**CURRICULUM VITAE – KONSTANTINOS NINIKAS**

**Konstantinos Ninikas** (Male) is an associate researcher and teaching staff at the Department of Forestry, Wood Sciences & Design, School of Technology, University of Thessaly, Greece. He has a Bachelor of Engineering (in Mechanical Engineering), an M.Sc. (Energy potentials from waste) and a PhD (Renewable Heat Energy from waste) from the Glasgow Caledonian University, U.K. He was a self-employed engineer in the field of materials and energy for over 10 years. He worked in academia from 2009 until 2019, at the University of Applied Sciences (TEI) of Thessaly and from 2019 till today at the University of Thessaly Greece. He collaborated with the Glasgow Caledonian University, as an associate researcher in a two-year research project, carrying out a feasibility study to generate heat energy from the waste inside the SPT Glasgow subway tunnels. He has been trained at the MIT (Massachusetts Institute of Technology) – in the USA in the field of "Energy, Sustainability and Product Life Cycle" and at the Harvard University - USA in the field of "Strategy and Innovation". He is currently working as a teaching staff and research associate at the University of Thessaly, Greece with modules both in the undergraduate and MSc courses.
He is delivering the "CAD-CAM" module in the undergraduate programme and the "Advanced CAD-CAM systems" module in the postgraduate programme.
He works also as an occasional lecturer at the Glasgow Caledonian University U.K. at the School of Computing, Engineering and the built environment delivering MSc courses. He has been engaged with a number of research teams from different disciplines to undertake a number of projects related to materials and energy from waste, sustainable design, and upcycling. He teaches postgraduate courses in Renewable Energy in London and Glasgow at Glasgow Caledonian University U.K. He collaborates with the same University where he teaches undergraduate courses at Universities in China (Jinling Institute of Technology JIT - Nanjing China & University of Jinan UJN - Shangdong China) within the framework of joint China-UK undergraduate programs. His current research interests are the Energy valuation of wood products, the Life cycle of wood by-products, the Heat capacity of modern frames, Design and processing of materials using a laser.
He has published several articles in various international scientific journals and international conferences, such as e.g. Renewable energy sources - Elsevier, Environmental Geotechnics - ICE (Institute of Civil Engineers). He has presented scientific papers at international conferences in the countries: Greece, Great Britain, Malaysia, Hungary, Germany, Russia etc. He participated in research projects and was an instructor in international laboratories

**Awards / Prizes**

Winner of SCOTTISH TRANSPORT AWARDS 2016 for contribution to *Sustainable Transport* Strathclyde Partnership for Transport -Ground Water and Air Source Heat System on the Subway.
https://www.transporttimes.co.uk/news.php/THE-SCOTTISH-TRANSPORT-AWARDS-2016-WINNERS-ANNOUNCED-130/

**Journals**

1. **Ninikas K**., Tallaros, P., Mitani, A., Koutsianitis, D., Ntalos G., Taghiyari H.R Papadopoulos A.N. *Thermal Behavior of a Light Timber-frame Wall vs a Theoretical Simulation with Various Insulation Materials.* J. Compos. Sci. 2022, 6, 22. https://doi.org/10.3390/jcs6010022
2. Kechagias J.D, **Ninikas K.,** Petousis M., Vidakis N. *Laser cutting of 3D printed acrylonitrile butadiene styrene plates for dimensional and surface roughness optimisation.* "The International Journal of Advanced Manufacturing Technology". Springer. Dec.2021. https://doi.org/10.1007/s00170-021-08350-2
3. Kechagias J.D, Fountas N.A., **Ninikas K.,** Petousis M., Vidakis N., Vaxevanis N. *Surface characteristics investigation of 3D-printed PET-G plates during CO2 laser cutting.*

"Materials and Manufacturing Processes Journal". *Taylor & Francis. Sept. 2021.* https://doi.org/10.1080/10426914.2021.1981933

4. Kechagias J.D, Tsiolikas A., Petousis M., **Ninikas K.,** Vidakis N., Tzounis L. *A robust methodology for optimizing the topology and the learning parameters of an ANN for accurate predictions of laser-cut edges surface roughness.* "Simulation Modelling Practice and Theory" Elsevier. Sept. 2021. https://doi.org/10.1016/j.simpat.2021.102414
5. Kechagias J.D., **Ninikas K.**, Stavropoulos P., Salonitis K. *A Generalised Approach on Kerf Geometry Prediction during $CO_2$ Laser cut of PMMA Thin Plates using Neural Networks.* "Journal of Lasers in Manufacturing and Materials Processing". Springer. August 2021. DOI:10.1007/s40516-021-00152-4
6. **Ninikas K.**, Kechagias J.D., Salonitis K. *The Impact of Process Parameters on Surface Roughness and Dimensional Accuracy during $CO_2$ Laser Cutting of PMMA Thin Sheets.* "Journal of Manufacturing and Materials Processing". MDPI. July 2021. https://doi.org/10.3390/jmmp5030074
7. **Ninikas K.,** Mitani A., Koutsianitis D., Ntalos G., Taghiyari H. R., Papadopoulos A *Thermal and Mechanical Properties of Green Insulation Composites Made from Cannabis and Bark Residues.* "Journal of Composite Science". MDPI. May 2021. https://doi.org/10.3390/jcs5050132
8. Kechagias J.D., **Ninikas K**., Petousis M., Vidakis N., Vaxevanidis N. *An investigation of surface quality characteristics of 3D-printed PLA plates cut by CO2 laser using experimental design.* "Materials and Manufacturing Processes." Taylor & Francis. April 2021. https://doi.org/10.1080/10426914.2021.1906892
9. Koutsianitis D., **Ninikas K**., Mitani A., Ntalos G., Nikolakakos M., Argyris V. Taghiyari H. R., Papadopoulos A. *Thermal Transmittance, Dimensional Stability, and Mechanical Properties of a Three-Layer Laminated Wood Made from Fir and Meranti and Its Potential Application for Wood-Frame Windows*. "Coatings. MDPI". March 2021. DOI: 10.3390/coatings11030304
10. Kechagias J.D., **Ninikas K**., Stavropoulos P., Salonitis K. *A generalised approach on kerf geometry prediction during $CO_2$ laser cut of PMMA thin plates using neural networks.* "The International Journal of Advanced Manufacturing Technology." Springer. February 2021. DOI:10.21203/rs.3.rs-268745/v1
11. Hytiris N, **Ninikas K**, Aaen B, Emmanuel R. Review of Sustainable Heat in the Glasgow Subway Tunnels. "Civil Engineering Research Journal". 11(1): 555805. December 2020. DOI: 10.19080/CERJ.2020.11.555805
12. **Ninikas K**., Ntalos G., Mitani A., Chroni S. *Children's Cot: Are the Manufacturers Aware of the Safety Requirements? A Case Study of Furniture Quality Control in the Greek Market*. "Modern Environmental Science and Engineering" October 2020, Volume 6, No. 10, pp. 1115-1120. DOI: 10.15341/mese(2333-2581)/10.06.2020/009
13. **Ninikas K**., Ntalos G., Mitani A., Koutsianitis D. *Calorific values from Greek spruce residues & bioenergy potentials via pellet production*. "PRO LIGNO" Journal. December 2019. https://www.researchgate.net/publication/340377559_CALORIFIC_VALUES_FROM_GREEK_SPRUCE_RESIDUES_BIOENERGY_POTENTIALS_VIA_PELLET_PRODUCTION
14. Mitani A., Ntalos G., Koutsianitis D., **Ninikas K**. *Aging effect of some varnish coated wood species on color difference and surface roughness*. "PRO LIGNO" Journal. December 2019. https://www.researchgate.net/publication/340377830_AGING_EFFECT_OF_SOME_VARNISH_COATED_WOOD_SPECIES_ON_COLOR_DIFFERENCE_AND_SURFACE_ROUGHNESS
15. Koutsianitis D., Mitani A., Ntalos G., **Ninikas K**. *Hydroscopic properties after weathering of some varnish coated wood species.* "PRO LIGNO" Journal. December 2019. https://www.researchgate.net/publication/340377589_HYGROSCOPIC_PROPERTIES_AFTER_WEATHERING_OF_SOME_VARNISH_COATED_WOOD_SPECIES
16. **Ninikas K**., Hytiris N., Emmanuel R., Aaen B., *Recovery and valorisation of energy from wastewater using a water source heat pump at the Glasgow Subway*. Potentials for similar Underground environments. "Resources" Journal (MDPI). October 2019. DOI:10.3390/resources8040169
17. **Ninikas K**., Hytiris N., Emmanuel R., Aaen B. *The performance of an ASHP system using waste air to recover heat energy in a Subway system*. "Clean Technologies" Journal (MDPI). July 2019. DOI:10.3390/cleantechnol1010011
18. **Ninikas K**., Hytiris N., Ntalos G., Skarvelis M. *Thermal properties of insulation boards made of tree bark & hemp residues.* Journal of Sustainable Architecture and Civil Engineering. February 2019 DOI:10.5755/j01.sace.24.1.23236

19. **Ninikas K.,** Hytiris N., Emmanuel R., Aaen B., *Heat Energy Output from a Shallow Geothermal Open Loop System in Glasgow Performance Evaluation Design, Installation and Performance.* "Environmental Geotechnics" Journal, Institution of Civil Engineers (ICE). December 2017. https://www.icevirtuallibrary.com/doi/10.1680/jenge.17.00033
20. **Ninikas K.,** Hytiris N., Emmanuel R., Aaen B., Younger P. L., *Heat recovery from air in underground transport tunnels.* "Renewable Energy" Journal, Elsevier. June 2016. DOI:10.1016/j.renene.2016.05.015
21. Hytiris N., **Ninikas K**., Emmanuel R., Aaen B., Younger P. L., *A heat energy recovery system from tunnel waste water*. "Environmental Geotechnics" Journal, Institution of Civil Engineers (ICE). January 2016. DOI:10.1680/jenge.15.00087
22. Hytiris N., Emmanuel R., Aaen B., Church E., Campbell D., **Ninikas K**., Robertson A. *Heat Energy Recovery from Mineworkings. Opportunities in the Glasgow area.* "Environmental Geotechnics" Journal, Institution of Civil Engineers (ICE). July 2015. DOI:10.1680/envgeo.15.00007

**International conferences**

1. **Ninikas K.,** Kechagias J., Fountas A., Vaxevanidis N.M. *A study of Fused Filament Fabrication process efficiency: ABS vs PLA materials.* The 25th edition of IManEE International Conference (Innovative Manufacturing Engineering & Energy) 21-23 Oct. 2021. Romania.
2. Sioutas K., **Ninikas K**., Lallas E., Karageorgos A., Ntalos G. *Design and development of a "smart" digital calliper for measuring timber products*. 20th Hellenic Forestry Conference. 3-6 Oct. 2021, Trikala, Greece.
3. **Ninikas K.,** Ntalos G., Mitani A., Koutsianitis D. Energy potentials for building materials from cellular based waste and by-products. 4th International Scientific Conference Wood Technology & Product Design. 4th – 7th Sept. 2019. University Congress Centre, Ohrid, North Macedonia.
4. **Ninikas K**., Hytiris N., Ntalos G., Skarvelis M. *Thermal properties of insulation boards made of tree bark & hemp residues*. Forum Wood Building Baltic 2019, 27 Feb. – 1 Mar. 2019, Tallinn, Estonia. https://www.taltech.ee/public/k/Konverentsikeskus/Thermal_properties_of_insulation_boards_made_of_tree_bark_hemp_residues.pdf
5. **Ninikas K.,** Ntalos G., Skarvelis M. *Commercial possibilities and energy gain potentials of exploiting waste, tree bark and hemp residues to construct insulation boards*. 3rd APEEN Conference & 5th Meeting on Energy and Environmental Economics – ME3. International conference, 18-19 Oct. 2018, Braga Portugal. https://www.researchgate.net/publication/328542960_Commercial_possibilities_and_energy_gain_potentials_of_exploiting_waste_tree_bark_and_hemp_residues_to_construct_insulation_boards
6. Hytiris N., **Ninikas K.,** Aaen B. *Energy performance of a heating system via wastewater management*. 2nd International Conference of Recent Trends in Environmental Science and Engineering (RTESE'18) Niagara Falls, Canada, 10 – 12 June 2018. https://avestia.com/RTESE2018_Proceedings/files/paper/RTESE_112.pdf
7. **Ninikas K.,** Hytiris N. *The triple helix as a means of fostering a circular economy for water, energy and waste management in medium and low technology firms*. 29th annual EAEPE (European Association for Evolutionary Political Economy) conference, 19-21 Oct. 2017, Budapest, Hungary. https://www.researchgate.net/publication/340680928_The_triple_helix_as_a_means_of_fostering_a_circular_economy_for_water_energy_and_waste_management_in_medium_and_low_technology_firms
8. Hytiris N., Aaen B., **Ninikas K**. *Heat energy recovery from water and air in Glasgow and opportunities for shallow geothermal exploitation*. International conference on Advances on Sustainable Cities and Buildings Development. 15-17 Nov. 2017, Porto, Portugal.

https://www.researchgate.net/publication/340678624_Heat_energy_recovery_from_water_and_air_in_Glasgow_and_opportunities_for_shallow_geothermal_exploitation

9 Ntalos G., Mitani A. Papantoni T., Rammou E., **Ninikas K**., *Energy production from a mix of animal residues and wood*. 18th Hellenic forestry conference and international workshop. 8-11 Nov. 2017, Edessa, Greece.

10 Mitani A., Ntalos G., Rammou E., **Ninikas K.,** Kehagia E., *The use of Posidonia oceanica with wood for heat energy production*. 18th Hellenic forestry conference and international workshop. 8-11 Nov. 2017, Edessa, Greece.

11 **Ninikas K**., Ntalos G., Mitani A., Chroni S., *Wooden children's cot. Quality control and safety according to European standards*. 18th Hellenic forestry conference and international workshop. 8-11 Nov. 2017, Edessa, Greece.

12 Hytiris N., **Ninikas K.,** Emmanuel R., Younger P.L., *Heat Energy Recovery from Waste Water in the Glasgow Subway System*. 15th World Conference of the Associated Research Centres for the Urban Underground Space (ACUUS 2016), 12-15 Sept. 2016, St. Petersburg, Russia. https://doi.org/10.1016/j.proeng.2016.11.715 https://www.sciencedirect.com/science/article/pii/S1877705816340760

13 Hytiris N., **Ninikas K**., Emmanuel R., Younger P.L., *Heat Energy Recovery from Waste Water in the Glasgow Subway System*. 1st International Conference on Energy Geotechnics, 29-31 Aug. 2016, Kiel, Germany. https://www.researchgate.net/publication/340678844_HEAT_ENERGY_RECOVERY_FROM_WASTE_WATER_IN_THE_GLASGOW_SUBWAY_SYSTEM

14 **Ninikas K.,** Hytiris N., Emmanuel R., Aaen B., Younger P. L., *Waste water transformed into Heat Energy.* World Water Congress XV, 25-29 May 2015 Edinburgh, Scotland, UK Held by the International Water Resources Association (IWRA). http://www.iwra.org/congress/2015/proceedings/assets/3027251.pdf

15 **Ninikas K**., Hytiris N., Emmanuel R., Aaen B., McMillan S., *A renewable heat solution for water ingress in the Glasgow subway tunnel system*. Fifth International Conference On Energy and Sustainability, December 2014, Kuala Lumpur, Malaysia. DOI:10.2495/ESUS140141 https://www.witpress.com/elibrary/wit-transactions-on-ecology-and-the-environment/186/32735

**Other projects**

- Scientific coordinator for the work of the Research Committee of the University of Thessaly entitled "Development, research and delivery of educational online material in the thematic unit" Hydraulics "," Construction Materials ". Employer: Glasgow Caledonian University, U.K. (06/2022 - 10/2022)
- Scientific coordinator in the work of the University Research Committee within ERASMUS + entitled "Sustainable Modular Houses for People in Need". Employer: IKY (02/2022 -02/2024).
- Speaker at the industry exhibition MEDWOOD 2022 on the energy behaviour of windows. (Athens 01/03 / 2022- 04/03/2022).
- Member of the jury for the WOOD AWARDS 2022 competition. https://www.woodawards.gr/
- Scientific coordinator for the work of the Research Committee of the University of Thessaly entitled "Development, research and delivery of educational online material in the thematic unit" Hydraulics ". Employer: Glasgow Caledonian University, U.K. (08/2021 - 11/2021).
- Participation in a COST ACTION program at STSM (Short Term Scientific Mission) at Linnaeus University, Sweden on "Indoor living space improvement for Elderly people". http://www.sheld-on.eu/indoor-living-space-improvement-2/
- Scientific coordinator for the work of the Research Committee of the University of Thessaly entitled "Quality Control of Conference Room Seat" Employer: Gakos SA. 2021

- Scientific coordinator for the work of the Research Committee of the University of Thessaly entitled "Quality Control of crib" Employer: Aspradaki SA. (11/2020 - 01/2021)
- Scientific coordinator for the work of the Research Committee of the University of Thessaly entitled "Development, research and delivery of educational online material in the thematic unit" Hydraulics "," Construction Materials ". Employer: Glasgow Caledonian University, U.K. (11/2020 – 07/2021)
- Member of the jury for the WOOD AWARDS 2021 competition. https://www.woodawards.gr/judges/?utm_source=newsletter&utm_medium=email&utm_campaign=direct
- Member of the committee for the establishment of an institutional framework for the quality control of children's furniture based on European Standards. (Ministry of Development 2019).