

ROSALBA FERRARI

CURRICULUM VITAE

PERSONAL DATA

Born in Bergamo, Italy
Italian Citizenship

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CURRENT POSITION

2021, Jan Research Associate (“Ricercatore a Tempo Determinato RTD-B”) at the University of Bergamo, Dept. of Engineering and Applied Sciences (Dalmine).

RESEARCH INTERESTS

- Structural analysis through graphical-analytical methods
- Structural analysis and FEM modelling of historic constructions
- Structural analysis of tensegrity structures and search of optimum equilibrium configurations of “tree structures”
- Static and dynamic FEM analyses
- Model Order Reduction methods for modal analysis of structures
- Modal dynamic identification through output-only techniques
- Structural Health Monitoring, identification and model updating
- Numerical techniques for structural identification and optimization algorithms
- Signal Processing
- Heterogeneous data fusion techniques
- Evolutive elastoplastic structural analysis
- Limit analysis of (large scale) structures

DEGREES

2003, Jul 5 High School Diploma, Technical School, Building Speciality, I.S.I.S. “G. Quarenghi”, Bergamo, 100/100.

2006, Dec 21	Degree in Building Engineering, First Level Degree, University of Bergamo, Faculty of Engineering, Dalmine. Laurea Thesis: <i>Sulla concezione strutturale ottocentesca del ponte in ferro di Paderno d'Adda secondo la teoria dell'ellisse d'elasticità (On nineteenth-century structural conception of the Paderno d'Adda iron bridge according to the theory of the ellipse of elasticity)</i> , Advisor: Prof. Egidio Rizzi, 100/100 e Lode.
2009, Sep 24	Degree in Building Engineering, Second Level Degree, University of Bergamo, Faculty of Engineering, Dalmine. Laurea Thesis: <i>Analisi strutturale degli elementi portanti del ponte di Paderno d'Adda (Structural analysis of the bearing elements of Paderno d'Adda bridge)</i> , Advisor: Prof. Egidio Rizzi, 100/100 e Lode.
2011, Mar 1	State Exam for the habilitation to exercise the Engineering Profession, University of Bergamo, II Session 2010.
2013, Apr 15	Doctoral Degree in Machatronics, Information Technology, New Technologies and Mathematical Methods, XXV Cycle (three years Doctoral Programme), University of Bergamo, Dalmine. Doctoral Thesis: <i>An Elastoplastic Finite Element Formulation for the Structural Analysis of Truss Frames with Application to a Historical Iron Arch Bridge</i> , Advisor: Prof. Egidio Rizzi, Co-advisor: Prof. Giuseppe Cocchetti.

RESEARCH EXPERIENCES

2009, Oct – Dec	Scientific responsible of the research contract: <i>Structural analysis of a historical and monumental iron bridge (Analisi strutturale di ponte ad arco in ferro di interesse storico e monumentale)</i> , funded by the University of Bergamo, Faculty of Engineering (Dalmine), Dept. of Design and Technologies.
2010, Jun – 2011, May	Appointed as Research Assistant (“Assegnista di Ricerca”) at the Dept. of Design and Technologies, University of Bergamo, Faculty of Engineering (Dalmine). Research topic: <i>Structural analysis of the Paderno d'Adda iron bridge (Analisi strutturale del ponte in ferro di Paderno d'Adda)</i> Advisor: Prof. Egidio Rizzi.
2012, Feb – 2013, Jan	Appointed as Research Assistant (“Assegnista di Ricerca”) at the Dept. of Design and Technologies, University of Bergamo, Faculty of Engineering (Dalmine). Research topic: <i>Elastoplastic analysis of an iron bridge of historical and monumental interest (Analisi elastoplastica di ponte in ferro di interesse storico e monumentale)</i> . Advisor: Prof. Egidio Rizzi.
2014, Jun – 2015, May	Appointed as Research Assistant (“Assegnista di Ricerca”) at the Dept. of Engineering (Dalmine), in collaboration with the Institute of Structural Engineering (IBK), ETH Zürich, ref. Prof. Eleni Chatzi. Research topic: <i>Comprehensive diagnostic Structural Health Monitoring campaign for local strategic bridges</i> . Research grant awarded within the domain of project ITALYR (Italian TALented Young Researchers) 2014 – University of Bergamo. Advisor: Prof. Egidio Rizzi.
2015, Oct – 2017, Nov	Appointed as Research Assistant (“Assegnista di Ricerca”) at the Dept. of Engineering (Dalmine), in collaboration with the Institute of Structural Engineering (IBK), ETH Zürich, ref. Prof. Eleni Chatzi. Research topic: <i>Heterogeneous sensor fusion for reducing uncertainty in structural assessment and model updating</i> . Advisor: Prof. Egidio Rizzi.
2017, Dec – 2020, Nov	Appointed as Research Assistant (“Ricercatore a Tempo Determinato RTD-A”) at the University of Bergamo, Dept. of Engineering and Applied Sciences (Dalmine).
2019, Mar – present	Member of Research Unit in national research project PRIN 2017. Principal Investigator: Prof. Marco Savoia; Title of the project: “Life-long optimized structural assessment and proactive maintenance with pervasive sensing techniques”; Main ERC field: PE – Physical Sciences and Engineering; Resp. Research Unit University of Bergamo (Unit 2): Prof. Paolo Riva. Project admitted for financing (13 March 2019).

2020, Jan – *present* Scientific referent for the industry research contract “Valutazione dello stato di conservazione del ponte in ferro di Paderno d’Adda (1889) – Fase esecutiva (*Assessment of the state of conservation of the Paderno d’Adda bridge (1889) – execution phase*)”, funding partner Rete Ferroviaria Italiana S.p.A.

INTERNATIONAL RESEARCH EXPERIENCES

2012, Jun 8 – Dec 8 Visiting PhD at the **Dept. of Civil Engineering and Engineering Mechanics, Columbia University**, New York, USA, ref. Prof. Raimondo Betti and Prof. Andrew W. Smyth.

2015, Jan 11 – Feb 28 Visiting research stays at the **Dept. of Civil, Environmental and Geomatic Engineering, Institute of Structural Engineering (IBK), ETH Zürich**, ref. Prof. Eleni Chatzi.

2016, Jan 23 – Mar 25

2018, Apr 25 – May 3 Short stay at the **Institute of Sound and Vibration Research, Faculty of Engineering and Physical Sciences, University of Southampton**, England, ref. Prof. Maryam Ghandchi Tehrani.

2018, Jun 25 – 29 Short stay at the **Dept. of Mechanical Engineering, ORT Braude College**, Karmiel, Israel, within the call Erasmus+ Higher Education Staff Mobility – Key Action 107 outgoing teaching mobility, Academic Year 2017/18.

2018, Nov 15 – 19 Short stay at the **Dept. of Structural Mechanics, Faculty of Civil Engineering, Technical University of Cluj-Napoca**, Romania, within the call Erasmus+ Higher Education Mobility – Key Action 1 outgoing teaching mobility, Academic Year 2018/19.

TEACHING EXPERIENCE & SEMINARS

AY 2008/2009 – Teaching Assistant of the course “Mechanics of Materials and Structures” (“Scienza delle Costruzioni”), for students enrolled in the third year of the First Level Engineering Degree in Building Engineering, **University of Bergamo**, (ref. Prof. Egidio Rizzi).

AY 2017/2018

Since AY 2008/2009 Teaching Assistant of Tutoring + Elearning “Mechanics of Materials and Structures” (“Scienza delle Costruzioni”), **University of Bergamo, School of Engineering (Dalmine)**.

Since AY 2013/2014 Teaching Assistant of the course “Complements of Mechanics of Materials and Structures” (“Complementi di Scienza delle Costruzioni”), for students enrolled in the first year of the Second Level Engineering Degree in Building Engineering, **University of Bergamo** (ref. Prof. Egidio Rizzi).

AY 2009/2010 Teaching Assistant of the course “New Construction Technologies” (“Tecnologie Innovative per l’Edilizia”), for students enrolled in the first year of the Second Level Engineering Degree in Building Engineering, **University of Bergamo** (ref. Prof. Attilio Pizzigoni) (2 hours).

AY 2011/2012 Teaching Assistant of the course “Architectural Design” (“Composizione Architettonica”), for students enrolled in the third year of the First Level Engineering Degree in Building Engineering, **University of Bergamo** (ref. Prof. Attilio Pizzigoni) (13 hours).

2011, Feb 1 Lecturer on “Equilibrium conditions of a tensegrity structures” (“Determinazione dell’equilibrio nelle strutture tensegrali”), within the course “Architectural Design”, ref. Prof. Attilio Pizzigoni, **University of Bergamo, Faculty of Engineering (Dalmine)**.

2016, Mar 3 Lecturer on “Heterogeneous sensor fusion for modal dynamic identification of a historic reinforced concrete bridge”, **Dept. of Civil, Environmental and Geomatic Engineering, Institute of Structural Engineering (IBK), ETH Zürich**.

2018, May 1	Lecturer on “FEM model updating and Limit Analysis of structures: A coupled approach toward Structural Health Monitoring”, Institute of Sound and Vibration Research, Faculty of Engineering and Physical Sciences, University of Southampton , England.
2018, Jun 26	Lecturer on “FEM model updating and Limit Analysis of structures: A coupled approach toward Structural Health Monitoring”, Department of Mechanical Engineering, ORT Braude College , Karmiel, Israel.
2018, Jun 25 – 29	Lecturer of the course “Computational Structural Mechanics” (16 hours), Department of Mechanical Engineering, ORT Braude College , Karmiel, Israel, within the call Erasmus+ Higher Education Staff Mobility – Key Action 107 outgoing teaching mobility, Academic Year 2017/18.
2018, Nov 15 – 19	Lecturer on “Introduction to the Computational Mechanics of Solids and Structures” (8 hours of teaching), Dept. of Structural Mechanics, Faculty of Civil Engineering, Technical University of Cluj-Napoca , Romania, within the call Erasmus+ Higher Education Mobility – Key Action 1 outgoing teaching mobility, Academic Year 2018/19.
AY 2018/2019	Teacher of the course “Meccanica Computazionale dei Solidi e delle Strutture” (“Computational Mechanics of Solids and Structures”), for students enrolled in the first year of the Second Level Engineering Degree in Building Engineering, University of Bergamo .
AY 2019/2020	Teacher of the course “Computational Mechanics of Solids and Structures”, for students enrolled in the first year of the Second Level Engineering Degree in Building Engineering, University of Bergamo .
AY 2019/2020	Doctoral course organizer, <i>Structural Health Monitoring, System Identification and Model Updating</i> , Doctoral School Engineering and Applied Sciences, University of Bergamo .
AY 2019/2020	Lecturer within the course “Method of Finite Elements”, ref. Prof. Eleni Chatzi, Dept. of Civil, Environmental and Geomatic Engineering, Institute of Structural Engineering (IBK), ETH Zürich .

MISCELLANEA

- Since 2016, member of the Structural Committee of the Order of Engineers of the Province of Bergamo.
- Since 2018, member of the Italian Society of Mechanics of Material and Structures (Società Italiana di Scienza delle Costruzioni (SISCO)).
- Since 2019, member EUROMECH, European Mechanics Society.
- Since 2019, member AIMETA, Associazione Italiana di Meccanica Teorica e Applicata, Gruppo Italiano di Meccanica Computazionale - GIMC.
- Award of the national scientific qualification (“Abilitazione Scientifica Nazionale”) to function as associate professor in Italian Universities, SSD (academic sector) ICAR/08 – Scienza delle Costruzioni (Mechanics of Materials and Structures).
- Since January 2021, Assistant Editor for the Journal *Meccanica*.
- Reviewer for the following scientific journals:
Engineering Structures, Journal of Optimization Theory and Applications, Journal of Sound and Vibration, Mechanical Systems and Signal Processing, Sensors.

INTRA–UNIBG ACTIVITIES

- Representative of the graduate students during the doctorate (three years Doctoral Programme, XXV Cycle).
- Committee member (aggregate member) of the Selection Board of the State Exam for the habilitation to exercise the Engineering Profession, University of Bergamo, I and II Session 2016, I Session 2017.

- Promoter of a framework agreement (“Accordo Quadro”) between University of Bergamo and National Railway Company “Rete Ferroviaria Italiana S.p.A.”. Agreement approved on 10 July 2017 by the Academic Senate of the University of Bergamo.
- Since AY 2018/2019, responsible of the orienting activities for the Laurea Courses in Building Engineering.
Project admitted for financing (5 March 2019).
- Member of the Board of Teachers of the Doctoral Programme in Engineering and Applied Sciences, University of Bergamo, 2019 – present.
- Referent for Frame Agreement between University of Bergamo and Saint Petersburg State University of Architecture and Civil Engineering, Saint Petersburg, Russia, Oct 2019 – present.
- **Advisor of the following Laurea Theses:**
 - First Level Degree: Mattia Facheris, *Analisi morfologica e modellazione per elementi finiti della pila sull’arco del ponte di Paderno d’Adda (Morphological analysis and FEM modelling of the pier on the arch of the Paderno d’Adda Bridge)*, Advisor: Prof. Egidio Rizzi, Sep 24, 2009 (Co-Advisor).
 - Second Level Degree: Federico Francesco Locatelli, *Algoritmi di ottimizzazione di forma per la progettazione di strutture ad albero (Shape optimization algorithm for the design of tree structures)*, Advisor: Prof. Attilio Pizzigoni, Mar 3, 2011 (Co-Advisor).
 - Second Level Degree: Daniel Mauro Zanchi, Davide Zanoni, *Identificazione dinamica modale di strutture mediante tecniche basate sul solo segnale di risposta (Modal dynamic identification by output-only techniques)*, Advisor: Prof. Egidio Rizzi, Jul 15, 2011 (Co-Advisor).
 - First Level Degree: Dario Pezzoli, *Studio e implementazione di metodi Model Order Reduction nell’analisi dinamica modale delle strutture (Modal dynamic analysis of the structures through the Model Order Reduction methods)*, Advisor: Prof. Egidio Rizzi, Dec 17, 2013 (Co-Advisor).
 - Second Level Degree: Diego Froio and Roberto Zanchi, *Finite element modelization and modal dynamic analyses of an historical reinforced concrete bridge with parabolic arches*, Advisor: Prof. Egidio Rizzi, Sep 30, 2014 (D. Froio), Apr 1, 2015 (R. Zanchi). Thesis awarded by the Association “Carlo Maddalena” ONLUS, Milan, 2015 (Co-Advisor).
 - Second Level Degree: Gabriele Ravizza, *Dynamic response estimation by heterogeneous data fusion via Kalman filter adaptation*, Advisor: Prof. Egidio Rizzi, Mar 31, 2017 (Co-Advisor).
 - First Level Degree: Gabriele Brevi, Fabio Giacomo Cortinovis, *Elaborazione di un modello strutturale accurato del ponte in ferro di Paderno d’Adda (Refined FEM modelization of the Paderno d’Adda bridge)*, Advisor: Prof. Egidio Rizzi, Mar 28, 2018 (Co-Advisor).
 - Second Level Degree: Federico Capelli, *Latin Hypercube Sampling as a Potential Method for Model Updating Purposes*, Sep 27, 2019 (Advisor).
 - Second Level Degree: Stefano Pellegrini, *A numerical modelization approach toward structural optimization appraised on Nervi’s Palazzetto dello Sport*, Advisor: Prof. Egidio Rizzi, Dec 19, 2019 (Co-Advisor).
 - Second Level Degree: Davide Passera, *An implementation for second-order geometrical effects and stiffness adaptation in frame elements*, Advisor: Prof. Egidio Rizzi, Dec 19, 2019 (Co-Advisor).
- **Co-Advisor of Doctoral Students**
 - Gabriele Ravizza, XXXIII Cycle, Oct 2017 – 2020.

PRESENTATIONS TO INTERNATIONAL CONFERENCES

- *XXIV Conference of the Italian Association of Theoretical and Applied Mechanics – AIMETA 2019*, Rome, Italy, 15th-19th September 2019. Title of the presentation: *New computational Limit Analysis approaches for structural optimization problems*, Book of Abstracts, Category: MS06–Shell and spatial structures, Available online at <http://www.aimeta2019.it>, p. 213.
- *9th International Conference on Computational Methods – ICCM2018*, Rome, Italy, 6th-10th August 2018.

- *1st ECCOMAS Thematic Conference on International Conference on Uncertainty Quantification in Computational Sciences and Engineering* – UNCECOMP 2015, Crete Island, Greece, 25-27 May 2015.
- *5th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering* – COMPDYN 2015, Crete Island, Greece, 25-27 May 2015.
- *Structural Engineering World Congress* – SEWC 2011, Como, Italy, 4-6 April 2011.
- *7th International Conference on Structural Analysis of Historic Construction* – SAHC10, Shanghai, China, 6-8 October 2010.
- *34th International Symposium on Bridge and Structural Engineering, Venice, 2010* – IABSE2010, Venice, 22-24 September 2010
- *6th International Conference on Structural Analysis of Historic Construction* – SAHC08, Bath, UK, 2-4 July 2008.

PUBLICATIONS

Contributions are classified as follows: Articles in Refereed International Journals; Articles in Proceedings of International Conferences; Theses; Technical Reports.

• Articles in Refereed International Journals

1. Chiorean C., Passera D., Ferrari R., Rizzi E. (2020) *A computational implementation for 2nd-order bending moment-axial force coupling and geometrical stiffness adaptation in tapered beam-column elements*. **Engineering Structures**, Accepted for publication: 17 August 2020.
2. Pastore T., Cabrini M., Lorenzi S., Rizzi E., Ferrari R., Coppola L., Spirolazzi G., Pisanelli G., Cioffi C., Lizzori E. (2020) *Corrosion phenomena of historic metallic infrastructures [Fenomeni di corrosione delle infrastrutture metalliche di rilevanza storica]*. **Metallurgia Italiana**, 112(4):43–48, April 2020, ISSN: 0026-0843, Associazione Italiana di Metallurgia, Milano, IT.
3. Froio D., Verzeroli L., Ferrari R., Rizzi E. (2020) *On the numerical modelization of moving load beam problems by a dedicated parallel computing FEM implementation*. **Archives of Computational Methods in Engineering**, Accepted 18 June 2020, Published online: 18 August 2020 (62 pages), <https://doi.org/10.1007/s11831-020-09459-5>, Springer.
4. Ferrari R., Cocchetti G., Rizzi E. (2020) *Evolutionary and kinematic Limit Analysis algorithms for large-scale 3D truss-frame structures: comparison application to historic iron bridge arch*. **International Journal of Computational Methods**, First published online: 5 November 2019, 17(5, 1 May 2020):1940020 (18 pages), doi:10.1142/S0219876219400206, ISSN: 0219-8762, World Scientific Publishing Company, Singapore.
5. Ferrari R., Cocchetti G., Rizzi E. (2019) *Reference structural investigation on a 19th-century arch iron bridge loyal to design-stage conditions*. **International Journal of Architectural Heritage**, Accepted 23 Apr 2019, Published online: 05 Jul 2019 (31 pages), <https://doi.org/10.1080/15583058.2019.1613453>, 2019 Taylor & Francis.
6. Ferrari R., Froio D., Rizzi E., Gentile C., Chatzi E.N. (2019) *Model updating of a historic concrete bridge by sensitivity- and global optimization-based Latin Hypercube Sampling*. **Engineering Structures**, 179(15 January 2019):139–160, doi:10.1016/j.engstruct.2018.08.004, ISSN: 0141-0296, Elsevier B.V., Amsterdam, NL.
7. Ferrari R., Cocchetti G., Rizzi E. (2018) *Effective iterative algorithm for the Limit Analysis of truss-frame structures by a kinematic approach*. **Computers and Structures**, Final version published online: 19 December 2017, 197(15 February 2018):28–41, doi:10.1016/j.compstruc.2017.11.018, ISSN: 0045-7949, Elsevier B.V., Amsterdam, NL.
8. Ferrari R., Cocchetti G., Rizzi E. (2018) *Computational elastoplastic Limit Analysis of the Paderno d'Adda bridge (Italy, 1889)*. **Archives of Civil and Mechanical Engineering**, 18(1):291–310, Final article available

online: 30 August 2017, doi:10.1016/j.acme.2017.05.002, ISSN: 1644-9665, Politechnika Wrocławska, Published by Elsevier Sp. z o.o., Wrocław, Poland.

9. Ravizza G., Ferrari R., Rizzi E., Chatzi E.N. (2018) *Effective Heterogeneous Data Fusion procedure via Kalman filtering*. **Smart Structures and Systems**, 22(5):631–641, doi:10.12989/sss.2018.22.5.631, ISSN: 1738-1584 (Print), 1738-1991 (Online), Techno-Press, Ltd., Yuseong, Daejeon 305-600 Korea.
10. Pioldi F., Ferrari R., Rizzi E. (2017) *Seismic FDD modal identification and monitoring of building properties from real strong-motion structural response signals*. **Structural Control and Health Monitoring**, First Online: 9 February 2017 (20 pages), doi:10.1002/stc.1982, Print ISSN: 1545-2255, Online ISSN: 1545-2263, John Wiley & Sons, Inc., Chichester, West Sussex, UK.
11. Pioldi F., Ferrari R., Rizzi E. (2017) *Earthquake structural modal estimates of multi-storey frames by a refined Frequency Domain Decomposition algorithm*. **Journal of Vibration and Control**, First published online: 8 October 2015 (27 pages), 23(13):2037–2063, doi:10.1177/1077546315608557, Print ISSN: 1077-5463, Online ISSN: 1741-2986, jvc.sagepub.com, SAGE Publications, London, UK.
12. Ferrari R., Pioldi F., Rizzi E., Gentile C., Chatzi E.N., Serantoni E., Wieser A. (2016) *Fusion of Wireless and Non-Contact Technologies for the Dynamic Testing of a Historic RC Bridge*. **Measurement Science and Technology**, Special Feature on “Dense Sensor Networks for Mesoscale SHM: Innovations in Sensing Technologies and Signal Processing”, 27(12), 26 October 2016, Article number 124014 (15 pages), doi:10.1088/0957-0233/27/12/124014, Online ISSN: 1361-6501, Print ISSN: 0957-0233, Institute of Physics, IOP Publishing Ltd., Bristol, UK.
13. Ferrari R., Cocchetti G., Rizzi E. (2016) *Limit Analysis of a historical iron arch bridge. Formulation and computational implementation*. **Computers and Structures**, Final version published online: 20 August 2016, 175(15 October 2016):184–196, doi:10.1016/j.compstruc.2016.05.007, ISSN: 0045-7949, Elsevier B.V., Amsterdam, NL.
14. Pioldi F., Ferrari R., Rizzi E. (2016) *Output-only modal dynamic identification of frames by a refined FDD algorithm at seismic input and high damping*. **Mechanical Systems and Signal Processing**, First available online: 5 September 2015, Final version published online: 10 November 2015, 68-69(February 2016):265–291, doi:10.1016/j.ymssp.2015.07.004, Online ISSN: 0888-3270, Elsevier B.V., Amsterdam, NL.
15. Ferrari R., Cocchetti G., Rizzi E. (2013) *Elastoplastic structural analysis of the Paderno d’Adda bridge (Italy, 1889) based on Limit Analysis*. **Wiadomości Konserwatorskie - Journal of Heritage Conservation**, Nr. 34/-2013, pp. 28–35, ISSN: 0860-2395, Stowarzyszenie Konserwatorów Zabytków - Association of Monument Conservators, Poland, <https://suw.biblos.pk.edu.pl/downloadResource&mId=929436>.

• In preparation

1. Ferrari R., Ghandchi Tehrani M. (2020) *Energy harvesting from moving loads on a beam with elastic foundation*.
2. Ravizza G., Ferrari R., Rizzi E., Dertimanis V., Chatzi E.N. (2020) *Critical assessment of two denoising techniques for purifying structural vibration response signals*.

• Articles in Proceedings of International Conferences

1. Ravizza G., Ferrari R., Rizzi E., Dertimanis V., Chatzi E.N. (2020) *An integrated monitoring strategy for current condition assessment of historic bridges*. In Proc. of **XI International Conference on Structural Dynamics (EURODYN 2020)**, Eds. M. Papadrakakis, M. Fragiadakis, C. Papadimitriou, Online Conference (postponed), November 23-25, 2020, Conference Proceeding ID: E20148, 12 pages.
2. Ravizza G., Ferrari R., Rizzi E., Dertimanis V., Chatzi E.N. (2019) *Denoising corrupted structural vibration response: critical comparison and assessment of related methods*. In Proc. of **7th Int. Conf. on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2019)**, Eds. M. Papadrakakis, M. Fragiadakis, Hersonissos, Crete Island, Greece, June 24-26, 2019, Institute of Structural Analysis and Antiseismic Research, National Technical University of Athens (NTUA), Conference Proceeding

ID: 19291, Category: RS02–ALGORITHMS FOR STRUCTURAL HEALTH MONITORING, 12 pages, <https://2019.compdyn.org/proceedings/pdf/19291.pdf>.

3. Ferrari R., Cocchetti G., Rizzi E. (2018) *New computational algorithms for the Limit Analysis of large-scale 3D truss-frame structures*. In Proc. of **9th Int. Conf. on Computational Methods (ICCM2018)**, Eds. G.R. Liu, Patrizia Trovalusci, Rome, Italy, 6th-10th August 2018, ScienTech Publisher LLC, USA, ISSN: 2374-3948 (online), Paper ID 3387, pp. 206–517, <https://www.sci-en-tech.com/ICCM2018/PDFs/3387-11198-1-PB.pdf>.
4. Ferrari R., Froio D., Chatzi E., Gentile C., Pioldi F., Rizzi E. (2015) *Experimental and numerical investigation for the structural characterization of a historic RC arch bridge*. In Proc. of **COMPDYN 2015, 5th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering**, Eds. M. Papadrakakis, V. Papadopoulos, V. Plevris, Hersonissos, Crete Island, Greece, May 25-27, 2015, Institute of Structural Analysis and Antiseismic Research, School of Civil Engineering, National Technical University of Athens (NTUA), ISBN: 978-960-99994-7-2, Vol. 1, pp. 2337–2353, doi:10.7712/120115.3542.1037.
5. Ferrari R., Pioldi F., Rizzi E., Gentile C., Chatzi E., Klis R., Serantoni E., Wieser A. (2015) *Heterogeneous sensor fusion for reducing uncertainty in Structural Health Monitoring*. In Proc. of **UNCECOMP 2015, 1st ECCOMAS Thematic Conference on International Conference on Uncertainty Quantification in Computational Sciences and Engineering**, M. Papadrakakis, V. Papadopoulos, Ed. G. Stefanou, Hersonissos, Crete Island, Greece, May 25-27, 2015, Institute of Structural Analysis and Antiseismic Research, School of Civil Engineering, National Technical University of Athens (NTUA), ISBN: 978-960-99994-9-6, pp. 511–528, doi:10.7712/120215.4289.821.
6. Pioldi F., Ferrari R., Rizzi E. (2014) *A refined FDD algorithm for Operational Modal Analysis of buildings under earthquake loading*. In Proc. of **26th International Conference on Noise and Vibration Engineering (ISMA2014)**, Eds. P. Sas, D. Moens, H. Denayer, KU Leuven, Belgium, September 15-17, 2014; Book of Abstracts, p. 152; CD-ROM Proceedings, ISBN: 9789073802919, Paper ID 593, pp. 3353–3368.
7. Ferrari R., Cocchetti G., Rizzi E. (2012) *Elastoplastic Structural Analysis of the Paderno d'Adda bridge (Italy, 1889) based on Limit Analysis*. In Proc. of **8th Int. Conf. on Structural Analysis of Historic Constructions (SAHC2012)**, Ed. Jerzy Jasieński, Wrocław, Poland, October 15-17, 2012, DWE, Wrocław, Poland, ISSN: 0860-2395, ISBN: 978-83-7125-216-7, Vol. 3, pp. 2171–2180.
8. Ferrari R., Rizzi E. (2011) *FEM modelling of the Paderno d'Adda bridge (Italy, 1889)*. In Proc. of **Structural Engineers World Congress (SEWC 2011)**, Como, Italy, April 4-6, 2011; Book of Abstracts, p. 159; CD-ROM Proceedings, Paper 210 (9 pages).
9. Ferrari R., Facheris M., Rizzi E. (2010) *Structural Analysis of the Paderno d'Adda Bridge (Italy, 1889)*. In Proc. of **7th International Conference on Structural Analysis of Historic Constructions (SAHC10)**, Eds. Xianglin Gu and Xiaobin Song, Shanghai, China, October 6-8, 2010, Book Series: Advanced Materials Research (ISSN: 1662-8985), Trans Tech Publications, Switzerland, ISBN: 978-0-87849-239-8, Part 1, pp. 459–465, doi:10.4028/www.scientific.net/AMR.133-134.459.
10. Ferrari R., Facheris M., Rizzi E. (2010) *Structural modelling of the piers of the Paderno d'Adda Bridge (1889, Italy)*. In Proc. of **34th International Symposium on Bridge and Structural Engineering (IABSE 2010)**, Venice, Italy, September 22-24, 2010, ISBN: 978-3-85748-122-2; Book of abstracts, pp. 778–779; CD-ROM Proceedings, Paper A-634 (8 pages), doi:10.2749/222137810796063689.
11. Ferrari R., Rizzi E. (2008) *On the theory of the ellipse of elasticity as a natural discretisation method in the design of Paderno d'Adda Bridge (Italy)*. Chapter 66 in *Structural Analysis of Historic Construction – Preserving Safety and Significance*, in Proc. of **6th International Conference on Structural Analysis of Historic Construction (SAHC08)**, D. D'Ayala and E. Fodde (Eds.), Bath, UK, July 2-4, 2008, CRC Press, Taylor & Francis Group, London, print ISBN: 978-0-415-46872-5, pp. 583–591; eBook ISBN: 978-1-4398-2822-9, doi:10.1201/9781439828229.ch66.

• **Articles in Proceedings of National Conferences**

1. Pastore T., Cabrini M., Lorenzi S., Rizzi E., Ferrari R., Spirolazzi G., Cioffi C., Lizzori E., Pisanelli G. (2019) *Fenomeni di corrosione delle infrastrutture metalliche di rilevanza storica – Corrosion phenomena of historical metallic infrastructures. Atti de La XIII edizione delle Giornate Nazionali sulla Corrosione e Protezione*, Ass. Italiana di Metallurgia (AIM), Palermo, Italy, July 3-5, 2019, Università degli Studi di Palermo, 4 pages.

- **Theses**

1. Ferrari R. (2013) *An Elastoplastic Finite Element Formulation for the Structural Analysis of Truss Frames with Application to a Historical Iron Arch Bridge*. Doctoral Thesis in Mechatronics, Information Technology, New Technologies and Mathematical Methods, XXV Cycle (three-year doctoral program), SSD ICAR/08, University of Bergamo, Dalmine, Italy, Advisor Prof. E. Rizzi, Co-advisor Prof. G. Cocchetti, 15 April 2013, 135 pages.
2. Ferrari R. (2009) *Analisi strutturale degli elementi portanti del ponte di Paderno d'Adda (Structural analysis of Paderno d'Adda bridge)*. Laurea Thesis (Second-Level Degree), Dept. of Design and Technologies, University of Bergamo, Italy, Advisor Prof. E. Rizzi, 24 September 2009, 108 pages.
3. Ferrari R. (2006) *Sulla concezione strutturale ottocentesca del ponte in ferro di Paderno d'Adda secondo la teoria dell'ellisse d'elasticità (On structural conception of nineteenth-century Paderno d'Adda iron bridge according to the theory of the ellipse of elasticity)*. Laurea Thesis (First-Level Degree), Dept. of Design and Technologies, University of Bergamo, Italy, Advisor Prof. E. Rizzi, 21 December 2006, 228 pages.

- **Technical Reports**

1. Ferrari R., Facheris M., Rizzi E. (2011) *Analisi strutturale del ponte in ferro di Paderno d'Adda (1889) (Structural analysis of Paderno d'Adda iron bridge (1889))*. Technical Report SdC2011/03, Dept. of Design and Technologies, University of Bergamo, <http://www.unibg.it/pers/?egidio.Rizzi>, I-24044 Dalmine (BG), Italy, ISBN: 978-88-905817-2-4, 97 pages, June 2011.