

# CURRICULUM VITAE

**Alper KANYILMAZ**

Assistant Professor

(Ricercatore legge 240/10 - t.det.)

Department of Architecture, Built Environment and Construction  
Engineering (DABC)  
Politecnico di Milano

01 March 2022

(for the latest updates in my activity, please visit:

[www.alperkanyilmaz.com](http://www.alperkanyilmaz.com))

Autorizzo il Politecnico di Milano a pubblicare il presente curriculum sul sito web di Ateneo, ai fini istituzionali e in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 “Decreto trasparenza” come modificato dal D. Lgs. 97 del 2016



## PERSONAL INFORMATION

First name, family name: **Alper Kanyilmaz**  
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Alper Kanyilmaz is an assistant professor in the Department of Architecture, Built Environment and Construction Engineering of Politecnico di Milano in Italy. His research goal is to explore new structural systems using steel, and contribute to the construction sector's transition toward a digitalised and sustainable production of safe and elegant structures requiring less material and energy consumption.

He is studying the [following topics](#)<sup>1</sup>:

- **Automated off-site fabrication of tubular steel structures** using laser cutting technology, to optimize the mechanical behaviour of joints, speed up construction, reduce costs, waste, and manual work considering the whole life cycle of a building.
- Development of innovative structural solutions using **metal additive manufacturing (e.g. metal 3D printing) and bio-inspired topology optimisation** methods in combination with traditional construction systems to design hybrid structures with high structural performance focusing on the structural integrity (e.g. fatigue in connections), architectural concerns and, environmental and economic impacts.
- **Rapid decision-making tools and methods** to conceptually design cost-efficient building structures using artificial intelligence and data-driven approaches.
- **Mitigation of dynamic actions** (fatigue, seismic) on steel building, storage (e.g., warehouse, industrial) and renewable energy (e.g., wind) structures, with increased lifetime, reparability, and reuse.

His research lines are constructed using both numerical and experimental methods, up to high TRL levels (e.g., pilot-scale). He organizes his research in cooperation with top scientists within an extensive international network he matured since 2010. He has been a team leader and principal coordinator in several EU research projects, cooperating with the steel construction industry, different disciplines, and worldwide research institutes. He transfers his research experience to the civil engineering and architecture students in terms of [teaching, MSc and PhD thesis supervision](#).

## EDUCATION

01.11.2013 - 27.03.2017 PhD (cum laude) in Architecture, Built Environment and Construction Engineering, Politecnico di Milano, Italy. Thesis title: "A new design approach for concentrically braced frames in moderate seismicity."  
09.10.2007 - 04.05.2010 MSc in Civil Engineering, Politecnico di Milano, Italy, Thesis title: "Seismic protection of ancient statues under 3D earthquake excitations by means of base Isolation."  
01.10.2001 - 11.06.2006: BSc in Civil Engineering, Middle East Technical University, Ankara, Turkey

## ACADEMIC AND PROFESSIONAL QUALIFICATIONS

20/09/2018 al 20/09/2027: National scientific qualification to become Associate Professor (Fsc. II) in the sector "08/B3 Tecnica delle Costruzioni"  
Since 16 April 2018: Professional qualification in the field of Civil and Environmental Engineering

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<sup>1</sup> These topics are compatible with 3 of the 6 strategic research lines of the DABC department of Politecnico di Milano: i) Technological and digital transformation for built environment and construction industry, ii) Advanced materials and components, clean tech, innovative manufacturing technology for buildings and built environment, iii) Risks mitigation strategies for built environment.

**ACADEMIC POSITIONS**

- 02.09.2019 – present: **Assistant Professor (“Ricercatore legge 240/10 – tempo determinato tipo B. (Tecnica delle Costruzioni - ICAR/09”)**, Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano<sup>2</sup> (Italy)
- 01.09.2019 - 01.09.2021: **Assistant Professor (“Ricercatore legge 240/10 – tempo determinato tipo A. (Tecnica delle Costruzioni - ICAR/09”)**, Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano (Italy)
- 01.11.2017 - 31.10.2018 and  
01.11.2016 - 31.10.2017: **Research assistant** within the EU project "Valorization of Innovative Anti-Seismic Devices", Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano.
- 16.04.2015 - 01.11.2015 and  
16.04.2014 - 15.04.2015: **Research assistant** (during PhD) within the EU project “Design of steel and composite structures with limited ductility requirements for optimized performances in moderate earthquake areas (MEAKADO)”, Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano
- 16.11.2013 - 16.04.2014: **Research assistant** (during PhD) within the EU project “Seismic behaviour of steel storage pallet racking systems”, Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano
- 16.11.2011 - 15.11.2013: **Research assistant** within the EU project “Seismic behaviour of steel storage pallet racking systems”, Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano
- 01.08. 2011 - 31.10.2011 and  
01.08. 2010 - 31.07.2011: **Research assistant** (Legge 27/12/1997) within the EU project “Dissipative fuses for seismic resistant steel frames”, Structural Engineering department, Politecnico di Milano

**TEACHING AND SUPERVISION**

- Course instructor**, A.A 2021-2022, “Steel, Timber and Reinforced Concrete Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (Mag.)(ord. 270) - PC (1085) Sustainable Architecture and Landscape Design - Architettura Sostenibile e Progetto del Paesaggio, Sede di Piacenza, 1<sup>st</sup> semester, student opinion:
- Course instructor**, A.A 2021-2022, “Laboratorio di Progettazione Architettonica II (CFU 12.0), Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (1 liv.), Sede di Milano sez. J, Annual, student opinion:
- Course instructor**, A.A 2021-2022, “Laboratorio di Progettazione Architettonica II (CFU 12.0), Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (1 liv.), Sede di Milano sez. O, Annual, student opinion:
- Course instructor**, A.A 2020-2021, “Laboratorio di Progettazione Architettonica II (CFU 12.0), Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (1 liv.), Sede di Milano 2020-2021, Annual, student opinion 3.0/3.1
- Course instructor**, A.A 2020-2021, “Laboratorio di Progettazione Architettonica II (CFU 12.0), Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (1 liv.), Sede di Piacenza 2020-2021, Annual, student opinion 3.0/3.1
- Course instructor**, A.A 2019-2020, “Laboratorio di Progettazione Architettonica II (CFU 16.0), Modulo Structures (CFU 4.0)”, Arc. Urb. Ing. Cos. (1 liv.), Sede di Piacenza, Annual, student opinion 3.6/4.0

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<sup>2</sup> In 2021 QS World University Rankings, Politecnico di Milano was ranked 10<sup>th</sup> in the structural engineering and architecture categories.

Before taking position as Assistant Professor, I took part in the past within the following courses: “Architecture of Steel Constructions”, 4<sup>th</sup> year, CFU 4.00, Architecture (4 semesters between 2014-2018), “Design of Structures”, 4<sup>th</sup> year, CFU 9.00, Building Engineering (3 semesters between 2015-2018), “Building Systems and Component Design”, 4<sup>th</sup> year, CFU 9.00 Building Engineering (2 semesters between 2014-2016).

I have co-supervised and supervised more than 15 MSc students.

Currently I am supervising 2 PhD theses:

From 01.11.2020-present

- ❖ Aleksei Kondratenko, A fast and efficient design method for buildings equipped with hysteretic dampers using artificial neural networks (ANNs) and genetic algorithm (GA), DABC, Politecnico di Milano, Relatore: Alper Kanyilmaz, Tutor: Marco Valente, 36° cycle

From 01.02.2020-present

- ❖ Martina Chierici, Steel tubular joints using Metal Additive Manufacturing, DABC, Politecnico di Milano, Relatore: Carlo A. Castiglioni, Tutor: Pierluigi Colombi, correlatore interno: Alper Kanyilmaz, correlatore esterno: Filippo Berto (NTNU Norway) 35° cycle

I obtained the following certificates of innovative teaching:

October/November 2019: “Practical approaches to innovative teaching”, 12 hours, Methods and Innovative Technologies for Learning section of Politecnico di Milano

June 2019: “Designing innovative teaching”, 30 hours, Methods and Innovative Technologies for Learning section of Politecnico di Milano

### **PROFESSIONAL ACTIVITY**

01.07.2014 – present: Scientific cooperation with Laboratorio Prove Materiali (LPM), Politecnico di Milano.

Coordination of test execution, processing of results, and design of test equipment in the field of steel racking systems.

01.08.2010 – 31.08.2019: Engineering consultant in Fincon Consulting Italia Srl, Italy

Static, dynamic and fatigue analysis and design of structures (buildings, bridges and industrial systems), connection detailing, structural health monitoring and rehabilitation. Details can be seen in the Attachment “T07” submitted to the system.

31.07.2006-30.08.2007: Civil Engineer in Kasktas, Moscow, Russia

This was my first job after obtaining my BSc degree before starting an academic career. I was a site engineer in the deep excavation construction of the Moscow City Central Transport Terminal Project.

### **SUCCESSFUL RESEARCH GRANT WRITING THAT RECEIVED FUNDING**

15.09.2020: **EU-RFCS/Horizon 2020 proposal LASTTS** “Laser cutting technology for tubular structures”, Coordinator: DABC, Politecnico di Milano, 42 months, 15 EU partners, Budget: €2,941,074.30, Requested grant: €1,764,644.58

I coordinated the research proposal writing, as coordinator contact of the proposal.

09.01.2018: **EU-RFCS/Horizon 2020 project DISSIPABLE** “Fully Dissipative and Easily Repairable Devices for Resilient Buildings with Composite Steel-Concrete Structures”, Politecnico di Milano **Grant: € 907,405.82**

I coordinated the research proposal writing. Grant Agreement was signed on 13.03.2018 for 2018-2022.

02.03.2016: **EU-RFCS/Horizon 2020 project LASTEICON** “Laser Technology for Innovative Connections in Steel Construction”, Fincon Consulting Italia **Grant: € 1,156,601.58**

I assisted the coordination of the research proposal writing under the supervision of Prof. Carlo A. Castiglioni. Grant Agreement was signed on 20.06.2016 for 2016-2019. The project had a strong focus on the life-cycle cost and environmental analysis.

### **INDUSTRIAL INNOVATION: Positions in the EU-Funded Research Projects**

01.08.2021 - present                    **Coordinator contact**, Politecnico di Milano (Coordinator), EU-RFCS/Horizon 2020 LASTTS “Laser cutting technology for tubular structures”

**Grant: €1,764,644.58**

I am leading the coordination team of the project composed of 15 academic and industrial partners.

01.06.2018 – 28.02.2022:            **Primary coordinator**, Politecnico di Milano (Coordinator), RFCS/Horizon 2020 project DISSIPABLE “Fully Dissipative and Easily Repairable Devices for Resilient Buildings with Composite Steel-Concrete Structures”

**Grant: €907,405.82**

I coordinated the project composed of 8 academic and industrial partners from 4 EU countries.

01.07.2016 – 30.08.2019:            **Assistant coordinator**, Fincon Consulting Italy (Coordinator), RFCS/Horizon 2020 project LASTEICON “Laser Technology for Innovative Connections in Steel Construction”            **Grant: €1,156,601.58**

I coordinated the project with Prof. Carlo A. Castiglioni, which is composed of 9 academic and industrial partners from 5 EU countries.

01.07.2017- 30.08.2019:            **Supervisor**, Fincon Consulting Italy (Coordinator), RFCS/Horizon 2020 project FASTCOLD “Fatigue Strength of Cold-Formed Structural Steel Details”            **Grant: €1,724,361.48**

I supervised numerical activities to develop fatigue design rules for cold-formed steel elements and their connections with a focus on the logistics industry (e.g., racking systems).

01.07.2017 - 30.08.2019:            **Technical lead**, Fincon Consulting Italy (Beneficiary), RFCS/Horizon 2020 project STEELWAR “Advanced Structural Solutions for Automated Steel Rack Supported Warehouses”            **Grant: €1,473,275.88**

I lead the numerical task on the behaviour of self-supporting automated warehouses under seismic and wind loads. I was also one of the inventors of the research idea that won the grant. This project possesses the third-largest grant for research actions in the history of EU-RFCS TGS “Steel products and applications for building, construction and industry” (among 152 funded projects since 2003).

01.07.2016 - 31.12.2017:            Team member, Politecnico di Milano (Beneficiary), RFCS/Horizon 2020 INNOCISEIS “Valorization of innovative anti-seismic devices”

**Grant: €597,396.00.**

I participated in the activities of guideline writing and dissemination about the use of dissipative seismic connections developed in past European research projects.

01.07.2013-31.12.2016:            Team member, Politecnico di Milano (Beneficiary), EU-RFCS project MEAKADO “Design of steel and composite structures with limited ductility requirements for optimized performances in moderate Earthquake areas”

**Grant: €783,015.00**

I managed a team of students, interns and technicians to perform the full-scale tests. The aim was to develop a new low-to-moderate seismicity design approach of concentrically braced frames. The results of this project were partly considered in the latest Eurocodes.

01.07.2013-31.12.2016:            Scientific consultant, Neapolis University Cyprus (Beneficiary), EU-RFCS project PROINDUSTRY “Seismic protection of industrial plants by enhanced steel-based systems” **Grant €940,749.00**

I studied the seismic vulnerability of an existing steel industrial silo system by means of incremental dynamic analysis and proposed a retrofitting solution using single curved surface sliding pendulum devices.

01.07.2011-31.12.2013: Team member, Politecnico di Milano (Coordinator), EU-RFCS project SEISRACKS2 “Seismic Behaviour of Steel Storage Pallet Racking Systems”  
**Grant: €865,269.00**

I assisted the full-scale tests of racking systems made of cold-formed steel in both the presence and absence of the vertical bracings. The aim was to assess the ductility of different rack types. Also, I assisted the coordinator (Prof. C.A. Castiglioni) in the project management and drafted the periodic technical reports. Results of this project have formed the basis of the new European seismic standard EN 16681: 2016 -Steel static storage systems - Pallet racking - Principles for seismic design.

01.08.2010-31.12.2011: Team member, Politecnico di Milano (Beneficiary) EU-RFCS project FUSEIS “Dissipative devices for seismic resistant steel frames” RFSR-CT-2008-00032  
**Grant: €444,810.00**

I assisted the real-scale experimental tests of the steel-concrete composite frames with replaceable dissipative connections. Based on the results, I developed and calibrated finite element numerical models and performed parametric analyses. Finally, I drafted the design procedures for steel and steel-concrete composite frames, in the presence of dissipative connections.

### **INVITED and KEYNOTE SPEAKER**

- 18.02.2021 **Invited speaker**, “Resource-efficient construction of steel structures using laser cutting and metal 3D printing”, i3Dc | 3D printing: Challenges and Opportunities in Construction, Porto, Portugal
- 11.02.2021 **Invited lecturer**, Progettazione delle strutture in acciaio con i criteri di sostenibilità ambientale, 1<sup>st</sup> edition, Euroconference, 4-hour lecture
- 11.03.2019 **Invited lecturer**, 5-hour formation seminar, Torino, Euroconference Centro studi professioni tecniche, title of lecture: Costruzioni di Acciaio alla luce delle nuove NTC 2018.
- 28.06.2019 **Invited speaker**, Assimpredil Ance "Stampa 3D e additive manufacturing, Componenti serializzati su misura verso la Lean production" with the presentation "Stampare l'acciaio".
- 23.09.2019 **Invited speaker**, Middle East Technical University, Turkey, Civil Engineering Department for the seminar "New Tubular Steel Joints Obtained by means of Laser Cutting Technology: Outcomes of EU-RFCS Project LASTEICON".
- 15.03.2012 **Invited presenter** at Young Researchers Conference 2012, The Institution of Structural Engineers, London, UK, presentation title “Seismic Resistant Composite Steel Frames with Replaceable Dissipative Devices”

### **ORGANIZATION OF INTERNATIONAL SPECIAL SESSIONS AND WORKSHOPS**

- 23.2.2022 Organization of Final Workshop “Bringing sustainability to the earthquake resistant steel structures”, 23 February 2022.
- 23-26.11.2020: Organization of Minisymposium "MS 24: Seismic Protection of Steel Structures by means of Dissipative Systems and Components", Eurodyn 2020 XI International Conference on Structural Dynamics 23-26 November 2020
- 23.11.2020 Organization and moderation of round-table discussion “Earthquake risk mitigation of buildings with reduced costs and environmental impact from a life-cycle perspective” with panelists Carlo A. Castiglioni (Politecnico di Milano), Benno Hoffmeister (RWTH Aachen, Harris Mouzakis (NTUA Athens, Michalis Sofras (Sofman steel manufacturing)), Giorgio Urbano (RINA Consulting), Eurodyn 2020 XI International Conference on Structural Dynamics 23-26 November 2020, Athens, Greece (virtual conference)
- 15-16.07.2020 Organization of Multi-disciplinary round-table discussion “Metal 3D printing: When will it be ready for architecture, engineering and construction industry?”, Two-day virtual workshop, Speakers: Alper Kanyilmaz (organizer and speaker), Ali Gokhan

Demir (MECC Politecnico di Milano), Leroy Gardner (Professor of Structural Engineering, Imperial College, UK), Javad Razavi (Associate Professor, NTNU Norway), Eleonora Marino (Prima Industrie, Italy), Takuya Kinoshita (Associate Chief Researcher, Takane Corporation, Japan), Paul Kassabian (Principal and Structural Engineer, Simpson Gumpertz & Heger, US), chair: Ingrid Paoletti (DABC Politecnico di Milano).

- 03-05.10.2019 Organization of the special session "Laser cutting" al XXVII Congresso del Collegio dei Tecnici dell' Acciaio, Bologna 03.10.2019 - 05.10.2019
- 06.09.2018 Organization of the special session "Laser cutting technology" in CST2018 The Thirteenth International Conference on Computational Structures Technology, Sitges, Barcelona, Spain 4-6 September 2018
- 19.11.2017-06.09.2018 Partecipation to the editorial committee of CST2018 The Thirteenth International Conference on Computational Structures Technology, Sitges, Barcelona, Spain 4-6 September 2018

## **PARTECIPATION TO CONFERENCES**

### **International**

- 24.03.2021-25.03.2021 Speaker at "Artificial Intelligence in Architecture, Engineering and Construction Conference 2021, Virtual Conference" with "A multi-criteria conceptual design method using genetic algorithms to optimize structures' cost and environmental impacts", co-autori: Daniele Loiacono, Dipartimento di Elettronica, Informazione e Bioingegneria; Patricia Navarro, MSc student, Politecnico di Milano.
- 18.06.2018-21.06.2018 Speaker at 16<sup>th</sup> European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, with "Kanyilmaz A., Degee H., Henriques J., Castiglioni, C.A, Martin, P.O., Recommendations for the Design of CBFS Tailored to Low-to-Moderate Seismicity"
- 13.09.2017-15.09.2017 Speaker at EUROSTEEL 2017, Copenhagen, Denmark, September 13-15, 2017, with: n.1) Kanyilmaz A., Castiglioni C.A., Brambilla G., Gjoka K., Galazzi A., Raso S., Valli A., Brugnolli M., Hojda R., Experimental assessment of tolerances for the fabrication of laser-cut steel joints, EUROSTEEL 2017, September 13-15, 2017, Copenhagen, Denmark, Ernst Sohn Verlag fr Architektur und technische Wissenschaften GmbH Co. KG, Berlin, CE/papers, 2017, doi.org/10.1002/cepa.117, n.2) Kanyilmaz A., Castiglioni, C.A, Degee H., Seismic behaviour of concentrically braced frames in the moderate seismicity context, EUROSTEEL 2017, September 13-15, 2017, Copenhagen, Denmark, Ernst Sohn Verlag fr Architektur und technische Wissenschaften GmbH Co. KG, Berlin, CE/papers, 2017, doi.org/10.1002/cepa.400
- 09.01.2017-13.01.2017: Speaker at 16th World Conference on Earthquake Engineering, Santiago, Chile, 2017, with "Kanyilmaz A., Castiglioni C.A., Degee H., Full Scale Experimental Assessment of Concentrically Braced Steel Frames Designed for Moderate Seismicity, Proceedings of 16th World Conference on Earthquake Engineering 2017, Paper N° 3271 Registration Code: S-L1461766651"
- 25.05.2015-27.05.2015: Speaker at 5<sup>th</sup> Eccomas Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN 2015, 25.05.2015 with: n.1) Kanyilmaz A., Castiglioni, C. A, Performance of multi-storey composite steel-concrete frames with dissipative fuse devices, Proc. 5th Eccomas Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, p. 334-348, COMPDYN 2015, n.2) Kanyilmaz A., Castiglioni, C.A, Degee H., Martin P.O., A preliminary assessment of slenderness and over-strength homogeneity criteria used in the design of concentrically braced steel frames in moderate seismicity, Proc. 5th Eccomas Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, p. 3599-3609, COMPDYN 2015, n.3) Kanyilmaz A. Inelastic cyclic numerical analysis of steel



struts using distributed plasticity approach, Proc. 5th Eccomas Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, p. 3663-3674, COMPDYN 2015

21.10.2010-22.10.2010: Speaker at 8th International Conference on New trends in Statics and Dynamics of Buildings” Bratislava, Slovakia, 21 October 2010, with: n.1) Castiglioni C.A., Kanyilmaz A., Seismic isolation methods for ancient statues on display, Proceedings of the 8th International Conference on New Trends in Statics and Dynamics of Buildings October 21-22, 2010 Bratislava, Slovakia Faculty of Civil Engineering STU Bratislava Slovak Society of Mechanics SAS , n.2) Castiglioni C.A., Kanyilmaz A., Calado L., Vayas I., Dissipative Devices for Seismic Resistant Steel Frames, Proceedings of the 8th International Conference on New Trends in Statics and Dynamics of Buildings October 21-22, 2010 Bratislava, Slovakia Faculty of Civil Engineering STU Bratislava Slovak Society of Mechanics SAS

16.06.2010-18.06.2010: Speaker at "21st European Regional Earthquake Engineering Seminar", 18.06.2010, Istanbul, Turkey, with: "Seismic Retrofitting of Bridges by means of Seismic Isolation Methods"

The other conference participants without a speaker role are listed in the “Publications” section.

### **National**

03.10.2019-05.10.2019: Speaker at XXVII Congresso del Collegio dei Tecnici dell’Acciaio, Bologna, with “Laser cutting technology for steel tubular joint fabrication” nello sessione speciale “Laser cutting”

19.09.2017-19.09.2017: Speaker at ANIDIS, Pistoia, Italy, 17-21 Settembre 2017, with: Castiglioni C.A., Alavi A., Brambilla G., Kanyilmaz A., Behaviour factor estimation procedure for Steel MRF Systems, ANIDIS, Pistoia, Italy, 17-21 Settembre 2017

19.10.2015-20.10.2015: Speaker at CAE Conference, Pacengo del Garda, Verona, Italy, 19-20 Ottobre 2015, with: Kanyilmaz A., Castiglioni C.A., Numerical modelling of the seismic behaviour of steel silos and tanks

30.09.2013-02.10.2013: Speaker at XXIV C.T.A., Torino, 30.09.2013 - 2.10.2013, with: n.1) Castiglioni C.A., Kanyilmaz A., Drei A., Degee H., Braham C., Hoffmeister B., Heinemeyer C., Vayas I., Adamakos K., Sesana S., Orsatti B., Il progetto EU-RFCS “SEISRACKS2”: “Seismic behaviour of steel storage pallet Racking systems” - Parte 1: Generalita’, Proceedings of XXIV C.T.A., Torino, September 2013, pp. 465-472, n.2) Castiglioni C.A., Kanyilmaz A., Drei A., Degee H., Braham C., Hoffmeister B., Heinemeyer C., Vayas I., Adamakos K., Il progetto EU-RFCS “SEISRACKS2”: “Seismic behaviour of steel storage pallet Racking systems” - Parte 2: Attività Sperimentali, Proceedings of XXIV C.T.A., Torino, September 2013, pp. 473-480, n.3) Castiglioni C.A., Kanyilmaz A., Drei A., Degee H., Braham C., Hoffmeister B., Heinemeyer C., Vayas I., Adamakos K., Papadopoulos N., Il progetto EU-RFCS “SEISRACKS2”: “Seismic behaviour of steel storage pallet Racking systems” - Parte 3: Attività Numeriche, Proceedings of XXIV C.T.A., Torino, September 2013, pp. 481-488, n.4) Castiglioni C.A., Drei A., Kanyilmaz A., Carydis P., Mouzakis H., Static and dynamic friction behaviour tests for steel storage racking systems: static properties, Proceedings of XXIV C.T.A., Torino, September 2013, pp. 489-496

### **PATENT APPLICATIONS**

04.03.2021: Industrial invention patent, deposited (102021000005120) “The computer-implemented method (1) for minimizing structural cost, maximizing free space and minimizing environmental impact in conceptual design of buildings”, Inventors: Alper Kanyilmaz (Dipartimento di Architettura, Ingegneria delle Costruzioni e Ambiente Costruito, Politecnico di Milano), Daniele Loiacono (Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano), Patricia Navarro, (MSc student, Politecnico di Milano).

## **AWARDS AND SCHOLARSHIPS**

- 18.09.2019: **Co-supervisor of the MSc thesis “I beam to CHS column joints using laser-cutting technology. An analytical approach” of student Kristian Gjoka, competition winner**, organized by C.T.A., Fondazione Ingegneri Padova, Ordine Ingegneri Milano, Ordine Ingegneri Bologna, Istituto Italiano Saldatura
- 01.11.2015 – 21.10. 2016: **Scholarship for PhD study, Dipartimento di Architettura, Ingegneria delle Costruzioni e Ambiente Costruito del Politecnico di Milano**
- 26.05.2008: **Joint winner at “The Third Concrete Design Competition Implicit Performance Exploring the Hybrid Condition”, Belgium**

A biennial competition of innovative ideas related to the use of concrete, organized by a consortium of European Cement associations. I acted as the structural engineer in the team that won the Joint Winner prize award with the “Reverse effect” project. The jury's judgment was as follows: “The Reverse Effect project was awarded for the application of the “hybrid concept” to both the system and the material. The project, rich in inventiveness and imagination, provides a system of floating elements that can be used for a city on the water that uses the thrust of the fluid as a constructive component, a hybrid component made of the reinforced concrete and steel fibers”.

- 09.10.2007 – 30.09.2009: **Full Scholarship of ICE Unioncamere 2007**

I won the ICE-UNIONCAMERE Scholarship, a total sum of €16,000.00, for my Civil Engineering MSc study at Politecnico di Milano.

- 18.04.2006: **Second place with prize money at Prosteel, International Steel Design Competition 2006, Istanbul, Turkey**

Prosteel is organized by the Turkish Structural Steel Association (TUCSA), sponsored by Borusan Mannesmann (Europe's leading steel tube manufacturer, founded in 1958). Mixed groups composed of students of architecture and civil engineering compete. I was the structural engineering student of the team that won second place with the “Student social centre” project.

## **SERVICE TO THE ACADEMY**

Since 01-11-2019, I am involved in the revision commissions to select PhD and post-doc candidates in the DABC department of Politecnico di Milano:

- 09.02.2021: Member of post-doc selection commission “Approcci progettuali innovativi per scaffalature metalliche in zona sismica. Definizione parametrica dei parametri prestazionali di telai semi-continui. 2020\_assegni\_dabc\_36, 13-iii-0019271”, Politecnico di Milano
- Il 22.09.2020: Secretary of the PhD selection commission “Ammissione al corso di dottorato di ricerca in Architettura, Ingegneria delle Costruzioni e Ambiente Costruito XXXVI ciclo aggiuntivo, istituito presso il Dipartimento di Architettura, Ingegneria delle Costruzioni e Ambiente Costruito del Politecnico di Milano, indetto con prot. n. 0108041 del 21/07/2020” to hire n. 9 candidates with scholarship.

I am a reviewer in the following journals:

- Journal of Constructional Steel Research (Elsevier, IF 2.509, SJR 1.892),
- Fatigue & Fracture of Engineering Materials & Structures journal (Wiley IF 3.031, SJR 0.88),
- Thin-Walled Structures (Elsevier, IF 2.881, SJR 1.672),
- Structures (Elsevier, SJR 0.825),
- Journal of Structural Engineering (ASCE, SJR 1.74),
- Bulletin of Earthquake Engineering (Springer, IF 2.303, SJR 1.522)
- Steel and Composite Structures (Techno Press, IF 3.594, SJR 1.141).
- Heliyon (Elsevier, IF 0.84, SJR 0.355)
- Material Design and Processing Communication (Wiley)

## **MAJOR COLLABORATIONS**

The candidate has a strong cooperation with many international academic and industrial institutes within the EU research projects, MSc and PhD thesis researches, and new research proposals for the following topics:

**Advanced manufacturing methods of fabrication and construction (laser cutting, 3D printing):** Prof. Oreste Bursi, University of Trento, Prof. Leroy Gardner, Imperial Collage, Ing. Alberto Valli, BLM Group (laser cutting machine producer), Ing. Ralf Hojda, Vallourec (steel tube producer), Ing. Bertrand Maillon, Vallourec (Metal additive manufacturing expert), Ing. Gorka Iglesias (Arcelor Mittal AM Lexy), Andrea Galazzi, OCAM Srl. (steel manufacturer), Prof. Barbara Previtali, DMECC Politecnico di Milano, Prof. Javad Razavi, NTNU Norway, Ing. Paul Kassabian, Simpson Gumpertz & Heger, US, Ing. Takuya Kinoshita, Takaneka Corporation, Japan, Ing. Henk Van Ginkel, DNV, Ing. Sastry Kandukuri, DNV, Ing. Alessandro Catanzano, CIMOLAI Spa, Ing. Andrea Laurenti, CIMOLAI Spa.

**Circular economy, life cycle analysis, environmental and economic impact:** Ing. Giuliana Zilli, RINA Consulting (design and consulting, Italy), Ing. Elisabetta Mecozzi, RINA Consulting (design and consulting, Italy), Ing. Elena Rocco, RINA Consulting (design and consulting, Italy), Prof. Catherine De Wolf, Swiss Federal Institute of Technology Zurich (ETH Zurich).

**Artificial Intelligence, Machine learning, Data science, Topology optimization:** Prof. Kristo Mela, Tampere University, Finland, Dr. Lex van der Meer, Windbase, ABT, Netherlands, Prof. Daniele Loiacono, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano.

**Steel and composite steel-concrete structures:** Prof. Mohammed Hjiat (INSA-RENNES), Prof. Walter Salvatore (University of Pisa), Prof. Benno Hoffmeister (RWTH Aachen University), Prof. Herve Degee (Hasselt University), Dr. Pierre Olivier Martin (CTICM, France), Dr. Inigo Calderon (TECNALIA, Spain).

**Fatigue and Structural Integrity:** Prof. Filippo Berto (NTNU Norway), Prof. Abilio Jesus and Prof. Augusto Fernandes (University of Porto), Prof. Carla Gambaro (University of Genova), Dr. Ilchat Sabirov (IMDEA, Spain).

**Steel connections and joints:** Prof. Harris Mouzakis, Prof. Ioannis Psycharis, Prof. Dimitrios Vamvatsikos (National Technical University of Athens), Prof. Oreste Bursi (University of Trento), OCAM Srl. (steel manufacturer), Vallourec (steel tube producer), BLM Group (laser cutting machine producer), SOFMAN (steel manufacturer, Greece), CIMOLAI S.p.A. (steel manufacturer, Italy), MAURER (seismic isolation, Germany), SCL Italy.

**Racking industry:** SSI SCHAFER (Germany), MODULBLOK, SACMA SPA (Italy), NEDCON (Netherlands), MECALUX, NOEGA Systems (Spain), STOW International (Belgium).

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