | | | | SPECIAL MEETING #3 | | |
| | | 11:30 - 13:00 | SATELITE SYMPOSIUMS (sessions 6 -11) | SATELITE SYMPOSIUMS (sessions 17 - 22) | SATELITE SYMPOSIUMS (sessions 28 - 44) | SATELITE SYMPOSIUMS (sessions 39 - 44) | | |
| | | | | | SPECIAL MEETING #2 | | | |
| | | 13:00 - 14:00 | LUNCH | LUNCH | POSTER PRESENTATION Session 3 | LUNCH | 12:00 - 13:10 | CLOSING LECTURE |
| 14:00 - 19:00 | REGISTRATION | 14:00 - 15:30 | SPECIAL MEETING #1 | ROUND TABLE (1 - 4) | LUNCH/ FREE AFTERNOON | ROUND TABLE (5 - 8) | 13:10 - 13:30 | CLOSING REMARKS |
| | | 15:30 - 16:30 | ORAL COMMUNICATIONS (sessions 1 - 7) | ORAL COMMUNICATIONS (sessions 15 - 21) | | ORAL COMMUNICATIONS (sessions 29 - 35) | | |
| | | 16: 30 - 17:30 | POSTER PRESENTATION Session 1 | POSTER PRESENTATION Session 2 | | POSTER PRESENTATION Session 4 | | |
| 17:30 - 18.00 | OPENING SESSION | 17:30 - 18:00 | COFEE BREAK | | | COFEE BREAK | | |
| 18:00 - 19:00 | INAUGURAL LECTURE | 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 | | | | | | | |

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# 4. ORAL COMMUNICATION

# 4.6 OMICS - MOLECULAR BIOLOGY  BIOCHEMISTRY – OTHERS

## O6-01: THE SKIN MICROBIOME ENHANCES TRANSCRIPTIONAL INFLAMMATORY SIGNATURES AND DELAYS CLINICAL RESOLUTION IN CUTANEOUS LEISHMANIASIS

**Camila Farias Amorim[1], Victoria Lovins[2], Fernanda O. Novais[3], Jordan Harris[2], Lucas P. Carvalho[4], Edgar M Carvalho[4], Daniel P. Beiting[1], Elizabeth Grice[2], Phillip Scott[1]**

[1]Department of Pathobiology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, United States; [2]Department of Dermatology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, United States; [3]Department of Microbial Infection and Immunity, College of Medicine, The Ohio State University, Philadelphia, United States; [4]Laboratório de Pesquisas Clínicas do Instituto de Pesquisas Gonçalo Muniz  Fiocruz/Bahia, Brazil

Cutaneous leishmaniasis (CL) caused by *Leishmania braziliensis* is associated with chronic lesions that are often difficult to drug treat. We previously found that treatment failure is associated with increased expression of cytolytic genes, including GZMB, GNLY and PRF1, as well as IL1B. Here we investigate how the skin microbiome influences host gene expression in lesions and treatment outcome. We carried out an integrative multi-omics study from 64 *L. braziliensis* patients including RNA-seq from lesion biopsies, 16 seq from skin swabs collection of bacterial isolates prior to treatment. We first assessed the total bacterial burden in lesions by qPCR of the 16S ribosomal subunit and found that patients with higher bacterial burdens exhibited delayed healing. To identify the bacteria, we performed 16S sequencing of lesion swabs and found that *Staphylococcus* was the most frequent dysbiosis observed in patients and was associated with delayed

lesion resolution. Since 50% of the *Staphylococcus* isolates, we collected were *S. aureus*, and *S. aureus* can be associated with severe infections, we asked whether lesions with high levels of *S. aureus* might be associated with inflammatory gene expression. We generated an in-house *Staphylococcus aureus* pangenome from our clinical isolates and known public references to quantify *S. aureus* transcript abundances through dual RNA-seq mapping analysis. We found that lesions with increased *S. aureus* transcripts exhibited high expression of inflammatory-related genes, such as CXCL5/8, CCL3/4, IL1A, IFNG, as wells as genes we previously reported as biomarkers for treatment failure including PRF1, GNLY, GZMB and IL1B. Together, these results suggest that the skin microbiome influences immune responses in lesions of CL patients, affecting how patients respond to therapy with antimony leading to a delay in healing. These studies suggest that antibiotics or probiotic therapies given in conjunction with anti-parasitic drugs might augment healing.

**Keywords** BIOMARKERS; MICROBIOME; TRANSCRIPTS; TREATMENT; FAILURE

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