

International Conference on

## ENVIRONMENTAL MICROBIOLOGY AND MICROBIAL ECOLOGY

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**Antagonism of *Pseudomonas* sp. EMM-1 and its potential as biocontrol agent**

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Bacteria may exhibit antagonistic interactions to compete for space and nutrients in their habitat. This competition has been mainly evaluated by double-layer agar and simultaneous inhibition assays. The best known antagonistic bacteria are *Enterococcus*, *Lactococcus*, *Streptomyces*, *Bacillus*, *Pseudomonas*, *Klebsiella*, *Escherichia* and *Burkholderia* due to their potential to produce inhibitory substances such as broad-spectrum antibiotics, organic acids, siderophores, antifungal and bacteriocins. Our study model, *Pseudomonas* sp. EMM-1, is a Gram-negative bacterium isolated from contaminated soil highly competitive due to the production of one or more inhibitory substances. It has been demonstrated its antimicrobial activity against diverse beneficial and pathogenic microorganisms including the genera *Bradyrhizobium*, *Azotobacter*, *Staphylococcus*, *Streptococcus*, *Klebsiella* and *Burkholderia*; as well as the *phytopathogenic* fungi *Pantoea* and *Fusarium*. In this work the ability of *Pseudomonas* sp. EMM-1 to inhibit diverse fungi isolated from soil and plants with fungal diseases, such as *Aspergillum* and *Fusarium* was verified by the double-layer agar assay, leading us to assume its potential as biocontrol agent.

**Biography**

Catherine Cesa-Luna has completed her bachelor's degree in Clinical Chemistry in 2012 from Universidad Veracruzana, México and obtained her master's degree in Microbiologic Sciences (Medical Microbiology) in 2016 at the Benemérita Universidad Autónoma de Puebla, Mexico; where she is currently pursuing her Ph.D in microbiology. She is evaluating the antimicrobial activity of synthetic IsCT-like peptides derived from scorpion venoms on bacteria of clinical interest and also working on the purification and identification of compounds related to the activity of the inhibitory substance produced by *Pseudomonas* sp. EMM-1.

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