

# NICOLA TONDINI

## AREAS OF SCIENTIFIC EXPERIENCE

In the last 10 years I have been investigating the behaviour of structural systems subjected to accidental actions, i.e. earthquake and particularly fire. Particular focus has been devoted to the behaviour of steel structures. Three main strands of interest encompass my research activity:

- Structural fire engineering
- Design steel structures
- Earthquake engineering

## EDUCATION

- 2009 PhD in Structural Engineering, "Performance-based analysis of concrete and steel-concrete composite box-girder bridges", Supervisor: Prof. O.S. Bursi, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy.
- 2005 MSc in Civil Engineering with First Class Honours, University of Trento, Italy

## CURRENT POSITION

2018 – Present Associate Professor of Structural Engineering, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy

## ACADEMIC AND PROFESSIONAL QUALIFICATIONS

2007 – Present Member of the Italian Institution of Engineers.

## PREVIOUS POSITIONS

- 2018 – 2021 Assistant Professor type B (Senior) of Structural Engineering, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy
- 2013 – 2018 Assistant Professor type A (Junior) of Structural Engineering, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy
- 2012 – 2013 Postdoctoral fellow, University of Trento, Italy
- 2010 – 2012 Visiting postdoctoral fellow, University of Liege, Belgium
- 2010 – 2013 Postdoctoral fellow, University of Trento, Italy
- 2009 – 2010 Postdoctoral fellow, University of Trento, Italy

## FELLOWSHIPS, GRANTS AND PARTICIPATION IN RESEARCH PROJECTS as P.I.

- 2021 – Present Research Fund of Coal and Steel "FISHWALL - Fire and seismic performances of hybrid fire walls in case of single-storey industrial and commercial steel": 8 partners, total funding 822,515.79€; unit funding 188,006.67€ (Awarded Grant & Local P.I.).
- 2018 – Present Research Fund of Coal and Steel "DISSIPABLE - Fully dissipative and easily repairable devices for resilient buildings with composite steel-concrete structures": 8 partners, total funding 907,405.82€; unit funding 149,214.90€ (Local P.I.).
- 2018 – Present Transnational Access Use within the H2020 SERA Project. Access to the ELSA Laboratory at the Joint Research Centre (Ispra, Italy) "EQUFIRE - Multi-hazard performance assessment of structural and non-structural components subjected to seismic and fire following earthquake by means of geographically distributed testing" (Awarded Grant & Local P.I.).
- 2019 – 2021 Autonomous Province of Trento Research Fund "Analysis and methods for the evaluation of the seismic vulnerability of existing school buildings and possible retrofitting according to the Building Code D.M. 17.01.2018", total funding 80,000€ (P.I.).
- 2017 – 2018 Research Fund of Coal and Steel "LOCAFIplus Temperature assessment of a vertical steel member subjected to localised fire – Valorisation": 20 partners, total funding 813,700.65€; unit funding 41,705.80€ (Awarded Grant & Local P.I.).
- 2016 – 2020 HORIZON2020 ITN Marie Skłodowska-Curie "XP-RESILIENCE Extreme loading analysis of petrochemical plants and design of metamaterial-based shields for enhanced resilience": total funding 3,393,811.98€; unit funding 516,122.64€ (Co-P.I.).
- 2010 – 2013 FP7 Marie Curie Individual Fellowship COFUND "FIRAS" PAT Post-doc 2009–Outgoing:

research project on the resistance of steel and steel-composite structures subjected to fire and seismic loadings, total funding 180,000€ (Awarded Grant & P.I.).

2009 – 2010 Postdoctoral fellowship, University of Trento, Italy.

2005 – 2008 Doctoral fellowship, Italian Ministry of Education, Italy.

### **SUPERVISION OF GRADUATE AND UNDERGRADUATE STUDENTS**

2013 – Present 6 PhD students

Giulia Giuliani Supervisor – (2019-Present)

Roberto Andreotti Co-Supervisor – (2018-Present)

Patrick Covi Supervisor – (2017-2021)

Luca Possidente Co-Supervisor – (2016-2021)

Jérôme Randhaxe Co-Supervisor – (2017-2020)

Andrea Morbioli Co-Supervisor – (2013-2017)

More than 30 MSc, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy.

### **TEACHING EXPERIENCE**

2019/20 – Present “Design of Steel Structures” masters course in Civil Engineering (in Italian), University of Trento, **Course leader** (6 ETCS).

2018/19 – Present “Design of Structures” masters course in Architecture and Building Engineering (in Italian), University of Trento, **Course leader** (6 ETCS).

2016/17 – Present “Fundamentals of steel structures design” within the course “Mechanics and Structural Design for Energy Engineering”, masters course in Energy Engineering (in English), University of Trento/Free University of Bolzano (6 ECTS).

2013/14 – Present “Design of steel and steel-concrete composite bridges” within the course “Analysis and Design of Bridges”, masters course in Civil Engineering (in Italian), University of Trento (6 ECTS).

2015/16 – 2019/20 “Structural design”, masters course in Architecture and Building Engineering (in Italian), University of Trento, **Course leader** (12 ETCS).

2012/13 – 2018/19 “Design of steel and concrete structures in case of fire” within the course “Earthquake Engineering and Structural Design”, masters course in Civil Engineering (in Italian), University of Trento (12 ECTS).

2014/15 – 2016/17 “Structural design of wind turbines” within the course “Wind Power Systems”, masters course in Energy Engineering (in English), University of Trento/Free University of Bolzano (6 ECTS).

2014/15 – 2015/16 “Introduction to the analysis of linear and nonlinear thermomechanical problems”, Doctoral School in Civil, Environmental and Mechanical Engineering (in English), University of Trento (4h).

2013/14 – 2014/15 “Structural Design”, masters course in Architecture and Building Engineering (in Italian), University of Trento (12 ECTS).

2011 “Performance-based design of steel structures in fire: coupling methodologies between CFD and FE software for the modelling of compartment fires”, Course given within the Doctoral School in Engineering of Civil and Mechanical Structural Systems (in English), University of Trento (3h).

### **ORGANISATION OF SCIENTIFIC MEETINGS, MEMBER OF SCIENTIFIC COMMITTEES & SPECIAL ISSUES**

2021 Member of the Scientific Committee of the “4th International Conference on Structural Safety Under Fire and Blast Loading”, London, 8-9 September (postponed to 2022 due to the ongoing pandemic).

2021 Member of the Scientific Committee of the Conference “CTA – XXVII Giornate Italiane della Costruzione in Acciaio” Francavilla a Mare, 16-18 September.

2021 Guest Co-Editor of the Special Issue: New Challenges in Civil Structure for Fire Response, Journal of Applied Sciences, MDPI.

2020 Member of the Scientific Committee of the “SiF – 11th International Conference on Structures in Fire” Brisbane, 30 Novembre-2 Dicembre, (held online).

- 2019 Organiser with H. Matthies, R. Ohayon, K.C. Park, G. Abbiati and M. Brun of the Special Session: Partitioned Methods, Uncertainty Quantification and Reduced Order Models for Coupled Problems, 8<sup>th</sup> International Conference on Coupled Problems in Science and Engineering, 3-5 June, Sitges, Spain.
- 2017 Organiser with O.S. Bursi of the Special Session: Coupled Problems with Numerical and Physical Subdomain Interactions, 7<sup>th</sup> International Conference on Coupled Problems in Science and Engineering, 12-14 June, Rhodes Island, Greece.
- 2016 Organiser with O.S. Bursi of the Special Session: Mechanical and thermomechanical coupled problems with substructuring, 6<sup>th</sup> European Conference on Structural Control, 11-13 July, Sheffield, UK.

#### **MEMBER OF COMMISSIONS**

- 2015 – 2018 Member of the Project Team “Mandate M/515 phase 1 tasks for the development of the 2nd generation of EN Eurocodes. STC1 EN1991-1-2: Actions on structures exposed to fire”, CEN.

#### **RESEARCH ACTIVITIES WITHIN EUROPEAN PROJECTS**

- 2014 – 2017 Component fragility evaluation and seismic safety assessment of "special risk" petrochemical plants under design basis and beyond design basis accidents (INDUSE-2-SAFETY), Research Fund of Coal and Steel, RFS-PR-13056.
- 2012 – 2015 Temperature assessment of a vertical steel member subjected to localised fire (LOCAFI), Research Fund of Coal and Steel, RFS-PR-11002.
- 2012 – 2015 Performance-based earthquake engineering analysis of short-medium span steel-concrete composite bridges (SEQBRI), Research Fund of Coal and Steel, RFS-PR-11073.
- 2010 – 2013 Structural applications of ferritic stainless steels (SAFSS), Research Fund of Coal and Steel, RFSR-CT-2010-00026.
- 2008 – 2011 Performance-based approaches for high strength tubular columns and connections under earthquake and fire loadings (ATTEL), Research Fund of Coal and Steel, RFSR-CT-2008-00037.
- 2008 – 2011 Design and integrity assessment of high strength tubular structure for extreme loading conditions (HITUBES), Research Fund of Coal and Steel, RFSR-CT-2008-00035.
- 2008 – 2011 Fibre optics-based intelligent monitoring and assessment system for proactive maintenance and seismic disaster prevention in reinforced concrete tunnel linings (MONICO), 7<sup>th</sup> Frame Programme, FP7-SME-2007-1.

#### **CONSULTING ACTIVITIES**

- 2017 Structural fire check of a prestressed concrete roof of an industrial hall, Italy.
- 2015 Structural design of a steel wind turbine, Defino & Giancaspro, Italy.
- 2014 – 2015 Analysis of structural systems made of fire-resistant steel subjected to fire, Tenaris Dalmine, Italy.
- 2014 Numerical analysis of hydrocarbon pool fire tests within the LOCAFI RFCS project, ArcelorMittal, Luxembourg.

#### **SELECTED TRAINING COURSES**

- 2021 Fire Dynamics Simulator (FDS) for Beginners (12h). Secure with Steel April Session, Luxembourg.
- 2019 Natural fire models (4h). Chamber of Engineers of Ascoli Piceno, Italy.  
Natural fire models (2h). Chamber of Engineers of Pesaro-Urbino, Italy.  
Seismic analysis and modelling of buildings (5h). Chamber of Engineers of Verona, Italy.  
Thermal analysis of structures (4h). Chamber of Engineers of Brescia, Italy.  
Natural fire models (4h). Chamber of Engineers of Teramo, Italy.
- 2018 Localised fires and parametric curves (4h). Chamber of Engineers of Brescia, Italy.  
Natural fire models (4h). Chamber of Engineers of Milan, Italy.  
Fire Dynamics Simulator (FDS) for Beginners (12h). Secure with Steel April Session, Luxembourg.
- 2017 Models for the definition of fire curves (4h). Chamber of Engineers of Trento, Italy.

- Fire Dynamics Simulator (FDS) for Beginners (12h). Secure with Steel April Session, Luxembourg.
- 2016 Behaviour of structures under fire loading (8h). Chamber of Engineers of Trento, Italy.  
Fire resistance of steel structures (6h). Chamber of Engineers of Reggio Calabria, Italy.
- 2015 Advanced fire and structural models (1h). Fire resistance of steel structures. Chamber of Engineers of Salerno, Italy.  
Advanced fire and structural models (1h). Fire resistance of steel structures. Chamber of Engineers of Treviso, Italy.
- 2013 Advanced fire and structural models (1h). Fire resistance of steel structures. Chamber of Engineers of Verona, Italy.
- 2012 SAFIR advanced training: Coupling between FDS and SAFIR (2h). Secure with Steel Annual meeting, Luxembourg.

#### **REVIEWER OF INTERNATIONAL JOURNALS**

Advanced Steel Construction; Bulletin of Earthquake Engineering; Construction & Building Materials; Earthquake Engineering and Structural Dynamics; Earthquake Engineering and Engineering Vibration; Engineering Structures; Fire Safety Journal; Fire Technology; International Journal of Lifecycle Performance Engineering; Journal of Bridge Engineering; Journal of Structural Engineering; Journal of Structural Fire Engineering; Sensors; SpringerPlus; Structural Control & Health Monitoring; Structure and Infrastructure Engineering; Thin-Walled Structures; Journal of Materials in Civil engineering; Structures; Fire and Materials; Earthquake Structures; International Journal of Disaster Risk Reduction; Journal of Pressure Vessel Technology; Steel and Composite Structures.

#### **VISITING PERIODS**

- 2015 Division of Structural Engineering and Bridges, KTH Royal Institute of Technology, Stockholm, Sweden, 1 – 30 August.
- 2014 Global R&D Long Carbon, ArcelorMittal, Esch/Alzette, Luxembourg, 30 June – 31 August.

#### **MAJOR COLLABORATIONS**

Giuseppe Abbiati, Hybrid fire simulation, Aarhus Univeristy, Denmark.

Jean-Marc Battini, Computational mechanics, KTH Royal Institute of Technology Stockholm, Sweden.

Oreste S. Bursi, Structural dynamics and earthquake engineering, University of Trento, Italy.

Jean-Marc Franssen, Structural fire engineering/localised fires, University of Liege, Belgium.

Negar Elhami Khorasani, Fire following earthquake, University of Buffalo, USA.

Bozidar Stojadinovic, Earthquake engineering and thermomechanical coupling, ETH Zurich, Switzerland.

Olivier Vassart, Structural fire engineering and localised fires, ArcelorMittal, Luxembourg.

## PUBLICATIONS

### International journal papers (\* Corresponding author)

**IJ25** Pedron A., **Tondini N.\*** (2021) Fire Behaviour of a Prestressed Thin-Walled Concrete V-Beam, Fire Technology, <https://doi.org/10.1007/s10694-021-01149-3>.

**IJ24** Randaxhe J., Popa N., Vassart O., **Tondini N.** (2021) Development of a plug-and-play fire protection system for steel columns, Fire Safety Journal, [doi.org/10.1016/j.firesaf.2020.103272](https://doi.org/10.1016/j.firesaf.2020.103272).

**IJ23** Randaxhe J., Popa N., **Tondini N.\*** (2021) Probabilistic fire demand model for steel pipe-racks exposed to localised fires, Engineering Structures, 226, 111310, DOI: 10.1016/j.engstruct.2020.111310.

**IJ22** Possidente L., Weiss A., de Silva D., Pustorino S., Nigro E., **Tondini N.\*** (2020) Fire Safety Engineering principles applied to a multi-storey steel building, Structures and Buildings, DOI: 10.1680/jstbu.20.00110.

**IJ21** Possidente L., **Tondini N.\***, Battini J.-M. (2020) Torsional and flexural-torsional buckling of compressed steel members in fire, Journal of Constructional Steel Research, 171, [doi.org/10.1016/j.jcsr.2020.106130](https://doi.org/10.1016/j.jcsr.2020.106130).

**IJ20** Possidente L., **Tondini N.\***, Battini J.-M. (2020) 3D beam element for the analysis of torsional problems of steel structures in fire, Journal of Structural Engineering, 146:(7), 10.1061/(ASCE)ST.1943-541X.0002665.

**IJ19** Abbiati G., Covi P., **Tondini N.**, Stojadinovic B., Bursi O.S. (2020) A real-time hybrid fire simulation based on dynamic relaxation, Journal of Engineering Mechanics, 146(9), 10.1061/(ASCE)EM.1943-7889.0001826.

**IJ18** **Tondini N.\***, Thauvoye C., Hanus F., Vassart O. (2019) Development of an analytical model to predict the radiative heat flux to a vertical element due to a localised fire, Fire Safety Journal, 105:227-243.

**IJ17** Possidente L., **Tondini N.\*** and Battini J.-M. (2019) Branch-switching procedure for post-buckling analysis of thin-walled steel members at elevated temperature, Thin-Walled Structures, 136:90-98.

**IJ16** Morbioli A., **Tondini N.\***, Battini J.-M. (2018) A branch-switching procedure for analysing instability of steel structures subjected to fire, Structural Engineering and Mechanics, 67(6):629-641.

**IJ15** **Tondini N.\***, Zanon G., Pucinotti R., Di Filippo R., Bursi O.S. (2018) Seismic performance and fragility functions of a 3D steel-concrete composite structure made of high-strength steel, Engineering Structures, 174:373-383.

**IJ14** Sauca A., Gernay T., Robert F., **Tondini N.**, Franssen J.-M. (2018) Hybrid fire testing: Discussion on stability and implementation of a new method in a virtual environment, Journal of Structural Fire Engineering, [doi.org/10.1108/JSFE-01-2017-0017](https://doi.org/10.1108/JSFE-01-2017-0017).

**IJ13** **Tondini N.\*** and Franssen J.-M. (2017) Analysis of experimental hydrocarbon localised fires with and without engulfed steel members, Fire Safety Journal, 92:9–22, [dx.doi.org/10.1016/j.firesaf.2017.05.011](https://dx.doi.org/10.1016/j.firesaf.2017.05.011)

**IJ12** Phan N.H., Paolacci F., Bursi O.S. and **Tondini N.** (2017) Seismic fragility analysis of elevated steel storage tanks supported by reinforced concrete columns, Loss Prevention in the Process Industries, 47:57-65, [dx.doi.org/10.1016/j.jlp.2017.02.017](https://dx.doi.org/10.1016/j.jlp.2017.02.017).

**IJ11** **Tondini N.\***, Morbioli A., Vassart O., Lechêne S., Franssen J.-M. (2016) An integrated modelling strategy between FDS and SAFIR: Methodology and application, Journal of Structural Fire Engineering, 7 (3), 217-233, [dx.doi.org/10.1108/JSFE-09-2016-015](https://dx.doi.org/10.1108/JSFE-09-2016-015).

**IJ10** Bursi O.S.; Paolacci F.; Reza M.S.; Alessandri S.; **Tondini N.** (2016) Seismic Assessment of Petrochemical Piping Systems Using a Performance-Based Approach, Journal of Pressure Vessel Technology, 138(3):031801-031801-10, doi: 10.1115/1.4032111.

**IJ9** Bursi O.S., **Tondini N.\***, Bonelli A. and Fassin M. (2016) Structural monitoring for the cyclic behaviour of concrete tunnel lining sections using FBG sensors, Structural Control and Health Monitoring, 23(4):749-763, doi: 10.1002/stc.1807.

**IJ8** **Tondini N.\*** and Morbioli A. (2015) Cross-sectional flexural capacity of cold-formed laterally-restrained steel rectangular hollow flange beams, Thin-Walled Structures, 95:196-207, [dx.doi.org/10.1016/j.tws.2015.06.018](https://dx.doi.org/10.1016/j.tws.2015.06.018).

**IJ7** **Tondini N.\***, Bursi O.S., Bonelli A. and Fassin M. (2015) Capabilities of a FBG sensor system to monitor the inelastic response of concrete sections in new tunnel linings subjected to earthquake loading, Computer-Aided Civil and Infrastructure Engineering, 30(8): 636–653, doi: 10.1111/mice.12106.

**IJ6** Pucinotti R., **Tondini N.**, Zanon G. and Bursi O.S. (2015) Tests and model calibration of high-strength steel tubular beam-to-column and column-base composite joints for moment-resisting structures, Earthquake Engineering & Structural Dynamics, 44:1471–1493, doi: 10.1002/eqe.2547.

**IJ5** **Tondini N.\***, Rossi B. and Franssen J.-M. (2013) Experimental investigation on ferritic stainless steel

columns in fire. *Fire Safety Journal*, 62: Part C, 238-248, dx.doi.org/10.1016/j.firesaf.2013.09.026.

**IJ4 Tondini N.\***, Hoang V.L., Demonceau J.-F. and Franssen J.-M. (2013) Experimental and numerical investigation of high-strength steel circular columns subjected to fire loading. *Journal of Constructional Steel Research*, 80: 57-81, dx.doi.org/10.1016/j.jcsr.2012.09.001.

**IJ3 Tondini N.\*** and Stojadinovic B. (2012) Probabilistic seismic demand model for curved reinforced concrete bridges. *Bulletin of Earthquake Engineering*, 10(5): 1455-1479, doi 10.1007/s10518-012-9362-y.

**IJ2 Ceravolo R., Tondini N.\***, Abbiati G. and Kumar A. (2012) Dynamic characterization of complex bridge structures with passive control systems. *Structural Control and Health Monitoring*, 19(4): 511–534. doi: 10.1002/stc.450.

**IJ1 Bursi O.S., Stoten D. P., Tondini N., Vulcan L.** (2010) Stability and accuracy by numerical methods of a model reference adaptive controller applied to systems without and with time delay. *International Journal in Numerical Methods in Engineering*, 82(9):1158–1179. doi: 10.1002/nme.2805.

#### **National journal papers (\* Corresponding author)**

**NJ4 Pucinotti R., Tondini N.** and Zanon G. (2013) Seismic performance of joints with high strength columns. *Rivista Italiana della Saldatura No. 2* (Article published on *Costruzione Metalliche No. 2 - 2012*).

**NJ3 Tondini N.\*** and Franssen J.-M. (2012) Development of an interface between a CFD software and a FE software for compartment fires. *Costruzioni Metalliche*, No.3.

**NJ2 Pucinotti R., Tondini N.** and Zanon G. (2012) Seismic performance of joints with high strength columns. *Costruzioni Metalliche*, No. 2.

**NJ1 Tondini N.\***, Bonelli A., Santini S. and Dusatti T. (2011) Dynamic behaviour of steel footbridges: the “Ponte del mare” case study. *Costruzioni Metalliche*, No.1.

#### **Book chapters**

**B1 Bursi O.S., Ferrario F, Pucinotti R., Tondini N.** and Zandonini R. (2011) Test and analysis of structures and joints for steel-concrete moment-resisting frames and steel-concrete box-girder bridges, in the development of innovative approaches for the design of steel and composite steel-concrete structural systems, the line 5 of the RELUIS-DPC 2005-2008 project. Mazzolani F.M. and Zandonini R., Editors. *Doppiavoce*, Napoli.

#### **Conference papers (\* denotes paper presentation at the conference)**

**C58 Ciman L., Freddi F., Tondini N.** (2021) A Retrofit Method to Mitigate Progressive Collapse in Steel Structures, Proceedings of 9th European Conference on Steel and Composite Structures, Sheffield, UK, 1–3 September.

**C57 Possidente L., Tondini N., Battini J.-M.** (2021) Numerical analysis of the torsional and flexural-torsional buckling behaviour of compressed steel members at elevated temperature, Proceedings of 9th European Conference on Steel and Composite Structures, Sheffield, UK, 1–3 September.

**C56 Covi P., Tondini N., Korzen M., Tsionis G.** (2021) Numerical-experimental analysis of a braced steel frame subjected to fire following earthquake, Proceedings of 9th European Conference on Steel and Composite Structures, Sheffield, UK, 1–3 September.

**C55 Andreotti R., Giuliani G., Tondini N., Bursi O.S.** (2021) Experimental Investigation of Steel Frames Equipped with Easily Replaceable Components, Proceedings of 9th European Conference on Steel and Composite Structures, Sheffield, UK, 1–3 September.

**C54 Andreotti R., Giuliani G., Tondini N., Bursi O.S.** (2020) Dynamic substructuring tests of steel frames equipped with easily repairable dissipative seismic devices, 17th World Conference on Earthquake Engineering 17WCEE Sendai.

**C53 Lamperti Tornaghi M., Tsionis G., Pegon P., Molina J., Peroni M., Korzen M., Tondini N., Covi P., Abbiati G., Antonelli M., Gilardi B.** (2020) Experimental study of braced steel frames subjected to fire after earthquake, 17th World Conference on Earthquake Engineering 17WCEE Sendai.

**C52 Covi P., Abbiati G., Tondini N., Stojadinovic B., Bursi O.S.** (2020) A static solver for hybrid fire simulation based on model reduction and dynamic relaxation, SiF 2020 - 11th International Conference on Structures in Fire, Brisbane, Australia, 30 November – 2 December (online).

**C51 Somavilla M., Tondini N.\*** (2020) Fire performance of a steel open car park in the light of the recent development of the localised fire model “LOCAFI”, SiF 2020 - 11th International Conference on Structures in Fire, Brisbane, Australia, 30 November – 2 December (online).

- C50** Randaxhe J., Vassart O.; **Tondini N.** (2020) Fire fragility curves for steel pipe-racks exposed to localised fires, SiF 2020 - 11th International Conference on Structures in Fire, Brisbane, Australia, 30 November – 2 December (online).
- C49** Possidente L.; **Tondini N.**; Battini J.-M. (2020) Behaviour of axially compressed angles and built-up steel members at elevated temperature, SiF 2020 - 11th International Conference on Structures in Fire, Brisbane, Australia, 30 November – 2 December (online).
- C48** Weiss A., **Tondini N.\***, Pustorino S. (2019) Application of the fire safety engineering to a multi-storey steel building, Proceedings of the XXVII Giornate Italiane della Costruzione in Acciaio, Bologna, Italy, 3–5 October.
- C47** Pedron A., **Tondini N.\*** (2019) Numerical analysis of a prestressed thin-walled concrete V-beam subjected to fire, Proceedings of the 1st International Conference on Structural Safety under Fire & Blast, Brunel University, UK, 2-4 September.
- C46** Possidente L., **Tondini N.**, Battini J.-M. (2019) A 3D beam element to study torsion of steel open sections exposed to fire, 7th International Conference on Structural Engineering, Mechanics and Computation, Cape Town; South Africa; 2-4 September.
- C45** Phan H.N., Paolacci F., Corritore D, **Tondini N**, Bursi O.S (2019) A kriging-based surrogate model for seismic fragility analysis of unanchored storage tanks, Proceedings of the ASME 2019 Pressure Vessels and Piping Conference PVP 2019, San Antonio, TX, United States, 14 July-19 July.
- C44** Abbiati G., Covi P., **Tondini N.**, Bursi O.S., Stojadinovic B. (2019) A finite element tearing and interconnecting-based algorithm for hybrid fire testing, Proceedings of the 8th International Conference on Coupled Problems in Science and Engineering, 3-5 June, Sitges, Spain.
- C43** Possidente L., **Tondini N.** and Battini J.-M. (2018) Branch-switching procedure for buckling problems of steel elements in fire, Proceedings of the 10<sup>th</sup> Conference on Structures in Fire, Belfast, UK, 6-8 June.
- C42** **Tondini N.\*** and Demonceau J.-F. (2017) Numerical investigation of the buckling resistance of high-strength steel circular hollow columns subjected to fire, Proceedings of the XXVI Giornate Italiane della Costruzione in Acciaio, Venice, Italy, 28–30 September.
- C41** **Tondini N.\*** and Demonceau J.-F. (2017) Numerical analysis of the fire resistance of high-strength steel circular columns, Proceedings of 8th European Conference on Steel and Composite Structures, Copenhagen, Denmark, 13–15 September.
- C40** **Tondini N.\***, Morbioli M. and Battini J.-M. (2017) A 2D beam element for the analysis of flexural buckling of steel structures at elevated temperatures, Applications of Structural Fire Engineering, Manchester, UK, 7-8 September.
- C39** Morbioli M., **Tondini N.** and Battini J.-M. (2017) A co-rotational nonlinear two dimensional beam element for the analysis of steel structures subjected to fire loading, Proceedings of the IFireSS2017 Symposium, Naples, Italy, 7-9 June.
- C38** Abbiati G., **Tondini N.**, Possidente L., Stojadinovic B. (2017) Hybrid fire testing up to collapse combining static and dynamic FETI algorithms: numerical framework formulation, 16th WCEE, Santiago de Chile, Chile, 9-13 January.
- C37** **Tondini N.\*** (2016) Finite element modelling for probabilistic multi-hazard analyses in structural engineering, 1st Workshop on probabilistic methods in structural fire engineering, Borås, Sweden, 20-21 October, (Oral presentation only).
- C36** **Tondini N.\***, Abbiati G., Possidente L. and Stojadinovic B. (2016) Hybrid simulation applied to fire testing: a newly-conceived static solver, Proceedings of the 6<sup>th</sup> European Conference on Structural Control, Sheffield, UK, 11-13 July.
- C35** Sauca A., Gernay T., Robert F., **Tondini N.** and Franssen J.-M. (2016) A novel methodology for hybrid fire testing, Proceedings of the 6<sup>th</sup> European Conference on Structural Control, Sheffield, UK, 11-13 July.
- C34** Gernay T., Salamet S., **Tondini N.** and Elhami Khorasani N. (2016) Urban infrastructure resilience to fire disaster: An overview, Proceedings of the World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium, Prague, Czech Republic, 12-17 June.
- C33** **Tondini N.\***, Thauvoye C., Hanus F. and Zhao B. (2016) Numerical calibration of hydrocarbon localised fire tests by means of Fire Dynamics Simulator, Proceedings of the 9<sup>th</sup> Conference on Structures in Fire, Princeton, NJ, USA, 8-10 June.
- C32** **Tondini N.\***, Abbiati G., Possidente L. and Stojadinovic B. (2016) A static partitioned solver for hybrid fire testing, Proceedings of the 9<sup>th</sup> Conference on Structures in Fire, Princeton, NJ, USA, 8-10 June.
- C31** Hanus F., Vassart O., **Tondini N.**, Nadjaj A. and Franssen J.M. (2016) Temperature assessment of a vertical steel member subjected to localised fire: Experimental tests, Proceedings of the 9<sup>th</sup> Conference on

Structures in Fire, Princeton, NJ, USA, 8-10 June.

**C30** Sauca A., Gernay T., Robert F., **Tondini N.** and Franssen J.-M. (2016) Stability in hybrid fire testing, Proceedings of the 9<sup>th</sup> Conference on Structures in Fire, Princeton, NJ, USA, 8-10 June.

**C29** Abbiati G., Ferraiuolo M., **Tondini N.** and Stojadinovic B. (2016) Fully Coupled Hybrid Simulation of Spacecraft Thermal Structures, Proceedings of 11<sup>th</sup> International Congress on Thermal Stresses, Salerno, Italy, 5-9 June.

**C28** Morbioli M., **Tondini N.** and Battini J.-M. (2016) A co-rotational nonlinear three dimensional beam element for the analysis of steel structures subjected to fire, European Congress on Computational Methods in Applied Sciences and Engineering ECCOMAS, Crete, Greece, 5-10 June.

**C27** Morbioli M., **Tondini N.** (2015) Numerical analysis of cold formed laterally-restrained steel rectangular hollow flanges beams, Proceedings of the XXV Giornate Italiane della Costruzione in Acciaio, Salerno, Italy, 1-3 October.

**C26** **Tondini N.\***, Hanus F., Nadjai A. and Franssen J.-M. (2015) Analisi numerica di incendi localizzati di idrocarburi, Proceedings of the XXV Giornate Italiane della Costruzione in Acciaio, Salerno, Italy, 1-3 October.

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