

Curriculum Vitae Thomas Kotsopoulos

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Address:	Aristotle University of Thessaloniki (AUTH), Faculty of Agriculture, Thessaloniki, Greece. 54124	e-mail:	mkotsop@agro.auth.gr	
Current Position:	Professor, Head of the laboratory of Agricultural Structures & Equipment (ASE), Head of the School of Agriculture, Member of the Research committee of AUTH			

Thomas Kotsopoulos (TK), PhD is Professor at Faculty of Agriculture, Aristotle University of Thessaloniki, Greece. TK holds a bachelor degree in Agronomy and a diploma in Civil Engineering. He received the M.Sc. and Ph.D. degrees in agricultural engineering with an emphasis in biogas production from Aristotle University of Thessaloniki, in 2001 and 2005, respectively. He is Director of the Lab of Agricultural Structures & Equipment (ASE). ASE belongs to the Department of Hydraulics, Soil science and Agricultural engineering and consists of 1 professor, 2 post-doc and 5 PhD students. ASE conducts basic and applied research in the fields of energy systems and technology in agricultural structures (Greenhouses and Livestock Buildings), manure management, methane and biohydrogen production from different feedstock with a long record of research activities, both at national and international level. Research work on methane and biohydrogen production focuses on process monitoring and optimization as well as on control and design of anaerobic reactors. His current research interests include: Greenhouses, livestock buildings, energy saving in agricultural structures, anaerobic reactors configuration for biohydrogen and biomethane production, as well as on control and design of bioreactors for added value chemicals production. His current research interests include: anaerobic reactors configuration for biohydrogen and biomethane production, environmental engineering and anaerobic process monitoring and optimization. He has approx. 84 scientific publications (>45 ISI publications, h-index of 22) and he is also a member in several national and international tasks-groups .

Personal

Born December 26,1972 in Serres, Greece. Greek citizen. married, two children

Scientific publications (last 5 years)

- Karnoutsos, P., Katsantonis, D., Gkatzamani, A., Koukounaras, A., Kotsopoulos, T., Pantazi, X.E., Fragos, V.P. Plant-Driven Precision Irrigation in Aeroponics: Real-Time Turgor Sensing for Sustainable Lettuce Cultivation (2025) Agriculture (Switzerland), 15 (18), art. no. 1948
- Yan, Y., Liu, A., Shang, Q., Singh, R.P., Fu, D., Kotsopoulos, T., Fotidis, I.A. Integrated hydrothermal pretreatment and enzymatic hydrolysis for optimal succinic acid production from the liquid fraction of municipal food waste (2025) Journal of Cleaner Production, 521, art. no. 146270
- Fotidis, I.A., Pitsikoglou, D., Douklias, S., Kotsopoulos, T., García, J.M., Fu, D., Yan, Y. Long-term stored lyophilized methanogenic inocula to bioaugment biomethanation of problematic biomasses (2025) Journal of Environmental Chemical Engineering, 13 (3), art. no. 116348
- Kalamaras, S.D., Tsitsimpikou, M.-A., Tzenos, C.A., Lithourgidis, A.A., Pitsikoglou, D., Kotsopoulos, T. A Low-Cost IoT System Based on the ESP32 Microcontroller for Efficient Monitoring of a Pilot Anaerobic Biogas Reactor (2025) Applied Sciences (Switzerland), 15 (1), art. no. 34
- Lampridi, M., Kateris, D., Myresiotis, C., Berruto, R., Fragos, V.P., Kotsopoulos, T., Bochtis, D. Leveraging Digital Technologies for Carbon Footprint Tracking in Perennial Cultivations: A Case Study of Walnut Orchard Establishment in Central Greece (2024) Agronomy, 14 (10), art. no. 2241
- Gaspari, M., Ghiotto, G., Centurion, V.B., Kotsopoulos, T., Santinello, D., Campanaro, S., Treu, L., Kougias, P.G. Decoding Microbial Responses to Ammonia Shock Loads in Biogas Reactors through Metagenomics and Metatranscriptomics (2024) Environmental Science and Technology, 58 (1), pp. 591-602.
- Katsivelou, E., Perruchon, C., Lithourgidis, A.A., Kotsopoulos, T.A., Karpouzas, D.G., Vasileiadis, S. Bioaugmentation of manures by a tiamulin-degrading Sphingomonas as a means to alleviate environmental dispersal of antibiotic residues (2024) Bioremediation Journal
- Firfiris, V.K., Martzopoulou, A.G., Kotsopoulos, T.A. Advanced energy conservation practices in livestock buildings (2024) Engineering Applications in Livestock Production, pp. 265-294.

- Yan, Y., Kallikazarou, N.I., Tzenos, C., Kotsopoulos, T.A., Koutsokeras, L., Kokkinidou, D., Michael, C., Constantinides, G., Anayiotos, A.S., Botsaris, G., Nisiforou, O., Antoniou, M.G., Fotidis, I.A. Pilot-scale biogas and in-situ struvite production from pig slurry: A novel integrated approach (2023) *Journal of Cleaner Production*, 431, art. no. 139656
- Tsitsimpikou, M.-A., Kalamaras, S.D., Lithourgidis, A.A., Mitsopoulos, A., Ellegaard, L., Angelidaki, I., Kotsopoulos, T.A. Simulation of the Working Volume Reduction through the Bioconversion Model (BioModel) and Its Validation Using Biogas Plant Data for the Prediction of the Optimal Reactor Cleaning Period (2023) *Sustainability (Switzerland)*, 15 (23), art. no. 16157.
- Lithourgidis, A.A., Kotsopoulos, T.A., Kalamaras, S.D., Skiadas, I.V., Kuglarz, M., Vigato, F., Alvarado-Morales, M., Angelidaki, I. Bio-succinic acid production, up to pilot scale, by fermentation of industrial candy waste with *Actinobacillus succinogenes* 130Z and its downstream purification process (2023) *Journal of Environmental Chemical Engineering*, 11 (5), art. no. 110920.
- Gaspari, M., Treu, L., Centurion, V.B., Kotsopoulos, T.A., Campanaro, S., Kougias, P.G. Impacts of long chain fatty acids injection on biogas reactors performance stability and microbial community structure and function (2023) *Journal of Cleaner Production*, 418, art. no. 138048.
- Kalamaras, S.D., Christou, M.L., Tzenos, C.A., Vasileiadis, S., Karpouzas, D.G., Kotsopoulos, T.A. Investigation of the Critical Biomass of Acclimated Microbial Communities to High Ammonia Concentrations for a Successful Bioaugmentation of Biogas Anaerobic Reactors with Ammonia Inhibition (2023) *Microorganisms*, 11 (7), art. no. 1710.
- Tzenos, C.A., Kalamaras, S.D., Economou, E.-A., Romanos, G.E., Veziri, C.M., Mitsopoulos, A., Menexes, G.C., Sfetsas, T., Kotsopoulos, T.A. The Multifunctional Effect of Porous Additives on the Alleviation of Ammonia and Sulfate Co-Inhibition in Anaerobic Digestion (2023) *Sustainability (Switzerland)*, 15 (13), art. no. 9994.
- Laskos, V.N., Kotsopoulos, T., Karpouzou, D., Fragos, V.P. Numerical Investigation of the Three-Dimensional Flow around a Surface-Mounted Rib and the Onset of Unsteadiness (2023) *Mathematics*, 11 (12), art. no. 2601, .
- Lithourgidis, A.A., Firiris, V.K., Kalamaras, S.D., Tzenos, C.A., Brozos, C.N., Kotsopoulos, T.A. Energy Conservation in a Livestock Building Combined with a Renewable Energy Heating System towards CO₂ Emission Reduction: The Case Study of a Sheep Barn in North Greece (2023) *Energies*, 16 (3), art. no. 1087.
- Firiris, V.K., Kaffe, Z.D., Kalamaras, S.D., Lithourgidis, A.A., Martzopoulou, A.G., Kotsopoulos, T.A. A Prototype Passive Solar Drying System: Exploitation of the Solar Chimney Effect for the Drying of Potato and Banana (2022) *Applied Sciences (Switzerland)*, 12 (22), art. no. 11784.
- Lemonidis, I., Banti, D.C., Tzenos, C.A., Kalamaras, S.D., Kotsopoulos, T.A., Samaras, P. Energy Valorization of Fine Screenings from a Municipal Wastewater Treatment Plant (2022) *Energies*, 15 (21), art. no. 8236.
- Firiris, V.K., Kalamaras, S.D., Martzopoulou, A.G., Fragos, V.P., Kotsopoulos, T.A. Improvement of the Performance of an Earth to Air Heat Exchanger for Greenhouse Cooling by the Incorporation of Water Finned Tubes—A Theoretical Approach (2022) *AgriEngineering*, 4 (1), pp. 190-206.
- Hoffmann, M., Stanly, J., Sundararaj, S., Rilling, S., Kotsopoulos, T., Firiris, V., Moshou, D. ATLAS livestock monitoring architecture and services (2022) *Precision Livestock Farming 2022 - Papers Presented at the 10th European Conference on Precision Livestock Farming, ECPLF 2022*, pp. 1022-1029.
- Sfetsas, T., Patsatzis, S., Chioti, A., Kopteropoulou, A., Dimitropoulou, G., Tsioni, V., Kotsopoulos, T. A review of advances in valorization and post-treatment of anaerobic digestion liquid fraction effluent (2022) *Waste Management and Research*, 40 (8), pp. 1093-1109.
- Perruchon, C., Katsivelou, E., Karas, P.A., Vassilakis, S., Lithourgidis, A.A., Kotsopoulos, T.A., Sotiraki, S., Vasileiadis, S., Karpouzas, D.G. Following the route of veterinary antibiotics tiamulin and tilmicosin from livestock farms to agricultural soils (2022) *Journal of Hazardous Materials*, 429, art. no. 128293.
- Kalamaras, S.D., Vitoulis, G., Christou, M.L., Sfetsas, T., Tziakas, S., Fragos, V., Samaras, P., Kotsopoulos, T.A. The effect of ammonia toxicity on methane production of a full-scale biogas plant—an estimation method (2021) *Energies*, 14 (16), art. no. 5031.
- Christou, M.L., Vasileiadis, S., Karpouzas, D.G., Angelidaki, I., Kotsopoulos, T.A. Effects of organic loading rate and hydraulic retention time on bioaugmentation performance to tackle ammonia inhibition in anaerobic digestion (2021) *Bioresource Technology*, 334, art. no. 125246.
- Christou, M.L., Vasileiadis, S., Kalamaras, S.D., Karpouzas, D.G., Angelidaki, I., Kotsopoulos, T.A. Ammonia-induced inhibition of manure-based continuous biomethanation process under different organic loading rates and associated microbial community dynamics (2021) *Bioresource Technology*, 320, art. no. 124323 .
- Tsiakiri, E.P., Mpougali, A., Lemonidis, I., Tzenos, C.A., Kalamaras, S.D., Kotsopoulos, T.A., Samaras, P. Estimation of energy recovery potential from primary residues of four municipal wastewater treatment plants (2021) *Sustainability (Switzerland)*, 13 (13), art. no. 7198.

Scientific coordinator in research projects

- 2025-2026. Research funding for the Laboratory of Agricultural Structures and Equipment: 166.181,36 €. “Strengthening the industrial symbiosis in the value chain of anaerobic digestion” (ALIVE) is implemented in the framework of “(Strategy

for Excellence in Universities & Innovation) (ID 16289) - SUB1.1.Clusters of Research and Excellence" under the National Recovery and Resilience Plan "Greece 2.0" funded by the European Union – NextGenerationEU

- 2022-2025. Research funding for the Laboratory of Agricultural Structures and Equipment: 138.813,59€. Use of innovative techniques and exploitation of natural resources (geothermal) for the sustainable development of greenhouses. SPECIAL DEVELOPMENT PROGRAM (S.D.P.) OF THE REGION OF WESTERN MACEDONIA, WITHIN THE CONTEXT OF THE DEVELOPMENT END 2012-2016
- 2021-2024. Research funding for the Laboratory of Agricultural Structures and Equipment: 181.910,00€. Intelligent system for feeding biogas plants. "Innovation Investment Projects" in the Operational Program "Central Macedonia 2014-2020".
- 2020–2023. Research funding for the Laboratory of Agricultural Constructions and Equipment: €25,000.00. Project title: Utilization of pyrolysis products of the solid digested residue from biogas plants. Funded under the Single State Aid Action for Research, Technological Development and Innovation "RESEARCH – CREATE – INNOVATE" of the Operational Programme "Competitiveness, Entrepreneurship and Innovation (EPAnEK)", NSRF 2014–2020 (Intervention I, 2nd Cycle).
- 2020–2023. Research funding for the Laboratory of Agricultural Constructions and Equipment: €50,000.00. Project title: Multifunctional additives for optimizing the performance of biogas production units and the properties of the final digested residue. Funded under the Single State Aid Action for Research, Technological Development and Innovation "RESEARCH – CREATE – INNOVATE" of the Operational Programme "Competitiveness, Entrepreneurship and Innovation (EPAnEK)", NSRF 2014–2020 (Intervention I, 2nd Cycle).
- 2020–2023. Research funding for the Laboratory of Agricultural Constructions and Equipment: €12,000.00. Project title: Development and integration of a sanitation system for anaerobic digestion units using photocatalytic membranes. Funded under the Single State Aid Action for Research, Technological Development and Innovation "RESEARCH – CREATE – INNOVATE" of the Operational Programme "Competitiveness, Entrepreneurship and Innovation (EPAnEK)", NSRF 2014–2020 (Intervention I, 2nd Cycle).
- 2020-2023. Total Budget- EU Contribution: 1,918,328.50 €, research grants for ASE: 110,056.25 €. *Upscaling and Market Introduction of Simultaneous Biogas Upgrading and Bio-Succinic Acid Production*. HORIZON2020- H2020-EIC-FTI-2018-2020. Scientific coordinator of the AUTH part.
- 2019-2022. Total Budget- EU Contribution: 4,985,475.00 €, research grants for ASE: 50,486.48 €. *Sino-EU Soil Observatory for intelligent Land Use Management*. HORIZON2020- H2020-SFS-2018-2. Scientific coordinator of the ASE part
- 2019-2023. Total Budget- EU Contribution: 6,994,405.00€, research grants for ASE: 107,138.89€. *RESILIENT FARMING BY MANAGEMENT ADAPTIVE MICROCLIMATE*. HORIZON2020- H2020-SFS-2018-2. Scientific coordinator of the ASE part
- 2018-2022. Total budget: 991,373.31€, research grants for ASE: 343,340.00€. *Innovative technologies to eliminate ammonia inhibition in anaerobic digestion in order to enhance methane production*. National Research funding, General Secretariat for Research and Technology. Scientific coordinator of the consortium
- 2018-2021. Total Budget: 714,457.82€ research grants for ASE: 179,567.98€ *Innovative greenhouse system for combined agricultural use and irrigation water production*. National Research funding, General Secretariat for Research and Technology. Scientific coordinator of the AUTH part
- 2017- Investigation of high concentration of H₂S in biogas, that is produced by the anaerobic decomposition of agro-livestock waste, in a biogas plant for electricity production (Private funding)

Evaluation of proposals

1. I evaluated one (1) proposal that has been submitted for funding in the Danish Council for Independent Research | Technology and Production Sciences 12-126206. (2012)
2. I evaluated nine (9) proposals that have been submitted for funding under the Joint Call "ERANETMED" (2016)
3. I evaluated two (2) proposals that have been submitted for funding under the INNO INDIGO Partnership Programme (IPP) S&T Call for Proposals in the field of Biobased energy (2016)
4. I evaluated seven (7) National proposals that have been submitted for funding under the call for PhD – students from the Hellenic foundation for research and innovation (2017)
5. I was a member of the National committee that evaluated projects submitted for funding under the "INVESTIGATE - CREATE – INNOVATION" call in the Environment field from the General Secretariat for Research and Technology
6. Expert evaluator on Horizon Europe Energy calls (2022)

Teaching activity

Undergraduate Courses:

Postgraduate Courses:

- Agricultural Structures
- Agricultural Waste Management
- Renewable energy sources in agriculture
- Energy Management in Agriculture
- Greenhouses

- Design of agricultural structures and greenhouses
- Waste management - Protection of the environment
- Design of alternative energy systems in Agriculture