

# MICROBIOTEC 19

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CONGRESS OF MICROBIOLOGY  
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## BOOK OF ABSTRACTS

**SPM**  
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### III9. School Science and Science Communication

#### **P313. Implementation of Micromundo@Uporto: an educacional project based on service- learning promoting antimicrobial resistance awareness among university and school students**

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**Background:** Small World Initiative (originally from USA) is a global citizen science project implemented in Spain (2016/2017) with a Service-Learning strategy involving two educational levels (university+school-students). It aims to contribute to solving the societal challenge of Antimicrobial Resistance (AMR) across clinical-food-environmental areas ("One Health"). The experimental challenge proposed to school students is the discovery of microorganisms producing new antibiotics while exploring the soil microbial diversity.

**Objectives:** To implement this project in Portugal with MicroMundo@Uporto designation through two Curricular Units-UCs (Bacteriology-Pharmacy Faculty and Microbiology-Nutrition and Food Science Faculty) of Porto University and to estimate its impact on the improvement of university students' academic performance, acquisition of social/soft skills and AMR awareness as well as school students' interest in science.

**Methods:** University-students tutored by university professor/researcher were responsible for the organization/teaching of 4 sessions (2h/each-4 weeks) to Basic/Secondary school-students. After MicroMundo@Uporto announcement, 41 university-students volunteered to participate in 8 teams (5-6 university-students+1-2 supervisors; 3 schools-140 students) and to be responsible for a class (20-25 school-students). After training (theoretical/laboratory classes) in the University, students worked as a team and met with their tutor for school' sessions preparation. Post-survey-based evaluation (Enalyser online survey) of the project was applied to university-students, school students and teachers.

**Results/Conclusions:** School sessions (February-March/2019) involved 4 sessions: S1-project explanation+AMR+biodiversity and soil collection (total-n=80 from 8 districts); S2-soil weighing+dilution +plating; S3-colonies identification+selection (total-n=800 isolates) for the antibiosis assays (n=50 positive results); S4-Results interpretation+discussion. Survey evaluation revealed a high level of satisfaction among both university and school students towards the acquisition of competencies for scientific and soft skills. School teachers were particularly enthusiastic throughout the project and strongly recommended it to other schools. Besides AMR awareness, we could observe an improvement in university-students' perception related to the two Microbiology-UCs effects on professional practice and an enrichment in autonomy, responsibility/commitment, planning, public communication, teamwork, improvisation and empathy, essential skills for better prepared future health professionals. The success of the pilot experience motivated us to extend the initiative to other Universities. For that, we have successfully organized the first MicroMundo@Porto Workshop (July-2019) attended by 12 future tutors from different Portuguese/Spanish Universities.