

Ioannis Stringlis

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Web of Science ResearcherID: Q-6551-2018



- Date of birth: **15 May 1985**
- Marital status: **Married**
- Military service: **Completed**

Scientific work experience

- 1/2023 – today: **Assistant Professor of Phytopathology**, Laboratory of Phytopathology, Department of Crop Science, Agricultural University of Athens, Athens, Greece.
- 2020 – 1/2023: 1.0 full time equivalent (FTE) Senior Post-doc researcher, Plant-Microbe Interactions Group, Utrecht University, Utrecht (NL).
- 2018-2019: 0.8 FTE Post-doc researcher, Plant-Microbe Interactions Group, Utrecht University, Utrecht (NL).
- 2018-2019: 0.2 FTE Coordinator of PhD program “Environmental Biology”, Utrecht University, Utrecht (NL).
- 2017: Visiting scientist, Romain Koszul’s group, Spatial Regulation of Genomes, Institut Pasteur, Paris (FR).
- 2016: Visiting scientist, Ivo Feussner’s group, Department of Biochemistry, University of Goettingen, Goettingen (GER).
- 2013: PhD student lab visit, Paul Schultze Lefert’s Group, Department of Plant Microbe Interactions, Max Planck Institute for Plant Breeding, Cologne (GER).

Education

- **2012 - 2017: Doctoral Degree in Plant-Microbe Interactions, Institute of Environmental Biology, Utrecht University, The Netherlands.**

Thesis title: "Signals from the underground and their interplay with plant immunity".

Supervisor: Prof. Corné M. J. Pieterse

- **2010 - 2012: Diploma of Postgraduate Specialization (MSc.) in Plant protection and Environment, Department of Crop Science, Agricultural University of Athens, Athens, Greece.**

Thesis title: **The role of *VdSteA* G Protein coupled pheromone receptor in virulence and biology of the vascular wilt pathogen *Verticillium dahliae***

Supervisor: Prof. Dimitrios Tsitsigiannis.

Thesis degree: 10/10.

Passed with: **9.89/10.**

- **2003 - 2008: Degree (BSc. and MSc.) in Agricultural Biotechnology, Major in Plant and Environmental Protection, Agricultural University of Athens, Department of Agricultural Biotechnology, Athens, Greece.**

Thesis title: ‘Study of the mode of action of a non pathogenic *Fusarium oxysporum* strain against *Verticillium dahliae* using Real Time QPCR analysis and biomarker transformation’

Thesis degree: 10/10.

Supervisors: Prof. E. Paplomatas and Prof. Iordanis Chatzipavlidis

Passed with: **8,36/10.**

- 2000-2003: Lyceum of Zacharo Ilias, Greece, Certificate degree: **18,4/20**.
- 1997-2000: High School of Zacharo Ilias, Greece, Certificate degree: **19,2/20**.

Teaching and supervision

Agricultural University of Athens

- Supervision of 1 PhD student.
- Examiner in 4 MSc theses (Greece, Cyprus) and 1 PhD thesis defense (Spain).
- Teaching theory and practicals in BSc courses “Plant Pathology” and “Diseases of Fruit Trees and Grapevine”, and MSc courses “Plant – Pathogen Interactions” and “Principles of Molecular Phytopathology” (2023 - today).

Utrecht University

- Supervision of >5 BSc students, > 10 MSc students, 3 PhD candidates, 2 post-docs (2014 – today).
- Examiner/second reviewer in 4 MSc writing Assignments (2020 - 2023)
- Lecturer and supervisor of student projects in “Plant, Adaptation and Defense” BSc course (2013-2018), “Microbial Interactions” BSc course (2012, 2013, 2015, 2017), Teacher in “Microbial Interactions” BSc course (2020), Teacher in “Molecular Plant-Microbe Interactions Course” (2021 - 2022), Teaching assistant in “Molecular Plant-Microbe Interactions” BSc course (2018), Teacher in “Interactions with microorganisms” MSc course (2022), Teacher in “Plant-Soil relations” BSc course (2022).

List of Publications (Total Citations = **2402**; H-index= **18**)

Monographs

1. Stringlis, I.A. (2018) Signals from the underground and their interplay with plant immunity. Doctoral Degree thesis, Utrecht University (NL).
2. Stringlis, I.A. (2012) The role of *VdSteA* G Protein coupled pheromone receptor in virulence and biology of the vascular wilt pathogen *Verticillium dahliae*. Diploma of Postgraduate Specialization (D.P.S.), Agricultural University of Athens (GR).
3. Stringlis, I.A. (2008) Study of the mode of action of a non pathogenic *Fusarium oxysporum* strain against *Verticillium dahliae* using Real Time QPCR analysis and biomarker transformation. Diploma Thesis. Agricultural University of Athens (GR).

Publications in Refereed Journals

1. Verbon, E.H., Liberman, L.M., Zhou, J., Yin, J., Pieterse, C.M.J., Benfey, P.N., **Stringlis, I.A.** and de Jonge, R. (2023) Cell type-specific transcriptomics reveals that root hairs and endodermal barriers play important roles in beneficial plant-rhizobacterium-interactions. *Molecular Plant*, <https://doi.org/10.1016/j.molp.2023.06.001> .
2. Pieterse, C.M.J. and **Stringlis, I.A** (2023) Chemical symphony of coumarins and phenazines in rhizosphere iron solubilization, *Proceedings of the National Academy of Sciences USA*, 120, e2304171120.
3. Stassen, M.J.J. and **Stringlis, I.A** (2023) Decoupling sugar and spice in soybean rhizosphere depends on BGLU activity, *Plant and Cell Physiology*, 64: 451-453.
4. Giovannetti, M., Salvioli di Fossalunga, A., **Stringlis, I.A**, Proietti, S. and V Fiorilli, V. (2023) Unearthing soil-plant-microbiota crosstalk: Looking back to move forward, *Frontiers in Plant Science* 13: 1082752.
5. **Stringlis, I.A**, Teixeira, P.J.P.L., Berendsen, R.L., Pieterse, C.M.J. and Zamioudis C. (2021) Editorial: Beneficial Microbiota Interacting with the Plant Immune System, *Frontiers in Plant Science* (section Plant-Pathogen Interactions) 12: 698902.
6. **Stringlis, I.A.** and Pieterse, C.M.J. (2021) Evolutionary “Hide-and-Seek” between bacterial flagellin and the plant immune system, *Cell Host & Microbe*, 29, pp. 548-550.

7. Yu, K.*, **Stringlis, I.A.***, Van Bentum, S., de Jonge, R., Snoek, B.L., Pieterse, C.M.J., Bakker, P.A.H.M., and Berendsen R.L. (2021) Transcriptome signatures in *Pseudomonas simiae* WCS417 shed light on role of root-secreted coumarins in Arabidopsis-mutualist communication, *Microorganisms*, 9, 575.
8. Pieterse, C.M.J., Berendsen, R.L., de Jonge, R., **Stringlis, I.A.**, Van Dijken, A.J.H., Van Pelt, J.A., Van Wees, S.C.M., Yu, K., Zamioudis, C. and Bakker, P.H.M. (2021) *Pseudomonas simiae* WCS417: star track of a model beneficial rhizobacterium. *Plant and Soil* 461, pp 245-263.
9. Stassen, M.J.J., Hsu, S.H., Pieterse, C.M.J. and **Stringlis, I.A.** (2020) Coumarin Communication Along the Microbiome–Root–Shoot Axis. *Trends in Plant Science* 60: 1405-1419.
10. Bakker, P.A.H.M., Berendsen, R.L., Van Pelt, J.A, Vismans, G., Yu, K., Li, E., Van Bentum, S., Poppeliers, S.W.M, Sanchez Gil, J.J., Zhang, H., Goossens, P., **Stringlis, I.A.**, Song, Y., de Jonge, R. and Pieterse, C.M.J. (2020) The Soil-Borne Identity: Looking Back to the Future. *Molecular Plant* 13: 1394-1401.
11. Pascale, A., Proietti, S., Pantelides, I.S. and **Stringlis, I.A.** (2020) Modulation of the root microbiome by plant molecules: The basis for targeted disease suppression and plant growth promotion. *Frontiers in Plant Science* 10: 1741.
12. Yu, K., Liu, Y., Tichelaar, R., Savant, N., Lagendijk, E., Van Kuijk, S., **Stringlis, I.A.**, Van Dijken, A., Pieterse, C.M.J., Bakker, P.A.H.M., Haney, C. and Roeland Berendsen (2019) Plant-Beneficial *Pseudomonas* spp. suppress local root immune responses by gluconic acid-mediated lowering of environmental pH, *Current Biology* 29: 1-8.
 - This paper was recommended by F1000 Faculty Member Ben Lugtenberg: F1000Prime Recommendation of [Yu K et al., Curr Biol 2019]. In F1000Prime, 19 Nov 2019; 10.3410/f.736836696.793567255. (<https://f1000.com/prime/736836696>).
 - This article was discussed in the blog curated by Harvard scientists “Small things considered”, that publishes content on exciting phenomena published about microbiology in November 2019 (<https://schaechter.asmblog.org/schaechter/2019/11/a-sprinkle-of-acid-a-day-keeps-the-law-enforcement-away.html>).
13. Tsolakidou, M.-D., **Stringlis, I.A.**, Fanega-Sleziak, N., Papageorgiou, S., Tsalakou, A. and Pantelides, I.S. (2019) Rhizosphere-enriched microbes as a pool to design synthetic communities for reproducible beneficial outputs, *FEMS Microbiology Ecology*, 95: <https://doi.org/10.1093/femsec/fiz138>.
14. **Stringlis, I.A.**, Zamioudis, C., Berendsen, R.L., Bakker, P.A.H.M. and Pieterse C.M.J. (2019). Type III secretion system of beneficial rhizobacteria *Pseudomonas simiae* WCS417 and *Pseudomonas defensor* WCS374. *Frontiers in Microbiology* 10: 1631.
15. **Stringlis, I.A.**, de Jonge, R., and Pieterse, C.M.J. (2019). The age of coumarins in plant–microbe interactions. *Plant and Cell Physiology* 60: 1405-1419.
 - Our research and the work of first author Ioannis Stringlis was highlighted in the website of Plant and Cell Physiology in July 2019 (https://academic.oup.com/pcp/pages/research_highlights_2019_07)
 - This paper was Editor’s choice in a spotlight issue on Iron Nutrition and Interaction in Plants (Volume 60, Issue 7).
 - Our work featured in the cover of the spotlight issue on Iron Nutrition and Interaction in Plants (Volume 60, Issue 7).
16. Fernández, I., Cosme, M., **Stringlis, I.A.**, Yu, K., de Jonge, R., Van Wees, S.C.M., Pozo, M.J., Pieterse, C.M.J. and Van der Heijden, M.G.A. (2019). Molecular dialogue between arbuscular mycorrhizal fungi and the nonhost plant *Arabidopsis thaliana* switches from initial detection to antagonism. *New Phytologist* 223: 867-881.
17. **Stringlis, I.A.**, Zhang, H., Pieterse, C.M.J., Bolton, M.D. and De Jonge, R. (2018). Microbial small molecules – weapons of plant subversion. *Natural Product Reports* 35: 410-433.
18. **Stringlis, I.A.**, Yu, K., Feussner, K., De Jonge, R., Van Bentum, S., Van Verk, M.C., Berendsen, R.L., Bakker, P.A.H.M., Feussner, I. and Pieterse, C.M.J. (2018). MYB72-dependent coumarin exudation shapes root microbiome assembly to promote plant health. *Proceedings of the National Academy of Sciences USA* 115: E5213-E5222.
 - A commentary was written in PNAS (Volume 115, Issue 22) for our paper (<https://www.pnas.org/content/115/22/5629.long>).
 - Rated as very good and as new finding by Prof. Stanislav Kopriva (evaluation and commentary in: <https://facultyopinions.com/prime/733101379>).

19. **Stringlis, I.A.**, Proietti, S., Hickman, R., Van Verk, M.C., Zamioudis, C. and Pieterse, C.M.J. (2018). Root transcriptional dynamics induced by beneficial rhizobacteria and microbial immune elicitors reveal signatures of adaptation to mutualists. *The Plant Journal* 93: 166-180 (IF: **5.901**, citations: **83**).
20. Antoniou, A., Tsolakidou, M.-D., **Stringlis, I.A.** and Pantelides, I.S. (2017). Rhizosphere microbiome recruited from a suppressive compost improves plant fitness and increases protection against vascular wilt pathogens of tomato. *Frontiers in Plant Science* 8: 2022.
21. Verbon, E.H., Trapet, P.L., **Stringlis, I.A.**, Kruijs, S., Bakker, P.A.H.M. and Pieterse, C.M.J. (2017). Iron and immunity. *Annual Review of Phytopathology* 55: 355-375.
22. Berendsen, R.L., Van Verk, M.C., **Stringlis, I.A.**, Zamioudis, C., Tommassen, J., Pieterse, C.M.J. and Bakker, P.A.H.M. (2015). Unearthing the genomes of plant-beneficial *Pseudomonas* model strains WCS358, WCS374 and WCS417. *BMC Genomics* 16:539.
23. Schoina, C., **Stringlis, I.A.**, Pantelides, I.S., Tjamos, S.E., Paplomatas, E.J (2011). Evaluation of application methods and biocontrol efficacy of *Paenibacillus alvei* strain K-165, against the cotton black root rot pathogen *Thielaviopsis basicola*. *Biological Control* 58: 68-73.
24. Gizi, D., **Stringlis, I.A.**, Tjamos, S.E., Paplomatas, E.J. (2011). Seedling vaccination by stem injecting a conidial suspension of F2, a non-pathogenic *Fusarium oxysporum* strain, suppresses *Verticillium* wilt of eggplant. *Biological Control* 58: 387-392.
25. Pantelides, I.S., Tjamos, S.E., **Stringlis, I.A.**, Chatzipavlidis, I., Paplomatas, E.J. (2009). Mode of action of a non-pathogenic *Fusarium oxysporum* strain against *Verticillium dahliae* using Real Time QPCR analysis and biomarker transformation. *Biological Control* 50: 30-36.

Book Chapters

1. Yu, K., Liu, H., Zhong, W. and **Stringlis, I.A.** (2022) Microbiome-assisted Agriculture: Current Knowledge and Future Directions, p. 217-253. In: Biocontrol of Plant Disease: Recent Advances and Prospects in Plant Protection, C. Prigent-Combaret and B. Dumas eds, ISTE Ltd, John Wiley & Sons, London, UK.
2. Hsu, S.-H., Stassen, M.J.J., Pieterse, C.M.J. and **Stringlis, I.A.** (2023) Techniques to Study Common Root Responses to Beneficial Microbes and Iron Deficiency, p. 47-62. In: Plant Iron Homeostasis: Methods and Protocols, Methods in Molecular Biology, vol. 2665, Jeeyon Jeong (ed.), Springer Nature, New York, USA.

(Invited) oral Presentations in Conferences/Workshops/Seminars.

1. EPSO 21st Plant Science Seminar. March 2023 (**invited seminar**) <https://epsoweb.org/all-events/epsso-21st-plant-science-seminar/>
2. 5th Congress Natural Products and Biocontrol, (Perpignan, France), September 2022 (**invited oral**).
3. 20th International Symposium on Iron Nutrition and Interactions in Plants (ISINIP) (Reims, France), July 2022 (**invited oral**).
4. 2nd Annual MiCRop Meeting (Amsterdam, The Netherlands), June 2022 (**oral**).
5. 3rd Plant Microbiome Symposium (Dundee, UK), May 2022 (**oral**).
6. Departmental Seminar in Department of Microbial Interactions in Rhizosphere and Roots team (RHIZO) – University of Toulouse (Toulouse, France) September 2022 (**invited seminar**).
7. Departmental Seminar in Department of Forest Mycology and Plant Pathology – SLU (Uppsala, Sweden) January 2022 (**invited seminar**).
8. "Biocontrol and Biostimulation in agriculture: fundamental and applied aspects" Workshop, Reims France, November 2020 (**oral-invited speaker**).
9. "Plant Microbiomes" Workshop, Munich, Germany, July 2019 (**oral-invited speaker**).
10. "Annual Meeting Experimental Plant Sciences", Lunteren, Netherlands, April 2019 (**oral**).
11. "3rd MPIterMic - ARBRE workshop on Molecular Plant Fungal Interactions" meeting, Cologne, Germany, November 2018 (**oral**).
12. "19th Hellenic Phytopathological Congress", Athens, Greece, October 2018 (**oral**).
13. "Institute of Environmental Biology Annual Symposium", Utrecht, The Netherlands, October 2018 (**oral**).
14. "Acquired and Induced Disease Resistance in Plants" PhD Course, Reims, France, September 2018 (**oral-invited speaker**).
15. "10th Symposium of the International Society of Root Research", Jerusalem, Israel, July 2018 (**oral**).
16. "2nd Plant Microbiome Symposium", Amsterdam, The Netherlands, February 2018 (**oral**).
17. "Summer school "Environmental Signaling in Plants", Utrecht, The Netherlands, August 2017 (**oral**).

18. “Institute of Environmental Biology Annual Symposium”, Utrecht, The Netherlands, March 2016 (**oral**).
19. “EPS theme 2 / Willie Commelin Scholten Day”, Leiden, The Netherlands, January 2016 (**oral**).
20. “17th Hellenic Phytopathological Congress”, Volos, Greece, October 2014 (**oral**).
21. “Innate Immunity in Plants” Course, Helsinki, Finland, November 2013 (**oral**).
22. “16th Hellenic Phytopathological Congress”, Thessaloniki, Greece, October 2012 (**oral**).

Scholarship/Grant/Prize

1. PCP Top cited review paper award, Japanese Society of Plant Physiologists (March 2023).
2. Best young researcher award in “19th Greek Phytopathological Congress”, Athens, Greece (**1000€**, 2018).
3. “Johanna Westerdijkfonds” travel award to attend 10th Symposium of the International Society of Root Research, Jerusalem, Israel (**353€**, 2018).
4. “Johanna Westerdijkfonds” travel award to attend 5th International Conference on Biotic Plant Interactions, Xiamen, China (**382€**, 2017).
5. “Johanna Westerdijkfonds” travel award to attend “Rhizosphere 4” Conference, Maastricht, The Netherlands (**814€**, 2015).
6. “Johanna Westerdijkfonds” travel award to attend “Innate Immunity in Plants” Course, Helsinki, Finland (**345€**, 2013).
7. “Panagiotis Triantafyllidis” Scholarship for finishing my MSc studies with distinction and continuing with a PhD abroad (**8200€**, 2013).
8. “Bodossaki Foundation” Scholarship during my MSc studies in Agricultural University of Athens (**7650€**, 2010-2102).
9. Agricultural University of Athens “Prize for finishing my BSc studies within 9 semesters” (**256€**, 2009).
10. Agricultural University of Athens “Excellence Prize” for finishing my BSc studies as first of my class (**1000€**, 2009).

Honors

1. Nominated for the “Hugo de Vries Award” given to the best botany related thesis defended in Dutch Universities (2018).
2. Top student in MSc Program. Declaimed the oath in the MSc graduation ceremony (2012).
3. First in exam rankings to enter the MSc Programme of “Plant Protection and Environment” of Agricultural University of Athens (2010).
4. Graduation with Highest Honors from the Department of Agricultural Biotechnology of Agricultural University of Athens. Declaimed the oath in the graduation ceremony (2009).
5. Award for being the student with the highest grades in the last year of High School (19,2/20) by “The Association of people from Zacharo living in Athens” (2000).
6. «Excellence Award» from Ministry of Education and Religion for being excellent student in High School and Lyceum (1997-2003).

Participation in Research programs

1. 2012-2017: PhD student in ERC Advanced Grant “The Plant Immune System: a multidisciplinary approach to uncover how plants simultaneously deal with beneficial and parasitic organisms to maximize profits and protection” (PLANTIMMUSYS) (Grant ID: 269072).
2. 2017-2019: Post-doctoral researcher in NWO domain Applied and Engineering Sciences Perspective Programme “Back2Roots” (Grant ID: 14219).
3. 2020-2024: post-doctoral researcher in NWO project MYCOAT: Creating sustainable seed coatings (Grant ID: 18425).
4. 2020-2025: Senior post-doctoral researcher in NWO gravitation Programme “MiCRop: Harnessing the second genome of plants” (Grant ID: 024.004.014).

Editorial role

1. Associate Editor for Frontiers in Plant Science (section Plant-Pathogen interactions) since December 2022.
2. Associate guest Editor for Research Topic “**Organic Amendments: Microbial Communities and their Role in Plant Fitness and Disease Suppression**” in Frontiers in Plant Science (website:

<https://www.frontiersin.org/research-topics/17470/organic-amendments-microbial-communities-and-their-role-in-plant-fitness-and-disease-suppression>) since November 2020.

3. Associate guest Editor for Research Topic “**Beneficial Microbiota Interacting with the Plant Immune System**” in *Frontiers in Plant Science* (website: <https://www.frontiersin.org/research-topics/11995/beneficial-microbiota-interacting-with-the-plant-immune-system>) since December 2019.
4. Review Editor for *Frontiers in Agronomy* (section Disease Management) since November 2019.
5. Review Editor for *Frontiers in Plant Science* and *Frontiers in Microbiology* (section Plant-Microbe Interactions) since October 2019.

Reviewer for international journals

BioControl, Cell-Host Microbe, Current Biology, FEMS Microbiology Ecology, *Frontiers in Microbiology*, *Frontiers in Ecology and Evolution*, *Frontiers in Plant Science*, *Industrial Crops and Products*, *ISME Journal*, *Journal of Experimental Botany*, *Microorganisms* (MDPI), *Microbial Biotechnology*, *Molecular Plant-Microbe Interactions*, *mSystems*, *Nature Plants*, *New Phytologist*, *Plant Biology*, *Plant Journal*, *Plant and Soil*, *Planta*, *Plant Molecular Biology*, *Plant Physiology*, *PloS One* and *Scientific Reports* (my Publons profile: <https://publons.com/researcher/1423388/ioannis-stringlis/>).

Reviewer for grants

1. Reviewer of a grant proposal for “The Leverhulme Trust” UK (2022).
2. Reviewer of a grant proposal for the Graduate School of Experimental Plant Sciences (EPS) of Wageningen University (2022).
3. Reviewer of a grant proposal for the German-Israeli Foundation (GIF) NEXUS (2022).
4. Reviewer of a grant proposal for the Open Call of Saclay Plant Sciences (SPS) (2021).
5. Reviewer of a grant proposal for the Swiss National Science Foundation (December 2020).
6. Reviewer of a grant proposal for the Czech Science Foundation (September 2020).
7. Reviewer of 10 grant proposals submitted in the NWO Open Competition Domain Science XS Pilot 2019-2020 round 5 (September 2020).
8. Reviewer of 10 grant proposals submitted in the NWO Open Competition Domain Science XS Pilot 2019-2020 round 4 (July 2020).

Professional Affiliations - Scientific memberships and registrations

- 2010 – Present: Member of the Hellenic Phytopathological Society.
- 2016 – Present: Member of the International Society of Plant-Microbe interactions.
- 2008 – present: Registered as an Agronomist in Greece.

Organization of meetings and conferences

- Member of Local organizing committee of XX IPPCATHENS2024.
- Co-organizer of Utrecht PMI Seminar series (2020-2021).
- Assisting in the organization of “10th International Verticillium Symposium”, Corfu, Greece, November 2009.
- Assisting in the organization of “15th Hellenic Phytopathological Congress”, Corfu, Greece, October 2010
- Member of the Scientific Committee of the “16th Congress of the Mediterranean Phytopathological Union”, Limassol, Cyprus, March 2020.