



Christina Tsaimou

Civil Engineer NTUA

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Christina Tsaimou is currently a PhD Candidate at the Laboratory of Harbour Works (LHW) of National Technical University of Athens (NTUA), Greece. She holds a Master Degree in Project Management by the Hellenic Open University (HOU) and a 5-years diploma in Civil Engineering by NTUA. During her first academic year as a PhD candidate, she received a PhD scholarship by the Special Account for Research Funding of NTUA. Her PhD thesis, entitled «Model development of existing port infrastructure failure», is focused on predicting damage and failure modes of port structures during their lifetime by incorporating monitoring and evaluation data. Since 2019, she is a research associate at LHW. She has a strong academic background considering her 5-year past activity as a research associate at the Laboratory of Pavement Engineering (NTUA) regarding design, maintenance and monitoring of pavement infrastructure. Within the context of participating in research projects, as well as partially supervising undergraduate and postgraduate theses, her current research interests include, also, port and coastal vulnerability assessment, climate change adaptation, etc, while integrating advanced statistical analyses (e.g. multicriteria analysis, clustering, etc). Furthermore, she has been employed as an engineering consultant in a consultancy firm for 3 years in the general framework of pavement engineering.

WORK EXPERIENCE

07-2012 – Today	Engineering Consultant in the framework of port and coastal infrastructure, as well as pavements of roads and airports
10-2019 – Today	Research Associate, Laboratory of Harbour Works, Department of Civil Engineering, NTUA
04-2017 – 03-2020	Member of design team EDAFOS Engineering Consultants S.A.
04.2012 - 08.2016	Research Associate, Laboratory of Pavement Engineering, Department of Civil Engineering, NTUA

RESEARCH PROJECTS

2021-Today	Sustainable Development Plan and Integrated Coastal Zone Management for the Municipality of Thiva through consideration of coastal vulnerability and potential effects of climate change, project No.: 91006700, Principal Investigator: V. Tsoukala
2016	Analysis and utilization of flexible pavement design, redesign and reinforcement parameters at a highway of a concession agreement, project No.: 62/3337, Principal Investigator: A. Loizos
2015-2016	Research investigation for the pavements of Attiki Odos in terms of enhancing their functionality, project No.: 62/3178, Principal Investigator: A. Loizos
2012-2016	Development of a monitoring system of pavement functional and structural condition project No.: 62/2930, Principal Investigator: A. Loizos
2014	Rehabilitation of asphalt surface layers of highway pavement, project No.: 61/2038, Principal Investigator: A. Loizos
2013	Investigation of ensuring riding quality and structural condition of pavements under construction, project No.: 62/3021, Principal Investigator: A. Loizos
2013	Development of maintenance practices of highway pavements, project No.: 62/3067, Principal Investigator: C. Plati
2012-2014	Contribution to the maintenance management framework of the pavements of Attiki odos, project No.: 62/2983, Principal Investigator: A. Loizos
2012	Development of strategies for existing pavement maintenance or new pavement design for the highway “Elefsina-Korinthos-Patra-Pirgos-Tsakwna”, project No.: 62/2640, Principal Investigator: A. Loizos

2012 Investigation of long-term pavement performance, project No.: 62/2641, Principal Investigator: A. Loizos

PROJECTS LIST

- ◆ Financing, Operation, Maintenance and Exploitation of Egnatia Odos Motorway and Three Vertical Road Axes
- ◆ Reconstruction of the RWY and TWYs and the construction of new apron at the Airport of Elefsina (E-300N)
- ◆ Upgrade, Maintenance, Management and Operation of seven Aegean, Cluster B, Regional Airports
- ◆ Geotechnical and geological reconnaissance at Mikonos – Kalo Livadi

PARTICIPATION IN FORUMS

07-2020 – 12-2020 **Roundtable for Sustainable Ports and Shipping:** Monthly meeting in the context of the Sustainable Shipping and Ports Initiative organized by Ph. Koundouri (Professor, AUEB) with more than 100 experts participating (indicatively the Sustainable Development Solutions Network Greece).

RESEARCH INTERESTS

Port Engineering

- ◆ Monitoring of existing seaport infrastructure
- ◆ Development of an evaluation system of existing infrastructure
- ◆ Failure mechanisms of seaport infrastructure
- ◆ Port vulnerability
- ◆ Climate change impact
- ◆ Advanced statistical analysis for assessing port infrastructure (e.g. multicriteria analysis, clustering, developing composite indicators, etc)

Coastal Engineering

- ◆ Coastal vulnerability
- ◆ Inspection and monitoring of coastal condition
- ◆ Investigation of coastal evolution

Airport and Highway Pavement Engineering

- ◆ New pavement design
- ◆ Existing pavement rehabilitation / maintenance
- ◆ Development of management systems
- ◆ Conduction of in-situ measurements / laboratory tests

EDUCATION

10-2019 – Today **PhD candidate**, Laboratory of Harbour Works, Department of Water Resources and Environmental Engineering, School of Civil Engineering, NTUA, Greece, PhD thesis: «*Model development of existing port infrastructure failure*»

10-2017 – 06-2020 **Postgraduate studies at «Project Management»**, Hellenic Open University, Patra, Greece (9.60/10), Diploma thesis: «*In-situ investigation and monitoring of existing seaport infrastructure with modern methods*» (10/10)

09-2006 – 03-2012 **Diploma in Civil Engineering (MEng)**, National Technical University of Athens, Greece (7.64/10), Diploma thesis: «*Prediction of permanent deformation of flexible pavements*» (10/10)

FOREIGN LANGUAGES

English: Proficiency Cert. Michigan University, Proficiency Cert. Cambridge University
French: SORBONNE II: Diplôme de Langue et Littérature Françaises, 2e Degré

COMPUTER SKILLS

- ◆ MS Office (Word, Excel, PowerPoint, Internet, Outlook)

- ◆ MS Project
- ◆ AutoCAD (2D)
- ◆ ArcGIS / QGIS
- ◆ Matlab (basic knowledge)
- ◆ Python (basic knowledge)
- ◆ PROMETHEE (Multicriteria analysis software)
- ◆ Software for statistical analyses (STATISTICA, LAB Fit, EasyFit)
- ◆ Specialized software for pavement analysis: ALIZE, BAKFAA, BISAR, COMFAA, ELMOD, FAARFIELD, MODCOMP, VESYS

PARTICIPATION IN ACADEMIC TUTORING

- ◆ Maritime Hydraulics and Harbour Engineering, 7th Semester, School of Civil Engineering NTUA
- ◆ Advanced Topics in Port Engineering, 9th Semester, School of Civil Engineering NTUA
- ◆ Offshore structures, 9th Semester, School of Civil Engineering NTUA
- ◆ Coastal Engineering, 8th Semester, School of Civil Engineering NTUA

THESES PARTIAL SUPERVISION

Postgraduate

Mizi, M. (2021). Estimation of Port Climate Vulnerability Index for the Port Infrastructure of the Region of Peloponnese, Supervisor: V. Tsoukala, NTUA, Athens.

Undergraduate

Chelioti, K. (2022). Multicriteria assessment of monitoring methods of existing port infrastructure, Supervisor: V. Tsoukala, NTUA, Athens.

Brouziouti, S. (in progress). Enhancing port vulnerability assessment with infrastructure monitoring approaches, Supervisor: V. Tsoukala, NTUA, Athens.

Mpelekou, E. (in progress). Estimating vulnerability of Greek Ports of International Interest against climate change, Supervisor: V. Tsoukala, NTUA, Athens.

CERTIFICATIONS

- ◆ Certificate of Remote Pilot Competency (A1/A3 & A2 open subcategory), European Union Aviation Safety Agency (EASA)

AWARDS - SCHOLARSHIPS

- 2022** Award for the best paper at the 12th International Conference on Engineering, Project, and Production Management, 12-14 October, Athens, Greece
- 2020** Scholarship funded by the Special Account for Research Funding of NTUA to carry out the PhD
- 2007** «Agraphiotion Award» for her excellence as a student of the 3rd Class of the 1st High School of Arta for the school year 2005-2006

MEMBERSHIP

- 2022 – Today** Member of International Association for Hydro - Environment Engineering and Research (IAHR), No. 88534.

PUBLICATIONS

- Tsaimou, C.N.,** Sartampakos, P., & Tsoukala, V.K. An integrated UAV-driven approach for SHM enhancement of port infrastructure, Structure and Infrastructure Engineering (under review).
- Tsaimou, C.N.,** Chelioti, K.T., & Tsoukala, V.K. Optimizing port monitoring decision approaches based on multi-criteria analysis, Journal of Performance of Constructed Facilities (under review).
- Tsaimou, C.N.,** Kagkelis, D.-G., Karantza, K., & Tsoukala, V. (2022). Remote Sensing Synergies for Port Infrastructure Monitoring and Condition Assessment, 12th International Conference on Engineering, Project, and Production Management, 12-14 October, Athens, Greece.

- Tsaimou, C.N.**, Chelioti, K., & Tsoukala, V. (2022). Unmanned Aerial Vehicles: A Survey on Monitoring Advancements for Port Infrastructure Applications, 12th International Conference on Engineering, Project, and Production Management, 12-14 October, Athens, Greece.
- Tsaimou C.**, Kagkelis G., Papadimitriou A., Chalastani V., Sartampakos P., Chondros M., & Tsoukala V. (2022). Advanced Multi-Area Approach for Coastal Vulnerability Assessment, 7th IAHR Europe Congress, 7-9 September, Athens, Greece.
- Chalastani V., Pantelidis, A., **Tsaimou C.**, & Tsoukala V. (2022). Development of a Complex Vulnerability Index for Fishing Shelters – The Case of Cyprus, 7th IAHR Europe Congress, 7-9 September, Athens, Greece.
- Tsaimou, C.N.**, Sartampakos, P., & Tsoukala, V.K. (2022). UAV-based Remote Sensing practices for assessing coastal vulnerability, Proceedings of the 39th IAHR World Congress, pp. 5988-5996, 19-24 June, Granada, Spain, DOI: 10.3850/IAHR-39WC2521716X20221300.
- Tsoukala, V.K., **Tsaimou, C.N.**, Martzikos, N.T., & Chondros, M.K. (2022). Port rehabilitation practices enhanced with UAV approaches to improve climate adaptive capacity, Maritime Technology and Research (under revision).
- Tsoukala, V.K., Chondros, M., Metallinos, A., Malliouri, D., Martzikos, N., Papadimitriou, A., Chalastani, V., **Tsaimou, C.**, Afentoulis, V., & Memos, K. (2021). Climate change: Methodology for early forecasting and warning of coastal flooding, CLIMPACT, National Network for Climate Change, NEWSLETTER #7 (in greek).
- Tsaimou, C.N.**, Chalastani, V.I., Sartampakos, P., & Tsoukala, V.K. (2021). Integrating seaport infrastructure monitoring approaches to improve smartness and climate adaptive capacity, 17th International Conference on Environmental Science and Technology (CEST2021), Athens, Greece, 1-4 September.
- Tsaimou, C.N.**, Chalastani, V.I., & Tsoukala, V.K. (2021). Life-cycle-oriented framework for seaport infrastructure maintenance and climate change adaptation, 17th International Conference on Environmental Science and Technology (CEST2021), Athens, Greece, 1-4 September.
- Kyriazopoulos, E., Tsoukala, V., **Tsaimou, C.**, Sartabakos, P., & Koumparakis, G. (2021). A framework for maintenance and rehabilitation of existing seaport infrastructure, in Marine and Ocean Spaces, Environment, Sustainable Development and International Law, Policies and Governance - Challenges in the 21st century, Volume in honor of the Emeritus Professor G. Tsaltas, I.Sideris Publications, pp. 431-444 (in greek).
- Tsaimou, C.**, Charonitis, G., Fikiris, I., Papakatsikas, C., Fullerton, W., 2019. Impact of bedrock depth on pavement structural evaluation and analysis based on Falling Weight Deflectometer (FWD) measurements, 8th Hellenic Conference on Geotechnical Engineering, 6-8 November, Athens (in greek).
- Charonitis, G., Zachos, G., **Tsaimou, C.**, Fikiris, I., Bardanis, M., Papakatsikas, C., Fullerton, W., 2019. Evaluation of Existing Airport Pavement Aggregate and Subgrade Layers, 8th Hellenic Conference on Geotechnical Engineering, 6-8 November, Athens (in greek).
- Plati, C., **Tsaimou, C.**, Loizos, A., 2017. Algorithm development for temperature correction of backcalculated asphalt moduli, Poster at the 7th International EATA Conference, 12-14 June, Zürich, Switzerland.
- Loizos, A., Plati, C., **Tsaimou, C.**, 2016. The effect of interface bonding criterion on pavement design reinforcement, Proceedings of 8th RILEM International Conference on Mechanisms of Cracking and Debonding in Pavements, 7-9 June, Nantes, France, DOI: 10.1007/978-94-024-0867-6_76.
- Loizos, A., Papavasiliou, V., Plati, C., **Tsaimou, C.**, 2015. Temperature correction of HMA moduli based on in situ pavement data, Proceedings of the 6th International Conference on Bituminous Mixtures and Pavements, 10-12 June, Thessaloniki, Greece, DOI: 10.1201/b18538-95.
- Plati, C., Papavasiliou, V., Loizos, A., **Tsaimou, C.**, 2014. Implementation of algorithms for asphalt moduli temperature correction, Proceedings of the 12th International Conference on Asphalt Pavements, 1-5 June, Raleigh, North Carolina, USA, pp. 439-447.

Plati, C., **Tsaimou, C.**, 2013. Use of NDT data for predicting pavement deformation, Proceedings of the 9th International Conference on the Bearing Capacity of Roads, Railways and Airfields, 25-27 June, Trondheim, Norway, pp. 435-443.

CONFERENCES

09-2021	17 th International Conference on Environmental Science and Technology (CEST2021), Athens, Greece
11-2019	8 th Hellenic Conference on Geotechnical Engineering, 6-8 November, Athens, Greece
06-2017	10 th International Conference on the Bearing Capacity of Roads, Railways and Airfields, Athens, Greece
10-2015	4 th General Meeting Cost Action TU 1208, Athens, Greece
06-2015	6 th International Conference on Bituminous Mixtures and Pavements, 10-12 June, Thessaloniki, Greece.
05-2012	Transport Research Arena (TRA), Sustainable Mobility through Innovation, Athens, Greece
06-2011	5 th International Conference on Bituminous Mixtures and Pavements, 1-3 June 2011, Thessaloniki, Greece.