

Dr. Eleni G. Papazoglou – Curriculum Vitae

AGRICULTURAL UNIVERSITY OF ATHENS (AUA)
DEPARTMENT OF CROP SCIENCE
LABORATORY OF SYSTEMATIC BOTANY
75 IERA ODOS st., 11855, ATHENS, GREECE

**Contact Details**

Telephone: +30 2105294315
web: <http://www.aua.gr>
email: elpapazo@hua.gr

Education

1. B.Sc. in Agriculture, Department of Crop Science, Agricultural University of Athens (AUA).
2. Ph.D. Thesis, Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens (2000-2004: Irrigation with metalliferous water of the energy crop *Arundo donax* L. and its phytoremediation potential).
3. 2017-2020: Research fellow at the Centre for Environmental Sciences, Hasselt University, Belgium (<http://www.uhasselt.be/CMK-en>), under the supervision of Prof. Dr. Jaco Vangronsveld.

Awards and fellowships

1. 1987-1988: Special Postgraduate Scholarship- Department of Crop Science, AUA.
2. 1988-1990: Scholarship - [Public Benefit Foundation Alexandros S. Onassis](#).
3. 2006-2007: First grant of the [Scholars' Association- Public Benefit Foundation Alexandros S. Onassis](#).
4. 2007-2008: Second grant of the [Scholars' Association- Public Benefit Foundation Alexandros S. Onassis](#).
5. 2009-2010: Visiting Researcher - Georgia Institute of Technology, [School of Civil and Environmental Engineering \(CEE\)](#), Environmental Biotechnology Laboratory, Atlanta, USA.
6. 2013- Foreign member of the Commission of Medical Sciences of Polish Academy of Sciences.
7. 2016-2020: Appointed as contractual foreign consultant of the Chinese Academy of Science, Institute of Bast Fiber Crops (IBFC).
8. 2020- Member of the European's Commission EIP-AGR Focus Group on “ Sustainable industrial crops in Europe: new market opportunities and business models which do not replace food production (<https://ec.europa.eu/eip/agriculture/en/focus-groups/sustainable-industrial-crops-europe-new-market>”.

Academic Position

Teaching and research associate, Laboratory of Systematic Botany, Department of Crop Science, Agricultural University of Athens.

Research Interests

- Applied Botany to environmental and energy technologies.
- Non-food crops with economic value that could be: (i) used for phytomanagment and rehabilitation of contaminated and marginal land giving economic revenue, and (ii) irrigated with heavy metal contaminated water and wastewater.
- Plant biodiversity of contaminated and marginal land.

- Investigation for new plant species of economic interest or new beneficial properties of non-cultivated plants.
- High biomass yielding plant species suitable for phytoremediation purposes.

Books and Scientific publications

BOOKS

1. **E.G. Papazoglou**, S. Kyritsis, Ch. Souter (1986). Greenhouse heating-Heat pumps EL.KE.PA, Athens.
2. M.W.H. Evangelou, **E.G. Papazoglou**, B. Robinson, R. Schulin (2015). Phytomanagement: Phytoremediation and the production of biomass for economic revenue on contaminated land. In: *Phytoremediation: Management of Environmental Contaminants, Volume 1* (Gill, Gill, Ansari, Lanza, and Newman, eds.), Springer International Publishing, Switzerland.
3. A. L. Fernando, B. Barbosa, J. Costa, **E.G. Papazoglou** (2016). Giant reed (*Arundo donax* L.): a multipurpose crop bridging phytoremediation with sustainable bio-economy. In: *Bioremediation and Bioeconomy*, M.N.V. Prasad (Ed.), Elsevier Inc., Netherland.
4. E. Alexopoulou, A. Monti, H.W. Elbersen, W. Zegada-Lizarazu, D. Millioni, D. Scordia, F. Zanetti, **E.G. Papazoglou**, M. Christou (2018). Switchgrass: From Production to End Use. In: *Perennial Grasses for Bioenergy and Bioproducts. Production, Uses, Sustainability and Markets for Giant Reed, Miscanthus, Switchgrass, Reed Canary Grass and Bamboo*. E. Alexopoulou (Ed.), Elsevier Inc. United Kingdom.

PUBLICATIONS IN PEER-REVIEWED JOURNAL

1. **E.G. Papazoglou**, G.A. Karantounias, S.N. Vemmos, D.L. Bouranis (2005). Photosynthesis and growth responses of giant reed (*Arundo donax* L.) to the heavy metals Cd and Ni. *Environment International* 31: 243-249.
2. **E.G. Papazoglou**, K.G. Serelis, D.L. Bouranis (2007). Impact of high cadmium and nickel soil concentration on selected physiological parameters of *Arundo donax* L. *European Journal of Soil Biology* 43: 207-215.
3. **E.G. Papazoglou** (2007). *Arundo donax* L. stress tolerance under irrigation with heavy metal aqueous solutions. *Desalination* 211: 304-313.
4. **E.G. Papazoglou** (2009). Irrigation with metalliferous water and heavy metal allocation in giant reed plants. *Fresenius Environmental Bulletin* 18: 166-174.
5. **E.G. Papazoglou** (2011). Responses of *Cynara cardunculus* L. to single and combined cadmium and nickel treatment conditions. *Ecotoxicology and Environmental Safety* 74: 195-202.
6. **E.G. Papazoglou** (2014). *Jatropha curcas* L.: a multipurpose energy crop. *Fresenius Environmental Bulletin* 23: 1-5.
7. B. Barbosa, J. Costa, A.L. Fernando, **E.G. Papazoglou** (2015). Wastewater reuse for fiber crops cultivation as a strategy to mitigate desertification. *Industrial Crops and Products* 68: 17-23.
8. N. Di Virgilio, **E.G. Papazoglou**, Z. Jankauskiene, S. Di Lonardo, M. Praczyk, K. Wielgusz, (2015). Cultivation of stinging nettle and potential uses as multi-purpose crop. *Industrial Crops and Products* 68: 42-49.
9. D. Trebbi, **E.G. Papazoglou**, E. Saadaoui, M. Vischi, M. Baldini, P. Stevanato, E. Cettul, A. P. Sanzone, L. Gualdi, A. Fabbri (2015). Assessment of genetic diversity in different accessions of *Jatropha curcas*. *Industrial Crops and Products* 75: 35-39.
10. R. Ait Babahmad, A. Boukeskasse, A. Outzourhit, **E.G. Papazoglou**, M. Hafidi, A. Ouhammou (2016). Valorization of *Jatropha curcas* waste by composting. *Journal of Materials and Environmental Science* 7: 438-443.
11. R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou**, A. Ouhammou (2016). Morphological parameters of *Jatropha curcas* L. seeds and their effect on germination. *Advances in Bioresearch* 7: 169-176.

12. E. Alexopoulou, F. Zanetti, **E. G. Papazoglou**, M. Christou, Y. Papatheohari, K. Tsiotas, I. Papamichael (2017). Long-term studies on switchgrass grown on a marginal area in Greece under different varieties and nitrogen fertilization rates. *Industrial Crops and Products* 107: 446-452.
13. **E.G. Papazoglou**, A.L. Fernando (2017). Preliminary studies on the growth, tolerance and phytoremediation ability of sugar beet (*Beta vulgaris* L.) grown on heavy metal contaminated soil. *Industrial Crops and Products* 107: 463-471.
14. R. Ait Babahmad, A. Aghraz, A. Boutafda, **E.G. Papazoglou**, P.A. Tarantilis, Ch. Kanakis, M. Hafidi, Y. Ouadouch, A. Outzourhit, A. Ouhammou (2018). Chemical composition of essential oil of *Jatropha curcas* L. leaves and its antioxidant and antimicrobial activities. *Industrial Crops and Products* 121: 405-410.
15. M. Von Cossel, I. Lewandowski, B. Elbersen, I. Staritsky, M. Van Eupen, Y. Iqbal, S. Mantel, D. Scordia, G. Testa, S. L. Cosentino, O. Maliarenko, I. Eleftheriadis, F. Zanetti, A. Monti, D. Lazdina, S. Neimane, I. Lamy, L. Ciadamidaro, M. Sanz, J. E. Carrasco, P. Ciria, I. McCallum, L.M. Trindade, E.N. Van Loo, W. Elbersen, A. L. Fernando, **E.G. Papazoglou**, E. Alexopoulou (2019). Marginal Agricultural Land Low-Input Systems for Biomass Production. *Energies* 12, 3123; doi:10.3390/en12163123.
16. E. Alexopoulou, F. Zanetti, **E. G. Papazoglou**, K. Iordanoglou, A. Monti (2020). Long-Term Productivity of Thirteen Lowland and Upland Switchgrass Ecotypes in the Mediterranean Region. *Agronomy* 10, 923; doi:10.3390/agronomy10070923.
17. H. Zine, R. Hakkou, M. El Adnani, K. Lamnai, S. Elgadi, R. Ait Babahmad, L. Midhat, **E.G. Papazoglou**, K. Loutfi, M. Hafidi, A. Smouni, A. Ouhammou (2020). Phytostabilization of store-and-release cover made with phosphate mine wastes in arid and semiarid climate using wild local plants. *Remediation* 1-18, DOI: 10.1002/rem.21662.
18. **E.G. Papazoglou**, E. Alexopoulou, G.K. Papadopoulos, G. Economou-Antonaka (2020). Tolerance to Drought and Water Stress Resistance Mechanism of Castor Bean. *Agronomy* 10, 1580 ; doi:10.3390/agronomy10101580.
19. H. Zine, S. Elgadi, R. Hakkou, **E.G. Papazoglou**, L. Midhat, A. Ouhammou (2021). Wild Plants for the Phytostabilization of Phosphate Mine Waste in Semi-Arid Environments: A Field Experiment. *Minerals* 11, 42. <https://doi.org/10.3390/min11010042>.
20. H. Zine, M. Ibrahim, S. Loqman, **E.G. Papazoglou**, S. Ouhaddou, S. Elgadi, Y. Ouhdouch, R. Hakkou, M. El Adnani, A. Ouhammou (2021). Chemical composition, antioxidant and antibacterial activities of essential oil of *Atriplex semibaccata* R.Br. aerial parts: First assessment against multidrug-resistant bacteria. *Agronomy* 11, 362. <https://doi.org/10.3390/agronomy11020362>
21. S. Elgadi, A. Ouhammou, F. Taous, H. Zine, **E.G. Papazoglou**, T. Elghali, N. Amenzou, H. El Allali, A. Aitlhaj, A. El Antari (2021). Combination of Stable Isotopes and Fatty Acid Composition for Geographical Origin Discrimination of One Argan Oil Vintage. *Foods* 10, 1274. <https://doi.org/10.3390/foods10061274>
22. D. Scordia, **E.G. Papazoglou**, D. Kotoula, M. Sanz, C.S. Ciria, J. Pérez, O. Maliarenko, O. Prysiashniuk, M. von Cossel, B.E. Greiner, D. Lazdina, K. Makovskis, I. Lamy, L. Ciadamidaro, L. Petit-dit- Grezeriat, S.A. Corinzia, A.L. Fernando, E. Alexopoulou, S.L. Cosentino (2022). Towards identifying industrial crop types and associated agronomies to improve biomass production from marginal lands in Europe. *GCB-Bioenergy*, doi: 10.1111/gcbb.12935.
23. X. Zhao, Y. Guo, **E.G. Papazoglou** (2022). Screening flax, kenaf and hemp varieties for phytoremediation of trace element-contaminated soils. *Industrial Crops and Products* 185, 115121. <https://doi.org/10.1016/j.indcrop.2022.115121>.
24. A. Khan, **E.G. Papazoglou**, C.Cartalis, K. Philippopoulos, K. Vasilakopoulou, M. Santamouris (2022). On the mitigation potential and urban climate impact of increased green infrastructures in a coastal mediterranean city. *Building and Environment* 221, 109264. <https://doi.org/10.1016/j.buildenv.2022.109264>.

PUBLICATIONS IN INTERNATIONAL CONFERENCE PROCEEDINGS (with reviewers)

1. **E.G. Papazoglou**, G.A. Karantounias, S.N. Vemmos, D.L. Bouranis (2003). Effect of cadmium, lead and nickel on giant reed (*Arundo donax L.*) photosynthesis and biomass production. Proceedings of the *Second European Bioremediation Conference*, 345-348, Chania, Greece.
2. **E.G. Papazoglou**, D.L. Bouranis (2005). Physiological responses of *Arundo donax L.* exposed to heavy metals. Proceedings of the *Third European Bioremediation Conference*, P_095, Chania, Greece.
3. **E.G. Papazoglou**, G.A. Karantounias, D.L. Bouranis (2005). Irrigation with cadmium and nickel contaminated water: effects on moisture content and water use efficiency of giant reed plants. Proceedings of the *Third European Bioremediation Conference*, P_098, Chania, Greece.
4. **E.G. Papazoglou**, G.A. Karantounias, D.L. Bouranis (2005). Growth and biomass allocation of *Arundo donax L.* under heavy metal application. Proceedings of the *9th International Conference on Environmental Science and Technology (CEST2005)*, 1194-1199, Rhodos, Greece.
5. G.A. Karantounias, N. Dercas, **E.G. Papazoglou** (2005). Environmental impacts on protected biotopes from irrigation water overconsumption and relevant rehabilitation works – the case of Kotychi sea-lagoon. Proceedings of the *9th International Conference on Environmental Science and Technology (CEST2005)*, 698-702, Rhodos, Greece.
6. K.G. Serelis, **E.G. Papazoglou** (2006). Effect of high soil heavy metal concentration on grain size distribution. Proceedings of the *International Conference "Protection and Restoration of the Environment III"*, P_042, Chania, Greece.
7. **E.G. Papazoglou** (2007). Vertical distribution of cadmium and nickel in giant reed plants. Proceedings of the *First International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE)*, 661-666, Skiathos, Greece.
8. **E.G. Papazoglou** (2007). Effects of toxic cadmium applications on sugar beet. Proceedings of the *10th International Conference on Environmental Science and Technology (CEST2007)*, 1139-1144, Kos, Greece.
9. K.G. Serelis, **E.G. Papazoglou**, V.D. Tsatiris (2007). Effects of contaminated water on soil specific surface area: a leaching column experiment. Proceedings of the *10th International Conference on Environmental Science and Technology (CEST2007)*, 779-784, Kos, Greece.
10. **E.G. Papazoglou** (2008). Cadmium and nickel accumulation and growth responses of sugar beet. Proceedings of the *Fourth European Bioremediation Conference*, Chania, Greece.
11. **E.G. Papazoglou**, G.K. Papadopoulos (2009). Phytoextraction potential of *Cynara cardunculus L.* grown under single and binary cadmium and nickel treatment conditions. *Second Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE-2009)*, Myconos, Greece.
12. I.G. Kafkala, K. Parpodis, K.G. Serelis, **E.G. Papazoglou** (2011). Soil pollution as a tool for the detection of ancient metallurgy workshops and associated native flora. *Third Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE-2011) & SECOTOX Conference*, Skiathos, Greece.
13. **E.G. Papazoglou**, S. Rozakis (2011). Cardoon cultivation for combined bioenergy production and cadmium phytoextraction: an economic evaluation. *Third Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE-2011) & SECOTOX Conference*, Skiathos, Greece.
14. **E.G. Papazoglou**, K.G. Serelis, K. Parpodis, I.G. Kafkala (2011). Accumulation of heavy metals in native plants growing on a long-term contaminated site of Greece. *Fifth European Bioremediation Conference (EBC-V)*, Chania, Greece.
15. **E.G. Papazoglou**, D. Trebbi, M. Rashad, A. Outzourhit, A. Sadi, L. Pari, D. Megadouka (2012). Genetic characterization of *Jatropha curcas L.* accessions from different countries. *9th International Phytotechnology Society (IPS) Conference*, Hasselt, Belgium.

16. **E.G. Papazoglou** (2013). *Jatropha curcas* L.: a multipurpose energy crop for bio oil production. *4th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2013) and SECOTOX Conference*, Mykonos, Greece.
17. K. G. Serelis, **E.G. Papazoglou**, A. Tsigoida (2013). Marginal land exploitation by physic nut. *4th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2013) and SECOTOX Conference*, Mykonos, Greece.
18. **E.G. Papazoglou**, K.G. Serelis, E. Mohamed, S. Kyritsis, A. Outzourhit, A. Ouhammou, M. Rashad, A. Sadi, A. Bouhdjar, L. Pari, A. Suardi (2013). JatroMed project - Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region. *21st European Biomass Conference and Exhibition, Copenhagen, Denmark*.
19. L. Pari, A. Suardi, S. Figorilli, L. Fornaciari, A. Scarfone, **E.G. Papazoglou**, E. Santangelo (2013). Semi-mechanical harvesting of *Jatropha curcas*: A preliminary study in North Africa. *21st European Biomass Conference and Exhibition, Copenhagen, Denmark*.
20. **E.G. Papazoglou**, A. Tsigoida (2013). *Jatropha curcas* L. as feedstock for bio-based production. *First Summer School on Lignocellulosic Crops as Feedstock for Future Biorefineries*. Under the frame of the EU funded project FIBRA- Fibre Crops as sustainable source of biobased material for industrial products in Europe and China, Catania, Italy.
21. **E.G. Papazoglou** (2013). Heavy metal tolerance and accumulation of giant reed (*Arundo donax* L.). *First Summer School on Lignocellulosic Crops: from production to the final use*. Under the frame of the EU funded project FIBRA- Fibre Crops as sustainable source of biobased material for industrial products in Europe and China, held in Catania, Italy.
22. **E.G. Papazoglou (as invited plenary speaker)** (2013). Plants for energy production: the case of *Jatropha curcas* L. *3rd International Conference "Plant - the source of research material"*, Lublin, Poland.
23. **E.G. Papazoglou**, K.G. Serelis (2013). JatroMed project - Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region. *3rd International Conference "Plant - the source of research material"*, Lublin, Poland.
24. **E.G. Papazoglou**, K.G. Serelis, S. Kyritsis, A. Bouhdjar, A. Ouhammou, A. Outzourhit, L. Pari, M. Rashad, A. Sadi, A. Suardi (2014). *Jatropha curcas* cultivation in North African countries: the case study of the JatroMed project. *22nd European Biomass Conference and Exhibition*, Hamburg, Germany.
25. **E.G. Papazoglou** (2014). Phytoremediation potentials of lignocellulosic crops. *Invited Lecturer at the Second Summer School on Lignocellulosic Crops as Feedstock for Future Biorefineries*. Under the frame of the EU funded project FIBRA- Fibre Crops as sustainable source of biobased material for industrial products in Europe and China, held in Lisbon, Portugal. **(Invited Lecturer)**.
26. G. Kosmadakis, N. Rompolakis, **E. G. Papazoglou**, A. Ouhammou, A. Outzourhit, R. Ait Babahmad, M. Rashad (2014). Economic analysis for the estimation of oil-seed production cost of *Jatropha curcas* in Egypt and Morocco. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
27. **E.G. Papazoglou**, D. Trebbi (2014). Genetic analysis of *Jatropha curcas* L. accessions. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
28. **E.G. Papazoglou** (2014). Sugar beet response to nickel exposure. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece **(awarded as the best poster presentation)**.
29. A. Outzourhit, **E.G. Papazoglou**, K.G. Serelis, S. Kyritsis, A. Bouhdjar, A. Ouhammou, L. Pari, M. Rashad, A. Sadi, A. Suardi (2014). The JatroMed project - Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
30. R. Ait Babahmad, A. Ouhammou, A. Outzourhit, **E.G. Papazoglou** (2014). Assessment of the number of branches and the inflorescence number per treatment during the first year of cultivation of *Jatropha curcas*. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.

31. A. Ouhammou, R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou** (2014). Effect of morphometric parameters on the germination of some genotypes of *Jatropha curcas* L. seeds. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
32. A. Sadi, A. Bouhdjar, **E. G. Papazoglou**, A. Zaki, S. Tareb, M. Kharsi, M. Boussetta, H. Messadi (2014). Jatropha cultivation under Saharan climatic conditions: demonstration case of JatroMed project in Adrar, Algeria. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
33. A. Bouhdjar, A. Sadi, **E.G. Papazoglou**, A. Zaki, S. Tareb, H. Messaadi, M. Kharsi, M. Boussetta (2014). *Jatropha curcas* uses and potential applications in Southern Algeria. *26th International Conference on Industrial Crops and Products (AAIC 2014)*, Athens, Greece.
34. **E.G. Papazoglou** (2014). Assessment of *Jatropha curcas* as a potential feedstock for biofuel production in South Mediterranean countries. *11th International Phytotechnology Society (IPS) Conference, Crete, Greece*.
35. **E.G. Papazoglou**, K.G. Serelis, A. Ouhammou, A. Outzourhit, R. Ait Babahmad, M. Rashad, A. Sadi, A. Bouhdjar (2015). *Jatropha curcas* L. growth and adaptability in South Mediterranean countries. *23rd European Biomass Conference and Exhibition. Setting the course for a biobased economy, Vienna, Austria*.
36. **E.G. Papazoglou** (2015). Exploitation of contaminated land with *Arundo donax* L.: a promising perspective. *23rd European Biomass Conference and Exhibition. Setting the course for a biobased economy, Vienna, Austria*.
37. A.L. Fernando, B. Barbosa, J. Costa, **E.G. Papazoglou**, E. Alexopoulou (2015). Is it sustainable the production of perennial grasses with wastewaters? *23rd European Biomass Conference and Exhibition. Setting the course for a biobased economy, Vienna, Austria*.
38. **E.G. Papazoglou**, J. Vangronsveld, A. Kondyli, P. Trigas, K.G. Serelis (2015). Exploring options for application of plant-based technologies on metal contaminated soils on the Lavreotiki peninsula (Greece). *6th European Bioremediation Conference (EBC-VI)*, Chania, Greece.
39. **E.G. Papazoglou**, A. Kondyli, K.G. Serelis, J. Vangronsveld (2015). Tolerance and accumulation potential of *Jatropha curcas* L. to soil metal (-loid) contamination. *6th European Bioremediation Conference (EBC-VI)*, Chania, Greece.
40. **E.G. Papazoglou** (2015). Phytoremediation of heavy metal-contaminated land by perennial crops. *Invited Lecturer at the Third Summer School on Lignocellulosic Crops as Feedstock for Value Added Bio products and Bioenergy*. Under the frame of the EU funded project FIBRA- Fibre Crops as sustainable source of biobased material for industrial products in Europe and China, held in Beijing, China. (**Invited lecturer**)
41. **E.G. Papazoglou**, J. Vangronsveld (2015). Phytoremediation of metal and metalloid contaminated land using kenaf and jatropha. *Conference on Perennial Biomass Crops for a Resource Constrained World*, Stuttgart, Germany.
42. M. Rashad, **E.G. Papazoglou**, S.A. El Sohaimy, A. Outzourhit, L. Pari, A. Sadi (2015). Cultivation of the energy crop *Jatropha curcas* in North African Countries: the case study of the JatroMed project. *12th International Conference on Desert Technology (DT12)*, Cairo, Egypt.
43. **E.G. Papazoglou** (2016). Phytoextraction potential and use of non-food crops for the beneficial use of metal-contaminated soils. *2nd International Congress on the Management of Mining Waste and Post-Mining*, Marrakech, Morocco. (**Invited plenary speaker**)
44. **E.G. Papazoglou**, K.G. Serelis, P. Trigas, J. Vangronsveld (2016). Suitability of *Jatropha curcas* L. cultivation for phytoremediation of mining sites. *2nd International Congress on the Management of Mining Waste and Post-Mining (GESRIM 2016)*, Marrakech, Morocco.
45. R., Ait babahmad, A.M. Akmir, A. Outzourhit, **E.G. Papazoglou**, M. Larchevêque, R. Hakkou and A. Ouhammou (2016). Seeds germination test of *Jatropha curcas* L. 1753 (*Euphorbiaceae*) in the mining residues. *2nd International Congress on the Management of Mining Waste and Post-Mining (GESRIM 2016)*, Marrakech, Morocco.

46. **E.G. Papazoglou (Invited plenary speaker)** (2016). Use of energy crops for phytoremediation purposes. *1st International Symposium on Phytoremediation for Energy & Element Developments (SPEED)*, Royal Institution of Chartered Surveyors, London, UK.
47. **E. G. Papazoglou**, K.G. Serelis (2016). Phytoremediation of heavy metal contaminated land using high biomass-yielding non-food crops. *International Symposium and Workshop RE-Greece 2016: Circular Economy and Sustainable Use of Renewable REsources in the context of Climate Change and Social Upheavals*, Nisyros, Greece.
48. E. Koukouna, **E.G. Papazoglou**, R. Ait Babahmad, A. Ouhammou, A. Outzourhit, E. Alexopoulou (2016). Life Cycle Assessment of biodiesel production from *Jatropha curcas* L. *28th International Conference of the Association for the Advancement of Industrial Crops (AAIC2016)*, Rochester, NY, USA.
49. **E. G. Papazoglou**, Ana Luisa Fernando (2016). Sugar beet (*Beta vulgaris* L.) cultivation in contaminated land for bioethanol production: a promising perspective. *28th International Conference of the Association for the Advancement of Industrial Crops (AAIC2016)*, Rochester, NY, USA.
50. **E.G. Papazoglou**, E. Psomiadis, P. Trigas, K. Serelis, A. Legakis, Ch. Adamopoulou, P. Kordopatis (2016). Integrated environmental assessment of Sperchios river in Greece. *3rd International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR)*, 20-27 November 2016, Taipei, Taiwan.
51. E. Psomiadis, **E.G. Papazoglou**, P. Trigas (2016). Synergistic use of innovative satellite systems for environmental monitoring and risk assessment: The case of Sperchios river coastal area/Central Greece. *3rd International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR)*, 20-27 November 2016, Taipei, Taiwan.
52. **E.G. Papazoglou**, J. Vangronsveld (2016). Evaluation of *Jatropha curcas* for the phytoremediation of trace element contaminated land. *3rd International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR)*, 20-27 November 2016, Taipei, Taiwan.
53. E. Psomiadis, **E.G. Papazoglou**, I. Kafkala, K. Serelis, N. Charizopoulos, I. Mandaloufa (2017). Geospatial distribution mapping of human impacts on the hydrological-hydrogeological conditions and water quality of the eastern part of Sperchios river basin. *11th International Hydrogeological Congress of Greece*, Athens.
54. G. Kosmadakis, E. Koukouna, E. Sfyra Ragkousi, M.A. Stoupas, N. Robolakis, **E.G. Papazoglou** (2017). *Jatropha curcas* production cost analysis and sustainability in Egypt. *25th European Biomass Conference and Exhibition (EUBCE 2017)*, Stockholm, Sweden.
55. **E.G. Papazoglou**, E. Koukouna, (2017). Potential use of non-food crops in heavy metal (-loids) phytoextraction. *25th European Biomass Conference and Exhibition. (EUBCE 2017)*, Stockholm, Sweden.
56. **E.G. Papazoglou**, K. Serelis (2018). Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region. *2nd International Conference on Energy, Innovation and Climate Change, within the framework of the Second International Convention on Science, Technology and Innovation*, Havana, Cuba.
57. E. Koukouna, **E.G. Papazoglou**, P. Trigas (2018). Defining hotspots along the life cycle of *Jatropha curcas* bio oil production: a LCA case study. *2nd International Conference on Energy, Innovation and Climate Change, within the framework of the Second International Convention on Science, Technology and Innovation*, Havana, Cuba.
58. **E.G. Papazoglou**, K. Serelis (2018). Use of energy crops for the restoration of contaminated mining sites. *2nd International Conference on Energy, Innovation and Climate Change, within the framework of the Second International Convention on Science, Technology and Innovation*, Havana, Cuba.
59. D. Trebbi, P. Stevanato, **E.G. Papazoglou**, P. Trigas (2018). Genetic diversity assessment of selected *Jatropha curcas* accessions – implications for conservation management. *Eight European Botanic Gardens Congress: "Botanic Gardens, People and Plants for a Sustainable World" (EUROGARD VIII)*, Lisbon, Portugal.
60. **E.G. Papazoglou**, R. Ait Babahmad, A. Ouhammou, A. Outzourhit, M. Rashad, A. Bouhdjar, A. Sadi, K.G. Serelis (2018). *Jatropha* cultivation in North African countries: Results of

- JatroMed project. *26th European Biomass Conference and Exhibition (EUBCE 2018)*, Copenhagen, Denmark.
61. **E.G. Papazoglou**, E. Alexopoulou (2018). Cadmium phytoremediation of contaminated agricultural soils using value-added crops. *7th European Bioremediation Conference (EBC-VII) and the 11th International Society for Environmental Biotechnology conference (ISEB 2018)*, Chania, Crete.
 62. **E.G. Papazoglou**, K. Kougioumoutzis, P. Trigas, D. Megadouka, K. Serelis, J. Vangronsveld (2018). Taxonomic and phylogenetic plant diversity patterns of polluted metal mining sites in Attika, Greece. *7th European Bioremediation Conference (EBC-VII) and the 11th International Society for Environmental Biotechnology conference (ISEB 2018)*, Chania, Crete.
 63. **E.G. Papazoglou**, P. Trigas (2018). Feedstock production from nickel contaminated land for bioenergy purposes. *Global Conference on Plant Science and Molecular Biology (GPMB 2018)*, Rome, Italy.
 64. **E.G. Papazoglou**, G. Economou, E. Alexopoulou, G. Kanrantounias (2018). *Ricinus communis* L. growth under water stress conditions. *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 65. **E.G. Papazoglou**, G. Kosmadakis, R. Ait Babahmad, A. Outzourhit, A. Ouhammou (2018). Could *Jatropha curcas* L. be a profitable crop for cultivation in Morocco? *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 66. **E.G. Papazoglou**, E. Alexopoulou, J. Vangronsveld (2018). Kenaf tolerance to pollutants and their bioaccumulation to the above ground plant biomass. *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 67. **E.G. Papazoglou** (2018). Phytoremediation of cadmium contaminated agricultural land and biomass production for industrial uses. *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 68. **E.G. Papazoglou** (2018). Phytomanagement of serpentine soils by *Arundo donax* L. *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 69. E. Alexopoulou, F. Zanetti, **E.G. Papazoglou** (2018). Switchgrass: a valuable industrial crop for marginal lands. *30th International Conference of the Association for the Advancement of Industrial Crops (AAIC2018)*, London, Ontario, Canada.
 70. **E.G. Papazoglou** (2018). Potential use of four energy crops for the phytoremediation of trace element contaminated soils. *15th International Phytotechnology Conference: Phytotechnologies and Forestry: Sustainable Approaches to Mitigating the Environmental Consequences of Climate Change*, Novi Sad, Serbia.
 71. **E.G. Papazoglou**, E. Alexopoulou (2018). Marginal land for growing industrial crops: turning a burden into an opportunity – MAGIC project. *15th International Phytotechnology Conference: Phytotechnologies and Forestry: Sustainable Approaches to Mitigating the Environmental Consequences of Climate Change*, Novi Sad, Serbia.
 72. A. Lalević, M. Armandeh, P. Gkorezis, **E.G. Papazoglou** (2019). Exploiting algae in remediation technologies: A review. *2nd Iranian Conference on Phycology (IPC 2019)*, Tehran, Iran.
 73. **E.G. Papazoglou**, S. Arpaia (2019). Phytoremediation of polluted soils using RNAi plants. *3rd iPLANTA Conference: What future for RNAi-Based products: RNAi modified plants or spray products (iPLANTA COST Action CA15223)*, Lisbon, Portugal.
 74. **E.G. Papazoglou (Invited plenary speaker)** (2019). Cultivation of non-food industrial crops on marginal and contaminated land: Turning a burden into an opportunity. *VI International Conference “Plant - the source of research material”*, Lublin – Nałęczów, Poland.
 75. **E.G. Papazoglou** (2019). Phytomanagement of contaminated soils: a promising perspective. *XVI OPTIMA Meeting and International Conference*, Athens, Greece.

76. D. Kotoula, N. Krisilas, E. Alexopoulou, **E.G. Papazoglou** (2020). Growth responses of sorghum and switchgrass to heavy metals. *28th European Biomass Conference and Exhibition (e-EUBCE 2020 Virtual)*, Marseille, France.
77. **E.G. Papazoglou** (2020). Phytomanagement of contaminated sites to produce biomass for bioenergy and biomaterials. *Third International Symposium on Materials, Electrochemistry and Environment “Innovative chemistry for the sustainable environmental remediation” (e-CIMEE 2020)*, Beirut, Lebanon.
78. **E.G. Papazoglou (Invited keynote speaker)** (2020). Contaminated land: an underutilized source for the production of bioenergy and bioproducts. *Linnaeus Eco-Tech 2020: 12th International Conference on the Establishment of Cooperation between Companies and Institutions in the Nordic Countries, the Baltic Sea Region and the World*, Kalmar, Sweden.
79. D. Kotoula, **E.G. Papazoglou** (2020). Comparison study on the phytoremediation potential of three energy crops. *28th International Symposium of the International Scientific Center for Fertilizers (CIEC): Fertilization and Nutrient Use Efficiency in the Mediterranean Environments*, Athens, Greece.
80. A. Krasopoulou, D. Kotoula, **E.G. Papazoglou** (2021). Growth response to heavy metals and phytoremediation potential of *Camelina sativa* (L.) Crantz. *8th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2021) and SECOTOX Conference*, Thessaloniki, Greece.
81. D. Kotoula, **E.G. Papazoglou** (2021). Cultivation of fiber crops in soils contaminated with heavy metals. *8th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2021) and SECOTOX Conference*, Thessaloniki, Greece.
82. X. Zhao, G. Yuan, **E. G. Papazoglou** (2021). Tolerance to and accumulation of cadmium in three bast fiber crops. *32nd International Conference of the Association for the Advancement of Industrial Crops (AAIC2021)*, Bologna, Italy.
83. **G. Papazoglou**, D. Kotoula, E. Alexopoulou (2021). Could ramie be an alternative crop for remediation of contaminated soils in south Europe? *32nd International Conference of the Association for the Advancement of Industrial Crops (AAIC2021)*, Bologna, Italy.
84. E. Alexopoulou, K. Iordanoglou, I. Papamichael, **E.G. Papazoglou** (2021). How the irrigation affects the miscanthus yields in the dry Mediterranean region. *32nd International Conference of the Association for the Advancement of Industrial Crops (AAIC2021)*, Bologna, Italy.
85. D. Kotoula, E. Alexopoulou, **E.G. Papazoglou** (2022). Tolerance ability and growth of two fiber flax varieties cultivated in a multimetal contaminated site. *30th European Biomass Conference and Exhibition (EUBCE 2022)*, virtual.
86. D. Kotoula, E. Alexopoulou, **E.G. Papazoglou** (2022). FORTE project - Fiber crops for sustainable soil remediation and bio-based raw material production for industrial uses. *30th European Biomass Conference and Exhibition (EUBCE 2022)*, virtual.
87. E. Alexopoulou, K. Iordanoglou, G. Tsipas, I. Papamichael, **E.G. Papazoglou** (2022). Water deficit effect on long-term miscanthus yields in dry Mediterranean region. *30th European Biomass Conference and Exhibition (EUBCE 2022)*, virtual.
88. E. Alexopoulou, K. Iordanoglou, I. Papamichael, G. Tsipas, **E.G. Papazoglou** (2022). How irrigation and fertilization affects growth and yields of industrial hemp growth on a marginal agricultural land in Greece. *30th European Biomass Conference and Exhibition (EUBCE 2022)*, virtual.
89. **E.G. Papazoglou** (2022). Supply and application of fiber crops for sustainable soil remediation and bio-based raw material production for industrial uses – FORTE project. *VIII European Bioremediation Conference (EBC-VIII)*, Chania, Greece.
90. D. Kotoula, P. Georgiou, G. Papadopoulos, **E.G. Papazoglou** (2022). Could industrial hemp support the restoration of contaminated sites? *VIII European Bioremediation Conference (EBC-VIII)*, Chania, Greece.
91. **E.G. Papazoglou**, M. Wójcik, J. Vangronsveld, N. Oustriere, M. Mench, W. Zegada, E. Alexopoulou (2022). Bridging the gap between phytoremediation solutions on growing energy crops on contaminated lands and clean biofuel production. *VIII European Bioremediation Conference (EBC-VIII)*, Chania, Greece.

PUBLICATIONS IN NATIONAL CONFERENCE PROCEEDINGS (with reviewers)

1. **E.G. Papazoglou**, S. Kyritsis (2002). Environmental benefits from the use of the agricultural residues for energy production in Greece. *Proceedings of the 7th National Conference on Renewable Energy*, Patras, Greece.
2. G. Bekiaris, **E.G. Papazoglou**, A. Boubouka-Sassalou, G. Economou, G.A. Karantounias (2008). Effect of water stress on the growth of castor (*Ricinus communis L.*). Proceedings of the common conference of the Hellenic Hydrotechnic Union and the Greek Committee on Water Resources Management. Volos, Greece.
3. A. Ζαχαριάδου, K. Κουγιουμοντζής, **Ε.Γ. Παπάζογλου**, Σ. Σπανού (2017). Βαρέα μέταλλα και φυτική ποικιλότητα στην ευρύτερη περιοχή της Λαυρεωτικής, Αττική. 15^o Πανελλήνιο Επιστημονικό Συνέδριο Ελληνικής Βοτανικής Εταιρίας, Χανιά.
4. E. Ψωμιάδης, **Ε.Γ. Παπάζογλου**, B. Αντωνίου, E. Καυκαλά (2017). Δεδομένα των δορυφόρων Sentinel-1 & Sentinel-2 για την χαρτογράφηση της λεκάνης απορροής και της παράκτιας ζώνης του Σπερχειού ποταμού στην Ανατολική Στερεά Ελλάδα. 2^o Συνέδριο Γεωγραφικών Πληροφοριακών Συστημάτων και Χωρικής Ανάλυσης στη Γεωργία και στο Περιβάλλον, Αθήνα, Ελλάδα.
5. E. Ψωμιάδης, **Ε.Γ. Παπάζογλου**, E. Καυκαλά, N. Χαριζόπουλος, Φ. Φιλιππίδης, K. Σερέλης (2017). Διαχρονική εκτίμηση της ποιότητας νερού και γεωχωρική ανάλυση στην παράκτια περιοχή του Σπερχειού ποταμού. 11^o Διεθνές Υδρογεωλογικό Συνέδριο της Ελλάδας, Αθήνα.

INTERNATIONAL AND NATIONAL WORKSHOPS AND WEBINARS

6. G. Karantounias, D. Damianakos, K. Serelis, **E.G. Papazoglou** (2008). An Eco-industrial and Natural Park. Lavrion City and Sounion national Part, Attica-Greece. International Workshop on Minor Communities and Natural and Cultural Heritage: an Asset or a Liability? Sundsvall, Sweden.
7. **E.G. Papazoglou** (2013). Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region (JatroMed). 1st JatroMed International Workshop, Marrakech, Morocco.
8. A. Ouhammou, **E.G. Papazoglou**, A. Outzourhit, R. Ait Babahmad (2013). The Multipurpose energy crop of *Jatropha curcas* L. 1st JatroMed International Workshop, Marrakech, Morocco.
9. **E.G. Papazoglou** (2014). JatroMed EU Project: Current status and results concerning Jatropha growth and adaptation in North African Countries. Final meeting and Brokerage event of the project “Strengthening Networking on Biomass Research and Biowaste Conversion – Biotechnology for Europe – India Integration (SAHYOG), Brussels, Belgium
10. **E.G. Papazoglou** (2014). JatroMed implementation in North Africa. 2nd JatroMed International Workshop, Algiers, Algeria.
11. R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou**, A. Ouhammou (2014). Evaluation of number of flowers and fruits per inflorescence for four *Jatropha curcas* L. genotypes planted in Had Draa (Essaouira) Morocco. 2nd JatroMed International Workshop, Algiers, Algeria.
12. R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou**, A. Ouhammou (2014). The Oil yield and physicochemical properties of mechanically extracted *Jatropha curcas* L. oil. 2nd JatroMed International Workshop, Algiers, Algeria.
13. **E.G. Papazoglou** (2015). JatroMed implementation in North Africa. 3rd JatroMed International Workshop, Alexandria, Egypt.
14. R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou**, M. Hafidi, A. Ouhammou (2015). *Jatropha curcas* Waste Can Be Made Useful by Composting. 3rd International Workshop on waste management and sustainable development , Tangier, Morocco.
15. R. Ait Babahmad, A. Outzourhit, **E.G. Papazoglou**, M. Hafidi, A. Ouhammou (2015). *Jatropha curcas* L 1753. (Euphorbiaceous): Description, Ecology, Distribution and different Uses. International Workshop entitled: Best practices in biodiversity conservation and local livelihoods in Morocco, Marrakech – Morocco.

16. **E.G. Papazoglou** (2020). Exploitation of contaminated agricultural soils by the cultivation of industrial crops. National workshop entitled: Biomass and Agrarian Sector, Thessaloniki, Greece
17. **E.G. Papazoglou** (2020). Growing fiber crops on contaminated lands as feedstock for biobased economy. Webinar organized by the Association for the Advancement of Industrial Crops.
18. **E.G. Papazoglou** (2021). Utilization of industrial crops for the phytomanagement and remediation of heavy metal contaminated soils. Workshop organized by the EU project MAGIC in the view of the AAIC 2021 conference.
19. **E.G. Papazoglou** (2022). Supply and application of fiber crops for sustainable soil remediation and bio-based raw material production for industrial uses – FORTE. Workshop organized by the ERANETMED project MediOpuntia, entitled: Opportunities and challenges for sustainable and resilient agriculture in arid lands: case of Opuntia and other selected crops in the Mediterranean.

Research Activities

PARTICIPATION IN SCIENTIFIC RESEARCH PROJECTS: 21

ON-GOING AND RESENT PROJECTS:

-**MIDAS (2022-2026)** - Marginal agricultural lands and climate-resilient and biodiversity-friendly industrial crops for innovative bio-based value chains (GA is to be signed). **AUA scientific responsible and coordinator.**

-**BRIZE (2022-2024)** - Installation of green desalination unit at Kimolos island with integrated innovative technology of brine treatment EEA GRANT, (Ref. OPS 5093109, Ministry of Productive Reconstruction, Environment and Energy, ELKE Code no: 124,0004). **Project coordinator.**

-**GOLD (2021-2025)** - Bridging the gap between phytoremediation solutions on growing energy crops on contaminated lands and clean biofuel production. European Commission / Horizon 2020 (Grant Agreement No 101006873, ELKE Code No: 08.0121). **Leader of WP1 “Optimization of lignocellulosic energy crops for phytoremediation purposes”. AUA scientific responsible and coordinator.**

-**FORTE (2019-2023)** - Supply and application of fiber crops for sustainable soil remediation and bio-based raw material production for industrial uses (<https://www.forte-project.gr/>). Bilateral and multilateral joint R&T collaboration between Greece and China / General Secretariat for Research and Technology (GSRT), under the Operational Programme “Competitiveness, Entrepreneurship and Innovation” (EPAnEk) 2014-2020. **Project coordinator.**

-**MAGIC (2017-2021)** - Marginal lands for Growing Industrial Crops: Turning a burden into an opportunity (<https://magic-h2020.eu/>). European Commission / Horizon 2020 (Grant Agreement No 727698, ELKE Code No: 080079). **Leader of Sub-task 4.3.2 Pot trials/phytoremediation. AUA deputy coordinator.**

-**PANACEA (2017-2021)** - A thematic network to design the penetration path of non-food crops into European agriculture (<https://www.panacea-h2020.eu/>). European Commission / Horizon 2020 (Grant Agreement No 773501, ELKE Code No: 080083). **AUA deputy coordinator.**

-**SPERCHIOS (2015-2017)** - Integrated environmental study and mapping for the improvement of the river basin management plans and the coastal zone of river Sperchios- (www.sperchios-project.gr). EEA GRANT, (Ref. OIK 140880/17-08-2015, Ministry of Reconstruction of Production, Environment and Energy, ELKE Code no: 86.0001). **Team member, contact person.**

-**BILATERAL RELATIONS (2015-2017)** of the project Integrated environmental study and mapping for the improvement of the river basin management plans and the coastal zone of river Sperchios, EEA GRANT, (ELKE Code no: 86.0002). **Contact person.**

- **Jatromed (2011-2016)** - Evaluation of the energy crop *Jatropha curcas* as a mean to promote renewable and sustainable energy for the Mediterranean region (www.jatromed.hua.gr).

EuropeAid/128320/C/ACT/Multi (Grant Agreement No 2011/221037, ELKE Code no: 080002).
Contact person.

PARTICIPATION IN COST ACTIONS

- COST 859: Phytotechnologies to Promote Sustainable Land Use and Improve Food Safety
- COST FA0901: Putting Halophytes to Work - From Genes to Ecosystems
- COST C27: Sustainable Development Policies for Minor Deprived Urban Communities
- COST CA15223: Modifying plants to produce interfering RNA (iPLANTA).

CONFERENCES INTERNATIONAL SCIENTIFIC COMMITTEE MEMBERSHIP

- International Conference on Environmental Management, Engineering, Planning and Economics, Greece.
- International Conference "Plant - the source of research material, Poland.
- International Congress on the Management of Mining Waste and Post-Mining, Morocco.
- Salon International Ruralité et Développement Durable en Méditerranée, Algeria.
- 3rd International Symposium on Materials, Electrochemistry and Environment, Lebanon.

REFEREE IN SCI JOURNALS (2004-TODAY)

- Environment International (Impact Factor: 9.621)
- Environmental Pollution (Impact Factor: 8.071)
- Chemosphere (Impact Factor: 7.086)
- Journal of Hazardous Material (Impact Factor: 10.588)
- Industrial Crops and Products (Impact Factor: 5.645)
- European Journal of Soil Biology (Impact Factor: 2.846)
- Industrial & Engineering Chemistry Research (Impact Factor: 3.720)
- Ecotoxicology and Environmental Safety (Impact Factor: 6.291)
- Environmental and Experimental Botany (Impact Factor: 5.545)
- New Biotechnology (Impact Factor: 5.079)
- International Journal of Phytoremediation (Impact Factor: 2.528)
- Environmental Science and Pollution Research (Impact Factor: 4.223)

MEMBERSHIPS

- Foreign member of the Commission of Medical Sciences of the Polish Academy of Sciences.
- International Phytotechnology Society (IPS)
- Association for the Advancement of Industrial Crops (AAIC)
- World Bioenergy Association (WBA)
- Hellenic Society of Agricultural Engineers (EGME)
- Hellenic Biomass Society (HELLABIOM)

RESEARCH ASSOCIATE IN ENVIRONMENTAL IMPACT ASSESSMENT STUDIES: 12

RESEARCH ASSOCIATE IN LANDSCAPE ARCHITECTURE STUDIES: 10