Sigrid Adriaenssens

List of Publications by Year
in descending order

65 papers	1,042 citations	394421 19 h-index	434195 31 g-index
66 all docs	66 docs citations	66 times ranked	818 citing authors

#	Article	IF	Citations
1	Value of information: impact of monitoring on decision-making. Structural Control and Health Monitoring, 2014, 21, 1043-1056.	4.0	104
2	Tensegrity spline beam and grid shell structures. Engineering Structures, 2001, 23, 29-36.	5.3	85
3	Coupled form-finding and grid optimization approach for single layer grid shells. Engineering Structures, 2013, 52, 230-239.	5.3	83
4	Multiobjective topology optimization of truss structures with kinematic stability repair. Structural and Multidisciplinary Optimization, 2012, 46, 513-532.	3.5	58
5	Robust topology optimization of truss structures with random loading and material properties: A multiobjective perspective. Computers and Structures, 2015, 154, 41-47.	4.4	44
6	Linkage-based movable bridges: Design methodology and three novel forms. Engineering Structures, 2012, 37, 214-223.	5.3	39
7	A novel torsion/bending element for dynamic relaxation modeling. Computers and Structures, 2013, 119, 60-67.	4.4	38
8	Structural analysis of small span textile reinforced concrete shells with double curvature. Composites Science and Technology, 2009, 69, 1790-1796.	7.8	36
9	Finding the Form of an Irregular Meshed Steel and Glass Shell Based on Construction Constraints. Journal of Architectural Engineering, 2012, 18, 206-213.	1.6	34
10	Dialectic Form Finding of Passive and Adaptive Shading Enclosures. Energies, 2014, 7, 5201-5220.	3.1	33
11	Form finding methodology for force-modelled anticlastic shells in glass fibre textile reinforced cement composites. Engineering Structures, 2011, 33, 2603-2611.	5.3	31
12	A data-driven computational scheme for the nonlinear mechanical properties of cellular mechanical metamaterials under large deformation. Soft Matter, 2020, 16, 7524-7534.	2.7	30
13	A multi-physics approach for modeling hygroscopic behavior in wood low-tech architectural adaptive systems. CAD Computer Aided Design, 2019, 106, 43-53.	2.7	28
14	Form-finding algorithm for masonry arches subjected to in-plane earthquake loading. Computers and Structures, 2018, 195, 85-98.	4.4	26
15	Robotic vault: a cooperative robotic assembly method for brick vault construction. Construction Robotics, 2020, 4, 117-126.	2.2	24
16	Statics of self-balancing masonry domes constructed with a cross-herringbone spiraling pattern. Engineering Structures, 2020, 215, 110440.	5.3	23
17	Shell Elements of Textile Reinforced Concrete Using Fabric Formwork: A Case Study. Advances in Structural Engineering, 2012, 15, 677-689.	2.4	22
18	Kinematic amplification strategies in plants and engineering. Smart Materials and Structures, 2017, 26, 063002.	3.5	21

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19	Flexible optimum design of a bracing system for faÃ§ade design using multiobjective Genetic Algorithms. Automation in Construction, 2013, 32, 80-87.	9.8	20
20	Form finding of corrugated shell structures for seismic design and validation using non-linear pushover analysis. Engineering Structures, 2019, 181, 362-373.	5.3	20
21	Structural Optimization of Deploying Structures Composed of Linkages. Journal of Computing in Civil Engineering, 2014, 28, 04014010.	4.7	19
22	Three cooperative robotic fabrication methods for the scaffold-free construction of a masonry arch. Automation in Construction, 2021, 129, 103803.	9.8	19
23	Numerical modeling of static equilibria and bifurcations in bigons and bigon rings. Journal of the Mechanics and Physics of Solids, 2021, 152, 104459.	4.8	18
24	Comparison of thrust line analysis, limit state analysis and distinct element modeling to predict the collapse load and collapse mechanism of a rammed earth arch. Engineering Structures, 2017, 148, 145-156.	5.3	17
25	Form finding and analysis of inflatable dams using dynamic relaxation. Applied Mathematics and Computation, 2015, 267, 742-749.	2.2	14
26	Identification of key design parameters for earthquake resistance of reinforced concrete shell structures. Engineering Structures, 2017, 153, 411-420.	5.3	14
27	Structural Analysis of Reinforced Concrete Folded Hyperbolic Paraboloid: A Case Study of the Modern Miami Marine Stadium. International Journal of Architectural Heritage, 2014, 8, 498-516.	3.1	12
28	The geodesic dynamic relaxation method for problems of equilibrium with equality constraint conditions. International Journal for Numerical Methods in Engineering, 2014, 99, 682-710.	2.8	12
29	Multi-objective optimization of polyester-rope and steel-rope suspended footbridges. Engineering Structures, 2015, 99, 559-567.	5.3	11
30	Shape optimization of no-tension arches subjected to in-plane loading. Structures, 2020, 28, 158-169.	3.6	10
31	Symmetry and asymmetry of solutions in discrete variable structural optimization. Structural and Multidisciplinary Optimization, 2013, 47, 631-643.	3.5	9
32	Structural Analysis and Validation of a Smart Pantograph Mast Concept. Computer-Aided Civil and Infrastructure Engineering, 2013, 28, 651-665.	9.8	8
33	Structural rigidity theory applied to the scaffold-free (dis)assembly of space frames using cooperative robotics. Automation in Construction, 2022, 141, 104405.	9.8	8
34	The Piston-Stayed Bridge: A Novel Typology for a Mobile Bridge at Tervate, Belgium. Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE), 2007, 17, 302-305.	0.8	7
35	Nonlinear Elastic In-Plane Buckling of Shallow Truss Arches. Journal of Bridge Engineering, 2015, 20, .	2.9	6
36	Seismic assessment of FÃ©lix Candela's concrete shells and their behavior during the 1985 Mexico City earthquake. A case study on the Church of our Lady of the Miraculous Medal. , 2016, , 1544-1550.		6

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37	Site-specific louvered shells for shading harmful ultraviolet radiation. Building and Environment, 2014, 78, 14-22.	6.9	5
38	Material driven design for a chocolate pavilion. CAD Computer Aided Design, 2015, 61, 2-12.	2.7	5
39	Human–robot collaboration: a fabrication framework for the sequential design and construction of unplanned spatial structures. Digital Creativity, 2020, 31, 320-336.	1.6	5
40	In-plane optimization of truss arch footbridges using stability and serviceability objective functions. Structural and Multidisciplinary Optimization, 2015, 51, 971-985.	3.5	4
41	Dynamic behavior of form-found shell structures according to Modal and Dynamic Funicularity. Engineering Structures, 2019, 198, 109521.	5.3	4
42	Thermoheliodome Design, Optimization and Fabrication. Energy Procedia, 2015, 78, 273-278.	1.8	3
43	Large Displacements and the Stiffness of a Flexible Shell. International Journal of Space Structures, 2015, 30, 287-296.	1.0	3
44	A Project-Based Approach to Learning Form Finding of Structural Surfaces. International Journal of Space Structures, 2015, 30, 297-305.	1.0	3
45	Modeling underwater cable structures subject to breaking waves. Ocean Engineering, 2018, 164, 199-211.	4.3	3
46	Adjoint optimization of pressurized membrane structures using automatic differentiation tools. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113393.	6.6	3
47	A new finite element level set reinitialization method based on the shifted boundary method. Journal of Computational Physics, 2021, 438, 110360.	3.8	3
48	The impact of monitoring on decision making. , 2012, , .		2
49	Innovative Education in Engineering: A Social and Multi-Dimensional Exploration of Structures. , 2014, , .		2
50	The Effect of Material Modeling on Finite Element Analysis of Human Breast Biomechanics. Journal of Applied Biomaterials and Functional Materials, 2014, 12, 27-34.	1.6	2
51	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. PLoS ONE, 2020, 15, e0231554.	2.5	2
52	Piston Stayed Bascule Bridge: a Novel Mobile Bridge Typology at Temse, Belgium. , 2008, , .		2
53	Design of a Museum Facade Bracing System for Changing Performance Requirements Using Multiobjective Optimization. , 2014, , .		1
54	Effect of Gravity on the Scale of Compliant Shells. Biomimetics, 2020, 5, 4.	3.3	1

#	ARTICLE	IF	CITATIONS
55	The true cost of construction: An analysis of the carbon dioxide emissions from the materials used in a pedestrian bridge. , 2010, , .		0
56	Evaluation and Optimization of a Traditional North-Light Roof on Industrial Plant Energy Consumption. Energies, 2013, 6, 1944-1960.	3.1	0
57	Large-scale origami locks into place under pressure. Nature, 2021, 592, 510-511.	27.8	0
58	Innovative structural typologies. , 2022, , 215-228.		0
59	R-Funicularity of Analytical Shells. Lecture Notes in Mechanical Engineering, 2020, , 947-957.	0.4	0
60	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0
61	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0
62	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0
63	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0
64	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0
65	Occupant-centered optimization framework to evaluate and design new dynamic shading typologies. , 2020, 15, e0231554.		0