Sociedad Argentina de Microbiología General

XIX CONGRESO DE LA SOCIEDAD ARGENTINA DE MICROBIOLOGÍA GENERAL

22 al 25 de octubre del 2024
Centro cultural y Pabellón Argentina de la Universidad Nacional de Córdoba, Córdoba, ARGENTINA.

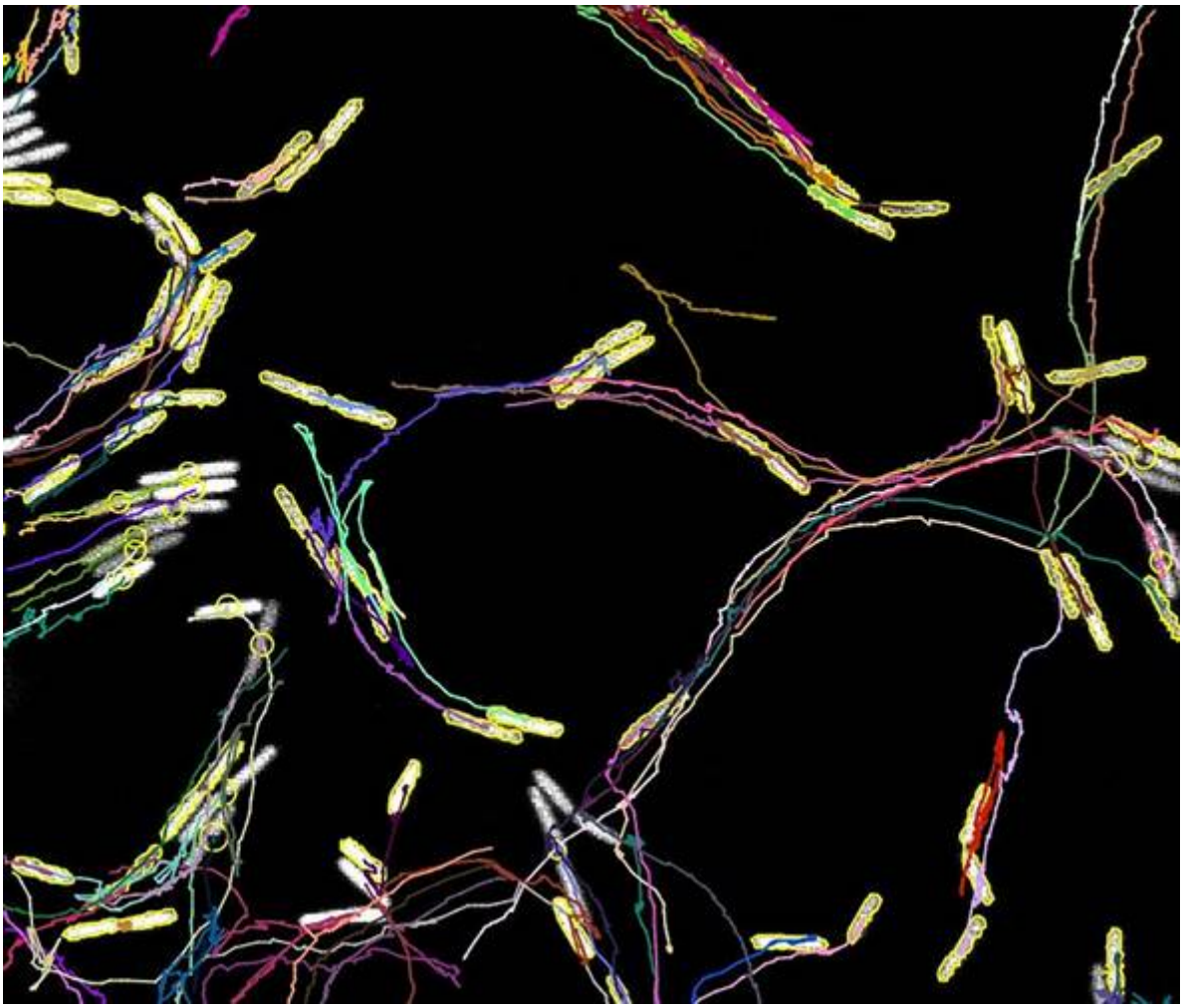

Foto: Se hace camino al andar. Celeste Dea. 1er puesto. Concurso fotográfico SAMIGE 20 años.

33 - Educación y Divulgación en Microbiología

INTEGRATION OF in silico PCR AND LABORATORY PCR FOR TEACHING OF MICROBIOLOGY

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As part of an undergraduate course in Microbiology, a teaching experience was developed that combined the use of bioinformatics tools with laboratory techniques. The objective of this activity was to teach students how to detect the coa gene in species of the genus Staphylococcus using a dual approach: in silico and laboratory PCR. In the first stage, students conducted an in silico assay using available online software. This tool allowed for the simulation of the amplification of the coa gene, which encodes the coagulase protein, an important marker in the identification of Staphylococcus species. Students used specific primers and analyzed PCR products virtually. Additionally, they designed their own primers using Primer3 and evaluated their functionality with IDT's OligoAnalyzerTm Tool. In the second stage, students performed PCR in the laboratory, comparing the in silico results with the amplified products obtained under real experimental conditions. This approach not only reinforced the theoretical and practical concepts of PCR but also highlighted the growing importance of bioinformatics in microbiology. In the future, integrating in silico techniques with laboratory experiments will be essential for advancing microbiological research, providing powerful tools for genetic analysis, molecular diagnostics and understanding microbial diversity.

Palabras clave: Bioinformatics tools - Microbiology - PCR