CURRICULUM VITAE

Teaching and research activity

Dr. Ing. Sandro CARBONARI

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Personal information:

First Name / Surname:	Sandro Carbonari
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Actual Position:

Assistant Professor of Structural Engineering, Department of Construction, Civil Engineering and Architecture (DICEA) of the Università Politecnica delle Marche.

Education

He graduated in Civil Engineering from the “Università degli Studi di Ancona” in July 2005 with full marks (110/110, summa cum laude) with a thesis entitled "The seismic protection of viaducts through dissipative devices located on piers (in Italian)”, which has been awarded of press dignity. In October 2009 he earned the title of Doctor of Philosophy (Ph.D.) in Structures and Infrastructures from the Università Politecnica delle Marche with a thesis entitled "Seismic response of structures on pile foundations".

Career summary

Starting from November 2009 he is holder of a research grant (duration 18 months) at the Department of Architecture, Buildings and Structures (DACS) of the Università Politecnica delle Marche entitled "Modelling and methods for the nonlinear seismic analysis of bridges considering soil-structure interaction (in Itlalian)", related to the scientific-disciplinary sector ICAR/09 - Structural Engineering.

In the years 2007-2012 he is adjunct professor of different academic courses relevant to the scientific-disciplinary sector ICAR/09: Comportamento delle Strutture Resistenti (Faculty of Architecture, University of Camerino), Tecnica delle Costruzioni (Faculty of Architecture, University of Camerino), Tecnica delle Costruzioni (Faculty of Engineering, University of San Marino), Laboratorio di Progettazione Strutturale (Faculty of Engineering, University of San Marino), Ingegneria Sismica (Faculty of Engineering, University of San Marino).

From November 2012 he is Assistant Professor of Structural Engineering at the Università Politecnica delle Marche, and works in the Department of Construction, Civil Engineering and Architecture (DICEA). He holds the courses of “Design of Concrete Structures” and “Design of Steel Structures” in the first cycle degree (three years) in Civil and Environmental Engineering and, in the year 2017-2018, the course of “Structural rehabilitation” in the master degree in Building Engineering and in the single-cycle degree in Building Engineering-Architecture.

Since 2015 he is member of the Academic Board of the PhD program in Civil Engineering, Environmental, Construction and Architecture at the Università Politecnica delle Marche.

In 2016 he receives the level 2 certification for non-destructive testing (PND) referred to the structural monitoring (MO) for the field of civil engineering, cultural and architectural heritage.

In 2017 he gets his Italian Scientific Habilitation (ASN) for the degree of Associate Professor.

In 2018 he receives the level 3 certification for non-destructive testing (PND) referred to the inspection and monitoring of bridges, viaducts and footbridges (IM) for the field of civil engineering, cultural and architectural heritage.

He is author of 20 papers published in international journals and more than 65 contributions in national and international conferences.

Participation/Coordination of research projects

He is Coordinator of the research project “Structural Health Monitoring of Constructions with Wireless Sensor Network (SHM-WSN), duration: 24 months, Funding €34.400, Università Politecnica delle Marche, competitive funding programme.

He is/was involved in the following research projects:

- Flood Risk Assessment and Safety Monitoring of masonry arch bridges (Flo-RASM). Università Politecnica delle Marche, Coord. Prof. L. Ragni.
- Department of Civil Protection (DPC), Network of Italian labs of seismic engineering (ReLUIS), Executive Project 2017 and 2018. Research field: Steel and steel-concrete composite structures, WP 3: Seismic Retrofit, Task 3.3: Seismic retrofit of bridges. UR: UNIVPM, Coord.: Prof. L. Dezi.
- Department of Civil Protection (DPC), ReLUIS, Executive Project 2015 and 2016. Research field: Steel and steel-concrete composite structures, WP 1: Conventional structural typologies. Task: Steel-concrete composite bridges. UR: UNIVPM, Coord.: Prof. L. Dezi.
- Department of Civil Protection (DPC), ReLUIS, Executive Project 2010-2013 AT-2, Research field 2.1, Task 2.1.1: Seismic design of steel-concrete composite bridges. UR: UNIVPM, Coord.: Prof. L. Dezi.
- PRIN 2008 - Effect of non-synchronism and the local site response on the seismic response of bridges. National Coordinator: Prof. C. Nuti; UR: UNICAM coordinated by Prof. G. Leoni.

Participation in professional activities

He contributed to the following activities within agreements between the Department of Construction, Civil Engineering and Architecture (DICEA) of the Università Politecnica delle Marche and private companies or public administrations:

- Agreement between DICEA and the Municipality of Cingoli: Dynamic characterization of the Moscosi bridge through ambient vibration tests.
- Agreement between DICEA and the company Elletipi s.r.l.: Dynamic characterization of the Farma viaduct in the SS.223 through ambient vibration test).
- Agreement between DICEA and the company DIMMS Control S.p.A.: Dynamic identification of the Caffaro viaduct in Lauria.
- Agreement between DICEA and the company ANAS S.p.A. relevant to the execution of dynamic tests in the framework of the Chiaravalle viaduct retrofit (S.S. 76 - “Raccordo Aeroporto Raffaello Sanzio”).

Editorial Activity

Since 2015 he is member of the editorial board of the “Challenge Journal of Structural Mechanics”.

He serves as Reviewer for important international journals such as:

- Earthquake Engineering & Structural Dynamics, Edited By: Anil K. Chopra, Michael Fardis and Masayoshi Nakashima.
- Journal of Bridge Engineering (ASCE), Edited by Anil Agrawal, P.E., Ph.D., M.ASCE, City College of New York
- Engineering Structures, Edited by P.L. Gould, S. Kitipornchai and H.A. Mang. Outstanding contribution in reviewing, jan.2017.
- Soil Dynamics and Earthquake Engineering, Edited By: D. E. Beskos, A. Elgamal. Outstanding contribution in reviewing, nov.2016.
- Earthquake Engineering and Engineering Vibration, Editors-in-Chief: X.Z. Qi; G.C. Lee.

Main research topics

The research activity mainly focuses on the following topics:

Dynamic Soil-Structure Interaction

Seismic design of structures is commonly performed by considering the assumption of fixed base and adopting a conventional seismic input. Site configuration and the compliance of the soil-foundation system may affect the seismic action and the structural response. The research activity in this field leads to the development of 3D models for the dynamic analysis of pile groups with vertical or inclined piles and to the definition of a consistent procedure to account for the soil-foundation frequency dependent dynamic stiffness and the local site response in the seismic design and analysis of structures. The procedure is applied to study effects of soil-structure interaction on the seismic response of structures (frame buildings, bridges, off-shore and marine structures).

Relevant international cooperation:

- University of Las Palmas de Gran Canaria, SIANI Institute.

Modelling of steel-concrete composite bridge decks

He is member of a research group with a high expertise in advanced f.e. modelling of caisson- and twin-girder composite continuous decks. Specialized beam and higher order beam models are studied in which the connection deformability, shear-lag effect, shear deformability and time dependent effects (concrete creep and shrinkage) as well as internal and external prestressing are considered. Models are used to investigate construction aspects such as fractionated casting of the slab to control the early age concrete slab cracking.

Innovative seismic protection systems

In the field of seismic engineering the use of passive protection systems is highly attractive for applications in both new and existing constructions. The research in this field aims at developing devices able to exploit hysteretic damping properties of steel or metal alloys as well as the cyclic dissipation of viscous or visco-elastic systems. The research is also oriented to develop new seismic resistant systems.

Structural Identification and Monitoring

The vibration-based monitoring of the dynamic properties of a structure may potentially provide important information about the damage occurrence and evolution in its resisting members and thus configures as an attractive strategy for the Structural Health Monitoring (SHM). In this framework, he gained a god experience in the execution of ambient vibration tests, including post-processing of data to determine modal parameters; recently he started studying the effects of environmental conditions on the dynamic properties of structures.

Relevant international cooperation:

- University of Strathclyde, Glasgow. Department: Civil and Environmental Engineering.

List of pubblications

PhD thesis

[T] Carbonari S. (2009) Seismic response of structures on pile foundations **–** Ph.D. Thesis, Università Politecnica delle Marche.

Book chapters

[BC1] Dezi L., Carbonari S., Dall'Asta A., Gara F., Minnucci L. Seismic behaviour of steel-concrete composite bridge decks – Book chapter in Steel and Steel-concrete composite structures in seismic areas: advances in research and design. The Research Project RP3 of the ReLUIS-DPC 2014-2018 – Activity carried out during years 2014-2016. (**In production**).

Articles in International Journals

[IJ20] Carbonari S., Morici M., Dezi F., Leoni G. A Lumped Parameter Model for Time-Domain Inertial Soil-Structure Interaction Analysis of Structures on Pile Foundations **– *Earthquake Engineering and Structural Dynamics***. 2018; 47(11): 2147-2171. Codice SCOPUS: 2-s2.0-85051197560. WOS: 000440996300001. ISSN: 0098-8847, eISSN: 1096-9845. doi: 10.1002/eqe.3060.

[IJ19] Capatti M.C., Dezi F., Carbonari S., Gara F. Full scale experimental assessment of the dynamic horizontal behavior of micropiles in alluvial silty soils - ***Soil Dynamics and Earthquake Engineering***. anno; issue: pagg, Codice SCOPUS: 2-s2.0-85047916934. ISSN: 02677261. eISSN: 1879-341X doi: 10.1016/j.soildyn.2018.05.029.

[IJ18] Regni M., Arezzo D., Carbonari S., Gara F., Zonta D. Effect of Environmental Conditions on the Modal Response of a 10-Story Reinforced Concrete Tower - ***Shock and Vibrations.*** vol. 2018, Article ID 9476146, 16 pages, 2018. https://doi.org/10.1155/2018/9476146, Codice SCOPUS: 2-s2.0-85050309694. WOS: 000438773800001. ISSN: 10709622, eISSN: 1875-9203.

[IJ17b] Capatti MC., Tropeano G., Morici M, Carbonari S, Dezi F, Leoni G, Silvestri F. Erratum to: Implications of non-synchronous excitation induced by nonlinear site amplification and soil-structure interaction on the seismic response of multi-span bridges founded on piles **– *Bulletin of Earthquake Engineering***. 2017; 15(11): 4997-4997, Codice SCOPUS: 2-s2.0-85021828662. WOS: 000412659800018. ISSN: 1570-761X, eISSN: 1573-1456. doi: 10.1007/s10518-017-0181-z.

[IJ17] Capatti MC., Tropeano G., Morici M, Carbonari S, Dezi F, Leoni G, Silvestri F. Implications of non-synchronous excitation induced by nonlinear site amplification and soil-structure interaction on the seismic response of multi-span bridges founded on piles **– *Bulletin of Earthquake Engineering***. 2017; 15(11): 4963-4995, Codice SCOPUS: 2-s2.0-85020706731. WOS: 000412659800017 ISSN: 1570-761X, eISSN: 1573-1456. doi: 10.1007/s10518-017-0165-z.

[IJ16] Franza A, Marshall AM, Hajia T, Abdelatifb AO, Carbonari S, Morici M. A simplified elastic analysis of tunnel-piled structure interaction – ***Tunnelling and Underground Space Technology***. 2017; 61: 104-121, Codice SCOPUS: 2-s2.0-84993965381. WOS: 000390498600010. ISSN: 0886-7798. doi: 10.1016/j.tust.2016.09.008.

[IJ15] Carbonari S., Morici M., Dezi F, Gara F, Leoni G. Soil-structure interaction effects in single bridge piers founded on inclined pile groups **– *Soil Dynamics and Earthquake Engineering***. 2017; 92: 52-67, Codice SCOPUS: 2-s2.0-84992091198. WOS: 000391077300006. ISSN: 02677261. eISSN: 1879-341X doi: 10.1016/j.soildyn.2016.10.005.

[IJ14] Antolloni G., Carbonari S., Gara F., Lorenzoni C., and Mancinelli A. 2016. Simple Physical Models to Simulate the Behavior of Buckling-Type Marine Fenders. J. Waterway, Port,

Coastal, Ocean Eng., 10.1061/(ASCE)WW.1943-5460.0000360, 04016014, ISSN(print): 0733-950X, ISSN(online): 1943-5460

[IJ13] Carbonari S., Morici M., Dezi F., Leoni G. Analytical evaluation of impedances and kinematic response of inclined piles **– *Engineering Structures***. 2016; 117: 384-396, Codice SCOPUS: 2-s2.0-84962517081. WOS: 000375817600028. ISSN: 0141-0296. eISSN: 1873-7323. doi: 10.1016/j.engstruct.2016.03.02.

[IJ12] Dezi F., Carbonari S., Morici M. A numerical model for the dynamic analysis of inclined pile groups **– *Earthquake Engineering and Structural Dynamics***. 2016; 45(1): 45-68, Codice SCOPUS: 2-s2.0-84951877325. WOS: 000366526300003. ISSN: 00988847. doi:10.1002/eqe.2615.

[IJ11] Carbonari S., Dezi F., Gara F., Leoni G. Seismic response of reinforced concrete frames on monopile foundations **– *Soil Dynamics and Earthquake Engineering***. 2014; 67: 326-344. Codice SCOPUS: 2-s2.0-84910058378. WOS: 000347603000025. ISSN: 0267-7261. eISSN: 1879-341X. doi:10.1016/j.soildyn.2014.10.012.

[IJ10] Gara F., Carbonari S., Leoni G., Dezi L. A higher order steel-concrete composite beam model **– *Engineering Structures***. 2014; 80: 260-273. Codice SCOPUS: 2-s2.0-84910058378. WOS: 000346622500023. ISSN: 0141-0296. eISSN: 1873-7323.

[IJ9] Carbonari S., Gara F., Roia D., Leoni G., Dezi L. Tests on two 18-years-old prestressed thin walled roof elements **– *Engineering Structures***. 2013; 49, 936–946. SCOPUS: 2-s2.0-84873554362. WOS: 000317528800073. ISSN: 0141-0296. doi: 10.1016/j.engstruct.2012.12.037.

[IJ8] Dezi F., Morici M., Carbonari S. and Leoni G. Higher order model for the seismic response of bridge embankments **– *Soil Dynamics and Earthquake Engineering***. 2012; 43: 186-201. Codice SCOPUS: 2-s2.0-84864807664. WOS: 000311003800016. ISSN: 0267-7261. doi: 10.1016/j.soildyn.2012.07.027.

[IJ7] Dezi F., Carbonari S., Tombari A. and Leoni G. Soil-structure interaction in the seismic response of an isolated three-span motorway overcrossing founded on piles **– *Soil Dynamics and Earthquake Engineering***. 2012; 41: 151-163. Codice SCOPUS: 2-s2.0-84862296268. WOS: 000306765800014. ISSN: 0267-7261. doi: 10.1016/j.soildyn.2012.05.016.

[IJ6] Carbonari S., Dezi F. and Leoni G. Non-linear seismic behaviour of wall-frame dual systems accounting for soil-structure interactions **– *Earthquake Engineering and Structural Dynamics***. 2012; 41(12): 1651-1672. Codice SCOPUS: 2-s2.0-84865973612. WOS: 000308443100004. ISSN: 0098-8847. eISSN: 1096-9845. doi: 10.1002/eqe.1195.

[IJ5] Carbonari S., Dezi F. and Leoni G. Linear soil-structure interaction of coupled wall-frame structures on pile foundations **– *Soil dynamics and earthquake engineering***. 2011; 31(9): 1296-1309. Codice SCOPUS: 2-s2.0-79958046090. WOS: 000292575900007. ISSN: 0267-7261. doi: 10.1016/j.soildyn.2011.05.008.

[IJ4] Carbonari S., Dezi F. and Leoni G. Seismic soil-structure interaction in multi-span bridges: application to a railway bridge **– *Earthquake Engineering and Structural Dynamics***. 2011; 40(11): 1219-1239. Codice SCOPUS: 2-s2.0-80051669822. WOS: 000294176800003. ISSN: 0098-8847. doi: 10.1002/eqe.1085.

[IJ3] Dezi F., Carbonari S. and Leoni G. Static equivalent method for the kinematic interaction analysis of single piles **– *Soil Dynamics and Earthquake Engineering***. 2010; 30(8): 679-690. Codice SCOPUS: 2-s2.0-77952551851. WOS: 000278206700004. ISSN: 0267-7261. doi: 10.1016/j.soildyn.2010.02.009.

[IJ2] Dezi F., Carbonari S. and Leoni G. Kinematic bending moments in pile foundations **– *Soil Dynamics and Earthquake Engineering***. 2010; 30(3): 119-132. Codice SCOPUS: 2-s2.0-72749117350. WOS: 000274765500006. ISSN: 0267-7261. doi: 10.1016/j.soildyn.2009.10.001.

[IJ1] Dezi F., Carbonari S. and Leoni G. A model for the 3D kinematic interaction analysis of pile groups in layered soils **– *Earthquake Engineering and Structural Dynamics***. 2009; 38(11): 1281-1305. Codice SCOPUS: 2-s2.0-70349645645. WOS: 000269932600002. ISSN: 0098-8847. doi: 10.1002/eqe.892.

Articles in International Conferences

[IC45] E. Speranza, F. Gara, S. Carbonari, A. Balducci, L. Dezi (2018). Dynamic Test Based Model Calibration of an Existing R.C. School Building – **Proceedings of The 2018 World Congress on Advances in Civil, Environmental and Materials Research (ACEM18) & The 2018 Structures Congress (Structures18) – Advances in Structural Monitoring and Maintenance (ASMM18)**, 27-31 August 2018, Songdo Convensia, Incheon, Korea, page 256 on Volume of Abstracts, 12 pages article on on-line proceedings, Edited by Chan-Koon Choi, printed by Techno-Press. ISBN: 978-89-89693-47-5.

[IC44] F. Gara, S. Carbonari, L. Minnucci, M. Regni, E. Speranza (2018). Dynamic Test for the Model Calibration and Pier Damage Detection of an Existing R.C. Multispan Viaduct – **Proceedings of The 2018 World Congress on Advances in Civil, Environmental and Materials Research (ACEM18) & The 2018 Structures Congress (Structures18) – Advances in Structural Monitoring and Maintenance (ASMM18)**, 27-31 August 2018, Songdo Convensia, Incheon, Korea, page 230 on Volume of Abstracts, 9 pages article on on-line proceedings, Edited by Chan-Koon Choi, printed by Techno-Press. ISBN: 978-89-89693-47-5.

[IC43] Franza A., DeJong M.J., Morici M., Carbonari S., Dezi F. Artificial neural networks for the evaluation of impedance functions of inclined pile groups. Proceedings of ***NUMGE18 9th European Conference on Numerical Methods in Geotechnical Engineering*** – Porto, Portugal, 25-27 June 2018.

[IC42] González F., Morici M., Carbonari S., Dezi F., Capatti M.C., Leoni G., Padrón L.A., Aznárez J.J. and Maeso O. Lumped Parameter Models for Time Domain Soil-Structure Interaction Analysis: Consistent vs Simplified Formulations and Effects on the Linear and Nonlinear Superstructure Response - Proceedings of ***DISS_17 5th International Workshop on dynamic interaction of soil and structure*** – Rome, Italy, 19-20 October 2017.

[IC41] Gara F., Regni M., Carbonari S., Balducci A., Dezi L. Dynamic Behaviour of a Retrofitted School Building Subjected to the After-Shock Sequence of the 2016 Central Italy Earthquake - Proceedings of the ***X International Conference on Structural Dynamics, EURODYN 2017***, Rome 10-13 September, 2017, Code 130585. **Procedia Engineering**. 2017; 199: 2084-2089. Codice SCOPUS: 2-s2.0-85029895457. ISSN: 18777058. doi: 10.1016/j.proeng.2017.09.478. Volume Editors: Romeo F.,Gattulli V.,Vestroni F.

[IC40] Capatti MC., Roia D., Carbonari S., Dezi F., Leoni G. Micropile foundation subjected to dynamic lateral loading - Proceedings of the ***X International Conference on Structural Dynamics, EURODYN 2017***, Rome 10-13 September, 2017, Code 130585. **Procedia Engineering**. 2017; 199: 2324-2329. Codice SCOPUS: 2-s2.0-85029905553. ISSN: 18777058. doi: 10.1016/j.proeng.2017.09.208. Volume Editors: Romeo F., Gattulli V.,Vestroni F.

[IC39] Carbonari S., Morici M., Dezi F., Leoni G. Nonlinear Response of Bridge Piers on Inclined Pile Groups: the Role of Rocking Foundation Input Motion - Proceedings of the ***X International Conference on Structural Dynamics, EURODYN 2017***, Rome 10-13 September, 2017, Code 130585. **Procedia Engineering**. 2017; 199: 2330-2335. Codice SCOPUS: 2-s2.0-85029897196. ISSN: 18777058. doi: 10.1016/j.proeng.2017.09.211. Volume Editors: Romeo F.,Gattulli V.,Vestroni F.

[IC38] Regni M., Gara F., Dezi F., Roia D., Carbonari S. Soil-foundation compliance evidence of the “Chiaravalle viaduct” - Proceedings of the ***EVACES2017 Experimental vibration analysis for civil engineering structures – Testing, sensing, monitoring and control, Springer (Editors: J.P. Conte, R. Astroza*, G. Benzoni, G. Feltrin, K.J. Loh, B. Moaveni)**

July 12-14, 2017 – San Diego, California, United States. ISSN: 2366-2557; eISSN: 2366-2565, ISBN: 978-3-319-67442-1; ISBN: 978-3-319-67443-8 (e-book); doi: 10.1007/978-3-319-67443-8.

[IC37] Carbonari S., Morici M., Dezi F., Leoni G. Kinematic Stress Resultants in Inclined Single Piles Subjected to Propagating Seismic Waves: an Analytical Formulation - Proceedings of the ***COMPDYN 2017, 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering*** (M. Papadrakakis, M. Fragiadakis eds.): 4691-4701 Rhodes Island, Greece, 15–17 June 2017. ISBN: 978-618-82844-3-2. doi: 10.7712/120117.5754.17934

[IC36] Abruzzese D., Bergami A., Biondi S., Camata G., Canciani M., Carbonari S., Cimino A., Dall'Asta A., Dezi F., Dezi L., Di Fabio F., Ferracuti B., Fiorentino G., Forte A., Fragiacomo M., Gara F., Ianniruberto U., Imperatore S., Lavorato D., Leoni G., Liberatore D., Liberatore L., Mannella A., Martinelli A., Mutignani C., Nuti C., Paolacci F., Pagano E., Rasulo A., Santini S., Sorrentino L., Vanzi I., Zucconi M. Assessment survey of public school buildings after August 2016 Italy earthquake: preliminary results – Proceedings of the ***16th World Conference on Earthquake Engineering (16WCEE);*** Paper number 5011 – Santiago, Chile, 9-13 January 2017.

[IC35] Gioiella L., Balducci A., Carbonari S., Gara F., Dezi L. An innovative seismic protection system for existing buildings: external dissipative towers – Proceedings of the ***16th World Conference on Earthquake Engineering (16WCEE);*** Paper number 4252 – Santiago, Chile, 9-13 January 2017.

[IC34] Roia D., Regni M., Gara F., Carbonari S., Dezi F. Current state of the dynamic monitoring of the "Chiaravalle Viaduct" – Proceedings of the ***EESMS 2016-2016 IEEE Workshop on Environmental, Energy, and Structural Monitoring Systems***; ISBN: 978-1-5090-2370-7; 978-1-5090-2369-1, doi: 10.1109/EESMS.2016.7504822, Codice Scopus: 2-s2.0-84980378943, WOS:000386794700019 – Bari, Italy, 13-14 June 2016.

[IC33] Capatti M.C., Carbonari S., Gara F., Roia D., Dezi F. Experimental study on instrumented micropiles – Proceedings of the ***EESMS 2016-2016 IEEE Workshop on Environmental, Energy, and Structural Monitoring Systems***; ISBN: 978-1-5090-2370-7; 978-1-5090-2369-1, doi: 10.1109/EESMS.2016.7504831, WOS:000386794700028, Codice Scopus: 2-s2.0-84980378415 – Bari, Italy, 13-14 June 2016.

[IC32] Carbonari S., Dezi L., Gara F. and Leoni G. A higher order finite element to analyse steel-concrete composite bridge decks – Proceedings of the ***19th IABSE Congress*** –, 21-23 September 2016, Stockholm, Sweden, 40-47. ISBN: 978-3-85748-144-4. Codice Scopus: 2-s2.0-85018954083.

[IC31] Carbonari S., Dezi F., Leoni G. and Morici M. First insights on the effects of inclined pile foundations on the nonlinear seismic response of bridge piers – Proceedings of the ***DISS_15 4th International Workshop on dynamic interaction of soil and structure*** – Rome, Italy, 12-13 November 2015; ISBN 9-788894-011425.

[IC30] Gara F., Carbonari S., Leoni G., Dezi L. Analytical solution for a new higher order steel-concrete composite beam model - **Proceedings of ICASS2015 – "Eighth International Conference on "Advances in Steel Structures"** – 22-24 July 2015, Lisbon, Portugal, ID 138.

[IC29] Capatti M.C., Carbonari S., Dezi F., Leoni G., Morici M., Silvestri F., Tropeano G. Effects of non-synchronous ground motion induced by site conditions on the seismic response of multi-span viaducts – Proceedings of the ***6th International Conference on Earthquake Geotechnical Engineering (6ICEGE)*** - Christchurch, New Zealand, 1 - 4 - November 2015.

[IC28] Leoni G., Carbonari S., Morici M., Tassotti L., Zona A., Varelis G.E., Dall'Asta A. Design procedure and analysis of innovative steel frames with reinforced concrete infill walls – Proceedings of the ***EUROSTEEL2014***; ISBN: 9789291471218 Pages: 645-646 - Naples, Italy, 10 - 12 - September 2014.

[IC27] Leoni G., Carbonari S., Morici M., Tassotti L., Zona A., Varelis G.E., Dall'Asta A. Nonlinear seismic analysis of innovative steel frames with infill walls – Proceedings of the ***Twelfth International Conference on Computational Structures Technology*** **(CST2014)** ISBN: 9781905088614 Pages: 1-14 - Naples, Italy, 2 – 5 September 2014.

[IC26] Morici M., Carbonari S., Dezi F., Gara F., Leoni G. Seismic response of bridge piers founded on inclined pile groups – Proceedings of the ***Second European Conference on Earthquake Engineering and Seismology*** - Istanbul, Turkey, 25-29 August 2014.

[IC25] Capatti M.C., Carbonari S., Dezi F., Gara F. The effect of tie beams on the kinematic response and impedance functions of monopile foundations – Proceedings of the ***Second European Conference on Earthquake Engineering and Seismology*** - Istanbul, Turkey, 25-29 August 2014.

[IC24] Morici M., Carbonari S., Dezi F., Leoni G., A 3D numerical model for the dynamic analysis of pile groups with inclined piles – Proceedings of the ***IX International Conference on Structural Dynamics*** ISSN: 2311-9020; ISBN: 978-972-752-165-4 Pages: 697-704- Porto, Portugal, 30 June – 2July 2014.

[IC23] Carbonari S., Morici M., Dezi F. and Leoni G. Seismic soil-structure-interaction of multi-span bridges with continuous deck – Proceedings of the ***International Conference on Earthquake Geotechnical Engineering: From Case History to Practice – In honour of Prof. Kenji Ishiara*** – Istanbul, Turkey, 17-19 June 2013.

[IC22] Dezi F., Carbonari S. and Leoni G. Empirical formulas to define LPMs for time-domain analysis of structures on pile foundations – Proceedings of the ***International Conference on Earthquake Geotechnical Engineering: From Case History to Practice – In honour of Prof. Kenji Ishiara*** – Istanbul, Turkey, 17-19 June 2013.

[IC21] Carbonari S., Morici M. and Dezi F. Dynamic analysis of battered pile groups – Proceedings of the ***International Conference on Earthquake Geotechnical Engineering: From Case History to Practice – In honour of Prof. Kenji Ishiara*** – Istanbul, Turkey, 17-19 June 2013.

[IC20] Carbonari S., Morici M., Dezi F., Leoni G., Nuti C., Silvestri F., Tropeano G., and Vanzi I. Seismic response of viaducts accounting for soil-structure interaction – Proceedings of the ***15th World Conference on Earthquake Engineering (15WCEE)*** – Lisbon, Portugal, 24-28 September 2012.

[IC19] Dezi F., Carbonari S., Gara F. and Leoni G. Seismic response of reinforced concrete frames on pile foundations – Proceedings of the ***18th IABSE Congress***; ISBN: 9783857481277 – Seul, Korea, 19-21 September 2012.

[IC18] Dezi F., Carbonari S., Gara F. and Leoni G. Effects of soil-foundation flexibility on the performance of reinforced concrete frame structures – Proceedings of the ***2nd International Conference on Performance-Based Design in Earthquake Geotechnical Enginnering (II PBD2012)***; ISBN: 9788855531788 – pp 1241-1252 – Taormina, Italy, 28-30 May 2012.

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