Philippe Block

List of Publications by Year
in descending order

43 papers	1,232 citations	516710 16 h-index	377865 34 g-index
44 all docs	44 docs citations	44 times ranked	709 citing authors

#	Article	IF	Citations
1	Real-time limit analysis of vaulted masonry buildings. Computers and Structures, 2006, 84, 1841-1852.	4.4	185
2	As Hangs the Flexible Line: Equilibrium of Masonry Arches. Nexus Network Journal, 2006, 8, 13-24.	0.7	119
3	History and overview of fabric formwork: using fabrics for concrete casting. Structural Concrete, 2011, 12, 164-177.	3.1	85
4	Interactive Vault Design. International Journal of Space Structures, 2012, 27, 219-230.	1.0	79
5	Designing unreinforced masonry models. ACM Transactions on Graphics, 2013, 32, 1-12.	7.2	70
6	Assembling self-supporting structures. ACM Transactions on Graphics, 2014, 33, 1-10.	7.2	67
7	Three-Dimensional (3D) Equilibrium Analysis of Gothic Masonry Vaults. International Journal of Architectural Heritage, 2014, 8, 312-335.	3.1	63
8	On the equilibrium of funicular polyhedral frames and convex polyhedral force diagrams. CAD Computer Aided Design, 2015, 63, 118-128.	2.7	57
9	Structural design, digital fabrication and construction of the cable-net and knitted formwork of the KnitCandela concrete shell. Structures, 2021, 31, 1287-1299.	3.6	51
10	Design process for prototype concrete shells using a hybrid cable-net and fabric formwork. Engineering Structures, 2014, 75, 39-50.	5.3	47
11	Numerical limit analysis-based modelling of masonry structures subjected to large displacements. Computers and Structures, 2021, 242, 106372.	4.4	37
12	NEST HiLo: Investigating lightweight construction and adaptive energy systems. Journal of Building Engineering, 2017, 12, 332-341.	3.4	29
13	A Cable-Net and Fabric Formwork System for the Construction of Concrete Shells: Design, Fabrication and Construction of a Full Scale Prototype. Structures, 2019, 18, 72-82.	3.6	28
14	Piecewise rigid displacement (PRD) method: a limit analysis-based approach to detect mechanisms and internal forces through two dual energy criteria. Mechanics Research Communications, 2020, 107, 103557.	1.8	26
15	Challenges and Opportunities in Scaling up Architectural Applications of Mycelium-Based Materials with Digital Fabrication. Biomimetics, 2022, 7, 44.	3.3	24
16	Automated Generation of Knit Patterns for Non-developable Surfaces. , 2018, , 271-284.		22
17	Disjointed force polyhedra. CAD Computer Aided Design, 2018, 99, 11-28.	2.7	17
18	The Striatus bridge. Architecture, Structures and Construction, 2022, 2, 521-543.	1.5	17

#	Article	IF	Citations
19	Assessing the safety of vaulted masonry structures using thrust network analysis. Computers and Structures, 2021, 257, 106647.	4.4	16
20	Optimising the load path of compression-only thrust networks through independent sets. Structural and Multidisciplinary Optimization, 2019, 60, 231-244.	3.5	15
21	Modelling imperfections in unreinforced masonry structures: Discrete element simulations and scale model experiments of a pavilion vault. Engineering Structures, 2021, 228, 111499.	5.3	15
22	Rethinking structural masonry: unreinforced, stone-cut shells. Proceedings of Institution of Civil Engineers: Construction Materials, 2013, 166, 378-389.	1.1	12
23	Load-path optimisation of funicular networks. Meccanica, 2018, 53, 279-294.	2.0	12
24	Assessment of the airborne sound insulation from mobility vibration measurements; a hybrid experimental numerical approach. Journal of Sound and Vibration, 2018, 432, 680-698.	3.9	12
25	Tile vaults as integrated formwork for reinforced concrete: Construction, experimental testing and a method for the design and analysis of two-dimensional structures. Engineering Structures, 2019, 188, 233-248.	5.3	12
26	Parametric Stability Analysis of Groin Vaults. Applied Sciences (Switzerland), 2021, 11, 3560.	2.5	11
27	Decomposing Three-Dimensional Shapes into Self-supporting, Discrete-Element Assemblies. , 2015, , 187-201.		11
28	Three-dimensional graphic statics: Initial explorations with polyhedral form and force diagrams. International Journal of Space Structures, 2016, 31, 217-226.	1.0	10
29	Robotically controlled scale-model testing of masonry vault collapse. Meccanica, 2018, 53, 1917-1929.	2.0	10
30	MayaVaultâ€”a Mesh Modelling Environment for Discrete Funicular Structures. Nexus Network Journal, 2018, 20, 567-582.	0.7	9
31	The combination of tile vaults with reinforcement and concrete. International Journal of Architectural Heritage, 2019, 13, 782-798.	3.1	8
32	Morph & Slerp. , 2020, , .		8
33	Coupled Rigid-Block Analysis: Stability-Aware Design of Complex Discrete-Element Assemblies. CAD Computer Aided Design, 2022, 146, 103216.	2.7	8
34	Interactive Equilibrium Modelling. International Journal of Space Structures, 2014, 29, 25-37.	1.0	7
35	Vectorised graphics processing unit accelerated dynamic relaxation for bar and beam elements. Structures, 2016, 8, 111-120.	3.6	6
36	Moment-Curvature-Thrust Relationships for Beam-Columns. Structures, 2017, 11, 146-154.	3.6	6

#	Article	IF	Citations
37	Computational Tessellation of Freeform, Cut-Stone Vaults. Nexus Network Journal, 2018, 20, 545-566.	0.7	6
38	Compressive Assemblies: Bottomâ€Up Performance for a New Form of Construction. Architectural Design, 2017, 87, 104-109.	0.1	5
39	Designing bending-active gridshells as falsework for concrete shells through numerical optimization. Engineering Structures, 2021, 240, 112352.	5.3	4
40	Structural Stone Surfaces: New Compression Shells Inspired by the Past. Architectural Design, 2015, 85, 74-79.	0.1	2
41	Design of a funicular concrete bridge with knitted formwork. , 2021, , .		2
42	Understanding the rigid-block equilibrium method by way of mathematical programming. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2021, 174, 178-192.	0.4	1
43	Stability and load-bearing capacity assessment of a deformed multi-span masonry bridge using the PRD method. International Journal of Masonry Research and Innovation, 2021, 6, 422.	0.4	1