

# Valentina BEATINI

Arch., Ph.D. Arch. Eng., Asst Prof. Mob.: +45 50 98 98 79 e-mail: [valentina.beatini@gmail.com](mailto:valentina.beatini@gmail.com)

## Curriculum Vitae

**Summary:** Architectural engineer focusing on computational methods and structural geometry, with a strong commitment to interdisciplinary collaboration for reversible and modular construction.

**Personal info:** Italian, born 15/08/1979

**Research interests.** Form and Forces: Geometry of structures; Dry masonry structures; Adaptable structures; Kinetic structures; Origami; Design process; Interlocking and dry joints; Graphic statics.

**ORCID ID:** 0000-0002-6916-9897 - **Google Scholar user:** Valentina Beatini

## EDUCATION

- 2011, April 19 Ph.D. Form and Structures of Architecture, University of Parma, Parma, IT  
Tutor: Prof. Eng. G. Royer Carfagni. Judgment: excellent. Title: Kinematic shaping. Mechanisms that define the architectural space
- 2008, from. Licensed architect in Italy
- 2007, March 21 5 years Architectural degree, Faculty of Architecture, University of Genoa, IT. Mark: 110/110.  
Tutor: Prof. Arch. Brunetto De Batte' Title: Point of View (POV). A centre for the resolution of conflicts.

## ACADEMIC POSITIONS

- 2020 - Assistant Professor, Dep. of Civil and Arch. Engineering, Aarhus University DK
- 2018-19 Senior Lecturer, Dept. of Arch. and Built Env., Northumbria University, Newcastle upon Tyne, UK
- 2015-18 Assistant Professor, Dept. of Architecture, Abdullah Gul University, Kayseri, TR.
- 2013-15 Assistant Professor, Dept. of Architecture, Abant Izzet Baysal University, Bolu, TR.
- 2012- 13 Postdoctoral Research, Department of Architecture, Izmir Institute of Technology, IYTE, Izmir, TR

## SCIENTIFIC AND ORGANIZATIONAL SERVICE

### Conferences scientific committee

- 2024 ICSA 2025: 6<sup>th</sup> Int. Conference Architecture and Structure, Antwerp, Belgium.
- 2020- yearly - ongoing ATI Int. Symposium of Arch., Tech., and Innovation, Yasar University, Izmir, From the 2<sup>nd</sup> Ed.
- 2014 5th International symposium of Bolu's history and culture, Abant Izzet Baysal University, TR

### Reviewer for

- Royal Society: *Proceeding Royal Society -A;*
- Elsevier: *Engineering Structure, Building Engineering, Building and Environment;*
- Nature Portfolio: *Scientific Reports;*
- Taylor & Francis: *The Journal of Architecture;*
- Springer: *Meccanica, Archives of Mechanics, Advances in Bamboo Science, Journal of Computer Languages, Journal of Umm Al-Qura University for Engineering and Architecture;*
- ASCE: *Journal of Mechanical Design*
- ASME: *Journal of Aerospace Engineering;*
- MDPI: *Buildings; Journal of Mechanics of Materials and Structures,*
- Others: *Periodica Polytechnica Architecture.*

## ACADEMIC AWARDS AND HONOURS

- 2025 Pizzigoni A., Beatini V. Exhibition MarmoMac2025, September 2025, Verona, IT. Novel, self-balancing masonry system
- 2021 Heinzl, LH, Beatini V., Kirkegaard, PH, II Placement, International Research Pavilion Competition and Exhibition, IASS 2020/21 Int. Conf. Spatial Structures: Inspiring the Next Generation. Deployable pavilion
- 2008, 2009 Award for tutoring activity to students in Architecture, University of Parma, Parma, IT

## DATASETS AND CODE SOURCES

2018 Code repository for custom NSCD masonry simulator, with Prof. Eng. Alessandro Tasora  
 (URL: <https://github.com/tasora/masonry>)

## EXHIBITIONS

- Pizzigoni A. and Beatini V.. “Branching Knot”, MarmoMac 2025 (marble fair), Verona, Sept 23-26. Invited
- Heinzl, LH, Beatini V, Kirkegaard, P.H, (2021) A Retractable Roof Pavilion - Future & Precedent. In jointed 2020-2021 IASS exhibition: Inspiring the Next Generation (2<sup>nd</sup> placement)
- Foldable Pavilions (2017), students pavillion, Kayseri Design Week, under the support of the local Chamber of Architects, Kayseri (TR). Lead, collaborative work with University of Barcelona (ES).

## FUNDED RESEARCH PROJECTS

- 2024, 10m **AU-Connect**, Development and innovation through collaboration between researchers and businesses. Development of Modular and Adaptable Masonry Gridshell Facades  
**Co-Proposer**. With industrial partner RandersTegl A/S, Pr. No. 47334. Danish fund. DKK 250 000
- 2023, 4y **European Council, Marie Curie Staff Exchange program**. Litefloatcon. Light-Weight High Performance Concrete for Modular Floating Structure  
**Coordinator**. Pr. No. 101129716. No.9 partners Full budget 611 800 Euro. EU budget 368 500 Euro
- 2019, 3y European Regional Council. and James Christopher Consulting Ltd Development of Innovative Composite Panels and Connections for Non-standard Arrangements  
**Participant**. Northumbria Univ.: K. Poologanathan; B. Nagaratnam, V. Beatini. Funds: £ 90,000
- 2017, 18m **UAP proje, Turkish Scientific Research Project with International Participation**. Modelling the failure of architectural masonry structures with Non-Smooth Contact Dynamics.  
**Coordinator**. Other partners: University of Parma, Dept. of Industrial Engineering, IT. Funder: Abdullah Gul University, Turkey. Pr. no. FUA-2017-85. Turkish funds: 34.000 TL
- 2016, 5m **European Community. Research Fund for Coal and Steel**  
**Research grant**, under University of Parma Innovative Steel Glass Composite Structures for High- Performance Building Skins. Pr. no. FSR-CT-2012-00026. Funds: 5.000 €
- 2015, 2y **BAP proje, Turkish Scientific Research Project** Renovation of the archaeological site of Claudiopolis, Bolu.  
**Co-coordinator**, Abant Izzet Baysal University (TR), Bolu local cultural association Sebilci (TR), and the University of Bari, (IT). Funds: 15.581 TL
- 2014, 4y **Italian Civil Protection Department, Presidency of the Council of Ministers**. ReLUIs - Laboratories University Network of seismic engineering.  
**Participant**. Research unit of the University of Parma. Other partners: n.7 other Italian universities Funder: Project ReLUIs- DPC 2014-2018. Research unit funds: 30.000€
- 2009, 1y **European Social Founding** “Actions for the qualification of human resources in research and technological innovation”, Epitecture. Architettura dell’Involucro (Epitecture, architectural envelopes). Spin-off University of Parma.  
**Co- Proposer**, with S. Capra, S. Re, G. Royer. Funds: 42.000 EURO
- 2009, 3y **Research projects of significant national interest -PRIN Technical** – experimental study on post-buckling propriety of stratified glass under flexion and research of high-performance new technologies from structural stability under collapse.  
**Participant**, Research unit of the University of Parma. Funder: Ministry of Education, Universities and Research MIUR, Italy. Research unit funds: 35 264 EURO

## RESEARCH OR DEVELOPMENT ACTIVITIES MANAGEMENT

### Direct collaboration with Local Bodies

- 2024 - UKH Aarhus Echojazz and AlphaAkustik. Trial development of foldable and removable acoustic panels for adaptable acoustic interior environments
- 2018 Municipality of Kokasinan, Kayseri, TR. 1-day Workshop Geodesic Domes, organization, and co-conduction, with Mech. Eng. Ercument Ayanak. Funds: 3000 TL
- 2018 Collaboration with Sefes Ltd, furniture manufacturer, Kayseri, TR
- Activities within a bachelor course, Dept of Architecture.**
- 2017 Kayseri Chamber of Architects, 2017 Architectural Week, with the construction workshop Foldable

Pavilions. Funds: 7000 TL

2015 Bolu cultural association Sebilci, research project Renovation of the archaeological site of Claudiopolis.

## INTERNATIONAL RELATIONSHIPS

### Stay in research centres

- 2019/1w Okinawa Institute of Science and Technology, Graduate University. Networking and brainstorming event, Ref. Prof. Dr. E. Fried (invited)
- 2018, 1m discontinuous. Dept. of Industrial Engineering, University of Parma, Parma, IT. Ref. Prof. Eng. A. Tasora.

### Academic collaboration

2024 External examiner, students' projects, ref. Assoc. Prof. Burak Asiliskender Abdullah Gul University, TR  
2022 Guest lecture, ref. Assnt Prof. Feray Maden. Dept. of Architecture, Yasar University, TR.  
2021 Guest lecture, ref. Assoc Prof. Christian Perti. Dept. of Mechanical and Product Eng., Aarhus University, DK  
2019 Master commission external member, ref. Assoc. Prof. Burak Asiliskender Abdullah Gul University, TR  
2013/11/22 Seminar Foldable Architecture; Fac. of Arch., Erciyes University, Kayseri, TR  
2013/05/29 Seminar Foldable structures. Dept. of Ind. Eng., University of Parma, IT.  
2013/05/22 Seminar Mechanical structures in architectural applications. Dept. of Civil, Env. Eng. and Arch., University of Parma, IT.

### Membership

From 2015, Member of IASS, the International Organization for Spatial Structures. From 2021, Head of the masonry unit, Working group 17 – historical structures. From 2024: member of Working Group 22 on Architectural Geometry

## MEDIA COVERAGE OF R&D RESULTS, SELECTED

Creating anticlastic architecture using Newton's laws V Beatini, Aarhus University Profile 2020, 96-97  
L'Emilia Romagna lancia Epitettura, Il sole 24H (economic national newspaper), 07/02/2009.

## ACADEMIC COMMITTEES

2025 - Diversity, Equality, and Inclusion (DEI) committee within the Tech faculty, Aarhus University, DK  
2021, 1y Dept Committee, action plan for the work environment, Aarhus University, DK  
2021, 1y Dept. Committee CAE strategy for collaboration, Aarhus University, DK  
2018, 1y Dept. Athena Commission, Northumbria University, Newcastle, UK  
2018, 1y Member of the Dept. Athena Commission, Northumbria University, Newcastle, UK  
2018, 1y Member of the Commission for the Bologna Process, Abdullah Gul University, Kayseri, TR  
2014, 2y Dept. Coordinator, ERASMUS program, Dept. of Architecture, Abant Izzet Baysal University, Bolu, TR.  
2014, 2y Member Commission for evaluation of stages, Dept. of Architecture, Abant Izzet Baysal University, Bolu, TR.  
2014, 2y Students' advisor, Dept. of Architecture, Abant Izzet Baysal University, Bolu, TR.

## TEACHING AND SUPERVISING EXPERIENCE

### Course development and teaching

- Fully developed and conducted various bachelor courses, courses at the graduate level, and one at the Ph.D. level. Instructor within 23 different courses. Internal examiner in various courses.
- Developed 7 collegial project courses at the bachelor level.

Curricula: architectural engineering, civil engineering, or architectural students,

Area Undergraduate: structure (arch.), architectural project, architectural engineering project, parametric design, structural morphology, masonry.

Area Graduate: computational design, digital fabrication, kinetic structures, conceptual structures, façade engineering.

Area Ph.D.: structural masonry.

A complete list is available in [Annex B – Teaching, Table 1](#)

### Supervision

Supervisor of 1 MS thesis (Aarhus University 2021), Co-supervisor of various MS theses (Aarhus University / others), Co-supervisor of a Ph.D. thesis (Northumbria University, 2018-2021), external supervisor of PhD student (2023-).

A complete list is available in [Annex B – Teaching, Table 2](#)

### Workshops

I have conducted and co-conducted n.8 construction and experimental workshops, the most important of which are

- Construction Workshop Foldable Pavilions (2017, 1w), within Kayseri Architectural Week, Lead, collaborative work.
- Workshop “Foldable Plates” (2015, 1d) Conducted, within IASS Future Visions Int. Conf, Amsterdam, NL.

A complete list is available in [Annex B – Teaching, Table 3](#)

## PEDAGOGICAL DEVELOPMENT

- 2021, 150h Participant, **University Pedagogical Programme**, elective streamline Supervision, *Aarhus University, DK*,  
2017, 1d Participant, **Search Conference**, strategic plan of MS and PhD Architectural programs, *Abdullah Gul University, TR*, 25/03/2017.  
2015, 8h Participant, Workshop “Integrating Technology into Higher Education Classrooms”, *Abdullah Gul University, TR*, 229/01/2015.  
2015, 16h Participant, Workshop “Learner centred Approach: Course Design and Implications”, *Abdullah Gul University, TR*, 20-21/01/2015.  
2014-15 Set and introducing a pilot Class **assessment questionnaire** within the conducted courses, *Abant Izzet Baysal University, Bolu, TR*.

## ORGANIZATIONAL SKILLS AND COMPETENCES

European social grant. Mentoring course for improvement in competence –PACC:

- 2009, 16h Attendance certificate course “Business Plan”.  
2009 16h Attendance certificate course “Performance Management”.  
2009, 8h Attendance certificate course “Marketing Operations”  
2009, 8h Attendance certificate course “Strategic Marketing”.

### Languages

ITALIAN, mother tongue ENGLISH, fluent DANISH lower intermediate TURKISH, beginner.  
LATIN, ANCIENT GREEK, reading, writing

## PROFESSIONAL PRACTICE

### Selected

- 2009-11 Self-employment  
• Renovation of Corte Signori middle-age residential complex, Vecchiano, IT, built-up 4,500 sqm  
2009-11 external collaboration with LeonardoProgetti, <https://www.leonardoprogetti.com/en/>  
• 1st prize international competition New Library of Pisa, IT  
• 1st prize international competition Piombino Dance and Music Complex, IT

### Others

- 2008-17 Self-employment for private clients  
• La Dolce Vita restaurant, new pier, Libreville, GA. Gross area 450 sqm 2017 (preliminary design)  
• La Dolce Vita hotel, Libreville, GA. Gross area 6,000 sqm, built-up 8,000 sqm 2012 (concept design)  
• Shop and three-family house in Vecchiano, IT. Built-up 1270 sqm (detailed design)  
• Building documentations  
• Interior design  
• Graphic and communication services. occasional  
2011, 2m Training Eng. Tim Macfarlane, London, UK <https://www.glasslimited.com/>  
• Bridge upon Avon River, UK (Support concept design).  
• Park in Baku, AZ (Support concept design).  
  
2008-2011 External collaborations  
• C.S. Bollate school complex and swimming pool), Tender. Ad Acta Project, Modena, IT (detailed design)  
• Raising of Molo Cala de’ Medici, Rosignano, IT Proposal. Epitecture, Salvatore Re + Leonardo Srl, Pisa. IT (concept design)  
• New Entrance of Palazzo Carovana, XVI Cent., Competition, 3rd placed, Epitecture, Salvatore Re + Leonardo Srl, Pisa. IT (concept design).

Valentina BEATINI | Arch, Ph.D. Arch Eng, Assnt Prof.  
Department of Civil and Architectural Engineering, Aarhus University  
T.: +45 50 98 98 79 – E.: [vb@cae.au.dk](mailto:vb@cae.au.dk) [valentina.beatini@gmail.com](mailto:valentina.beatini@gmail.com) - [Website](#)

- Enlargement of Livorno's Waste to Energy Plant, Proposal, Salvatore Re + Leonardo Srl, Livorno, IT (concept design)
- Restoration Music Academy A. Boito, ex Church of Carmine, XIII Cent., Arch. Riccarda Cantarelli, Parma, IT (detailed design)
- Exhibition "Habitate la Via Emilia". Modena, IT. Arch. Riccarda Cantarelli (texts editing)
- Artificial caves of Church Gran Madre di Dio, XVIII Cent., Fidenza, IT. Arch. Riccarda Cantarelli IT (detailed design)
- Vignola's New School complex, architectural competition, Vignola, IT. Arch. Riccarda Cantarelli (concept design)
- Boarding house and a small apartment in Monterosso, IT. Arch. Andreoli & Brusoni (preliminary design)
- Shopping centre and hotel in Sarzana, IT Arch. Andreoli & Brusoni (concept design)
- Tourist resort in Moniga del Garda, IT. Concentra Spa, Brescia, IT (detailed design)
- Hotel and University Campus in Milano, IT. Concentra Spa, Brescia, IT (detailed design)
- Renovation of two buildings in Via Croce Bianca, Pre' district, XIII-XV Cent., Genova, IT. Arch. Marco Rosagni (preliminary design)
- Survey maps, Quezzi district, Genova, IT. Arch. Marco Rosagni.  
2007, 2m Training Arch. Camillo Botticini, Brescia, IT <http://www.botticiniarchitetti.com/>

## ANNEXES

Annex A. List of publications  
Annex B. Teaching experience  
Annex C. Computational Skills

## A. List of Publications

### METRICS

Google scholar metrics	Total	Since 2011	In 2025
<u>Citations</u>	380	363	86
<u>h-index</u>	11	10	
<u>i10-index</u>	13	11	

### JOURNAL ARTICLES

- J25 **Beatini V.**, An Integrated Design Process for a Deployable Grandstand with enhanced response to human induced vibration. *Journal of Structural Control and Health Monitoring*, special issue (under review)
- J24 Pantilimonescu, F., Alibrandi U. **Beatini V.**, Predicting Emotional Impact of Adaptive Facades through Machine Learning. *J. Building Environment* (under review)
- J23 Fathollahi A., **Beatini V** (2025) Design Concept of Variable, Flat Cut Bending-Active Shells *Journal Architecture Civil Engineering Environment (ACEE)*, 1. doi : 1 0.2478 / ACEE -202 5 - 0008
- J22 Aita, D., **Beatini, V.**, Caruso, H., Garavaglia, E., & Sgambi, L. (2025). Some remarks on non-standard plastic behaviour with Coulomb's friction starting from an unconventional stone flat arch. *Engineering Structures*, 326, 119539
- J21 **Beatini, V.**, Pantilimonescu, F., Djebbara, Z., & Drişcu, M. C. (2024). Adaptive facades for emotionally enriching indoor environments. *Journal of Building Engineering*, 98, 111472.
- J20 Rajanayagam H., **Beatini V.**, Poologanathan K., Nagaratnam B. (2024) Design Evaluation of Flat Pack Modular Building Systems. *Journal of Building Engineering*: 95, 110099.
- J19 Fathollahi A., **Beatini V.** (2024) Design and analysis of bending-active configurations through an initial flat-cut pattern based on the curvature lines. *International Journal of Space Structures* 39(3), 145-156.
- J18 Aita, D., **Beatini, V\***, Garavaglia, E., Paris, V., Pizzigoni, A., & Sgambi, L. (2024). The roofing system of the tholos of Athena Pronaia in Delphi: archaeological hypotheses and structural suggestions. *International Journal of Architectural Heritage*, 1-26. DOI:10.1080/15583058.2024.2316289 (\*corresponding author)
- J17 Aita, D., **Beatini, V.**, Garavaglia, E., Paris, V., Pizzigoni, A., & Sgambi, L. (2023). The stone roof of the Tholos of Athena Pronaia in Delphi: structural hypotheses starting from fragments of marble tiles. *the International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 48, 59-66.
- J16 **Beatini V**, Rajanayagam H, Poologanathan K, Structural and Spatial Minimal Requirement Efficacy of Emergency Shelters for Different Emergencies. *Buildings*. 2022.
- J15 Pizzigoni A, **Beatini V**, Paris V, 2022. The stone roof. Marble tholos tiles in the sanctuary of Athena Pronaia at Delphi. Stereotomy and Compression resistant forms in the domed roof structures of ancient Greece. *Structural magazine* n. 240. (also cover page)
- J14 **Beatini V**, Gatheeshgarb, G, Rajanayagam H, et al., 2022. Integration of origami and deployable concept in volumetric modular units, *Nature Scientific Report*. 12:19180
- J13 **Beatini V** Diaz M., 2022. A unifying approach to kinetic structures composed by bar or plate 4R-linkages. *Extreme Mechanics Letters*
- J12 **Beatini V**, Royer-Carfagni G, and Tasora A, 2019. A non-smooth dynamic analysis of Brunelleschi's cupola. An octagonal vault or a circular dome? *Meccanica*, 54:525–547.
- J11 **Beatini, V**, Royer-Carfagni, G and Tasora, A, 2019. Modelling the shear failure of segmental arches. *International Journal of Solids and Structures*, 158, pp.21-39.
- J10 **Beatini, V**, Royer-Carfagni, G and Tasora, A, 2018. The role of frictional contact of constituent blocks on the stability of masonry domes. *Royal Society Proc. A* **474** (2209)
- J9 **Beatini V**, 2017. Symmetry-based transformable and foldable plate structures. *J. of Mechanical Design* **139**(7): 072301-072313.



- J8 **Beatini, V.**, Royer-Carfagni, G and Tasora, A, 2017. A regularized Non-Smooth Contact Dynamics approach for architectural masonry structures. *Computer and Structures* **187**: 88–100
- J7 **Beatini V.**, Royer Carfagni G 2017. Soap film analogy for optimal transformable cable nets. *Structural and Multidisciplinary Optimization*, **55**(3): 885-898.
- J6 **Beatini, V.**, 2016. Kinetic rosette patterns and tessellations. *Int. J. of Comp. Methods & Experimental Measurements, WIT Transactions*, **5**(4): 631 - 641 ISSN:2046-0546 DOI: 10.2495/CMEM-V5-N4-631-641
- J5 **Beatini V.**, Royer Carfagni G 2016. Large transformations of tensile membrane structures with moderate strains. *Mathematics and Mechanics of Solids*, **28**, 1717 – 1737.
- J4 **Beatini V.**, 2015. Translational method for designing folded plates structures. *Int. J. of Space Structures*, **30**(2).
- J3 **Beatini V** 2015. Polar method to design folded plates structures. *J. of the IASS*, 2015, **56**(84):125-137.
- J2 **Beatini V.**, Korkmaz K 2014. Shapes of Miura mesh mechanism with mobility one. *Int. J. of Space Structures*, **28**(2).
- J1 **Beatini V.**, Royer Carfagni G 2013. Cable-stiffened foldable elastica for movable structures, *Engineering Structures*, **56**, pp 126-136.

### BOOKS AND CHAPTERS OF BOOKS

- CH5 Pantilimonescu, F., Bjørner T and **Beatini, V.** Bridging Architect Vision and User Experience: Emotional Assessment of Adaptive Façades, Axiomatic Design Conference 2025, Cardiff (*in press*)
- CH4 Rajanayagam H, **Beatini V.**, Poologanathan K, Nagaratnam B. (2025) Advancing Transitional Shelter Provision Through Innovative Structural Solutions. Proc. European Association for Architectural Education (EAAE) and the Architectural Research Centers Consortium (ARCC) EAAE/ARCC Conference 2024 - Architecture into the unknown. Aarhus, 23 – 26 May 2024. (*in press*)
- CH3 **Beatini, V.**, Aita, D., Garavaglia, V., Pizzigoni, A., & Sgambi (2025) The structural role of in-plane interlocking in jack arches with joggled voussoirs, ICSA 2025, Antwerp
- CH2 Corneliusen J., Deleuran S., Kirkegaard, P.H and **Beatini V** (2022) Framing a computational tool for early conceptual structural design, ICSA conf. Proc., CRC Press. ISBN 9781003023555
- CH1 **Beatini V.**, and Korkmaz K, 2013. A rib shaped kinetic folded plate structure. In: Escrig F., Sanchez J. (eds.), *New Proposals for Transformable Architecture*, Engineering and Design. Seville: Starbooks. ISBN: 978-84-939565-3-0

### PEER-REVIEWED ARTICLES PUBLISHED IN CONFERENCE PROCEEDINGS

- C26 **Beatini, V.** Tasora, A. Material-Encoded Reversible Joints for Robotic and Aerial Assembly. *ROB/ARCH 2026 Robotic Fabrication in Art, Design, and Architecture* (*under review*)
- C25 **Beatini, V.** *Reconciling mechanism and structure in deployable infrastructure*. Lightweight Structures in Civil Engineering Contemporary Problems International Association for Shell and Spatial Structures (IASS) – Polish Chapter. Opole, 4th – 5th of December 2025. (*in press*)
- C23 **Beatini V.**, Rajanayagam H. and Karaki, G. Integrating Carbon Sink and Recycled Materials into Modular Façade Systems. In: D’Erme, C., Paglia, C., Giner Cordero, E. (eds) *Proceedings of the RILEM Spring Convention and Conference 2025*. RSCC 2025. RILEM Bookseries, vol 66. Springer, Cham.
- C22 Pantilimonescu, F., and **Beatini, V.** (2025) Adaptive façades for activity-specific well-being. Exploring emotional responses with Virtual Reality and Machine Learning. 43rd Education and Research in Computer Aided Architectural Design in Europe (eCAADe), Ankara, 1-5 September 2025.
- C21 Aita, D., **Beatini, V.**, Garavaglia, E., Sgambi, L. (2024) Some remarks on non-standard behaviour with Coulomb’s friction starting from an unconventional stone flat arch. *Italian Association of Theoretical and Applied Mechanics (AIMETA) 2024*, Naples, IT.
- C20 Fatollah A. **Beatini V.** (2024) Concept design of variable, flat cut active bending shells, *International Symposium on Architecture, Technology and Innovation (ATI)*, Izmir, TR. (*\*invited for journal publication*)
- C19 **Beatini V.**, Pizzigoni A., Paris V., Beghini A, Ferrari R, Cocchetti G., and Rizzi E. Fornix: the circular platform-frame, Proc. International Association Spatial Structures (IASS) 2024. (*\*invited for journal publication*)
- C18 **Beatini V.**, Paris, V, Pizzigoni A, (2022) Why did Hellenic Temples Collapse? The Case Study: Vaulted Stone Roof in the Athena Pronaja Tholos at Delphi. Proc. International Association Spatial Structures (IASS) 2022
- C17 **Beatini, V.**, Tasora A (2021) Early experimentations within the masonry barrel vault. In S.A. Behnejad, G.A.R. Parke, O.A. Samavati (Eds) Proc. IASS 2020/21 & 7th Int. Conf. Spatial Structures: Inspiring the Next Generation

- C16 Højbjerg K, Kirkegaard, PH, **Beatini, V** (2021) Implementation of constructability in conceptual design. In A Behnejad, GA.R. Parke, OA. Samavati (Eds) Proc. IASS 2020/21 & 7th Int. Conf.Spatial Structures: Inspiring the Next Generation DOI: <https://doi.org/10.15126/90033>
- C15 Heinzl, LH, **Beatini V**, Kirkegaard, P.H, (2021) A Retractable Roof Pavilion - Future & Precedent. In S.A. Behnejad, GA.R. Parke, OA. Samavati (Eds) Proc. IASS 2020/21 & 7th Int. Conf.Spatial Structures: Inspiring the Next Generation DOI: <https://doi.org/10.15126/90033>
- C14 Fareed, I, Somadasa W., Poologanathan K, Gunalan S., **Beatini V**, and Sivabalan S. (2019), Web Crippling Behaviour of cold-formed stainless-steel beams with non-circular web opening. *ce/papers*, 3: 937-942. doi:10.1002/cepa.1170
- C13 Fareed I., Somadasa W., Poologanathan K, Gunalan S., and **Beatini V** Web Crippling Behaviour of Cold-formed stainless-steel beams with non-circular web opening under ITF Load Case. International Conference on Civil Engineering and Applications - Iccca2019, 25- 26 July, 2019. University of Moratuwa, Katubedda, Sri Lanka.
- C12 Tasora, A. Royer Carfagni G., **Beatini V.**, (2019) Using a spectral projected gradient method to simulate masonry structures via non-smooth rigid-body dynamics. In: 9th ECCOMAS Thematic Conference on Multibody Dynamics: Duisburg, Germany 15-18 July 2019
- C11 Fareed I., Somadasa W., Poologanathan K, Gunalan S., and **Beatini V** Cold-formed stainless-steel beams with offset non-circular web opening subjected to web crippling under ETF load case. Numerical studies. The Institution of Engineers, Sri Lanka. IELS 2019.
- C10 Fareed I., Somadasa W., Poologanathan K, Gunalan S., and **Beatini V** Web crippling behaviour of cold form stainless steel beams with non-circular web opening. NORDIC STEEL 2019. The 14th Nordic Steel Construction Conference, September 18–20, 2019, Copenhagen, Denmark
- C9 **Beatini V**, 2018. Morphology of kinetic architectural structures by means of bar and plate 4R-linkages, Nexus 2018, Relationships Between Architecture and Mathematics, Pisa. Turin: Kim Williams Editors. ISBN 978888847947-7
- C8 **Beatini V**, 2016. Transformable and foldable plate structures, *Proc. IASS 2016, Spatial Structures in the 21st Century*, IASS, Tokyo.
- C7 **Beatini, V**, 2016. Kinetic rosette patterns and tessellations, *MARAS 2016, 5th Int.Conf. on Mobile, Adaptable and Rapidly Assembled Structures*, Wessex Institute, Siena.
- C6 **Beatini V**, 2015. Kinetic planar tessellations, *Proc. IASS 2015, Future Visions*, IASS, Amsterdam.
- C5 **Beatini V**, 2014. City's action, between architectural scenography and social inclusion, *3rd International Conference on sustainable cities, urban sustainability, and transportation -SCUST '14*, Istanbul. ISBN:978-1-61804-259-0. INVITED.
- C4 **Beatini V**, and Korkmaz K, 2013. A rib shaped kinetic folded plate structure, in Escrig F., Sanchez J. (eds.), *Proc. of the 1st Conf. Transformables*, Seville.
- C3 **Beatini V**, and Korkmaz K, 2013. A transformable tensile structure. *Tensinet Symposium - [Re] Thinking lightweight structures*, Istanbul. PLENARY SESSION
- C2 **Beatini V**, 2013. Elastica for Transformable Architecture, ETA, and its use for tensioned membranes. *Tensinet Symposium - [Re] Thinking lightweight structures*, Istanbul.
- C1 **Beatini, V**, 2010. On the instantaneous communication. *Proceedings EURAU'10, European Symposium on Research in Architecture and Urban design*, Naples.

### NON-PEER-REVIEWED PUBLICATIONS

- JN2 Royer Carfagni G, **Beatini V** 2011. (Editorial) Glass as material. *Materia*, 69, pp 50-57.
- JN1 **Beatini V**, Capra S.2009. Epitecture: Architettura dell'involucro. *Presenza tecnica*, 247.

### INTERNATIONAL CONFERENCES, ORAL, INVITED

- S5 **Beatini V** Morphology of Modular Kinetic 4R Structures. OIST Workshop, Okinawa 24-30/05/19.
- S4 Royer Carfagni G, **Beatini V**, Tasora A, Weight is a potential motion. The analysis of vaulted structures with a regularized Non-Smooth-Contact-Dynamic approach 9th International Conference for Computation Methods, ICCM2018, Rome, August 2018.
- S3 Royer Carfagni G, **Beatini V**, Tasora A, 2017. Il Peso è un Moto in Potenza. In *Mechanics in Scientific Discovery*. University of Florence, Chamber of Engineers of Tuscany, Florence, IT.
- S2 Re S, Leonardo Progetti, **Beatini V**, Capra S., Royer Carfagni G, 2009. Edilizia industrializzata e design (Industrialized Construction and design). SAIE Concrete. I 100 vantaggi dell'edilizia industrializzata in



calcestruzzo. Conference inside “SAIE, International Building Exhibition”, Bologna.

- S1 Royer Carfagni G, **Beatini V**, Capra S., Re S., 2009. Problematiche del fotovoltaico semitrasparente (issues of thin -film photovoltaic). *Solar Glass Conference*, Milan.

### INTERNATIONAL CONFERENCES, ABSTRACTS AND LONG ABSTRACTS

- O6 **Beatini V**, Poologanathan. K. Testing a foldable origami sandwich panel and kirigami joints. IWSS2023, June, Turin
- O5 **Beatini, V.**, Aita, D., Garavaglia, E., Paris, V., Pizzigoni, A., & Sgambi, L. Stone reciprocal structures: suggestions from ancient Greece, IASS 2023, July 2023, Melbourne
- O4 **Beatini V**, Poologanathan, K. Modular foldable and deployable structures and new forms, therefore. AIMETA2019, Rome.
- O3 **Beatini V**, Deployable versus foldable modular structures. IASS 2019, 7-10 October 2019, Barcelona.
- O2 **Beatini V**, Tasora A. Insight into the art of masonry constructions through a Non-Smooth-Contact-Dynamics approach IASS 2019, 7-10 October 2019, Barcelona.
- O1 **Beatini V**, Royer Carfagni G, Tasora A, 2017. A Non-Smooth-Contact-Dynamics approach for the analysis of architectural masonry structures. 10th European Solid Mechanics Conference, Bologna, IT

## B. Teaching experience

**Table 1 – Taught courses**

2019 - Assnt. Prof. Dept. of Civil and Arch. Engineering, Aarhus University, Aarhus, DK		Repetitions (consecutive years)	N. St. (avg)	From
Level	Course's name and details on my contribution			
Graduate:	Adaptable and Kinetic Structures, 5 ETCS Contribution: 9/14 lessons & course co- development. Examination: Report	1	7	2025
	Façade Engineering 1, 5 ECTS Contribution: 3/14 lessons & course co- development. Examination: Report	3	20	2023
	Digital crafting and Additive Manufacturing Contribution: 5/14 lessons, & module development. Examination: Report	2	20	2023
	Computational Design, 5 ECTS Contribution: 13/14 lessons & course development. Examination: Oral based on reports	2	20	2020
	Structural Concepts. 5 ECTS Contribution: 7/14 lessons, course co-development. Examination: Oral based on report	2	40	2019
Undergraduate:	Digital Tools. 5 ECTS Contribution: 5/14 lessons Examination: I did not participate	1	45	2021
	BSc 1 - Project course, 10 ECTS Contribution: tectonic modules, 5/14 lessons, and weekly reviews Examination: Oral based on report, with external examiners	5	50	2019
	BSc 2 - Project course, 10 ECTS Contribution: tectonic modules, 3/14 lessons, and weekly reviews Examination: Oral based on report, with external examiners	4	45	2020
	BSc 3 - Project course, 10 ECTS, Module Masonry design to Eurocode 3 Contribution: 3/14 lessons, from 2021 Examination: Oral based on report, with external examiners	3	40	2021
	BSc 3 - Project course, 10 ECTS, Module Masonry design to Eurocode 3 Contribution: 3/14 lessons, and weekly reviews, 2020 Examination: Oral based on report, with external examiners	1	40	2020
	BSc 4, Conceptual design of Structures, 10 ECTS Contribution: 2/14 lessons, and weekly reviews Examination: Oral based on report, with external examiners	3	15	2021
	BSc 5, Innovative Design of Structures, 10 ECTS Contribution 7/14 lessons, and weekly reviews Examination: Oral based on report, with external examiners	3	15	2020
2018 - 19 Senior Lecturer, Dept. of Arch. and Built Env. Northumbria University, Newcastle, UK		Repetitions	N. St. (avg)	From
Level	Course's name and details on my contribution			
Undergraduate:	No. 4 seminars in structures, various courses	NA	15	2020
	Design Studio I, Contribution: weekly reviews and exam, collegial (6 professors)	1	75	2018

	Examination: (Reports based on) posters			
	Design Studio II Contribution: weekly reviews and exam, collegial (6 professors) Examination: (Reports based on) posters	1	75	2019

2015 -18 Lecturer, Dept. of Architecture, Abdullah Gul University, Kayseri, TR.				
Level	Course's name and details on my contribution	Repetitions	N. St. (avg)	From
Ph.D.:	Structural analysis of architectural masonry structures Contribution: responsible & course development (seminars) Examination: not applicable	1	2	2018
Graduate:	Parametrically driven structures, 3 ECTS, elective Contribution: responsible & course development, conducted 13/14 Examination: oral based on posters and working files	1	12	2018
	Kinetic architecture, shapes, and spaces, 3 ECTS, elective Contribution: responsible & course development (seminars) Examination: oral based on posters	1	2	2018
Undergraduate:	Structural morphology in architecture, 3 ECTS, elective Contribution: responsible & course development (with research assistant) Examination: posters and models	1	28	2018
	Structure 1, 3 ECTS Contribution: course development, conducted 14/14 Examination: written and oral	3	15	2015
	Structure 2, 3 ECTS Contribution: course development, conducted 14/14 Examination: written and oral	2	15	2016
	Design Studio I 12 ECTS Contribution: course co-development, 14/14, collegial (two professors and one research assistant) Examination: oral based on posters	1	15	2016
	Design Studio II, 12 ECTS Contribution: on demand reviews and exam Examination: oral based on posters	1	15	2016
	Design Studio IV, 12 ECTS Contribution: Structural design seminar and exam. Examination: oral based on posters	1	15	2017

2013-15 Lecturer, Dept. of Architecture, Abant İzzet Baysal University, Bolu, TR				
Level	Course's name and details on my contribution	Repetitions	N. St. (avg)	From
Undergraduate:	Design Studio I Contribution: co-development, collegial, & weekly reviews Examination: oral based on posters	2	65	2013
	Design Studio II Responsible Contribution: co-development, 14/14, collegial (3 professors) Examination: oral based on posters	1	65	2014
	Design Studio III Contribution: co-development, 14/14, collegial (3 professors) Examination: oral based on posters	1	65	2013
	Design Studio VI Contribution: co-development, full course, collegial (3 professors)	1	65	2014

	Examination: oral based on posters			
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2007- 09. Faculty of Architecture, University of Parma, IT		Repetitions	N. St. (avg)	From
Level	Course's name and details on my contribution			
Undergraduate:	Design Studio I, Prof. G. Fusco, Prof. M. Marchesini Contribution: Graduate Assistant Examination: posters	2	60	2007

**Table 2 –Supervision experience**

Department, University	Level	Role	No.
Civil and Arch. Eng., Aarhus Univ., DK, international collaboration	PhD thesis (external, 2023 - 26)	Co-supervisor	1
Civil and Arch. Eng., Aarhus Univ., DK	MS thesis (2020-21)	Supervisor / Co-supervisor	3
Environ. and Struct. Eng., Northumbria Univ., UK	Ph.D. thesis (2018-2021).	Co-supervisor	1

**Table 3 – Conducted construction / experimental workshops**

Time	Title and collaboration, if any	Place
2017, 1w	Construction workshop Foldable Pavilions In collaboration with Mehmet Gohren, Omar Avellinada, and Natalia Torres. Partners: Universitat Politècnica de Catalunya, Smia Structural Morphology in Architecture. Funded: Kayseri Chamber of Architects.	Abdullah Gul University, TR.
2015, 1d	Lecture and workshop, Origami Passengers For architectural students	Gebze Technical University, Istanbul, TR
2015, 1d	Workshop Foldable Plates For students and researchers, arch. engineering	IASS Future Visions Int. Conf, Amsterdam, NL.
2014, 2d	Workshop Kinematic surfaces For architectural students	Faculty of Eng. and Arch. Abant İzzet Baysal Universiy, Bolu, TR
2015, 1d	Workshop Funicular structures and trusses For second year arch. students	Fac. of Eng. and Arch., Abant İzzet Baysal Universiy, Bolu, TR.
2013, 1d	Seminar and Workshop Foldable Architecture For first-year arch. students	Fac.of Arch., Erciyes University, Kayseri, TR
2013, 1d	Workshop Flow of forces For second year arch. students	Fac. of Arch., Middle East Technical University, Ankara, TR.
<del>2013, 1d</del>	<del>Workshop Tensile structures Co-director. For architectural students</del>	<del>Faculty of Eng. and Arch. Abant İzzet Baysal Universiy, Bolu, TR</del>