

CURRICULUM VITAE

Name: **Prof. Dimitrios Tsitsigiannis**

Position: **Associate Professor of Plant Pathology**

Laboratory of Plant Pathology, Department of Crop Science
Agricultural University of Athens

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EDUCATION

- **University of Wisconsin - Madison**, Madison, Wisconsin, USA. Department of Plant Pathology. Graduate Student (Ph.D.) GPA=3.95/4.0.
My PhD was funded from 2000-2002 by the “ICRISAT-International Crops Research Institute for the Semi-Arid Tropics-India and from 2002 to 2004 I received a Crop Protection Graduate Fellowship from Novartis (Syngenta). In July 2004, I received the “Dr. George Washington Carver Award” from the United States National Peanut Board for my achievements on “Strategies to reduce aflatoxin contamination utilizing peanut and *Aspergillus* fatty acid molecules”.
- **Agricultural University of Athens, Athens, Greece. B.Sc.** Diploma from Department of Agricultural Biology and Biotechnology (Minor: Plant Pathology). 09/91-09/96. GPA=3.6/4.0. Graduation with Distinction.

PROFESSIONAL RESEARCH EXPERIENCE

- **Director of Plant Protection and Environment** Section, Department of Crop Science, Agricultural University of Athens, 12/2017 – today
- **Associate Professor of Plant Pathology**, Laboratory of Plant Pathology, Department of Crop Science, Agricultural University of Athens, 05/2017 – today
- **Assistant Professor of Plant Pathology**, Laboratory of Plant Pathology, Department of Crop Science, Agricultural University of Athens, 02/2012-04/2017
- **Lecturer of Plant Pathology**, Laboratory of Plant Pathology, Department of Crop Science, Agricultural University of Athens, 06/2007-01/2012
- **Post-Doctoral Research Associate**, The Sainsbury Laboratory, John Innes Centre, Norwich. 01/2005 – 06/2007. Group Leader: Prof. Jonathan D.G. Jones
- **Post-Doctoral Research Associate**, Department of Plant Pathology, University of Wisconsin, Madison. 08/2004 – 12/2004. PI: Dr. Nancy P. Keller
- **Graduate Research Assistant (Ph.D.)**, Department of Plant Pathology, University of Wisconsin, Madison. 01/2001- 07/2004. Thesis Supervisor: Dr. Nancy P. Keller
- **Department of Plant Pathology and Microbiology**, Texas A&M University 09/1999-12/2000. Thesis Supervisor: Dr. Nancy P. Keller

AREAS OF RESEARCH INTEREST

- Epidemiology and Integrated management of mycotoxigenic fungi and mycotoxins
- Validation and development of prediction models and Decision Support Systems for plant diseases in grapevines
- Epidemiology and Integrated management of olive anthracnose and *Alternaria* bud and blossom blight in olives
- Development of Integrated management strategies of plant diseases using Decision Support Systems

- Organic Viticulture
- Precision Agriculture in Plant Protection
- Plant disease diagnosis using novel technologies
- Disease resistance mechanisms - Fungicide resistance
- Plant microbe interactions (plant immune system, fungal virulence mechanisms)

SELECTED PRIZES, AWARDS AND HONORS

- **Dr. George Washington Carver Award** for excellence in peanut aflatoxin research and service to the community. National Peanut Board. July 2004.
- **Novartis (Syngenta) Crop Protection Graduate Fellowship** 07/02-07/04. Competitive grant that covered salary/benefits for 2 years.
- 2004. Nomination from the International Society for Plant-Microbe Interactions for a Seat on the **Board of Directors of the International Society for Molecular Plant-Microbe Interactions**. The Nomination Committee has identified Dr. Tsitsigiannis as one of 6 candidates internationally.
- **Graduation with Highest Honors** from the Agricultural University of Athens. 1st in Dean's graduation class list. Declaimed the oath in the graduation ceremony (November 1996).
- Recipient every academic year of the **Academic Performance Scholarship** from the National Greek Scholarship Foundation (IKY), Athens, Greece (1991-1995).

CURRENT AND MAJOR GRANTS/PROJECTS:

I have participated in several R&D projects a) funded by the EU H2020, FP5, FP7, LIFE, TEMPUS programmes, COST actions and private companies (Syngenta) and b) in several national research projects funded by the National Strategic Reference Framework (NSRF), Ministry of Rural Development and Food, Foundations (J. Latsis Foundation) etc. I am coordinating several national research projects related to integrated management of plant diseases:

1. **IKOPROTECTA:** (RESEARCH-CREATE-INNOVATE national call). "Agricultural composted products as plant growth and protection regulators". General Secretariat for Research and Technology - Greece. 2020-2023. Total Budget 545.256,00€ **Coordinator**
2. **AgROBOfood:** (H2020-DT-2018-1). "Business-Oriented Support to the European Robotics and Agri-food Sector, towards a network of Digital Innovation Hubs in Robotics". The agROBOfood project, a consortium of 39 partners aims to accelerate the sector's digital transformation through the adoption of robotic technologies. To boost the uptake of robotic solutions, it will establish a sustainable network of digital innovation hubs (DIHs). At the heart of the project are innovation experiments (IEs) that will be organised and monitored by the DIHs. 2018-2021. <https://agrobofood.eu/project/> **Partner**
3. **OPTIMA:** (H2020-SFS-17-2017). "Optimised Integrated Pest Management for precise detection and control of plant diseases in perennial crops and open-field vegetables". Development of an integrated disease management system (IPM) for vineyards, apple orchards and carrots that includes bio- and chemical PPPs, disease prediction models, spectral early disease detection systems and precision spraying techniques. <http://optima-h2020.eu/el/home-5/> Total Budget 3.426.000€, AUA budget 516.000 €. 2018-2021. **Co-Coordinator**
4. **OCHRAVINE CONTROL:** (H2020-RISE project). "Implementation of integrated and innovative precision agriculture management strategies to reduce the occurrence of ochratoxins along the vine value chain products: grapes, raisins/currants and wine". The project will offer an integrated smart ICT solution (*OchraVine Control DSS*) and will allow prediction and monitoring at pre- and post-harvest level to control *Aspergillus* infection and OTA contamination in vine cultivation by combining epidemiological data, biological and chemical management strategies, post-harvest technologies and precision agriculture tools. 2018-2021. <https://www.ochravine.eu/> General

Secretariat for Research and Technology - Greece. Total Budget 1.183.500€, AUA budget 310.500 € **Coordinator**.

5. **OENOVATION**: “Exploitation of new natural microbial flora from Greek origin amenable for the production of high-quality wines“. HSR Technology 2018-2021. **Partner**
6. **HarISA**: “Harmonization and Innovation in PhD Study Programs for Plant Health in Sustainable Agriculture –“. <https://harisa.site123.me/> ERASMUS+ CBHE project. **Local Coordinator**.
7. **APOLLO: (H2020 project, Innovation Actions)**. “Bringing the benefits of precision agriculture to smallholder farmer“. The project aims to develop a market-ready platform of agricultural advisory services focused primarily, but not exclusively, at smallholder farmers in Europe. <http://apollo-h2020.eu/> **Senior Scientist**
8. **Biological and chemical management of aflatoxins in pistachios**. Greek Ministry of Rural Development and Food. 2015-2016. **Coordinator**
9. **Detection of the mycotoxigenic fungi *Aspergillus spp.* and *Fusarium spp.* and quantification of aflatoxins and fumonisins in corn fields in Thessaly and Macedonia (2014-2015)** Greek Ministry of Rural Development and Food. **Coordinator**
10. **Detection of the mycotoxigenic fungi *Aspergillus spp.* and quantification of aflatoxins in pistachio orchards in Fthiotida (2017-2018)**. Greek Ministry of Rural Development and Food. **Coordinator**
11. **Mobile Disease Diagnosis** - MobDi2 (Task Addressed: T421. Green House Management & Control), Future Internet Business Collaboration Networks in Agri-Food, Transport and Logistics – FiSpace 604123 - Large-scale Integrated Project (IP). MOBICS. **Senior Scientist**
12. **SustUse Fumigants** - Sustainable use of chemical fumigants for the control of soil-borne pathogens in the horticultural sector. LIFE+ Environment Policy and Governance 2008, LIFE08 ENV/IT/000432. **Senior Scientist (2010-2012)**
13. **BIOCON** - Biological Control of soilborne pathogens: a seed to field approach. Bilateral grant Greece-Germany. HSR Technology 2014-2015
14. **International Joint Master Degree in Plant Medicine**, Project “Tempus IV”, 2009, 158875-Tempus-1-IT-Tempus-JPCR **Senior Scientist (2010-2013)**

PUBLICATIONS

247 papers, including 29 papers in international journals (h-index=16), 2 Plant Disease Notes, 7 book chapters, >45 published abstracts in international journals, >12 papers in technical agricultural journals and brochures, 160 abstracts in international and national conferences with a total of 1636 citations (Scopus, June 2020).

1. E.C. Tjamos, **D.I. Tsitsigiannis**, S.E. Tjamos, P.P. Antoniou, P. Katinakis (2004). Selection and screening of endorhizosphere bacteria from solarized soils as biocontrol agents against *Verticillium dahliae* of solanaceous hosts. **European Journal of Plant Pathology** 110: 35-44
2. **D.I. Tsitsigiannis**, R. Zarnowski and N.P. Keller (2004). The lipid body protein, PpoA, coordinates sexual and asexual sporulation in *Aspergillus nidulans*. **Journal of Biological Chemistry**, 279: 11344-11353
3. **D.I. Tsitsigiannis**, T.M. Kowieski, R. Zarnowski and N.P. Keller (2004). Endogenous lipogenic regulators of spore balance in *Aspergillus nidulans*. **Eukaryotic Cell**, 3: 1398-1411
4. **D.I. Tsitsigiannis**, T.M. Kowieski, R. Zarnowski and N.P. Keller (2005). Three putative oxylipin biosynthetic genes integrate sexual and asexual development in *Aspergillus nidulans*. **Microbiology**, 151: 1809-1821

5. **D.I. Tsitsigiannis**, J-W. Bok, David Andes and N.P. Keller (2005). *Aspergillus* cyclooxygenase-like enzymes are associated with prostaglandin production and virulence. **Infection and Immunity**, 73: 4548-4559
6. **D.I. Tsitsigiannis**, S. Kunze, D.K. Willis, I. Feussner and N.P. Keller (2005). *Aspergillus* infection inhibits the expression of peanut 13S-HPODE-forming seed lipoxygenases. **Molecular Plant-Microbe Interactions**, 18: 1081-1089.
7. **D.I. Tsitsigiannis**, and N.P. Keller. (2005). Oxylipins act as determinants of natural product biosynthesis and seed colonization in *Aspergillus nidulans*. **Molecular Microbiology**, 59: 882-892.
8. R. González-Lamothe, **D.I. Tsitsigiannis**, A.A. Ludwig, M. Panicot, K. Shirasu and J.D.G. Jones (2006). The U-Box protein CMPG1 is required for efficient activation of defense mechanisms triggered by multiple resistance genes in tobacco and tomato. **Plant Cell**, 18: 1067-1083.
9. D. Hofius, **D.I. Tsitsigiannis**, J.D.G. Jones and J. Mundy (2007). Inducible cell death in plant immunity. **Seminars in Cancer Biology**, 17(2):166-187.
10. **D.I. Tsitsigiannis**, and N.P. Keller. (2007). Oxylipins as developmental and host-fungal communication signals. **Trends in Microbiology**, 15:109-118.
11. T. M. Hammond, **D.I. Tsitsigiannis**, and N. P. Keller (2007). Development of an *Arabidopsis thaliana*-based bioassay for investigating seed colonization by mycotoxigenic *Aspergillus* species. **Plant Pathology**, 56(5): 848-854.
12. M. Brodhagen*, **D.I. Tsitsigiannis***, E. Hornung, C. Goebel, I. Feussner, N.P. Keller (2008). Reciprocal oxylipin-mediated cross-talk in the *Aspergillus*-seed pathosystem. **Molecular Microbiology**, 67: 378-391. (* equal contribution)
13. H. A. van den Burg, **D.I. Tsitsigiannis**, O. Rowland, J. Lo, G. Rallapalli, D. MacLean, F.L.W. Takken, and J.D.G. Jones (2008). F-box protein ACF1 regulates cell death and defense responses activated during pathogen recognition in tobacco and tomato. **Plant Cell**, 20: 697-719.
14. **D.I. Tsitsigiannis**, P.P. Antoniou, S.E. Tjamos and E.J. Paplomatas (2008). Major diseases of tomato, pepper and eggplant in greenhouses. **The European Journal of Plant Science and Biotechnology**, 2: 106-124.
15. J-W. Bok, N.P. Keller and **D.I. Tsitsigiannis** (2009). Real-time and semi-quantitative RT-PCR methods to analyze gene expression patterns during *Aspergillus*-host interactions. **Methods in Molecular Biology**, 470:151-167.
16. D. Hofius, T. Schultz-Larsen, J. Joensen, **D.I. Tsitsigiannis**, N.H.T. Petersen, O. Mattsson, L. B. Jørgensen, J.D.G. Jones, J Mundy and M. Petersen (2009). Autophagic components contribute to Hypersensitive Cell Death in Arabidopsis. **Cell**, 15;137: 773-783
17. M. Georgiadou, A. Proshlyakov, A. Revithia, S.Tjamos, I. Stringlis, **D.Tsitsigiannis**, E.Paplomatas, J. Blahovec , S. Yanniotis (2011). Detection of insect necrotic internal damage and aflatoxin reduction in stored pistachio nuts. IOBC, Volos, July 2011.
18. A.K. Tzima, E.J. Paplomatas, **D.I.Tsitsigiannis**, S. Kang (2012). The G protein β subunit controls virulence and multiple growth- and development-related traits in *Verticillium dahliae*. **Fungal Genetics Biology**, 49(4):271-83
19. **D.I. Tsitsigiannis**, M. Dimakopoulou, P.P. Antoniou, E.C. Tjamos (2012). Biological control strategies of mycotoxigenic fungi and associated mycotoxins in Mediterranean basin crops. **Phytopathologia Mediterranea**, 51(1): 158-174
20. E. Skotti, S. Kountouri, P. Bouchagier, **D.I. Tsitsigiannis**, M. Polissiou, P.A.Tarantilis (2014). FTIR spectroscopic evaluation of changes in the cellular biochemical composition of the phytopathogenic fungus *Alternaria alternata* induced by extracts of some Greek medicinal and aromatic plants. **Spectroch Acta-Molec. and Biomol. Spectr.** 5;127:463-472

21. M. Georgiadou, C. Gardeli, M. Komaitis, **D.I. Tsitsigiannis**, E.J. Paplomatas, K. Sotirakoglou, S. Yanniotis (2015). Volatile profiles of healthy and aflatoxin contaminated pistachios. **Food Research International** 74: 89–96
22. A.C. Pappas, E. Tsiplakou, **D.I. Tsitsigiannis**, M. Georgiadou, M.K. Iliadi, K. Sotirakoglou & G. Zervas (2016). The role of bentonite binders in single or concomitant mycotoxin contamination of chicken diets, **British Poultry Science** 2:1-8
23. C.S. Lagogianni, E.C. Tjamos, P.P. Antoniou, and **D.I. Tsitsigiannis** (2017). First report of *Alternaria alternata* as the causal agent of Alternaria bud and blossom blight of olives. **Plant Disease** 2017, 101 (12): 2151 <https://doi.org/10.1094/PDIS-04-17-0527-PDN>
24. M.K. Iliadi, E.C. Tjamos, P.P. Antoniou, and **D.I. Tsitsigiannis** (2018). First report of *Colletotrichum acutatum* causing anthracnose on olives in Greece. **Plant Disease** 102, (4), 820 <https://doi.org/10.1094/PDIS-09-17-1451-PDN>
25. C.S. Lagogianni and **D.I. Tsitsigiannis** (2018). Effective chemical management for prevention of aflatoxins in maize. **Phytopathologia Mediterranea** 57 (1), 2018: 186-197 DOI: 10.14601/Phytopathol_Mediterr-22492
26. N. Mastrodimos, D. Lentzou, Ch. Templalexis, **D.I. Tsitsigiannis** and G. Xanthopoulos (2019). Development of thermography methodology for early diagnosis of fungus infection in table grapes: the case of *Aspergillus carbonarius*. **Computers and Electronics in Agriculture** 165, 104972 <https://doi.org/10.1016/j.compag.2019.104972>
27. C.S. Lagogianni and **D.I. Tsitsigiannis** (2019). Effective biopesticides and biostimulants to reduce aflatoxins in maize fields. **Frontiers in Microbiology** 10, 2645 <https://doi.org/10.3389/fmicb.2019.02645>
28. E. Skotti, C. Pappas, M. Kaiafa, I.K. Lappa, **D.I. Tsitsigiannis**, C. Giotis, P. Bouchagier and P.A. Tarantilis. (2020). Discrimination and quantification of aflatoxins in *Pistachia vera* seeds using FTIR-DRIFT spectroscopy after their treatment by Greek medicinal and aromatic plants extracts. **Food Science and Engineering**, 1 (1): 45-57, DOI: 10.37256/fse.112020213
29. L. Mondani, R. Palumbo, **D.I. Tsitsigiannis**, D. Perdikis, E. Mazzoni, P. Battilani (2020). Pest Management and Ochratoxin A contamination in grapes: A Review. **Toxins** (Basel). 12(5):E303. 2020, doi:10.3390/toxins12050303
30. M.D. Kaminiaris, M. Camardo Leggieri, **D.I. Tsitsigiannis**, P. Battilani (2020). AFLA-PISTACHIO: Development of a mechanistic model to predict aflatoxin contamination of pistachio nuts. **Toxins** (Basel). (Reviewed and pending minor revisions).
31. First Report of *Colletotrichum acutatum* causing anthracnose on olives in Albania (2020). M. Cara, M.K. Iliadi, C.S. Lagogianni, E.J. Paplomatas, J. Merkuri and **D.I. Tsitsigiannis**. **Plant Disease** (Reviewed and pending minor revisions).

BOOK CHAPTERS

1. E.C. Tjamos, **D.I. Tsitsigiannis**, S.E. Tjamos and C.G. Panagopoulos (1999). Selection and evaluation of rhizosphere bacteria as biocontrol agents against *Verticillium dahliae*. p. 244-248. In: *Advances in Verticillium Research and Disease Management*, E.C. Tjamos, R.C Rowe, J.B. Heale, and D.R. Fravel eds, APS Press, The American Phytopathological Society, St Paul, MN, USA.
2. S.E. Tjamos, A. Venieraki, **D.I. Tsitsigiannis**, E.C. Tjamos, and P. Katinakis (1999). Ecology and activity of two endophytic isolates of *Bacillus* sp. effective as biocontrol agents against *Verticillium dahliae* of solanaceous hosts. p. 249-252. In: *Advances in Verticillium Research and Disease Management*, E.C. Tjamos, R.C Rowe, J.B. Heale, And D.R. Fravel eds, APS Press, The American Phytopathological Society, St Paul, MN, USA.

3. **D.I. Tsitsigiannis**, R.A. Wilson and N.P. Keller (2001). Lipid mediated signaling in the *Aspergillus*/seed interaction. pp. 186-191 in: *Biology of Plant-Microbe Interactions*, vol. 3, S.A. Leong, C. Allen and E. Triplett eds, ICM PMI, St Paul, MN, USA.
4. Y.Q. Zhang, H.H. Wilkinson, N.P. Keller, **D.I. Tsitsigiannis** (2004). Secondary metabolite gene clusters. p.355-386 in: *Handbook of Industrial Microbiology*, Zhiqiang An, ed. Marcel Dekker, Inc. New York (*senior authorship*).
5. **D.I. Tsitsigiannis**, M. Brodhagen and N. Keller (2007). Oxylipins act as quorum sensing molecules and mediate the *Aspergillus*-seed dialogue. In: *Biology of Plant-Microbe Interactions*, vol. 6, ICM PMI, St Paul, MN, USA.
6. M.D. Kaminiaris and **D.I. Tsitsigiannis** (2019). Pre-harvest management strategies to control aflatoxin contamination in crops. In: *Aflatoxins: Biochemistry, Toxicology, Public Health, Policies and Modern Methods of Analysis*

PARTICIPATION IN CONFERENCES, SCIENTIFIC MEETINGS AND WORKSHOPS

Participation in >60 International and >70 National Conferences, Scientific Meetings and Workshops. Plenary speaker in 2 International and 3 National Conferences. Invited speaker >40 times in International meetings and Universities.

Selected Invited Presentations in International Conferences

1. **Tsitsigiannis D.I.** (2019) OPTIMA: Optimised Integrated Pest Management for precise detection and control of plant diseases in perennial crops and open-field vegetables. *XIX International Plant Protection Congress 2019 (IPPC2019)*. Hyderabad, India, 10-14 Nov.
2. **Tsitsigiannis D.I.** (2017). Integrated management strategies for prevention and control of mycotoxins. *15th Congress of Mediterranean Phytopathological Union*, "Plant health sustaining Mediterranean Ecosystems", Córdoba, Spain, June 20-23.
3. Georgiadou M., Agoritsis S.P., Vichou K., Vardouniotis G., Yanniotis S., Paplomatas E.J., Cotty P.J., **Tsitsigiannis D.I.** (2013). Genetic and molecular characterization and evaluation of Greek non-toxicogenic isolations of *Aspergillus* as potential biocontrol agents against aflatoxigenic fungi. *ISM-MycoRed*. Global Mycotoxin Reduction Strategies 27-31 May– Martina Franca, Apulia, Italy.
4. **D.I. Tsitsigiannis**, Georgiadou M., Agoritsis S., Zakyntinos G., Varzakas T.H., Tjamos S., Antoniou P., Dimakopoulou M., Karnavas G., Paplomatas E., Gianniotis S. and Tjamos E.C. 2010. Ecology, epidemiology and control of *Aspergillus* spp. in pistachio orchards in Greece. *13th Congress of the Mediterranean Phytopathological Union*, 20-25 June 2010, Rome, Italy. *Petria* 20:95-96.
5. **D.I. Tsitsigiannis**, M. Brodhagen and N. Keller (2007). Oxylipins act as quorum sensing molecules and mediate the *Aspergillus*-seed dialogue. *13th International Congress on Molecular Plant Microbe Interactions*, Sorrento, Italy, 21-27 July.
6. **D.I. Tsitsigiannis** and N.P. Keller (2003). Lipid mediated signalling in the *Aspergillus*/seed interaction. *8th Intern. Congress of Plant Pathology*. 2-7 February. Christchurch, New Zealand.

CONFERENCE - MEETING ORGANIZATIONS

- Member of the Organization Committee of the *16th International Congress on Molecular Plant Microbe Interactions*, 2014, 6-10 July, Rhodes, Greece.
- Member of the Organization Committee of the *10th International Verticillium Symposium*, 2009. Corfu Island, Greece, 16-20 November.
- General Secretary of the Organization Committee of the *13th Hellenic Phytopathological Conference* in 2008, Dalamanara, 7-10 October.

PROFESSIONAL MEMBERSHIPS – OTHER RELEVANT EXPERTISE

- **President-Elect** of the Mediterranean Phytopathological Union (MPU).
- Reviewer in more than 20 international journals and **Senior Editor** of the journals **European Journal of Plant Pathology, Phytopathologia Mediterranea, Heliyon and Hellenic Plant Protection Journal**.
- Member of the International Mycotoxicology Society, the Hellenic, the Mediterranean, the British and the American Phytopathological Societies, the International Society for Molecular Plant Microbe Interactions, the European Plant Science Organisation (EPSO).
- Member of the Board of the Hellenic Phytopathological Society (HPS) and the Hellenic Society of Phytiatry.
- Actively involved in **vocational education training of farmers, young and adult people** who want to get involved professionally in agriculture, through short-term seminars held in AUA or in Institute of Agricultural Science (www.ige.gr). Significant experience in management and coordination of training courses through the implementation of LIFE+ and TEMPUS projects.

RESEARCH GROUP

I am leading a research group of 3 PhD post graduate, 4 MSc and 5 undergraduate students working in several research projects including novel methods of integrated management of plant diseases, epidemiology and management of mycotoxigenic fungi and mycotoxins, modern plant disease diagnosis methodologies, disease resistance mechanisms, fungicide resistance, studies in plant microbe interactions etc.