europass

Curriculum Vitae

Personal information

Giuseppe Firrao

Address	Dipartimento di Scienze Agrarie ed Ambientali Università di Udine via Scienze 206, 33100 Udine, Italy
Telephone	+39 0432 558531
Fax	+39 0432 55801
E-mail	firrao@uniud.it
Nationality	Italian
Date of birth	Jan 23, 1961
Gender	Male

Occupational field

Academy

Work experience

Dates	Dec. 2010 - present
Occupation or position held	Full professor
Name of employer	Università di Udine
Dates	Jan. 2001 – Dec. 2010
Position held	Associate professor
Name of employer	Università di Udine
Dates	Nov. 1990 – Jan. 2001
Occupation or position held	Researcher
Name of employer	Università di Udine
Dates	Jan. 1986 – Nov. 1990
Occupation or position held	Technical Assistant
Name of employer	Università di Udine

Education

Dates	Feb. 2001 – Oct 2001
Title of qualification awarded	Visiting Scholar supported by a fellowship issued by Italian CNR
Name and type of organisation providing education and training	Micro Instruments and Systems Laboratory, University of California, Davis
Dates	Feb 1994 – Jan 1995
Title of qualification awarded	Visiting Scholar supported by a fellowship issued by Italian CNR
Name and type of organisation providing education and training	Department of Plant Pathology, University of California, Davis
Dates	July 1984
Title of qualification awarded	Laurea (110/110 cum laude) in Agricultural Sciences
Name and type of organisation providing education and training	Università di Milano

Skills and competences

Teaching

Dates	Academic year 2000/2001 – present
Class Title	Plant Pathogen Interactions
Name and type of organisation	Università di Udine
Dates	Academic year 2009/2010 – present
Class Title	Mycology

Name and type of organisation	Università di Udine
Dates	Academic year 2003/2004 to 2008/2009
Class Title	Molecular diagnostics
Name and type of organisation	Università di Udine
Dates	Academic year 2002/2003 to 2004/2005
Class Title	Mycology
Name and type of organisation	Università di Verona
Dates	Academic year 1999/2000 to 2002/2003
Class Title	Biotecnology in Plant Pathology
Name and type of organisation	Università di Udine

Research

The theme that has dominated the research activity of G. Firrao has been the characterization and diagnosis of plant pathogens. In the 80s, his research focused on techniques such as electron microscopy and numerical taxonomy for the characterization of actinomycetes and coryneform plant pathogenic bacteria. In the late 80s-early 90s he moved to molecular biology of plant pathogenic fungi (*Botrytis, Fusarium, Diaporthe*) and, with primary emphasis, of mycoplasmas. He introduced the sequence analysis of 16S rRNA for the definition of specific sequences for the diagnosis of the unculturable phytoplasmas, and the purification of phytoplasma chromosomes by PFGE, a technique that paved the way to the genome analysis of these important unculturable plant pathogens. After professorship in 2000 and the establishment of his own research team, he expanded the research interests to cover strategies for the detection and prevention of contamination of mycotoxins, interactions of plant pathogenic bacteria and fungi with their hosts, genomic characterization of bacterial pathogens, while keeping emphasis on the application of new technologies. The application of nanotechnology in the diagnostics became a major topic in his research themes after a sabbatical spent at the Micro Instrument and System Laboratory in Davis, CA. The Firrao lab developed several new methods for toxin contamination prediction (using spectroscopy, hyperspectral imaging, neural networks, air analysis) and nucleic acid detection (using nanobiotransducer, nanopore blockade, DNA origami) for diagnostic use. The genomic studies carried out on the phytoplasmas, *Pseudomonas avellanae* and *P. syringae* pv. *actinidiae* clarified the origin of important diseases and provided relevant hints for their control.

The main topics of the research currently carried out by the Firrao's lab are genomics of plant pathogens and the diagnosis of pathogens and toxins using innovative methods, with emphasis on nanobiotechnology.

Honours, Awards, Memberships

Dates	2015 – present
Title awarded	PhD Program Coordinator
Name and type of organisation	Doctorate in “Agricultural Science and Biotechnology” - Univ. Udine
Dates	2010 – 2015
Title awarded	Study Program Coordinator
Name and type of organisation	Second level degree program in “Plant and Animal Biotechnology” - Univ. Udine
Dates	2005 – 2007 and 2014 - 2016
Title awarded	Member of the Board of Directors and Vice-President for 2005-2007
Name and type of organisation	Italian Society for Plant Pathology
Dates	2008 – 2014
Title awarded	Associate Editor to 2012, then Senior Editor
Name and type of organisation	Journal of Plant Pathology,
Dates	2003 – 2007
Title awarded	Associate Editor
Name and type of organisation	Microbiology (Reading)
Dates	1999 – 2006
Title awarded	Associate Editor
Name and type of organisation	Phytopathologia Mediterranea
Dates	2000 – present
Title awarded	Member
Name and type of organisation	International Society for Plant Pathology Committee on Taxonomy of Plant Pathogenic Bacteria
Dates	1998 – 2004
Title awarded	Team leader

Name and type of organisation	Phytoplasma working team of the International Research Project on Comparative Mycoplasmology
Dates	1995
Title awarded	Award winner
Name and type of organisation	Diploma CIB (award of the Italian Consorzio Interuniversitario Biotecnologie for the contribution to the research in biotechnology by a young scientist)
Dates	1994 – present
Title awarded	Member, and secretary frrom 2008 to 2016.
Name and type of organisation	International Committee on Systematic Bacteriology Subcommittee on the Taxonomy of Mollicutes

Publications

Five recent major papers	Firrao G, Torelli E, Polano C, Ferrante P, Ferrini F, Martini M, Marcelletti S, Scortichini M, Ermacora P. (2018) Genomic structural variations affecting virulence during clonal expansion of Pseudomonas syringae pv. actinidiae biovar 3 in Europe. Frontiers in Microbiology, 9:656. Doi: 10.3389/fmicb.2018.00656 Polano C., Firrao G. (2018) An Effective Pipeline Based on Relative Coverage for the Genome Assembly of Phytoplasmas and Other Fastidious Prokaryotes. Current Genomics, 19:1-8. Doi 10.2174/1389202919666180314114628. Moruzzi S., Firrao G., Polano C., Borselli S., Loschi A., Ermacora P., Loi N. & Martini M. (2017) Genomic-assisted characterisation of Pseudomonas sp. strain Pf4, a potential biocontrol agent in hydroponics. Biocontrol Science and Technology 27: 969-991, doi:10.1080/09583157.2017.1368454. Piantanida L, Naumenko D, Torelli E, Marini M, Bauer DM, Fruk L, Firrao G, Lazzarino M. (2015) Plasmon resonance tuning using DNA origami actuation. Chem Commun (Camb). 51(23):4789-92. doi: 10.1039/c5cc00778j Torelli E, Marini M, Palmano S, Piantanida L, Polano C, Scarpellini A, Lazzarino M, Firrao G (2014) A DNA Origami Nanorobot Controlled by Nucleic Acid Hybridization. SMALL 14:2918-2926 doi: 10.1002/smll.201400245i
Other publications	Follow this link to retrieve PubMed indexed papers: http://www.ncbi.nlm.nih.gov/pubmed/?term=Firrao+G Follow this link to retrieve Google Scholar indexed papers: http://scholar.google.com/citations?user=pBfBU1kAAAAJ&hl=en Follow this link for Firrao's team website: http://muffa.uniud.it Follow this link for home page at UniUd: https://people.uniud.it/page/giuseppe.firrao