**CURRICULUM VITAE**

**VASILEIOS A. TZANAKAKIS**

**OFFICE ADDRESS**

Assistant Professor in Soil Science, Hellenic in Hellenic Mediterranean University, Department of Agriculture.

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**EDUCATION**

Ph. D. Department of Natural Resources and Agricultural Engineering, Agricultural University of Athens, 2007.

MSc. Department of Natural Resources and Agricultural Engineering, Agricultural University of Athens, 2000.

Diploma (BS and integrated MSc.) Department of Natural Resources and Agricultural Engineering, Agricultural University of Athens, 1995.

**RESEARCH INTERESTS**

Soil (bio) chemistry; Soil fertility; Plant nutrition; Carbon and nitrogen cycling in natural and agricultural systems; Ecology of soil micro-organisms; Natural resources management; Land (wastewater) treatment systems; Effluent reuse in agriculture; Circular economy practices in agriculture.

**HONORS & AWARDS**

International Exchange Alumni Member (2018). United States, Department of State.

Greek Fulbright Fellowship; Visiting scholar in Oregon State University (OSU), Crop and Soil Science Department, Department of Microbiology (for the academic period 2017-2018)

Scholarship of IKY-EOX (EEA-GRANDS) for Post-Doctoral study in “Marine and Inland Management of Water Resources” in NMBU-Norway (Nitrogen-Group) 4/2015-10/2016.

**TEACHING**

Soil science (Hellenic Mediterranean University)

Soil fertility and plant nutrition (Hellenic Mediterranean University)

**PROJECTS**

1. Project "Conservation and sustainable utilization of rare-endangered endemic plants of Crete for the development of new agricultural products with innovative precision fertilization" in the framework of the Joint Action of State Aid for Research, Technological Development and Innovation "Research-Innovate".
2. The project LIFE IGIC – Improvement of Green Infrastructure in agroecosystems: reconnecting natural areas by countering habitat fragmentation – LIFE16 NAT/GR/000575 develops Green Infrastructure (GI) and supporting Sustainable Farming Methods in olive orchards, in Western Messara plain, south Crete, Greece.
3. TANIA Interreg Europe (EU). Treating contamination through Nanoremediation. Partners from 5 regions have identified the potential of connecting new and future materials and clean technology to natural heritage protection, in order to address these environmental and economic problems. Through TANIA, it is supported wide and effective application of nanoremediation for contaminated soil and water. https://www.interregeurope.eu/tania/.
4. Synergic Circular Economy across European Regions (SCREEN) project (EU). SCREEN aims at the definition of a replicable systemic approach towards a transition to Circular Economy in EU regions within the context of the Smart Specialization Strategy, through the identification and implementation of operational synergies between R&I investments from H2020 and the European Structural and Investment Funds, thus contributing to novel future eco-innovative and horizontal business models across different value chains. http://cordis.europa.eu/project/rcn/205933\_en.html.
5. National/regional research and innovation strategies for smart specialisation (RIS3)-Region of Crete. http://s3platform.jrc.ec.europa.eu/;
6. EU-INCO-MED “Development of Cost Effective Reclamation Technologies for Municipal Wastewater and the Appropriate Agricultural Use of the Treated Effluent Under (semi-) Arid Conditions” 2000-2006. Dr. Α. Angelakis, NAGREF, Budget: 128,400€ (Research Assistant).
7. Olive oil mill wastewater management using land treatment systems. Funded from Joint research and development project, The Greek Ministry for Development and The Scientific and Technical Research Council of Turkey, 2003-2005, Dr A.N. Angelakis NAGREF (National Agricultural Research Foundation), Budget: 14669€.

**PUBLICATIONS**

**A. PHD THESIS**

Treatment of Municipal Wastewater Effluent through Land Application System Planted with Four Different Plant Species and Biomass Production under Controlled Conditions. Ph. D. Thesis, Available at the Library of Agricultural University of Athens.

**B. REFEREED JOURNAL PUBLICATIONS**

1. Tzanakakis, V.A. Monokrousos, N., T. Chatzistathis (2021). Effects of Clinoptilolite Zeolite and Vermiculite on Nitrification and Nitrogen and Phosphorus Acquiring Enzymes in a Nitrogen Applied Agricultural Soil. *Journal of Soil Science and Plant Nutrition,* 1-12.
2. Fanourakis, D. Papadopoulou, E. Valla, A., Tzanakakis, V.A., P.A. Nektarios (2021). Partitioning of transpiration to cut flower organs and its mediating role on vase life response to dry handling: A case study in chrysanthemum. *Postharvest Biology and Technology* 181, 111636.
3. Angelakis, A. N., Valipour, M., Ahmed, A. T., Tzanakakis, V.A., Paranychianakis, N. V., Krasilnikoff, J., ... & Giacco, L. J. D. (2021). Water conflicts: from ancient to modern times and in the future. *Sustainability*, 13(8), 4237.
4. Angelakis, A. N., Christodoulakos, Y., & Tzanakakis, V. A. (2021). Roman Aqueducts in Crete, Greece: Learning From the Past. *Water*, 13(8), 1069.
5. Tzanakakis, V.A., Taylor, A. E., & Bottomley, P. J. (2020). Impact of freeze-thaw on the contributions of AOA and AOB to N-flush induced nitrification in meadow soils. *Soil Biology and Biochemistry*, 150, 108015.
6. Chatzistathis, T., Tzanakakis, V. A., Giannakoula, A., & Psoma, P. (2020). Inorganic and Organic Amendments Affect Soil Fertility, Nutrition, Photosystem II Activity, and Fruit Weight and May Enhance the Sustainability of Solanum lycopersicon L.(cv.‘Mountain Fresh’) Crop. *Sustainability*, 12(21), 9028.
7. Tzanakakis, V. A., Paranychianakis, N. V., & Angelakis, A. N. (2020). Water Supply and Water Scarcity. *Water*, 2347.
8. Tzanakakis, V. A., Angelakis, Α. N., Paranychianakis, N. V., Dialynas, Y. G., & Tchobanoglous, G. (2020). Challenges and opportunities for sustainable management of water resources in the island of Crete, Greece. *Water*, 12(6), 1538.
9. Ahmed, A. T., El Gohary, F., Tzanakakis, V. A., & Angelakis, A. N. (2020). Egyptian and Greek Water Cultures and Hydro-Technologies in Ancient Times. *Sustainability*, 12(22), 9760.
10. Tzanakakis, V. A., Taylor, A. E., Bakken, L. R., Bottomley, P. J., Myrold, D. D., & Dörsch, P. (2019). Relative activity of ammonia oxidizing archaea and bacteria determine nitrification-dependent N2O emissions in Oregon forest soils. *Soil Biology and Biochemistry*, 139, 107612.
11. Raji, S. G., Tzanakakis, V.A., & Dörsch, P. (2019). Bradyrhizobial inoculation and P application effects on haricot and mung beans in the Ethiopian Rift Valley. *Plant and Soil*, 442(1), 271-284.
12. Tzanakakis V.A., A. Apostolakis, Nikolaos V. Paranychianakis, Nikolaos P. Nikolaidis (2018). Ammonia Oxidizing Archaea do not Respond to Ammonium or Urea Supply in an Alkaline Soil. *Applied Soil Ecology*. 132, 194-198 doi.org/10.1016/j.apsoil.2018.08.002.
13. Tzanakakis V.A., Sturite I., and Dörsch P. (2017). Biological nitrogen fixation in high latitude grass-clover grasslands under different management practices. *Plant and Soil,* 421 (1–2), 107–122. doi.org/10.1007/s11104-017-3435-2.
14. Tzanakakis V.A. and Paranychianakis N. (2017). Divergent Response of Ammonia Oxidizers to various Amino Acids. *Applied Soil Ecology*. 114, 45–51. doi.org/10.1016/j.apsoil.2017.02.019.
15. Kapellakis, I.E., Tzanakakis V.A., and Angelakis A.N. (2015). Olive Mill Wastewater Management with Land Application. *Water*, 7(2), 362-376; doi:10.3390/w7020362.
16. Tzanakakis, V.A., Tsiknia, M., Vagiakis, G.M, Angelakis, A.N., and Paranychianakis, N.V (2015). Carbon Turnover during Land Application: A Potential Role for Vegetation? *Water*. 7(1), 288-299. doi:10.3390/w7010288
17. Tzanakakis V.A., Mauromoustakos A. and Angelakis A.N. (2015). Prediction of Biomass Production and Nutrient Uptake using Partial Least Squares Regression Analysis. *Water* , 7(1), 1-11; doi:10.3390/w7010001
18. Tsiknia, M., Tzanakakis, V.A., Oikonomidis, D., Paranychianakis, N.V. and Nikolaidis, N. (2014). Carbon and Nitrogen Cycling in Soils Treated with Olive Mill Wastewater. *Applied Microbiology and Biotechnology*. doi. 10.1007/s00253-013- 5272-4).
19. Tsiknia, M., Tzanakakis, V.A., and Paranychianakis, N.V. (2013). Insights on the role of vegetation on nitrogen cycling in effluent irrigated lands. *Applied Soil Ecology* 64, 104– 111. doi.org/10.1016/j.apsoil.2012.10.010.
20. Tzanakakis, V.A., Chatzakis, M.K., and A. N. Angelakis. (2012). Energetic environmental and economic assessment of three tree species and one herbaceous crop irrigated with primary treated sewage effluent. *Biomass and Bioenergy* 47, 115- 124. doi.org/10.1016/j.biombioe.2012.09.051.
21. Tzanakakis, V. A., Paranychianakis, N. V., Londra, P. A., and Angelakis, A. N. (2011). Effluent Application to the Land: Changes in Soil Properties and Treatment Potential. *Ecological Engineering*. 37(11):1757-1764. doi.org/10.1016/j.ecoleng.2011.06.024.
22. Tzanakakis, V.A., Paranychianakis, N. V., and Angelakis, A. N. (2011). Chemical Exergy as a Unified and Objective Indicator in the Assessment and Optimization of Land Treatment Systems. *Ecological Modeling* 222, (17): 3082-3091. doi.org/10.1016/j.ecolmodel.2011.06.019.
23. Chatzakis, M.K, Tzanakakis, V.A., Mara, D.D., and Angelakis, A.N. 2011. Irrigation of Castor Bean (Ricinus communis L.) and Sunflower (Helianthus annus L.) Plant Species with Municipal Wastewater Εffluent: Impacts on Soil Properties and Seed Yield. *Water* 3 (4):1112-1127. doi.org/10.3390/w3041112.
24. Tzanakakis, V. A., Paranychianakis, N. V., and Angelakis, A. N. (2009). Nutrient removal and biomass production in land treatment systems receiving domestic effluent. *Ecological Engineering* 35(10): 1485-1492. doi.org/10.1016/j.ecoleng.2009.06.009.
25. Tzanakakis, V. Α., Paranychianakis, N. V., and Angelakis, A. N. (2007). Soil as a Wastewater Treatment System: Historical Development. *Water Science and Technology (Water Supply)* 7(1), 67-75. doi.org/10.2166/ws.2007.008.
26. Tzanakakis, V. Α., Paranychianakis, N. V., and Angelakis, A. N. (2007). Performance of Slow Rate Systems for Treatment of Domestic Wastewater. *Water Science and Technology*, 55(1-2): 139-147. doi: 10.2166/wst.2007.050.
27. Tzanakakis,V. Α., Paranychianakis, N. V., Kyritsis, S., and Angelakis, A. N. (2003). Wastewater Treatment of Municipal Wastewater Treatment and Plant Biomass Production by Slow Rate Systems Using Different Plant Species. *Water Science and Technology, Water Supply*, 3(4): 185-192. doi.org/10.2166/ws.2003.0061.

**C. BOOKS- ΒΟΟΚ CHAPTERS IN INTERNATIONAL EDITIONS**

1. Tzanakakis, V. A., Koo-Oshima, S., Haddad, M., Apostolidis, N., and Angelakis, A. N., (2014). The History of Land Application and Hydroponic Systems for Wastewater Treatment and Reuse. In: Evolution of Sanitation and Wastewater Management through the Centuries (Angelakis et al., Eds). IWA Publishing, London, UK.
2. Tzanakakis, V. A., Paranychianakis, N. V., & Angelakis, A. N. (2020). Water Supply and WaterScarcity. Water, 2347. In MDPI Books. Water Supply and Water Scarcity (Vasileios Tzanakakis, Nikolaos Paranychianakis andAndreas N. Angelakis (Eds.). ISBN 978-3-03943-306-3 (Hbk); ISBN 978-3-03943-307-0 (PDF) (This book is a printed edition of the Special Issue Water Supply and Water Scarcity that was published in Water).

**D. CONFERENCE PROCEEDINGS**

1. Tzanakakis V.A., Dörsch Peter, Taylor Anne, Bottomley Peter, and Myrold David, Distinct N2O yield of archaeal and bacterial ammonia oxidizers in three Oregon Forest Soils. EGU General Assembly 2017, 23–28 April 2017, Vienna, Austria.
2. Tzanakakis V. A., Sturite Ievina, and Dörsch Peter. Persistence of biological nitrogen fixation in high latitude grass-clover grasslands under different management practices. EGU-Vienna 18-22 Apr. 2016.
3. Tzanakakis V. A., Sturite Ievina, and Dörsch Peter. Biological nitrogen fixation and nitrogen transfer in high latitude grass-clover grasslands (abstract). 19th Nitrogen Workshop. Skara Sweden 27-29 June 2016.
4. Tsiknia, M., Tzanakakis, V.A., Oikonomidis, D., Paranychianakis, N.V. and Nikolaidis, N. Carbon and Nitrogen Cycling in Soils Treated with Olive Mill Wastewater. 5th Conference «Microcosm in trophic chain. From biodiversity to applications» 13-15 December, 2012 Agricultural University of Athens.
5. Chatzakis, M. V.Α. Tzanakakis, A.N. Angelakis. Efficient Biofuel Production from Crops Irrigated with Treated Wastewater: A Case Study in the Island of Crete. IWA Regional Conference on Wastewater Purification and Reuse, 28-30 March 2012, Heraklion, Crete, Greece. Book of abstracts.
6. Tsiknia, M., Vaggiakis, I., Tzanakakis, V.A., Paranychianakis, N.V. The role of plant species on nitrogen transformation and removal during land application of wastewater. 5th European Bioremediation Conference. Chania, Greece, June 4-7, 2011. Book of Abstracts.
7. Tzanakakis, V.A., Angelakis, A. N. The Role of Vegetation in Wastewater Treatment System by Land Application. In: 7th International Conf. ORBIT 2010, Workshop on Wastewater Reuse. Iraklion, Greece, June 29-July 3, 2010. Book of Abstract, p. 238.
8. Tzanakakis, V.A., and Angelakis, A. N. Chemical exergy as an ecological indicator to assess the performance of soil treatment systems using domestic wastewater. Proc. of IWA Conf. on Asset Management of Medium and Small Wastewater Utilities. July, 3- 4, 2009, Alexandroupolis, Greece, pp.245-256.
9. Tzanakakis V. A., Paranychianakis, N.V., Angelakis A.N. Optimization of nutrient phytoremediation in land treatment systems by using different plant species. Proc. of 4th European Bioremediation Conference. Plantanias, Chania, Greece. Book of Abstracts. 306.
10. Tzanakakis, V. A., Paranychianakis, N. V. and A. N. Angelakis, A. N., 2007. Biomass Production in Slow Rate Systems Used for Treatment of Domestic Wastewater. In: 6th IWA Specialist Conf. on Wastewater Reclamation and Reuse for Sustainability. Guiding 31 the Growth of Water Reuse. Book of Abstract. Antwerp, Belgium, 9-12 October, 2007, p.86.
11. Tzanakakis, V.A., Paranychianakis, N.V., and Angelakis, A.N., 2006. Evolution of land treatment concept for the management of wastes and polluted waters. Proceedings of 1st IWA International Symposium on Water and Wastewater Technologies in Ancient Civilizations. October 28-30, 2006 Heraklion, Crete, Greece, pp. 71-79.
12. Tzanakakis, V. A., Paranychianakis, N. V., and Angelakis, A. N., 2005. Treatment of Municipal Wastewater with Slow Rate Systems. Abstracts of IWA Conf. on Wastewater Reclamation and Reuse for Sustainability (WRRS2006), November 8-11, 2005, Jeju Island, Korea, pp.160.
13. Tzanakakis, V.A., Paranychianakis, N.V., Kyritsis, S., and Angelakis, A.N. (2002). Evaluation of wastewater treatment and biomass production by a slow rate system using different plant species. Proc. of IWA-Regional Symposium on Water Recycling in Mediterranean Region, (A.N. Angelakis et al., Eds). September 26-29, 2002, Iraklion, Greece, Volume 1, pp. 353-360.
14. Tzanakakis, V.A., Kyritsis, S., and Angelakis, A.N. Treatment of municipal wastewater effluent through slow rate systems and biomass production under controlled conditions. 7th Conference on Environmental Sciences and Technologies. Ermoupolis, Syros, 3-6 September 2001.)
15. Tzanakakis, V.A. and A.N. Angelakis. 2001. Planning of a Wastewater Slow Rate Treatment System under Various Plant Vegetation. Proceedings of Conf. on Integrated Water Management, Cyprus 11-13 May 2001.

**REVIEWS IN INTERNATIONAL JOURNALS**

Antibiotics, Applied Soil Ecology, Energies, Archives of Agronomy and Soil Science, Environmental Technology, European Journal of Soil Biology, Geoderma, Journal of Environmental Management, Microorganisms, Open Microbiology, PLoS One, Science of Total Environment, Sustainability, Water Policy, Water Science and Technology, International Journal of Phytoremediation, Bulgarian Chemical Communications, African Journal of Agricultural Research, Environmental Technology.

**GUEST EDITOR IN SPECIAL ISSUES**

"“Sustainable Soil and Field Management Practices in Agricultural Ecosystems under Climatic Challenges”, Sustainability Journal (ISSN 2071-1050).

“Water Supply and Water Scarcity”, Water Journal, Water 2020, 12(9), 2347; https://doi.org/10.3390/w12092347.

“Climate, Water, and Soil” Water Journal (ISSN 2073-4441).

“Sustainable Water Management: From Ancient to Modern Times and the Future", Sustainability Journal (ISSN 2071-1050).