SHORT CURRICULUM VITAE – Prof. Franco Nigro

Franco Nigro is Full Professor of Plant Pathology in the Department of Soil, Plant, and Food Sciences, University of Bari - Aldo Moro. In period 2001/02- 2012/13 he taught Genomics of biotic and abiotic plant diseases (6 credits), and Biotechnology to protect plants and stored products (6 credits), MS Program in Biotechnology and Agricultural Science, University of Bari, Italy. From 2013/14 – to date, he teaches "Biotechnology for the salubrity and safety of plant products" (6 Credits), integrated with "Certification of agri-food productions (3 Credits) in the Master Degree (Laurea Magistrale) "Biotechnology for Quality and Safety of Food", and Phytobacteriology (3 Credits) in the Bachelor Degree "Agricultural Sciences and Technologies". He has been supervisor of more than 50 Bachelor's and Master's degree thesis, and 15 P.h.D Thesis.

Research activity focus on some relevant diseases of olive trees (verticillium wilt, anthracnose, cercosporiosis), citrus (Phytophthora root rot, and "mal secco" diseases), stone fruits (white root rot). To this regard, he investigated aspect of molecular diagnosis, epidemiology, and chemical and biological protection, also considering the production of plant propagative material. In particular, about the molecular diagnosis, he developed a highly specific, sensitive, rapid, and simple molecular approach to identify *Phytophthora citrophthora*, and *P. nicotianae*, *Verticillium dahliae*, and *R. necatrix*, both in host tissues and soils samples, by combining a fast protocol to extract DNA from different matrix with conventional and real time PCR. As for the epidemiology, he studied the effects of some management practices (irrigation method, girdling, grafting combination, etc.) on the development of Phytophthora root rot and "Mal secco" of citrus. Recently demonstrated the role of irrigation and water streams from rivers and canals in the spread of the soil-borne pathogen *V. dahliae*. Researches on the control focus on the use of microbial antagonists, organic amendments and resistance inducers, mainly to control verticillium wilt and antrachnose of olive tree. He has also conducted studies on the role of beneficial soil bacteria (*Bacillus subtilis*, *B. licheniformis, Pseudomonas* spp.), able to promote plant growth, and acting as biocontrol and bioremediation agents, either wild type or transformed with different reporter genes. He has also been involved in researches about the role of propagative materials on the spread of fungal pathogens affecting the quality of olive and citrus nursery productions. Recently, he investigated some etiological aspects of the "quick decline syndrome of olive", in which the quarantine pathogen *Xylella fastidiosa* is involved. To this regard, Dr Nigro investigated some fungal species associated to the disease and never described before in the European continent, thus contributing to the characterization and definition of the new fungal genus *Pseudophaeomoniella* and to the identification of the two new species *P. oleae* and *P. oleicola*.

A second area of scientific interest focus on the development of non-conventional methods, alternative to synthetic fungicides, to control postharvest decay of fruits and vegetables (table grape, kiwifruit, citrus, strawberry). The subject concern both applied and basic research and is considered from different perspectives: i) physical treatments (UV-C light, hypobaric treatments, curing); ii) organic and inorganic salts; iii) biocontrol agents (mainly yeast-like fungi and yeasts).