

CURRICULUM VITAE

Filippo DE CURTIS Ph.D.

Associate Professor of Plant Pathology

Department of Agricultural, Environmental and Food Sciences - University of Molise

Via Francesco De Sanctis, 86100 Campobasso, ITALY

tel +39 0874 404687

decurtis@unimol.it

Skype: *f.decurtis*

Tel: +39 0874 404687

- Degree in Agricultural Sciences - University of Naples Federico II;
- PhD: "Defence of Agro-food Production: "Yeasts in the biological control against fungal pathogens of post-harvest fruit and vegetables: activities and mechanisms of action involved.
- **2006 Researcher - University of Molise**
- **2012 National scientific qualification for associate professor**
- **2023 - National scientific qualification for full professor**

INSTITUTIONAL ROLES

- Member of the AAA Department Council.
- Member of the Teaching Board of the International Research Doctorate in Agriculture Technology and Biotechnology at the AAA Department.
- Member of the University Commission "ERASMUS+ Community Program" Academic Year 2020-2021.
- Member of the Review Report Commission in the Study Council (CdS) in Agricultural, Forestry and Environmental Sciences and Technologies.
- Member of the Teaching and Adequacy Commission in the Agricultural, Forestry and Environmental Sciences and Technologies course.
- Member of the Internship and Degree Thesis Commission in the Course of Study in Agricultural, Forestry and Environmental Sciences and Technologies.
- Delegate by the President of the CdS in Agricultural, Forestry and Environmental Sciences and Technologies for Orientation;

Education and Training

1991: Degree in Agricultural Sciences, with dissertation, University of Napoli, Italy.

1991-1994: fellowship for research in Plant Pathology, University of Campobasso, Italy.

1995-1998: Ph.D. in Plant Pathology, University of Campobasso, Italy.

1998-2005: Technical assistant in Plant Pathology, University of Campobasso, Italy.

2003: Technical and scientific consultant of Isagro Ricerca.

2006-2014: Researcher of Plant Pathology, University of Molise (CB), Italy.

2006: Technical and scientific consultant of Bayer CropScience.

2008-2009: Assistant Supervisor, for the Master student Goteborg University-Sweden.

2009: Seminary - Department of Plant Biology and Biotechnology section for Plant Pathology- Faculty of Life Sciences-University of Copenhagen – Denmark.

Teaching activity

From 1992 to present, at University of Campobasso, Italy - Faculty of Agricultural Science: Laboratory and Field Exercises and Complements for Plant Pathology for Undergraduate and Ph.D. fellowship students.

From 2006 to present, at University of Molise, Faculty of Agricultural and Forestry Science and Biology: Teaching activity on: Plant Pathology of Agricultural and Forestry crops, Mycology; Biological and Integrated Control.

Patent

Some research of industrial interest carried out by Prof. De Curtis and co-workers were submitted for national and international patent requests regarding "Compositions, Method and Use of Compounds Made Up Microorganisms for Controlling Phytopathogenic Fungi":

European patent

De Curtis F., Castoria R., Lima G., De Cicco V. (2016) - *New yeast strains and use thereof for the control of phytopathogenic fungi*. BREVETTO EUROPEO CONCESSO CON IL N° PCT 2731441 il 10.02.2016. DOMANDA DI BREVETTO EUROPEO N° WO2013008173 del 09/07/2012.

International Patent

Castoria R., De Cicco V., De Curtis F., Folchi B. (USA), Ianiri G., Lima G., Palmieri D. (2022). New yeast strain and its uses for the control of phytopathogens. Application number: WO2022IB53387 20220411; Bibliographic data: WO2022219505 (A1) — 2022-10-20. ON SCOPUS.

Castoria R., De Cicco V., De Curtis F., Lima G. (2008). Compositions, method and use of compounds made up of microorganisms for controlling phytopathogenic and/or mycotoxigenic fungi and limiting mycotoxin levels. Consultabile su SCOPUS. Application number: WO2008IT00182 20080319. n of Patent Application [WIPO (PCT)]: WO2008114304 (A2), WO/2008/114304–A2. DOMANDA DI BREVETTO con N° PCT/IT2008/000182 effettuata il 19 March 2008.

Italian Patent

De Curtis F., Castoria R., Lima G., De Cicco V. (2014) “Nuovi ceppi di lievito e loro uso per il controllo di funghifitopatogeni. DOMANDA DI BREVETTO N° MI2011A00129 presentata il 11/07/2011; Patent N. 0001406504. 2014 - 1- 28

Castoria R., De Cicco V., **De Curtis F.**, Lima G. (2011). Composizioni, metodo e utilizzo di composti a base di microrganismi per il controllo di funghi fitopatogeni e/o micotossigeni e contenimento. N° 0001385707. 2011- 1- 31 .

Research Experience

1991-1992

Research undertaken at the Department of Plant Pathology, University of Bari focused on epidemiology and management of fungal diseases and alternative methods to control field and postharvest diseases of Mediterranean vegetal crops.

1992 to present

Research on the development of strategies for biological and integrated control of diseases in field and post-harvest fruit, vegetables in organic and integrated farming. Specific research topics have focused on isolation, selection and characterization of biocontrol agents (BCAs) from phyllosphere and rhizosphere of different crops, studies on ecological behaviour of potential antagonists, compatibility with agrochemicals and natural adjuvants, molecular characterization for monitoring of BCAs, evaluation of antagonists activity in large-scale experiments.

The research interest has also been focused on the study of the mechanisms of action of yeasts acting as biocontrol agents, the optimisation of the activity of these agents, the prevention, monitoring and detoxification of the mycotoxins Ochratoxin A in wine-grapes and wine, and Patulin in pome fruits and pome fruit-based juices, also through the identification and use of yeast gene(s) involved in the detoxification process. Dr. De Curtis has also investigated on the epidemiology of Fusarium head blight of maize and the development of strategies for disease control and reduction of fumonisins content in kernels.

Among the antagonists, in particular, several isolates of yeasts and yeast-like fungi with different degrees of antagonist activity were collected. In the last years, his activity has also regarded the evaluation of naturally-derived organic amendments and selected biocontrol bacteria for the control of soilborne pathogens (*Rhizoctonia solani*, *Sclerotium rolfsii*, *Fusarium oxysporum*, *Phytophthora* spp., *Verticillium dahliae*).

Dott. De Curtis cooperated in several research projects supported by national or international institutions. He is author or co-author in more than 130 papers published in national and international journals or presented at national or international conferences. He was reviewer for several international journal with impact factor (I.S.I. Journals). He is a member of the Italian Phytopathological Society (SIPaV) and Italian Plant Protection Association (AIPP). He is component of the Teaching Board of the Doctorate "Protection and Quality of Agro-Food and Forestry Productions".

ACTIVITY OF ASSOCIATE EDITOR FOR INTERNATIONAL SCIENTIFIC JOURNALS

- ASSOCIATE EDITOR in the international journal FRONTIERS IN PLANT SCIENCE, section PLANT PATHOGEN INTERACTIONS. Journal parameters, IF=6.627; Quartile in Plant Science: Q1.

- ASSOCIATE EDITOR" in the international journal AGRICULTURE (MDPI). Journal parameters, IF=3.408; Quartile in Plant Science: Q2.

SCIENTIFIC AND TEACHING COLLABORATION ACTIVITIES WITH FOREIGN UNIVERSITIES

- erasmus project with the university of gothenburg (sweden)
- scientific collaboration activities with the university of cordova (spain)
- scientific collaboration activities with the university of Gävle (sweden)
- scientific collaboration activities with the university of tunis, el manar (tunisia)

Selected papers

TOTAL CITATIONS: **1382**

H INDEX): **19**

SCOPUS OTTOBRE 2023

1. Palmieri, D., Segorbe, D., López-Berges, M.S., **De Curtis, F.**, Lima, G., Di Pietro, A., Turrà, D. (2023). Alkaline pH, Low Iron Availability, Poor Nitrogen Sources and CWI MAPK Signaling Are Associated with Increased Fusaric Acid Production in *Fusarium oxysporum*. *TOXINS*, vol. 15, p. 1-11, ISSN: 2072-6651, doi: 10.3390/toxins15010050.
2. Palmieri D., Ianiri G., Conte T., Castoria R., Lima G., and De Curtis F. (2022). Influence of Biocontrol and Integrated Strategies and Treatment Timing on Plum Brown Rot Incidence and Fungicide Residues in Fruits.. *AGRICULTURE*, vol. 12, ISSN: 2077-0472
3. Palmieri, D., Miccoli, C., Notardonato, I., Avino, P., Lima, G., **De Curtis, F.**, Ianiri, G., Castoria, R. (2022). Modulation of extracellular *Penicillium expansum*-driven acidification by *Papiliotrema terrestris* affects biosynthesis of patulin and has a possible role in biocontrol activity. *FRONTIERS IN MICROBIOLOGY*, vol. 13, ISSN: 1664-302X, doi: 10.3389/fmicb.2022.973670.
4. Palmieri, D., Ianiri, G., Del Grosso, C., Barone, G., **De Curtis, F.**, Castoria, R., Lima, G., (2022) Advances and Perspectives in the Use of Biocontrol Agents against Fungal Plant Diseases. *Horticulturae*, 8(7),577 10.3390/horticulturae8070577.

5. D. Palmieri, G. Barone, R. Aiese Cigliano, **F. De Curtis**, G. Lima, R. Castoria, G. Ianiri. 2021. Complete genome sequence of the biocontrol yeast *Papiliotrema terrestris* strain LS28. G3 (*Genes Genomes Genetics*). DOI 10.1093/g3journal/jkb332.
6. Kheireddine A., Palmieri D., Vitullo D., Barberio A., Zouaoui M., **De Curtis F.**, Sadfi-Zouaoui N., Lima G. (2021). Characterization of new yeast isolates collected from different fruits in Tunisia and biocontrol activity against *Penicillium expansum* on apples. JOURNAL OF PLANT PATHOLOGY, vol. 103, p. 1169-1184, ISSN: 1125-4653, doi: 10.1007/s42161-021-00921-2.
7. Castoria R., Miccoli, C., Barone G., Palmieri D., **De Curtis F.**, Lima G., Heitman J., Ianiri G. 2021. (in press) Development of molecular tools for the yeast *Papiliotrema terrestris* LS28 and identification of Yap1 as a transcription factor involved in biocontrol activity. *Applied Environmental Microbiology*, 87(7), pp. 1-16. DOI: 10.11/AEM.02910-20.
8. Notardonato I., Gianfagna S., Castoria R., Ianiri G., De Curtis F., Russo M.V., Avino P. 2021 Critical review of the analytical methods for determining the mycotoxin patulin in food matrices. *Reviews in Analytical Chemistry*, 1: 144-160.
9. Miccoli, C., Palmieri, D., **De Curtis, F.**, Lima, Giuseppe, Heitman J., Castoria, R., Ianiri, G. (2020) The necessity for molecular classification of basidiomycetous biocontrol yeasts. *BioControl*, 65 (4): 489 - 500.
10. Zajc J., Černoša A., Di Francesco A., Castoria R., **De Curtis F.**, Lima G., Badri H., Jijakli H., Ippolito A., Gostin C., Zalar P., Cimerman N. G., Janisiewicz W.J. (2020). Characterization of *Aureobasidium pullulans* Isolates Selected as Biocontrol Agents Against Fruit Decay Pathogens. *Fungal Genomics & Biology*, vol. 10, p. 1-13, ISSN: 2165-8056.
11. **De Curtis F.**, Ianiri G., Raiola A., Ritieni A., Succi M., Tremonte P., Castoria R. (2019). Integration of biological and chemical control of brown rot of stone fruits to reduce disease incidence on fruits and minimize fungicide residues in juice. *Crop Protection* 119: 158–165. doi: 10.1016/j.cropro.2019.01.020 IF: 1.920
12. Fierro M., Palmieri D., **De Curtis F.**, Vitullo D. , Rubio J., Gil J., Lima G., Millan T. (2019). Genetic and Agronomical Characterization of Chickpea *Landraces* and Resistance to *Fusarium oxysporum* f.sp. *ciceris*. *Phytopathologia Mediterranea*, 2019, 58, 239–248.
13. Miccoli, C., Palmieri, D., de Curtis, F., Lima G. Ianiri, G., Castoria, R. (2018) Complete genome sequence of the biocontrol agent yeast *Rhodotorula kratochvilovae* strain LS11. *Genome Announcements*, 6(10),e00120-18.
14. Palmieri, D., Vitullo, D., **De Curtis, F.**, Lima, G. (2016) A microbial consortium in the rhizosphere as a new biocontrol approach against fusarium decline of chickpea. *Plant and Soil* 412(1-2), pp. 425- 439 DOI: 10.1007/s11104-016-3080-1. IF: 3.306.
15. Lima, G., Sanzani, S.M. De Curtis, F. Ippolito, A. (2016) Biological control of postharvest diseases. *Advances in Postharvest Fruit and Vegetable Technology*: 65-88
16. Cinquanta L., Albanese D., **De Curtis F.**, Crescitelli A., Di Matteo, M. (2015) Rapid assessment of gray mold (*Botrytis cinerea*) infection in grapes with a biosensor system. *American Journal of Enology and Viticulture*, 66 (4): 502-508. DOI:502-508. 10.5344/ajev.2015.15029. IF: 1,579
17. Vitullo D., **De Curtis F.**, Palmieri D., Lima G., (2014) Milkwort (*Polygala myrtifolia* L.) decline is caused by *Fusarium oxysporum* and *F. solani* in Southern Italy. *European Journal of Plant Pathology*, 140 (4): 883-886. DOI: 10.1007/s10658-014-0514-6. IF: 1.490
18. **De Curtis F.**, Palmieri D., Vitullo D., Lima G. (2014) First report of *Fusarium oxysporum* f.sp. *pisi* as causal agent of root and crown rot on chickpea (*Cicer arietinum*) in Southern Italy. *Plant Disease*: 99(7), 995. DOI: 10.1094/PDIS-09-13-0941-PDN. IF: 3.02
19. Wright S.A.I., de Felice D.V., Ianiri G., Pinedo-Rivilla C., **De Curtis F.**, Castoria R.. (2014) Two rapid assay for screening of patulin biodegradation. *Int. J. Environ. Sc. Tech.*, 11(5): 1387-1398. DOI: 10.1007/s13762-013-0325-x. IF: 2.037

20. **De Curtis F.**, de Felice D.V., Ianiri G., De Cicco V., Castoria R. (2012). Environmental factors affect the activity of biocontrol agents against ochratoxigenic *Aspergillus carbonarius* on wine grape. Intern. J. Food Microbiol. 159: 17-24. DOI : 10.1016/j.ijfoodmicro.2012.07.023. IF: 3.425
21. **De Curtis F.**, Lima G., De Cicco V. (2012). Efficacy of biocontrol yeasts combined with calcium silicate or sulphur for controlling durum wheat powdery mildew and increasing grain yield components. Field Crops Research, 134: 36-46 DOI: 10.1016/j.fcr.2012.04.014. IF: 2.474
22. **De Curtis F.**, De Cicco V., Haidukowski M., Pascale M., Somma S., Moretti A.(2011). Occurrence of *Fusarium* ear rot and fumonisi contamination of maize in central Italy and effects of agrochemical treatments. Field Crop Research, 123: 161-169. DOI: 10.1016/j.fcr.2011.05.012. IF: 2.474
23. Lima G., Castoria R., **De Curtis F.**, Raiola A., Ritieni A., V. De Cicco V. (2011). Integrated control of blue mould using new fungicides and biocontrol yeasts lowers levels of fungicide residues and patulin contamination in stored apples. Postharvest Biol. Technol, 60: 164-172. DOI: 10.1016/j.postharvbio.2010.12.010. IF: 2.411
24. **De Curtis F.**, Lima G., Vitullo D., De Cicco V.. (2010). Biocontrol of *Rhizoctonia solani* and *Sclerotium rolfsii* on tomato by delivering antagonist bacteria through a drip irrigation system. Crop Protection, 29: 663-670. DOI: 10.1016/j.cropro.2010.01.012. IF: 1.517.
25. de Felice D.V., Solfrizzo M., **De Curtis F.**, Visconti A., and Castoria R. (2008). Decrease of ochratoxin A contamination in wine grapes by strains of *Aureobasidium pullulans*. Phytopathology, 98 (12): 1261-1270. DOI: 10.1094/PHYTO-98-12-1261. IF: 2.192
26. Lima G., **De Curtis F.**, De Cicco V. (2008). Interaction of microbial biocontrol agents and fungicides in the control of postharvest diseases. Stewart Postharvest Review (on line). vol. 1(4), pp. 1-7 ISSN: 1745-9656. DOI: 10.2212/spr.2008.1.4
27. Lima G., Piedimonte D., **De Curtis F.**, Abobaker Elgelane A., Nigro F. D'Onghia A.M. Alfano G. and Ranalli G. (2008). Suppressive Effect of Cured Compost from Olive Oil By-Products towards *Verticillium dahliae* and Other Fungal Pathogens. ACTA Horticulturae (ISHS) 791: 585-591. DOI: 10.17660/ActaHortic.2008.791.90.
28. Lima G., **De Curtis F.**, Piedimonte D., Spina A.M., De Cicco V. (2006). Integration of biocontrol yeast and thiabendazole protects stored apples from fungicide sensitive and resistant isolates of *Botrytis cinerea*. Postharvest Biol. Technol., 40 (3): 301-307. DOI: 10.1016/j.postharvbio.2006.01.017. IF: 1.892
29. Castoria, R., Morena, V., Caputo, L., Panfili, G., **De Curtis, F.**, and De Cicco, V. (2005). Effect of the biocontrol yeast *Rhodotorula glutinis* strain LS11 on patulin accumulation in stored apples. Phytopathology 95:1271-1278. DOI: 10.1094/PHYTO-95-1271. IF: 2.049
30. Castoria R., Morena V., **De Curtis F.**, de Felice D.V., De Cicco V. Caputo L. (2005). Phenotypic traits of wound competence of of postharvest biocontrol yeasts and potential of these microorganisms for prevention/deteoxygenation of mycotoxins accumulation. ACTA Horticulturae, 682 (3): 2147- 2152. DOI: 10.17660/ActaHortic.2005.682.293
31. Lima G., Castoria R., Spina A.M., Caputo L., **De Curtis F.**, (2005). Improvement of Biocontrol Yeast Activity Against Postharvest Pathogens: Recent Experiences. ACTA Horticulturae,. 682 (3): 2035-2040. ISSN: 0567-7572. DOI: 10.17660/ActaHortic.2005.682.276
32. Lima G., A. M. Spina, R. Castoria, **F. De Curtis** and V. De Cicco, (2005). Integration of Biocontrol Agents and Food-grade Additives for Enhancing Protection of Apples from *Penicillium expansum* During Storage. Journal of Food Protection, 68, (10): 2100-2106. DOI: 10.4315/0362-028X- 68.10.2100. ISSN: 0362-028X, IF: 1.687.
33. **De Curtis F.**, L. Caputo, R. Castoria, G. Lima, G. Stea and V. De Cicco. (2004). Use of Fluorescent Amplified Fragment Length Polymorphism (fAFLP) for Molecular

- Characterization of the Biocontrol Agent *Aureobasidium pullulans* strain LS30. Postharvest Biol. Technol., 179-186. DOI: 10.1016/j.postharvbio.2004.05.008. IF: 1.714
34. Castoria R., Caputo L., **De Curtis F.** e De Cicco V. (2003). Resistance to oxydative stress of postharvest biocontrol yeast: a possible new mechanism of action. Phytopathology, 93 (5): 564-572. DOI: 10.1094/PHYTO.2003.93.5.564. IF: 2.45
 35. Lima G., **F. De Curtis**, R. Castoria, V. De Cicco, (2003). Integrated control of apple postharvest pathogens and survival of biocontrol yeasts in semi-commercial conditions. European Journal of Plant Pathology, 109: 341-349. DOI: 10.1023/A:1023595529142. IF: 1.259
 36. Lima G., **F. De Curtis**, A.M. Spina and V. De Cicco (2002). Survival and activity of biocontrol yeasts against powdery mildew of cucurbits in the field. In: "Biological Control of Fungal and Bacterial Plant Pathogens", IOBC wprs Bulletin Vol. 25 (10) 2002 ED.: Y Elad, Et al.pp: 187-190.
 37. Lima G., **F. De Curtis**, A.M. Spina and V. De Cicco, 2002. Survival and activity of biocontrol yeasts against powdery mildew of cucurbits in the field. **IOBC/Wprs Bulletin**, 25: 187-190.
 38. Castoria R., **De Curtis F.**, Lima G., Caputo L., Pacifico S. and De Cicco V. (2001). *Aureobasidium pullulans* (LS-30) an antagonist of postharvest pathogens of fruits: study on its modes of action. Postharvest Biol. Technol. 22: 7-17. DOI: 10.1016/S0925-5214(00)00186-1. IF:1.164.
 39. Lima G., Arru S., **De Curtis F.**, Arras G. (1999). Influence of antagonist, host fruit and pathogen on the biological control of postharvest fungal diseases by yeast. J. Industr. Microbiol. Biotechnol. 23, 223-229. DOI: 10.1038/sj.jim.2900727. IF: 1.087.
 40. Lima G., **De Curtis F.**, Castoria R. and De Cicco V., (1998). Activity of the yeasts *Cryptococcus laurentii* and *Rhodotorula glutinis* against postharvest rots on different fruits. Biocontrol Sci. Technol. 8, 257-267. DOI: 10.1080/09583159830324. IF:0.865.
 41. Castoria R., **De Curtis F.**, Lima G. e De Cicco V., (1997). β -1,3-glucanase activity of two saprophytic yeasts and possible mode of action involved as biocontrol agents against postharvest diseases. Postharvest Biol. Technol. 12: 293-300. DOI: 10.1016/S0925-5214(97)00061-6. IF: 0.933
 42. **De Curtis F.**, Torriani S., Rossi F. and De Cicco V. (1996). Selection and use of *Metschnikowia pulcherrima* as a biological control agent for postharvest rots of peaches and table grapes. Ann. Microbiol. Enzimol. 46: 45-55.