

# Kampitsis Andreas

## Teaching and Research staff

- **Kampitsis Andreas** *Assist. Professor*, Diploma (MEng) Civil Eng. N.T.U.A. 2009, PhD Civil Eng. N.T.U.A. 2014, e-mail: [akampitsis@civil.auth.gr](mailto:akampitsis@civil.auth.gr)

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## Staff (Στη σελίδα του προσωπικού προφίλ)

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### Academic Titles:

Diploma (MEng) Civil Eng. N.T.U.A. 2009, MSc Civil Eng. N.T.U.A. 2011, PhD Civil Eng. N.T.U.A. 2014

### Research Interests:

Structural Analysis with Advanced Numerical Methods; Dynamic Analysis and Design of Offshore and Floating Structures; Dynamic response of Structures with Vibration Control Systems and Antiseismic Protection; Multiscale Computational Fluid Dynamics; Multiscale modelling of heterogeneous materials and structures.

### Teaching:

**Undergraduate:** Numerical Methods and Modelling in Structural Analysis; Numerical Methods in Structural Analysis II, Elastoplastic Analysis of Structures; Structural Analysis I.

**Postgraduate:** Computational Mechanics for Earthquake-Resistant Structures

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## Research

### Research Articles at International Journals

+ Andreas Kampitsis

\* Publications received the Thomaideio Award for the Progress of Science and Arts.

1. O.E. Sapountzaki, **A.E. Kampitsis**, N.D. Lagaros (2023) "Modelling of Inelastic Pentamode-Based Bridge Bearings Using Beam Elements" *J. Civil Engineering and Construction*, 12(3), 126-141, [doi.org/10.32732/jcec.2023.12.3.126](https://doi.org/10.32732/jcec.2023.12.3.126)
2. **A.E. Kampitsis**, K. Kapasakalis, L. Via-Estrem (2022) "An integrated FEA-CFD simulation of offshore wind turbines with vibration control systems" *Engineering Structures*, 254 113859. [doi.org/10.1016/j.engstruct.2022.113859](https://doi.org/10.1016/j.engstruct.2022.113859)
3. K. Kapasakalis, I. Antoniadis, E.J. Sapountzakis and **A.E. Kampitsis** (2021), "Vibration Mitigation of Wind Turbine Towers Using Negative Stiffness Absorbers", *J. Civil Engineering and Construction*, 10 (3), [doi.org/10.32732/jcec.2021.10.3.123](https://doi.org/10.32732/jcec.2021.10.3.123)
4. **A.E. Kampitsis**, W. J. Kostorz, A. Muggeridge and M. Jackson (2021) "The life span and dynamics of immiscible viscous fingering in rectilinear displacements", *Phys. Fluids* 33, 096608; [aip.scitation.org/doi/10.1063/5.0064955?af=R&feed=most-recent](https://aip.scitation.org/doi/10.1063/5.0064955?af=R&feed=most-recent)
5. **A.E. Kampitsis**, A. Adam, P. Salinas, C. Pain, A. Muggeridge and M. Jackson (2020) "Dynamic Adaptive Mesh Optimisation for Immiscible Viscous Fingering", *Computational Geoscience*. [link.springer.com/article/10.1007/s10596-020-09938-5](https://link.springer.com/article/10.1007/s10596-020-09938-5)
6. **A.E. Kampitsis** and E.J. Sapountzakis (2017) "Dynamic Analysis of Beam-Soil Interaction Systems with Material and Geometrical Nonlinearities", *International Journal of Non-Linear Mechanics*, 90, 82-99. [dx.doi.org/10.1016/j.ijnonlinmec.2017.01.007](https://dx.doi.org/10.1016/j.ijnonlinmec.2017.01.007)
7. **A.E. Kampitsis**, S.K. Giannakos, N.A. Gerolymos and E.J. Sapountzakis (2015) "Soil-Pile Interaction Considering Structural Yielding: Numerical Modeling and Experimental Validation", *Engineering Structures*, 99, 319-333. [sciencedirect.com/science/article/pii/S0141029615003156](https://sciencedirect.com/science/article/pii/S0141029615003156)
8. E.J. Sapountzakis, I.C. Dikaros, **A.E. Kampitsis**, A.D. Koroneou (2015) "Nonlinear Response of Wind Turbines under Wind and Seismic Excitations with Soil-Structure Interaction", *Journal of Computational and Nonlinear Dynamics-ASME*, 10(4), doi:10.1115/1.4027697. [computationalnonlinear.asmedigitalcollection.asme.org/article.aspx](https://computationalnonlinear.asmedigitalcollection.asme.org/article.aspx)
9. **A.E. Kampitsis** and E.J. Sapountzakis (2014) "Geometrically Nonlinear Inelastic Analysis of Timoshenko Beams on Inelastic Foundation" *Computer Modeling in Engineering & Science*, 103 (6), 367-409. [techscience.com/doi/10.3970/cmcs.2014.103.367.html](https://techscience.com/doi/10.3970/cmcs.2014.103.367.html)
10. \***A.E. Kampitsis**, E.J. Sapountzakis, S.K. Giannakos and N.A. Gerolymos (2013) "Seismic Soil-Pile-Structure Kinematic and Inertia Interaction - A New Beam Approach", *Soil Dynamics and*

11. \*E.J. Sapountzakis and **A.E. Kampitsis** (2013) “Inelastic Analysis of Beams on Two-Parameter Tensionless Elastoplastic Foundation”, *Engineering Structures*, 48, 389-401.  
<http://www.sciencedirect.com/science/article/pii/S0141029612004907>
12. \*E.J. Sapountzakis and **A.E. Kampitsis** (2012) “A BEM Approach for Inelastic Analysis of Beam-Foundation Systems under Cyclic Loading” *Computer Modeling in Engineering & Science-CMES*, 87(2), 97-124. <http://www.techscience.com/doi/10.3970/cmes.2012.087.097.html>
13. E.J. Sapountzakis and **A.E. Kampitsis** (2012) “Nonlinear Dynamic Analysis of Shear Deformable Beam-Columns on Nonlinear 3-Parameter Viscoelastic Foundation Part II: Applications and Validation”, *Journal of Engineering Mechanics (ASCE)*, 139(7), 897-902.  
[http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EM.9](http://ascelibrary.org/doi/abs/10.1061/(ASCE)EM.9)
14. E.J. Sapountzakis and **A.E. Kampitsis** (2012) “Nonlinear Dynamic Analysis of Shear Deformable Beam-Columns on Nonlinear 3-Parameter Viscoelastic Foundation Part I: Theory and Numerical Implementation”, *Journal of Engineering Mechanics (ASCE)*, 139(7), 886-896.  
[http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EM.1943-7889.0000549](http://ascelibrary.org/doi/abs/10.1061/(ASCE)EM.1943-7889.0000549)
15. \*E.J. Sapountzakis and **A.E. Kampitsis** (2011) “Nonlinear Response of Shear Deformable Beams on Tensionless Nonlinear Viscoelastic Foundation under Moving Loads”, *Journal of Sound and Vibration*, 330, 5410–5426.  
<http://www.sciencedirect.com/science/article/pii/S0022460X1100486X>
16. E.J. Sapountzakis and **A.E. Kampitsis** (2011) “Nonlinear Analysis of Shear Deformable Beam-Columns Partially Supported on Tensionless Three-Parameter Foundation”, *Archive of Applied Mechanics*, 81(12), 1833-1851. <http://link.springer.com/article/10.1007/s00419-011-0521-4>
17. \*E.J. Sapountzakis and **A.E. Kampitsis** (2010) “Nonlinear Dynamic Analysis of Timoshenko Beam-Columns Partially Supported on Tensionless Winkler Foundation”, *Computers & Structures*, 88, 1206-1219.  
<http://www.sciencedirect.com/science/article/pii/S0045794910001525>
18. E.J. Sapountzakis and **A.E. Kampitsis** (2010) “Nonlinear Analysis of Shear Deformable Beam-Columns Partially Supported on Tensionless Winkler Foundation”, *International Journal of Engineering, Science and Technology (IJEST)*, 2(4), 31-53. <http://www.ijest-ng.com/vol2-no4-2010.html>

## Research

### Prizes – Citation Index

Google Scholar Profile: <https://scholar.google.com/citations?hl=en&user=6mq4IUyAAAAJ>

Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=36903763800>

ORCID Profile: 0000-0003-3110-7225

Research Gate Profile: <https://www.researchgate.net/profile/Andreas-Kampitsis-2>

Linkedin Profile: <https://www.linkedin.com/in/andreas-kampitsis-phd-7b9537107/>

## Public Image

## Scientific Articles of Conferences

1. **A.E. Kampitsis**, K Kapasakalis, E.J. Sapountzakis (2022), "Vibration Mitigation Performance of On- and Off-shore Wind Turbine Towers", 3rd Int Conf on Natural Hazards & Infrastructure , 5-7 July, Athens. **(Invited Presentation)**
2. **A.E. Kampitsis**, A.H. Muggeridge and M.D. Jackson (2021), "The Late Time Behaviour of 3D Immiscible Viscous Fingering Instabilities", 13 – 17 December, AGU Fall Meeting, New Orleans, Louisiana, USA.
3. **A.E. Kampitsis** and K Kapasakalis (2021), "Multiple Vibration Absorbers to Mitigate Offshore Wind Turbine Vibrations", 10<sup>th</sup> GRACM, 5-7 July, Athens.
4. **A.E. Kampitsis** (2021), "Vibration Control of Offshore Wind Turbine Towers", 14th World Congress on Computational Mechanics (WCCM), 11–15 Jan. Virtual Congress.
5. **A.E. Kampitsis** A.H. Muggeridge, M.D. Jackson (2020) "Dynamic Adaptive Mesh Optimization in High Performance Parallel Computing for 3D Simulation of Immiscible Viscous Fingering". Better Modelling of IOR, Tulsa, USA. **(Invited Presentation)**
6. E.J. Sapountzakis and **A.E. Kampitsis** (2020), "Computational Modelling and Structural group", Research night, 27 Nov, NTUA, Athens
7. **A.E. Kampitsis**, P. Salinas, C.C. Pain, A.H. Muggeridge, M.D. Jackson (2019), "Mesh Adaptivity and Parallel Computing for 3D Simulation of Immiscible Viscous Fingering". Better Modelling of IOR, Pau, France. [eage.eventsair.com/PresentationPortal](http://eage.eventsair.com/PresentationPortal)
8. P. Salinas, **A.E. Kampitsis**, C.C. Pain, M.D. Jackson (2019), "A Parallel Load-Balancing Reservoir Simulator with Dynamic Mesh Optimisation", SPE Reservoir Simulation Conference, Texas, USA. [www.spe.org/events/en/2019/conference/19rsc/reservoir-simulation-conference.html](http://www.spe.org/events/en/2019/conference/19rsc/reservoir-simulation-conference.html)
9. **A.E. Kampitsis**, A. Farsi, J. Xiang and JP Latham **(2018)** "A finite-discrete element method for dynamic crack propagation in heterogeneous materials", ECCOMAS Conference on Computational Solid and Structural Mechanics and Conference on Computational Fluid Dynamics, 11-15 June, Glasgow, UK. [www.eccomas.org/vnews/1042/eccm-ecfd-conferences](http://www.eccomas.org/vnews/1042/eccm-ecfd-conferences)
10. **A.E. Kampitsis**, J. Xiang and JP Latham **(2017)** "A Combined Finite-Discrete Element Method for Rock Fragmentation in Radial Jet Drilling" *Engineering Mechanics Institute EMI Conference of ASCE*, 4-7 June., San Diego, USA. [www.researchgate.net/publication/320131101](http://www.researchgate.net/publication/320131101)
11. **A.E. Kampitsis** and S. Triantafyllou (2016) "Coupling Phase Field Fracture - Multiscale FE Method for Dynamic Crack Propagation in Porous Media", *Engineering Mechanics Institute EMI Conference of ASCE*, 25-27 Oct., Metz, France. [umi.mit.edu/EMI](http://umi.mit.edu/EMI)
12. **A.E. Kampitsis** and E.J. Sapountzakis (2016) "A Fibre Plasticity Model for the Dynamic Analysis of Wind Turbine Towers" *ECCOMAS, VII European Congress on Computational Methods in Applied Sciences and Engineering*, 5-10 June, Crete, Greece. <https://www.eccomas2016.org/proceedings/pdf/4747.pdf>  
**(Keynote Lecture)**

13. **A.E. Kampitsis** (2015). "Analysis and Design of Next Generation Wind Turbines" European Commission, Research and Innovation, European Researchers' Night. The Averoff Building, Athens, Greece. [ec.europa.eu/research/mariecurieactions/actions/european-researchers-night](http://ec.europa.eu/research/mariecurieactions/actions/european-researchers-night)
14. **A.E. Kampitsis**, G.D. Panagiotakopoulos, V.K. Koumoussis, E.J. Sapountzakis (2015) "Structural Optimization Design of Wind Turbine Tower using Game Theory", *8<sup>th</sup> GRACM International Congress on Computational Mechanics*, 12-15 July, Volos, Greece. [8gracm.mie.uth.gr/Papers/Kampitsis.pdf](http://8gracm.mie.uth.gr/Papers/Kampitsis.pdf)  
(Keynote Lecture)
15. **A.E. Kampitsis** and E.J. Sapountzakis (2014) "A New Computational Tool for the Inelastic Analysis of Steel Structures" *8th Hellenic National Conference of Steel Structures*, 2-4 October Tripoli Greece.
16. **A.E. Kampitsis** and E.J. Sapountzakis (2014) "Boundary Element Formulation for the Inelastic Dynamic Analysis of Beams" *Word Congress of Computational Mechanic. WCCM XI-ECCM V-ECCFD VI July 20-25, Barcelona, Spain*. [congress.cimne.com/iacm-eccomas2014/admin/files/a2923.pdf](http://congress.cimne.com/iacm-eccomas2014/admin/files/a2923.pdf)  
(Keynote Lecture)
17. E.J. Sapountzakis and **A.E. Kampitsis** (2013) "Cyclic Inelastic Response of Beam-Foundation Systems by BEM" *Fourteenth International Conference on Civil, Structural and Environmental Engineering Computing*, September 3-6, Cagliari, Sardinia, Italy. [www.researchgate.net/publication](http://www.researchgate.net/publication)
18. **A.E. Kampitsis**, E.J. Sapountzakis, S.K. Giannakos, N.A. Gerolymos (2013) "Seismic Soil-Pile Kinematic and Inertia Interaction — 3D versus Beam Modeling" *4<sup>th</sup> International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering –COMDYN*, June 12-14, Kos, Greece. [compdyn2013.org](http://compdyn2013.org) (Keynote Lecture)
19. E.J. Sapountzakis, I.C. Dikaros, **A.E. Kampitsis**, G.D. Panagiotakopoulos (2013) "Nonlinear Response of Wind Turbine Towers under Wind and Seismic Excitations" *10<sup>th</sup> HSTAM International Congress o Mechanics*, May 25-27, Chania, Crete, Greece. [www.10hstam.tuc.gr](http://www.10hstam.tuc.gr)
20. E.J. Sapountzakis and **A.E. Kampitsis** (2012) "Nonlinear Seismic Response Analysis of Piles in Nonlinear Viscoelastic Foundation" *Proc. of the 6th European congress on computational methods in applied sciences and engineering (ECCOMAS)*, September 10-14, Vienna, Austria. [www.researchgate/287363245](http://www.researchgate/287363245)
21. E.J. Sapountzakis and **A.E. Kampitsis** (2012) "Inelastic Analysis of Beams on Two Parameter Elastoplastic Foundation" *Proc. of the BeTeq12 International Conference on Boundary Element Techniques*, September 3-5, Prague, Czech Republic.
22. E.J. Sapountzakis and **A.E. Kampitsis** (2011) "Nonlinear Inelastic Analysis of Beams on Nonlinear Foundation" *Proc. of the Second Int. Conf. on Soft Computing Technology in Civil, Structural and Environmental Engineering-CSC*, 6-9 September, Chania, Crete, Greece. [researchgate/kampitsis/269133131](http://researchgate/kampitsis/269133131)

23. E.J. Sapountzakis and **A.E. Kampitsis** (2011) "Nonlinear vibrations of piles in viscoelastic foundation" *Proc. of the 8 Int. Conf. on Earthquake Resistant Engineering Structures-ERES*, 7-9 September, Chianciano Terme, Italy. [www.researchgate.net/publication/271428641](http://www.researchgate.net/publication/271428641)  
**(Keynote Lecture)**
24. E.J. Sapountzakis and **A.E. Kampitsis** (2011) "Shear Deformable Beams on Nonlinear Viscoelastic Foundation under Moving Loading" *Proc. of the IV International Conference on Computational Methods for Coupled Problems in Science and Engineering - COUPLED PROBLEMS*, 20-22 June, Kos, Greece.  
[www.researchgate.net/publication/256800216](http://www.researchgate.net/publication/256800216)
25. E.J. Sapountzakis and **A.E. Kampitsis** (2010) "Nonlinear Analysis of Shear Deformable Beam-Columns Partially Supported on Tensionless Winkler Foundation" *Proc. of the BeTeq10 International Conference on Boundary Element Techniques*, July 12-14, Berlin, Germany.  
<https://www.researchgate.net/publication/272459284>
26. E.J. Sapountzakis and **A.E. Kampitsis** (2010) "Nonlinear Analysis of Shear Deformable Beam-Columns Partially Supported on Tensionless Three-Parameter Foundation" *Proc. of the CST - Tenth International Conference on Computational Structures Technology*, September 14-17, Valencia Spain.
27. E.J. Sapountzakis and **A.E. Kampitsis** (2010) "Nonlinear Dynamic Analysis of Shear Deformable Beam-Columns on Nonlinear 3-Parameter Viscoelastic Foundation" *Proc. of the ECCM IV European Conference on Computational Mechanics*, May 16-21, Paris France. **(Keynote Lecture)**
28. E.J. Sapountzakis, **A.E. Kampitsis**, A.D. Koroneou (2010) "Nonlinear Dynamic Analysis of Pile-Columns of Bridge Piers – Application in Valleybridges of Metsovo and in Metsovitikos River Bridge", *Proc. of 6th Interscientific Interuniversity Conference, The Integrated Development of Highland Areas, Metsovo, Greece*, 16-19 September.
29. E.J. Sapountzakis and **A.E. Kampitsis** (2009) "Nonlinear Dynamic Analysis of Timoshenko Beam-Columns Partially Supported on Nonlinear Elastic Foundation Including Shear Deformation Effect", *Proc. of the 3<sup>rd</sup> Greece – Japan Workshop on Seismic Design, Observation and Retrofit of Foundations*, September 22-23, Santorin, Greece. <https://dl.acm.org/citation>
30. E.J. Sapountzakis and **A.E. Kampitsis** (2009) "Nonlinear Dynamic Analysis of Timoshenko Beam-Columns Partially Supported on Elastic Foundation", *Proc. of the CMAS Computational Modeling and Advanced Simulations*, June 30 July 3, Slovak University of Technology, Slovakia.

## Organization of Scientific Conferences or mini Symposia, or Workshops

Dr. Kampitsis has successfully organised the following Mini-Symposia:

1. **A.E. Kampitsis**, K Kapasakalis, E.J. Sapountzakis (2024) "Advancements in Offshore Wind Structures", for the 9th European Conference on Computational Methods, ECCOMAS, June 3-7, Lisbon, <https://eccomas2024.org/event/area/4e9cb589-5968-11ee-a4f3-000c29ddfc0c>
2. **A.E. Kampitsis** (2019) Computational Methods on Fluid-Structure Dynamics for Multiscale Problems, International Conference on Vibration Problems (ICOVP), September 1-4, Crete, Greece. [icovp2019.org/content/accepted-minisymposia](http://icovp2019.org/content/accepted-minisymposia)
3. **A.E. Kampitsis** and I. D. Dikaros (2018) "Computational Methods for Structural Dynamics", for the 6th European Conference on Computational Methods, ECCOMAS, June 11-15, Glasgow, UK. [www.eccomas.org/vnews/1042/eccm-ecfd](http://www.eccomas.org/vnews/1042/eccm-ecfd)
4. E.J. Sapountzakis and **A.E. Kampitsis** (2016) "Computational Structural Dynamics", for the 7<sup>th</sup> European Congress on Computational Methods in Applied Sciences and Engineering, June 5 - 10, Crete, Greece.
5. E.J. Sapountzakis and **A.E. Kampitsis** (2014) "Advances in Computational Structural Dynamics", for the 11<sup>th</sup> World Congress on Computational Mechanics (WCCM XI) – 5<sup>th</sup> European Conference on Computational Mechanics (ECCM V), July 20-25, Barcelona, Spain.