

Curriculum vitae

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Fabio Freddi

Lecturer in Structural Design

Department of Civil, Environmental & Geomatic Engineering
University College London
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Personal

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Nationality: Italian
DoB: 20/12/1982

Academic Qualification

PhD	Doctorate in Structural and Infrastructural Engineering, Marche Polytechnic University, 2013
MSc	Civil Engineering, cum laude (highest grade), Marche Polytechnic University, 2008
BEng	Civil Engineering, Marche Polytechnic University, 2005

Professional Qualification

CEng	Chartered Engineer, 2009
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Research Areas and Specialization

Performance-based seismic design and assessment of structures
Large-scale structural testing
Novel resilient minimal-damage seismic-resistant steel frames
Self-centering post-tensioned steel connections
Passive dampers
Seismic retrofit of reinforced concrete frames
Seismic risk and life cycle cost analysis
Progressive collapse of steel-concrete composite structures
Pounding of structures

Education

2013 – 2014	Post-Doctoral Researcher. Department of Civil, Environmental and Mechanical Engineering (DICEA), Faculty of Engineering, University of Trento, Trento, Italy. Supervisor: Prof. Riccardo Zandonini
2009 – 2012	Ph.D. in Structural and Infrastructural Engineering. Department of Civil Engineering, Buildings and Architecture (DICEA), Faculty of Engineering, Marche Polytechnic University, Ancona, Italy. Degree Thesis: <i>“Local Engineering demand parameters for seismic risk evaluation of low ductility reinforced concrete buildings”</i> . Advisor: Prof. Luigino Dezi
2005 – 2008	Master degree cum Magna Laude in Civil Engineering. Faculty of Engineering, Marche Polytechnic University, Ancona, Italy. Degree Thesis: <i>“Design Criteria for retrofitting of moment resisting frame structures by means of buckling restrained braces”</i> (in Italian). Advisor: Prof. Andrea Dall’Asta

- 2002 – 2005 **Bachelor degree in Civil Engineering**, Faculty of Engineering, Marche Polytechnic University, Ancona, Italy. Degree Thesis: “*Optimization of the design of pile foundation in sand*” (in Italian). Advisor: Prof. Erio Pasqualini

Academic appointments

- 09/2017 – Now **Lecturer (Assistant Professor) in Structural Design**, Department of Civil, Environmental & Geomatic Engineering at University College of London (UCL), London, WC1E 6BT, UK.
- 2015 – 2017 **Marie Skłodowska-Curie Research Fellow**, School of Engineering, University of Warwick, Coventry, CV47AL, UK (September 2015 - September 2017).
- 2013 – 2014 **Post-Doctoral Researcher**. Department of Civil, Environmental and Mechanical Engineering, Faculty of Engineering –University of Trento, Trento, Italy.
- 2012 – 2013 **Research Fellow**. School of Architecture and Design E. Vittoria, University of Camerino, Ascoli Piceno, Italy.
- 2010 – 2011 **Visiting Scholar**. Department of Civil and Environmental Engineering, Rice University, Houston, Texas, USA. Collaboration with Prof. Jamie Ellen Padgett. (December 2010 – September 2011).
- 2009 – 2013 **Research Assistant/Teaching Assistant**. Faculty of Engineering, Marche Polytechnic University, Ancona, Italy.

Honors & Awards

- 2013 **Research Fellowship**. “*Robust impact design of steel and composite building structures*”. Faculty of Engineering, University of Trento, Trento (TN), Italy (€ 39,600).
- 2012 **Research Fellowship**. “*Improvement of seismic performance of structures by using dissipative systems*”. School of Architecture and Design E. Vittoria, University of Camerino, (€ 13,000).
- 2009 **Research Fellowship**. Faculty of Engineering, Marche Polytechnic University, Ancona, Italy (€ 40,915).

Grants

- 2015 **Marie Skłodowska-Curie Research Individual Fellowships (IF)**. Project “*Earthquake-resilient self-centering steel frame*” (EQRESFRAME). Supported by the European Union Commission Horizon 2020 program (€ 183,455).

Collaboration in Research Project

- 2013 – 2016 **Project Member**. Research Fund for Coal and Steel (RFSR-CT-2012-00029). Project “*Robust impact design of steel and composite building structures*” (ROBUSTIMPACT). (PI: Prof. Ulrike Kuhlmann, Stuttgart Univ., Germany) (€ 1,493,344).
- 2011 – 2015 **Project Member**. Research Found for the George E. Brown, Jr. Network for Earthquake Engineering Simulation Project “*Innovative Seismic Retrofits for Resilient Reinforced Concrete Buildings*” (NEESR-CR). (<http://neesrcr.gatech.edu/>) (PI: Prof. Reginald DesRoches, Georgia Tech Univ. USA) (\$ 1,197,055).
- 2009 – 2010 **Project Member**. Research Fund for Coal and Steel (RFSR-CT-2007-00038). Project “*Prefabricated steel structures for low-rise buildings in seismic areas*” (PRECASTEEL). (PI: Prof. Aurelio Braconi, ILVA S.P.A.) (€ 1,216,196).

Consulting Activity / Practical Experience

- 2017 **Project Coordinator** for the Italian Society of Earthquake Engineering. Project “*Seismic requalification in Italy: tax breaks, retrofit methods and manual of available technologies for seismic risk reduction*”. Supported by Cresme.
- 2017 **Associate** at Terre.it (<http://www.terresrl.it/en/>)

- 2016 **Project Coordinator** for the Italian Society of Earthquake Engineering. Project “*Seismic vulnerability evaluation of the property of the Italian agency for public residential building and retrofit methods*”. Supported by Federcasa.
- 2015 **Project Coordinator** for the Italian Society of Earthquake Engineering. Project “*Seismic vulnerability evaluation of the property of the Italian agency for public residential building: Preliminary Analysis*”. Supported by Federcasa.
- 2015 **Engineer-Consultant**: Seismic vulnerability evaluation and retrofit design of the industrial building Ex-Saipem of Matelica’s council.
- 2014 – Now **Scientific Consultant** for Tecnostrutture (<http://www.tecnostrutture.eu/eng/>).
- 2012 **Engineer-Consultant**: Seismic Vulnerability evaluation and retrofit design of the dorm E. Mattei of University of Camerino.
- 2012 **Engineer-Consultant**: Seismic Vulnerability evaluation and retrofit design of the dorm Granelli of University of Camerino.
- 2012 – Now **Scientific Consultant** for the Italian Society of Earthquake Engineering (<http://www.ingegneriasismicaitaliana.com>).
- 2010 **Teaching assistant** in updating course for engineers on Italian code NTC2008. Professional Order of Engineers of Macerata, Italy.
- 2010 **Teaching assistant** in updating course for engineers on Italian code NTC2008. Professional Order of Engineers of Rimini, Italy.
- 2009 – Now **License (Chartered Civil Engineer)** to practice civil engineering in Italy (10 October 2009). Design consultant to a large number of steel and reinforced concrete building design projects.

Organization of Conferences

- 2017 **Co-Organizer**. Conference “*Building stock and seismic risk. perspective, experiences and management.* ” (In Italian). Organized for Italian Society of Earthquake Engineering within SISMO Expo 2017, Ferrara, (22 September 2017).
- 2017 **Co-Organizer**. Conference “*Building stock and seismic risk. Need of knowledge and retrofit of public residential buildings.* ” (In Italian). Organized for Italian Society of Earthquake Engineering & Federcasa, Norcia, (29 June 2017).
- 2016 **Co-Organizer**. Conference “*Seismic vulnerability classification of buildings. An instrument for the seismic risk reduction*” (In Italian). Organized for Italian Society of Earthquake Engineering within the SAIE 2016, Bologna, (21 October 2016).
- 2015 **Co-Organizer**. Conference “*Seismic safety of public residential buildings*” (In Italian). Organized for Italian Society of Earthquake Engineering in collaboration with Federcasa, Roma, Italy (8 July 2015).
- 2015 **Co-Organizer**. Conference “*Seismic requalification: retrofit or reconstruction?*” (In Italian). Organized for Italian Society of Earthquake Engineering within the MADEexpo 2015, Milano, Italy (20 March 2015).
- 2015 **Co-Organizer**. Conference “*The new technical code: the point of view of the software houses*” (In Italian). Organized for Italian Society of Earthquake Engineering within the MADEexpo 2015, Milano, Italy (18 March 2015).
- 2014 **Co-Organizer**. Conference “*Earthquakes and non-structural elements. Approaches, limit states and performance requirements*” (In Italian). Organized for Italian Society of Earthquake Engineering within the SAIE 2014, Bologna, Italy (24 October 2014).
- 2013 **Co-Organizer**. Conference “*Seismic classification of buildings*” (In Italian). Organized for Italian Society of Earthquake Engineering in collaboration with Federcasa within the SAIE 2013, Bologna, Italy (18 October 2013).
- 2012 **Co-Organizer**. Conference “*Smart structure: seismic resistant, sustainable and based on the conceptual design*” (In Italian). Organized for Italian Society of Earthquake Engineering within the MADEexpo 2012, Milano, Italy (18 October 2012).

Reviewer for Scientific Journals

Journal of Bridge Engineering (ASCE)
Journal of Structural Engineering (ASCE)
Soil Dynamics and Earthquake Engineering
Journal of Earthquake Engineering
Earthquakes and Structures
Advances in Structural Engineering
The Open Civil Engineering Journal

Invited and Plenary Talks

- 2017 *Seismic risk assessment of public residential buildings. Extended evaluation on a large building stock. Digital & BIM Italia/By SAIE 2017. Conference "Digitalizzazione e protezione eco-sismica: progetto di adeguamento". Bologna. Invited Talk. (October 2017).*
- 2017 *Report Federcasa-ISI: Awareness of Earthquake Risk in Italy. SISMOexpo 2017. Conference "Patrimonio edilizio e rischio sismico: prospettive, esperienze, politiche virtuose." Ferrara. Invited Talk. (September 2017).*
- 2017 *Seismic vulnerability evaluation of the property of the Italian agency for public residential buildings. Conference "Patrimonio edilizio e rischio sismico. Necessità di conoscenza, possibilità d'intervento." Norcia. Invited Talk. (June 2017)*
- 2017 *Rocking damage-free steel column base with friction devices: design procedure, numerical evaluation and experimentation. Civil & Environmental Engineering, University of Strathclyde. Invited Talk. (May 2017)*
- 2017 *Seismic vulnerability evaluation of the property of the Italian agency for public residential buildings. Department of Civil, Chemical and Environmental Engineering, University of Genoa. Invited Talk. (March 2017)*
- 2017 *Rocking damage-free steel column base with friction devices: design procedure, numerical evaluation and experimentation. School of Civil Engineering and Geosciences, Newcastle University. Invited Talk. (February 2017)*
- 2015 *Local Engineering Demand Parameters for seismic risk evaluation of low ductility reinforced concrete buildings. School of Engineering, Warwick University. Invited Talk. (June 2015).*
- 2015 *The seismic safety of the public residential buildings. Federcasa, ATER Roma. Invited Talk. (July 2015).*

Memberships

Earthquake and People Interaction Centre (EPICentre)
The Earthquake Engineering Field Investigation Team (EEFIT)
British Society for Earthquake and Civil Engineering Dynamics (SECED)
European Association of Earthquake Engineering (EAEE)
Italian Society of Chartered Engineers (Chartered Engineer)
Italian Society for Seismic Engineering (ISI)
Marie Curie Alumni Association

Research Supervision

Ph.D.

- 2015 - 2016 Xiameng Huang (Co-Supervisor)
School of Engineering, Warwick University (Supervisor: Prof. TL Karavasilis)
- 2015-2016 Nicholas Bae (Co-Supervisor)
School of Engineering, Warwick University (Supervisor: Prof. TL Karavasilis)
- 2013 Luca Tassotti (Co-Supervisor)
Dept. Civil and Env. Eng., Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)

MSc-MEng-Masters

- 2012 - 2013 Luca Tassotti (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)
- 2011 - 2012 Adelina Mancini (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)
- 2010 - 2011 Andrea Ricci (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)
- 2010 - 2011 Andrea Di Risio (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)
- 2009 - 2010 Pietro Cerboni (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)
- 2009 - 2010 Giuseppe Stefania (Co-Supervisor)
MEng in Civil Engineering, Marche Polytechnic University (Supervisor: Prof. A Dall'Asta)

Teaching

University College of London, UK

- 2017 Advanced Seismic Design for MCs Earthquake Engineering with Disaster Management (**Lecturer**)
- 2017 Structural Design for MEng Engineering and Architectural Design (**Lecturer**)

University of Warwick, UK

- 2016 ES2B0: Mechanics and Thermofluids: Static and Elasticity (**Lecturer**)
- 2016 ES4E2: Performance-based seismic design and nonlinear structural analysis for steel buildings (**Co-Lecturer** with Prof. T.L. Karavasilis)

University of Ancona, Italy

- 2009 – 2013 Design of Reinforced Concrete Structures (**Teaching Assistant**; Instructor: Prof. Luigino Dezi)
- 2010 – 2012 Design of Steel Structures (**Teaching Assistant**; Instructor: Prof. Laura Ragni)
- 2009 – 2011 Special Structures (**Teaching Assistant**; Instructor: Prof. Andrea Dall'Asta)
- 2010 – 2012 Seismic Design (**Teaching Assistant**; Instructor: Prof. Laura Ragni)

Publications

Refereed Journals

- [1] **Freddi, F.**, Dimopoulos, C., Karavasilis, T.L. (2017) Rocking damage-free steel column base with friction devices: design procedure and numerical evaluation. *Earthquake Engineering & Structural Dynamics*. DOI: 10.1002/eqe.2904.
- [2] **Freddi, F.**, Padgett, J.E., Dall'Asta, A. (2017). Probabilistic Seismic Demand Modeling of Local Level Response Parameters of an RC Frame. *Bulletin of Earthquake Engineering*, **15**(1), 1-23. DOI 10.1007/s10518-016-9948-x.
- [3] Tubaldi, E., **Freddi, F.**, Barbato, M. (2016). Probabilistic seismic demand model for pounding risk assessment. *Earthquake Engineering & Structural Dynamics*, **45**(11), 1743-1758. DOI: 10.1002/eqe.2725.
- [4] Zandonini, R., Baldassino, N., **Freddi, F.** (2014). Robustness of steel-concrete flooring systems. An experimental assessment. *Stahlbau*, **83**(9), 608–613. DOI: 10.1002/stab.201410192.
- [5] **Freddi, F.**, Tubaldi, E., Ragni, L., Dall'Asta, A. (2013). Probabilistic Performance Assessment of low-ductility RC frames retrofitted with dissipative braces. *Earthquake Engineering & Structural Dynamics*, **42**(7), 993-1011. DOI: 10.1002/eqe.2255.

Italian Refereed Journals

- [6] **Freddi, F.** (2017). Il metodo convenzionale per la classificazione sismica delle costruzioni. *CSPFEA Engineering Solutions, Dossier Classificazione Sismica* (June 2017).

- [7] **Freddi, F.** (2017). Il metodo convenzionale per la classificazione sismica delle costruzioni. *Structural Modeling*, n. 17 (June 2017).
- [8] **Freddi, F., Dall'Asta, A.** (2017). Stati limite e costo economico, ecco gli elementi da valutare per attribuire le classi di rischio. *Edilizia & Territorio, Dossier SISMABONUS, Guida alla diagnosi e agli interventi*, n. 3 (March 2017).
- [9] **Freddi, F., Dall'Asta, A.** (2017). La valutazione della vulnerabilità con il metodo semplificato: sistema più rapido, ma non accurato. *Edilizia & Territorio, Dossier SISMABONUS, Guida alla diagnosi e agli interventi*, n. 3 (March 2017).
- [10] Prandi, C., Bonetti, S., **Freddi, F.** (2017). Tre casi di miglioramento sismico, niente «formule magiche»: si deve sempre partire dall'analisi caso per caso. *Edilizia & Territorio, Dossier SISMABONUS, Guida alla diagnosi e agli interventi*, n. 3 (March 2017).
- [11] **Freddi, F., Barocci, A., Daniele, F., Segala, P.** (2015). Sismica e sicurezza: le sfide di oggi e di domani. *Progettazione Sismica*, 1/2016.
- [12] **Freddi, F.** (2014). Classificazione Sismica degli edifici: Una sfida per la sicurezza e la sostenibilità del patrimonio immobiliare. *Structural*, 187(15). DOI 10.12917/Stru187.15.
- [13] **Freddi, F.** (2014). Classificare la vulnerabilità sismica dei fabbricati. *Il giornale dell'Ingegnere, Focus Recupero Antisismico*, 1/2014.

Conference Proceedings

- [14] Tubaldi, E., **Freddi, F., Zona, A., Dall'Asta, A.** (2018) Seismic Performance of Dual Systems with Buckling-Restrained Braces and Moment-Resisting Frames. *16th European Conference on Earthquake Engineering*, 16th ECEE, Thessaloniki, Greece, 18-21 June 2018.
- [15] **Freddi, F., Dimopoulos, C., Karavasilis, T.L.** (2018) Design, Numerical Simulation, and Experimental Evaluation of a Rocking Damage-Free Steel Column Base with Friction Devices. *16th European Conference on Earthquake Engineering*, 16th ECEE, Thessaloniki, Greece, 18-21 June 2018.
- [16] **Freddi, F., Tubaldi, E., Zona, A., Dall'Asta, A.** (2017) Seismic performance of structural systems equipped with buckling-restrained braces. *XXVI Giornate Italiane della Costruzione in Acciaio, CTA Collegio dei Tecnici dell'Acciaio*, Venice, Italy, 28-30 September 2017.
- [17] Tubaldi, E., **Freddi, F., Zona, A., Dall'Asta, A.** (2017) Seismic performance of structural systems equipped with buckling-restrained braces. *XVII National Conference ANIDIS, L'Ingegneria sismica in Italia*, Pistoia, Italy, 17-21 September 2017.
- [18] **Freddi, F., Dimopoulos, C., Karavasilis, T.L.** (2017) Rocking damage-free steel column base with friction devices. *9th Hellenic National Conference of Steel Structures*, Larisa, Greece, 5-7 October 2017.
- [19] Dimopoulos, C., **Freddi, F., Karavasilis, T.L., Vasdravellis, G.** (2017) 3D numerical assessment of the progressive collapse resistance of a seismic resistant steel building with post-tensioned beam-column connections. *9th Hellenic National Conference of Steel Structures*, Larisa, Greece, 5-7 October 2017.
- [20] **Freddi, F., Dimopoulos, C., Karavasilis, T.L.** (2017) Rocking damage-free steel column base with friction devices: design procedure and global seismic response of buildings. *Eurosteel 2017, 8th European Conference on Steel and Composite Structures*, Copenhagen, Denmark, 13-15 September 2017.
- [21] Dimopoulos, C., **Freddi, F., Karavasilis, T.L.** (2017) Rocking damage-free steel column base with friction devices: development of advanced 3D finite element models in ABAQUS. *Eurosteel 2017, 8th European Conference on Steel and Composite Structures*, Copenhagen, Denmark, 13-15 September 2017.
- [22] Zandonini, R., Baldassino, N., Roverso, G., **Freddi, F.** (2017). Progressive collapse: the case of composite steel-concrete frames, *8th International Conference on Composite Construction in Steel and Concrete*, Jackson, Wyoming, USA, 30 July - 2 August 2017.
- [23] Tubaldi, E., **Freddi, F., Barbato, M.** (2017) Assessment of seismic-induced pounding risk based on probabilistic demand models. *16th World Conference on Earthquake, 16th World Conference of Earthquake Engineering*, WCEE 2017 Santiago, Chile, 9-13 January 2017.
- [24] Hoffman, N., Kuhlmann, U., Démonceau, J.F., Jaspert, J.P., Baldassino, N., **Freddi, F., Zandonini, R.** (2014). Robust impact design of steel and composite building structures: The Alternate Load Path Approach. *IABSE Workshop 2015, Safety, Robustness and Condition Assessments of Structures*, Helsinki, Finland, 11-12 February 2015.

- [25] Zandonini, R., Baldassino, N., **Freddi, F.** (2014). Robustness of Flooring Systems in 3-D Frames. An experimental assessment. *Eurosteel 2014, 7th European Conference on Steel and Composite Structures*, Napoli, Italy, 10-12 September 2014.
- [26] Baldassino, N., **Freddi, F.**, Zandonini, R. (2014). Robustness of Framed Steel-Concrete Composite Systems: The case of a Column Collapse. *27th AICAP 2014, Associazione Italiana Calcestruzzo Armato e Precompresso*, Bergamo, Italy, 22-24 May 2014.
- [27] Baldassino, N., **Freddi, F.**, Zandonini, R. (2013). Robustness of Moment Resisting Steel-Concrete Composite Frames: The floor resisting mechanism in the case of column collapse. *XXIV Giornate Italiane della Costruzione in Acciaio, CTA Collegio dei Tecnici dell'Acciaio*, Torino, Italy, 30 September - 2 October 2013.
- [28] **Freddi, F.**, Dall'Asta, A., Padgett, J.E. (2013). Bilinear Probabilistic Models of the Seismic Response of a Low Ductility Reinforced Concrete Frame. *XV National Conference ANIDIS, L'Ingegneria sismica in Italia*, Padova, Italy, 30 June-4 July 2013.
- [29] **Freddi, F.**, Tubaldi, E., Dall'Asta, A., Ragni, L. (2013). Local and Global Response Parameters in Seismic Risk Assessment of RC Frames Retrofitted by BRBs. *XV National Conference ANIDIS, L'Ingegneria sismica in Italia*, Padova, Italy, 30 June-4 July 2013.
- [30] Tubaldi, E., **Freddi, F.**, Barbato, M. (2013). Probabilistic Seismic Demand and fragility Assessment for Evaluating the Separation Distance between Adjacent Buildings. *11st ICOSSAR, International Conference on Structural Safety & Reliability*, Columbia University, New York, USA, 16-20 June 2013.
- [31] **Freddi, F.**, Ragni, L., Tubaldi, E., Dall'Asta, A. (2012). Probabilistic Assessment of Reinforced Concrete frames with Dissipative Braces. *OpenSees Days 2012*, Rome, Italy, 24-24 May 2012.
- [32] **Freddi, F.**, Ragni, L., Tubaldi, E., Dall'Asta, A. (2012). Component-based Probabilistic Methodology for the Vulnerability Assessment of RC Frames Retrofitted with Dissipative Braces. *15th WCEE*, Lisbon, Portugal, 24-28 September 2012.
- [33] **Freddi, F.**, Padgett, J. E., Dall'Asta, A., (2012). Life Cycle Cost Analysis of low ductility RC frame building retrofitted by modern retrofit techniques. *5th European Conference on Structural Control EACS 2012*, Genoa, Italy, 18-20 June 2012.
- [34] Ragni, L., **Freddi, F.**, Tubaldi, E., Dall'Asta, A. (2011). Probabilistic performance assessment of low ductility r.c. frames retrofitted by elasto-plastic braces. *XIV National Conference ANIDIS, L'Ingegneria sismica in Italia*, Bari, Italy, 18-22 September 2011.
- [35] **Freddi, F.**, Tubaldi, E., Ragni, L., Dall'Asta, A. (2010). Probabilistic performance assessment of low ductility r.c. frames retrofitted by elasto-plastic braces. *14th European Conference on Earthquake Engineering ECEE*, Ohrid, Republic of Macedonia, 30 August – 3 September 2010.
- [36] Dall'Asta, A., Ragni, L., Tubaldi, E., **Freddi, F.** (2009). Design methods for existing r.c. frames equipped with elasto-plastic or viscoelastic dissipative braces. *XIII National Conference ANIDIS: L'Ingegneria sismica in Italia*, Bologna, Italy, 28 June - 2 July 2009.

Technical Reports

- [37] **Freddi, F.** (2016). Innovative measures for the seismic retrofit of buildings. Uses, optimization, applications and costs. *Italian Society of Earthquake Engineering (Ingegneria Sismica Italiana)*, Lenta, Vercelli, Italy.
- [38] **Freddi, F.** (2016). Large-scale seismic vulnerability evaluation of the property of the Italian agency for public residential building. Statistical evaluation on a sample of 20488 buildings. *Italian Society of Earthquake Engineering (Ingegneria Sismica Italiana)*, Lenta, Vercelli, Italy.
- [39] **Freddi, F.** (2015). Seismic vulnerability evaluation of the property of the Italian agency for public residential building. *Italian Society of Earthquake Engineering (Ingegneria Sismica Italiana)*, Vercelli, Italy.
- [40] Hoffman N., Kuhlmann U., Huvelle C., Démonceau J.F., Jaspert J.P., Baldassino N., **Freddi F.**, Zandonini R., Hoffmeister B., Korndörfer J., Colomer C. (2014). Robusimpact - Design report of the specimens for all the experimental analyses - Deliverable 4.1. *RFSR-CT-2012-00029 Technical report*.
- [41] Hoffman N., Kuhlmann U., Huvelle C., Démonceau J.F., Jaspert J.P., Baldassino N., **Freddi F.**, Zandonini R., Hoffmeister B., Korndörfer J., Colomer C. (2014). Robustimpact - Drawings for producing the test specimens - Deliverable 4.2. *RFSR-CT-2012-00029 Technical report*.

[42] **Freddi, F.**, Tubaldi, E. (2010). Time Invariant Reliability. *Internal Report*, Marche Polytechnic University, Ancona, Italy.