Abstract N.
Session:
(to be completed by the Organizing Committee)

14th International Conference on Plant Pathogenic Bacteria (ICPPB)

ABSTRACT SUBMISSION FORM

Presenting Author

LAST NAME	Arroyo-Mateo
FIRST NAME	Antonio
AFFILIATION	1 Área de Genética, Facultad de Ciencias, Campus Teatinos s/n, Universidad de Málaga, E-29010 Málaga, Spain 2 Departamento de Microbiología y Protección de Cultivos, Instituto de Hortofruticultura Subtropical y Mediterránea «La Mayora», Extensión Campus de Teatinos, Universidad de Málaga-Consejo Superior de Investigaciones Científicas (IHSM-UMA-CSIC), 29010 Málaga, Spain
AFFILIATION'S ADDRESS	Blvr. Louis Pasteur, 49, Extensión Campus de Teatinos, Universidad de Málaga-Consejo Superior de Investigaciones Científicas (IHSM-UMA-CSIC), 29010 Málaga, Spain
CITY	Málaga
COUNTRY	Spain
E-MAIL ADDRESS	antonioam@uma.es

DO YOU PREFER:

Oral presentation [ ] Poster [X]

SESSIONS
(you can choose up to 3 sessions inserting the number 1, 2 or 3 in the square brackets for indicating the priority)

[ ] Disease Epidemiology and Pathogen Ecology
[ ] Disease Emergence and Pathogen Evolution
[ ] Disease Control and Prevention
[ ] New Tools in Disease Diagnostics and Pathogen Identification
[1] Molecular Plant - Bacteria (and Insect) Interactions
[ ] Bacterial Pathogens and the Phytobiome
[ ] Natural and Engineered Plant Disease Resistance

[ ] I PARTECIPATE TO FEMS GRANT APPLICATION

Abstract N.
Session:
(to be completed by the Organizing Committee)

WhpR, an orphan transcriptional regulator of virulence in the pathogen of woody hosts *Pseudomonas savastanoi* pv. *savastanoi*

Arroyo-Mateo A.[1,2]; Leal-López J.[1,2]; Caballo-Ponce E. [1,2]; Ramos C.[1,2]
1 Área de Genética, Facultad de Ciencias, Campus Teatinos s/n, Universidad de Málaga, E-29010 Málaga, Spain
2 Departamento de Microbiología y Protección de Cultivos, Instituto de Hortofruticultura Subtropical y Mediterránea «La Mayora», Extensión Campus de Teatinos, Universidad de Málaga-Consejo Superior de Investigaciones Científicas (IHSM-UMA-CSIC), 29010 Málaga, Spain

The genome of the olive tree pathogen *Pseudomonas savastanoi* pv. *savastanoi* (Psv) NCPPB 3335 encodes a region of about 15 kb named WHOP (from Woody Host and *Pseudomonas*) which is involved in the catabolism of aromatic compounds and is essential for the virulence of Psv in woody olive plants [1]. This region is shared with other strains of *Pseudomonas syringae* pathovars infecting woody hosts, but it is absent in strains infecting herbaceous plants. The WHOP region is organized into four operons, *antABC* (metabolism of anthranilate), *catBCA* (catabolism of catechol) *ipoBCA* (oxigenase activity) and *dhoAB* (degradation of fenolic compounds) and three independently transcribed genes, *antR* (positive regulator of the *antABC* operon), *PSA3335_3206* (aerotaxis receptor) and *whpR* (putative AraC family regulator) [2]. In this study we identified two domains in WhpR, a DBD (DNA bingding domain), characterised by a classical HTH (Helix-Turn-Helix) motif and an AraC-like bingding domain. BlastP searches showed that no homologs (≥ 60%) of this protein are found outside the *P. syringae* complex. We also addressed the role of WhpR in virulence by the construction of Δ*whpR* mutants in several *P. savastanoi* strains isolated from olive and oleander (*P. savastanoi* pv. nerii). Moreover, quantitative real-time PCR (RT-qPCR) analysis of Psv NCPPB 3335 and its Δ*whpR* mutant revealed that WhpR is a negative regulator of most of the operons encoded in the WHOP region. Our future aims are to elucidate the mechanism of WhpR-dependent regulation and to determine whether other genes codified outside the WHOP region are also regulated by WhpR.

Funded by Ministerio de Ciencia, Innovacion y Universidades (Spain) grant PID2020-115177RB-C21 / AEI/10.13039/501100011033, co-financed by FEDER

[1] Rodríguez-Palenzuela *et al*., 2010. Environ. Microbol., 12, 1604-1620.
[2] Caballo-Ponce *et al*., 2017. Mol. Plant-Microbe Interact., 30, 113-126.