Thomas Speck

List of Publications by Year in Descending Order

161 papers	3,186 citations	30 h-index	48 g-index
173 ext. papers	3,983 ext. citations	4.2 avg, IF	5.72 L-index

#	Paper	IF	Citations
161	The effects of substrate porosity, mechanical substrate properties and loading conditions on the attachment performance of the Mediterranean medicinal leech ().. *Journal of the Royal Society Interface*, **2022**, 19, 20220068	4.1	1
160	The Structural and Mechanical Basis for Passive-Hydraulic Pine Cone Actuation.. *Advanced Science*, **2022**, e2200458	13.6	3
159	Twist-to-Bend Ratios and Safety Factors of Petioles Having Various Geometries, Sizes and Shapes. *Frontiers in Plant Science*, **2021**, 12, 765605	6.2	2
158	Biomechanical Study of the Parasite-Host Interaction of the European Mistletoe. *Journal of Experimental Botany*, **2021**,	7	2
157	Polarity in cuticular ridge development and insect attachment on leaf surfaces of (Araceae).. *Beilstein Journal of Nanotechnology*, **2021**, 12, 1326-1338	3	1
156	Influence of structural reinforcements on the twist-to-bend ratio of plant axes: a case study on Carex pendula. *Scientific Reports*, **2021**, 11, 21232	4.9	2
155	Biomechanics of tendrils and adhesive pads of the climbing passionflower Passiflora discophora. *Journal of Experimental Botany*, **2021**,	7	1
154	Morphology and Anatomy of Branch-Branch Junctions in and : A Comparative Study Supported by Mechanical Tissue Quantification. *Plants*, **2021**, 10,	4.5	2
153	Petiole-Lamina Transition Zone: A Functionally Crucial but Often Overlooked Leaf Trait. *Plants*, **2021**, 10,	4.5	6
152	Bio-Inspired Motion Mechanisms: Computational Design and Material Programming of Self-Adjusting 4D-Printed Wearable Systems. *Advanced Science*, **2021**, 8, 2100411	13.6	6
151	Functional morphology of plants - a key to biomimetic applications. *New Phytologist*, **2021**, 231, 950-956	9.8	11
150	3D Reticulated Actuator Inspired by Plant Up-Righting Movement Through a Cortical Fiber Network. *Biomimetics*, **2021**, 6,	3.7	3
149	Self-Actuated Paper and Wood Models: Low-Cost Handcrafted Biomimetic Compliant Systems for Research and Teaching. *Biomimetics*, **2021**, 6,	3.7	3
148	Programming sequential motion steps in 4D-printed hygromorphs by architected mesostructure and differential hygro-responsiveness. *Bioinspiration and Biomimetics*, **2021**, 16,	2.6	4
147	Vascular bundle modifications in nodes and internodes of climbing Marantaceae. *Botanical Journal of the Linnean Society*, **2021**, 195, 308-326	2.2	3
146	Biomimetic Soft Robotic Peristaltic Pumping System for Coolant Liquid Transport. *Zukunftstechnologien Fu r Den Multifunktionalen Leichtbau*, **2021**, 173-181	0.2	0
145	Biomimetic Suction Cups for Energy-Efficient Industrial Applications. *Zukunftstechnologien Fu r Den Multifunktionalen Leichtbau*, **2021**, 182-188	0.2	1

144	Failure mechanisms and bending strength of var. stems. *Journal of the Royal Society Interface*, **2021**, 18, 20201023	4.1	1
143	Tool changing 3D printer for rapid prototyping of advanced soft robotic elements. *Bioinspiration and Biomimetics*, **2021**, 16,	2.6	2
142	Biomimetics and Education in Europe: Challenges, Opportunities, and Variety. *Biomimetics*, **2021**, 6,	3.7	4
141	Advances on the Visualization of the Internal Structures of the European Mistletoe: 3D Reconstruction Using Microtomography. *Frontiers in Plant Science*, **2021**, 12, 715711	6.2	2
140	Local contact formation during sliding on soft adhesive surfaces with complex microstructuring. *Tribology International*, **2021**, 163, 107180	4.9	1
139	Acclimations to wind loads and/or contact stimuli? A biomechanical study of peltate leaves of Pilea peperomioides. *Journal of Experimental Botany*, **2021**,	7	1
138	Peak values of twist-to-bend ratio in triangular flower stalks of Carex pendula: a study on biomechanics and functional morphology. *American Journal of Botany*, **2020**, 107, 1588-1596	2.7	3
137	Polymerization-Induced Wrinkled Surfaces with Controlled Topography as Slippery Surfaces for Colorado Potato Beetles. *Advanced Materials Interfaces*, **2020**, 7, 2000129	4.6	11
136	Artificial Venus Flytraps: A Research Review and Outlook on Their Importance for Novel Bioinspired Materials Systems. *Frontiers in Robotics and AI*, **2020**, 7, 75	2.8	13
135	The Protective Role of Bark and Bark Fibers of the Giant Sequoia () during High-Energy Impacts. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	4
134	Plant Movements as Concept Generators for the Development of Biomimetic Compliant Mechanisms. *Integrative and Comparative Biology*, **2020**, 60, 886-895	2.8	13
133	Snapping mechanics of the Venus flytrap (). *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 16035-16042	11.5	27
132	Self-Repair in Cacti Branches: Comparative Analyses of Their Morphology, Anatomy, and Biomechanics. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	6
131	Rinse, Sense, Adjust, Repeat: Biomimetic Continuous Process Water Analysis in Washing Machines Based on the Hammerhead Shark's Olfaction Hydrodynamics. *Advanced Intelligent Systems*, **2020**, 2, 1900152	6	1
130	Living Plant-Hybrid Generators for Multidirectional Wind Energy Conversion. *Energy Technology*, **2020**, 8, 2000236	3.5	17
129	Multi-material 3D-Printer for Rapid Prototyping of Bio-Inspired Soft Robotic Elements. *Lecture Notes in Computer Science*, **2020**, 46-54	0.9	3
128	Exploring the attachment of the Mediterranean medicinal leech () to porous substrates. *Journal of the Royal Society Interface*, **2020**, 17, 20200300	4.1	5
127	Spatio-temporal development of cuticular ridges on leaf surfaces of alters insect attachment. *Royal Society Open Science*, **2020**, 7, 201319	3.3	2

126	4D pine scale: biomimetic 4D printed autonomous scale and flap structures capable of multi-phase movement. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2020**, 378, 20190445	3	26
125	Functional-morphological analyses of the delicate snap-traps of the aquatic carnivorous waterwheel plant (Aldrovanda vesiculosa) with 2D and 3D imaging techniques. *Annals of Botany*, **2020**, 126, 1099-1107	4.1	4
124	Comparative Analyses of the Self-Sealing Mechanisms in Leaves of and (Aizoaceae). *International Journal of Molecular Sciences*, **2020**, 21,	6.3	3
123	In Situ Investigation of Adhesion Mechanisms on Complex Microstructured Biological Surfaces. *Advanced Materials Interfaces*, **2020**, 7, 2000969	4.6	3
122	Functional principles of baobab fruit pedicels - anatomy and biomechanics. *Annals of Botany*, **2020**, 126, 1215-1223	4.1	
121	Wound reactions in stems of Leonurus cardiaca: a morphological, anatomical, and biomechanical study. *Botany*, **2020**, 98, 81-89	1.3	2
120	Branching morphology and biomechanics of ivy (Hedera helix) stem-branch attachments. *American Journal of Botany*, **2019**, 106, 1143-1155	2.7	2
119	Drooping of flower heads: mechanical and structural studies of a well-known phenomenon. *Biology Letters*, **2019**, 15, 20190254	3.6	3
118	Biomimetic 3D printed lightweight constructions: a comparison of profiles with various geometries for efficient material usage inspired by square-shaped plant stems. *Bioinspiration and Biomimetics*, **2019**, 14, 046007	2.6	3
117	Resolving Form-Structure-Function Relationships in Plants with MRI for Biomimetic Transfer. *Integrative and Comparative Biology*, **2019**, 59, 1713-1726	2.8	6
116	An Overview of Bioinspired and Biomimetic Self-Repairing Materials. *Biomimetics*, **2019**, 4,	3.7	49
115	Structural and functional imaging of large and opaque plant specimens. *Journal of Experimental Botany*, **2019**, 70, 3659-3678	7	19
114	The Ecomechanics of Gecko Adhesion: Natural Surface Topography, Evolution, and Biomimetics. *Integrative and Comparative Biology*, **2019**, 59, 148-167	2.8	28
113	Replicating the complexity of natural surfaces: technique validation and applications for biomimetics, ecology and evolution. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2019**, 377, 20180265	3	13
112	A seed flying like a bullet: ballistic seed dispersal in Chinese witch-hazel (Hamamelis mollis OLIV., Hamamelidaceae). *Journal of the Royal Society Interface*, **2019**, 16, 20190327	4.1	6
111	Mechanical properties and structure-function trade-offs in secondary xylem of young roots and stems. *Journal of Experimental Botany*, **2019**, 70, 3679-3691	7	13
110	Adaptive Biomimetic Actuator Systems Reacting to Various Stimuli by and Combining Two Biological Snap-Trap Mechanics. *Lecture Notes in Computer Science*, **2019**, 114-121	0.9	5
109	Characterization of Biomimetic Peristaltic Pumping System Based on Flexible Silicone Soft Robotic Actuators as an Alternative for Technical Pumps. *Lecture Notes in Computer Science*, **2019**, 101-113	0.9	2

108	Plant biomechanics in the 21st century. *Journal of Experimental Botany*, **2019**, 70, 3435-3438	7	11
107	Silent Pumpers: A Comparative Topical Overview of the Peristaltic Pumping Principle in Living Nature, Engineering, and Biomimetics. *Advanced Intelligent Systems*, **2019**, 1, 1900009	6	12
106	Biomimetics for Architecture **2019**,		6
105	Emergence in Biomimetic Materials Systems **2019**, 97-115		4
104	Twist-to-bend ratio: an important selective factor for many rod-shaped biological structures. *Scientific Reports*, **2019**, 9, 17182	4.9	7
103	Prey capture analyses in the carnivorous aquatic waterwheel plant (Aldrovanda vesiculosa L., Droseraceae). *Scientific Reports*, **2019**, 9, 18590	4.9	9
102	Bark, the neglected tree postural motor system. *New Phytologist*, **2019**, 221, 7-9	9.8	3
101	Straightforward and precise approach to replicate complex hierarchical structures from plant surfaces onto soft matter polymer. *Royal Society Open Science*, **2018**, 5, 172132	3.3	11
100	Spore liberation in mosses revisited. *AoB PLANTS*, **2018**, 10, plx075	2.9	6
99	Comparative morphological and anatomical study of self-repair in succulent cylindrical plant organs. *Flora: Morphology, Distribution, Functional Ecology of Plants*, **2018**, 241, 1-7	1.9	12
98	How water availability influences morphological and biomechanical properties in the one-leaf plant. *Royal Society Open Science*, **2018**, 5, 171076	3.3	3
97	Toward a New Generation of Smart Biomimetic Actuators for Architecture. *Advanced Materials*, **2018**, 30, e1703653	24	73
96	Bioinspired Materials and Structures **2018**, 251-266		1
95	Strength-size relationships in two porous biological materials. *Acta Biomaterialia*, **2018**, 77, 322-332	10.8	14
94	Development and Characterization of a Novel Biomimetic Peristaltic Pumping System with Flexible Silicone-Based Soft Robotic Ring Actuators. *Lecture Notes in Computer Science*, **2018**, 157-167	0.9	4
93	How the carnivorous waterwheel plant () snaps. *Proceedings of the Royal Society B: Biological Sciences*, **2018**, 285,	4.4	23
92	Biomimetic Actuators: Toward a New Generation of Smart Biomimetic Actuators for Architecture (Adv. Mater. 19/2018). *Advanced Materials*, **2018**, 30, 1870135	24	3
91	Finite element modelling of complex movements during self-sealing of ring incisions in leaves of Delosperma cooperi. *Journal of Theoretical Biology*, **2018**, 458, 184-206	2.3	11

90	Biomechanics and Functional Morphology of Plants Inspiration for Biomimetic Materials and Structures **2018**, 399-433		8
89	What Can Be Learnt from Ageing in Biology and Damage-Tolerant Biological Structures for Long-Lasting Biomimetic Materials? **2018**, 27-38		1
88	Motile traps **2018**,		2
87	Kinematical, Structural and Mechanical Adaptations to Desiccation in Poikilohydric (Gesneriaceae). *Frontiers in Plant Science*, **2018**, 9, 1701	6.2	4
86	Humidity-dependent wound sealing in succulent leaves of An adaptation to seasonal drought stress. *Beilstein Journal of Nanotechnology*, **2018**, 9, 175-186	3	24
85	A qualitative analysis of the bud ontogeny of Dracaena marginata using high-resolution magnetic resonance imaging. *Scientific Reports*, **2018**, 8, 9881	4.9	9
84	Hygroscopic motions of fossil conifer cones. *Scientific Reports*, **2017**, 7, 40302	4.9	24
83	Trap diversity and character evolution in carnivorous bladderworts (Utricularia, Lentibulariaceae). *Scientific Reports*, **2017**, 7, 12052	4.9	24
82	Comparing structure and biomechanics of extant Carica papaya and Ochroma pyramidale stems allows re-evaluating the functional morphology of the fossil seed fern Lyginopteris oldhamia. *Review of Palaeobotany and Palynology*, **2017**, 246, 258-263	1.7	5
81	Biomechanical analysis of prey capture in the carnivorous Southern bladderwort (Utricularia australis). *Scientific Reports*, **2017**, 7, 1776	4.9	25
80	Branching morphology, vascular bundle arrangement and ontogenetic development in leaf insertion zones and ramifications of three arborescent Araliaceae species. *Trees - Structure and Function*, **2017**, 31, 1793-1809	2.6	6
79	Adaptive spatiotemporal changes in morphology, anatomy, and mechanics during the ontogeny of subshrubs with square-shaped stems. *American Journal of Botany*, **2017**, 104, 1157-1167	2.7	5
78	On the morphometry, anatomy and water stress behaviour of the anisocotyledonous Monophyllaea horsfieldii (Gesneriaceae) and their eco-evolutionary significance. *Botanical Journal of the Linnean Society*, **2017**, 185, 425-442	2.2	4
77	Damping of Pressure Pulsations in Mobile Hydraulic Applications by the Use of Closed Cell Cellular Rubbers Integrated into a Vane Pump. *Journal of Bionic Engineering*, **2017**, 14, 791-803	2.7	4
76	Effect of mechanical damage and wound healing on the viscoelastic properties of stems of flax cultivars (Linum usitatissimum L. cv. Eden and cv. Drakkar). *PLoS ONE*, **2017**, 12, e0185958	3.7	11
75	Development of Novel Foam-Based Soft Robotic Ring Actuators for a Biomimetic Peristaltic Pumping System. *Lecture Notes in Computer Science*, **2017**, 138-147	0.9	6
74	Magnetic resonance imaging reveals functional anatomy and biomechanics of a living dragon tree. *Scientific Reports*, **2016**, 6, 32685	4.9	13
73	Branched Structures in Plants and Architecture. *Biologically-inspired Systems*, **2016**, 195-215	0.7	9

72	Compliant Mechanisms in Plants and Architecture. *Biologically-inspired Systems*, **2016**, 169-193	0.7	5
71	Biomechanics of selected arborescent and shrubby monocotyledons. *Beilstein Journal of Nanotechnology*, **2016**, 7, 1602-1619	3	4
70	Comparative kinematical analyses of Venus flytrap (Dionaea muscipula) snap traps. *Beilstein Journal of Nanotechnology*, **2016**, 7, 664-74	3	13
69	The cleaner, the greener? Product sustainability assessment of the biomimetic façade paint Lotusan in comparison to the conventional façade paint Jumbosil. *Beilstein Journal of Nanotechnology*, **2016**, 7, 2100-2115	3	13
68	Function by internal structure-preface to the special issue on bioinspired hierarchical materials. *Bioinspiration and Biomimetics*, **2016**, 11, 060301	2.6	8
67	Functional morphology of suction discs and attachment performance of the Mediterranean medicinal leech (Hirudo verbana Carena). *Journal of the Royal Society Interface*, **2016**, 13,	4.1	21
66	A Passionate Free Climber: Structural Development and Functional Morphology of the Adhesive Tendrils in Passiflora discophora. *International Journal of Plant Sciences*, **2015**, 176, 294-305	2.6	12
65	Development of a digital framework for the computation of complex material and morphological behavior of biological and technological systems. *CAD Computer Aided Design*, **2015**, 60, 84-104	2.9	13
64	A methodology for transferring principles of plant movements to elastic systems in architecture. *CAD Computer Aided Design*, **2015**, 60, 105-117	2.9	62
63	Impact behaviour of freeze-dried and fresh pomelo (Citrus maxima) peel: influence of the hydration state. *Royal Society Open Science*, **2015**, 2, 140322	3.3	12
62	Selbstreparatur in Natur und Technik. *Biologie in Unserer Zeit*, **2015**, 45, 44-51	0.1	7
61	Sporangium Exposure and Spore Release in the Peruvian Maidenhair Fern (Adiantum peruvianum, Pteridaceae). *PLoS ONE*, **2015**, 10, e0138495	3.7	12
60	Fastest predators in the plant kingdom: functional morphology and biomechanics of suction traps found in the largest genus of carnivorous plants. *AoB PLANTS*, **2015**, 8,	2.9	37
59	Secondary growth stresses in recent and fossil plants: Physical/mathematical modelling and experimental validation. *Review of Palaeobotany and Palynology*, **2014**, 201, 47-55	1.7	2
58	Branching morphology of decapitated arborescent monocotyledons with secondary growth. *American Journal of Botany*, **2014**, 101, 754-63	2.7	19
57	Production and properties of a precision-cast bio-inspired composite. *Journal of Materials Science*, **2014**, 49, 43-51	4.3	16
56	Comparative study on plant latex particles and latex coagulation in Ficus benjamina, Campanula glomerata and three Euphorbia species. *PLoS ONE*, **2014**, 9, e113336	3.7	20
55	Stem biomechanics, strength of attachment, and developmental plasticity of vines and lianas **2014**, 323-341		11

54	Structure-function relationships in Macadamia integrifolia seed coats--fundamentals of the hierarchical microstructure. *PLoS ONE*, **2014**, 9, e102913	3.7	29
53	Sustainability assessment of a lightweight biomimetic ceiling structure. *Bioinspiration and Biomimetics*, **2014**, 9, 016013	2.6	17
52	Viscoelasticity and compaction behaviour of the foam-like pomelo (Citrus maxima) peel. *Journal of Materials Science*, **2013**, 48, 3469-3478	4.3	25
51	Effect of drought stress on bending stiffness in petioles of Caladium bicolor (Araceae). *American Journal of Botany*, **2013**, 100, 2141-8	2.7	23
50	Faster than their prey: new insights into the rapid movements of active carnivorous plants traps. *BioEssays*, **2013**, 35, 649-57	4.1	35
49	An analytic model of the self-sealing mechanism of the succulent plant Delosperma cooperi. *Journal of Theoretical Biology*, **2013**, 336, 96-109	2.3	25
48	Plant surfaces with cuticular folds and their replicas: influence of microstructuring and surface chemistry on the attachment of a leaf beetle. *Acta Biomaterialia*, **2013**, 9, 6360-8	10.8	50
47	Functional morphology and biomechanics of branch-stem junctions in columnar cacti. *Proceedings of the Royal Society B: Biological Sciences*, **2013**, 280, 20132244	4.4	21
46	Novel Method for Measuring Tissue Pressure in Herbaceous Plants. *International Journal of Plant Sciences*, **2013**, 174, 161-170	2.6	11
45	Fallenbewegungen fleischfressender Pflanzen. *Biologie in Unserer Zeit*, **2013**, 43, 352-361	0.1	2
44	The pomelo peel and derived nanoscale-precision gradient silica foams. *Bioinspired, Biomimetic and Nanobiomaterials*, **2012**, 1, 117-122	1.3	8
43	Catapulting tentacles in a sticky carnivorous plant. *PLoS ONE*, **2012**, 7, e45735	3.7	32
42	The complex leaves of the monkey's comb (Amphilophium crucigerum, Bignoniaceae): a climbing strategy without glue. *American Journal of Botany*, **2012**, 99, 1737-44	2.7	13
41	Design and construction principles in nature and architecture. *Bioinspiration and Biomimetics*, **2012**, 7, 015002	2.6	107
40	Plant ramifications inspire branched lightweight composites. *Bioinspired, Biomimetic and Nanobiomaterials*, **2012**, 1, 77-81	1.3	10
39	Restoration of tensile strength in bark samples of Ficus benjamina due to coagulation of latex during fast self-healing of fissures. *Annals of Botany*, **2012**, 109, 807-11	4.1	34
38	Impact of cell shape in hierarchically structured plant surfaces on the attachment of male Colorado potato beetles (Leptinotarsa decemlineata). *Beilstein Journal of Nanotechnology*, **2012**, 3, 57-64	3	26
37	Self-Healing Rubbers Based on NBR Blends with Hyperbranched Polyethylenimines. *Macromolecular Materials and Engineering*, **2012**, 297, 411-419	3.9	45

36	Plant surfaces with cuticular folds are slippery for beetles. *Journal of the Royal Society Interface*, **2012**, 9, 127-35	4.1	54
35	Structure, attachment properties, and ecological importance of the attachment system of English ivy (Hedera helix). *Journal of Experimental Botany*, **2012**, 63, 191-201	7	22
34	Structural and mechanical properties of flexible polyurethane foams cured under pressure. *Journal of Cellular Plastics*, **2012**, 48, 53-69	1.5	18
33	Biomimetic Fiber-Reinforced Compound Materials **2011**,		10
32	Functional morphology, biomechanics and biomimetic potential of stem-branch connections in Dracaena reflexa and Freycinetia insignis. *Beilstein Journal of Nanotechnology*, **2011**, 2, 173-85	3	20
31	Self-repairing membranes for inflatable structures inspired by a rapid wound sealing process of climbing plants. *Journal of Bionic Engineering*, **2011**, 8, 242-250	2.7	35
30	Plant Stems: Functional Design and Mechanics. *Annual Review of Materials Research*, **2011**, 41, 169-193	12.8	129
29	Always on the bright side: the climbing mechanism of Galium aparine. *Proceedings of the Royal Society B: Biological Sciences*, **2011**, 278, 2233-9	4.4	35
28	Ultra-fast underwater suction traps. *Proceedings of the Royal Society B: Biological Sciences*, **2011**, 278, 2909-14	4.4	86
27	Morphological aspects of self-repair of lesions caused by internal growth stresses in stems of Aristolochia macrophylla and Aristolochia ringens. *Proceedings of the Royal Society B: Biological Sciences*, **2010**, 277, 2113-20	4.4	29
26	The attachment strategy of English ivy: a complex mechanism acting on several hierarchical levels. *Journal of the Royal Society Interface*, **2010**, 7, 1383-9	4.1	52
25	Mechanics without muscle: biomechanical inspiration from the plant world. *Integrative and Comparative Biology*, **2010**, 50, 888-907	2.8	80
24	Quantifying the attachment strength of climbing plants: a new approach. *Acta Biomaterialia*, **2010**, 6, 1497-504	10.8	34
23	Insulation capability of the bark of trees with different fire adaptation. *Journal of Materials Science*, **2010**, 45, 5950-5959	4.3	53
22	Principles of Branching Morphology and Anatomy in Arborescent Monocotyledons and Columnar Cacti as Concept Generators for Branched Fiber-Reinforced Composites. *Advanced Engineering Materials*, **2010**, 12, B695-B698	3.5	25
21	Pummelos as Concept Generators for Biomimetically Inspired Low Weight Structures with Excellent Damping Properties. *Advanced Engineering Materials*, **2010**, 12, B658-B663	3.5	53
20	Analysis of self-repair mechanisms of Phaseolus vulgaris var. saxa using near-infrared surface-enhanced Raman spectroscopy. *Journal of Raman Spectroscopy*, **2009**, 41, 490-497	2.3	13
19	Stiffness gradients in vascular bundles of the palm Washingtonia robusta. *Proceedings of the Royal Society B: Biological Sciences*, **2008**, 275, 2221-9	4.4	65

18	Biomechanical Reconstruction of the Carboniferous Seed Fern Lyginopteris oldhamia: Implications for Growth Form Reconstruction and Habit. *International Journal of Plant Sciences*, **2007**, 168, 1177-1189	2.6	24
17	Ontogenetic Reconstruction of the Carboniferous Seed Plant Lyginopteris oldhamia. *International Journal of Plant Sciences*, **2006**, 167, 147-166	2.6	14
16	Comparison of mechanical properties of four large, wave-exposed seaweeds. *American Journal of Botany*, **2006**, 93, 1426-32	2.7	55
15	Biomimetics and technical textiles: solving engineering problems with the help of nature's wisdom. *American Journal of Botany*, **2006**, 93, 1455-65	2.7	115
14	Plant growth forms: an ecological and evolutionary perspective. *New Phytologist*, **2005**, 166, 61-72	9.8	196
13	Reconfiguration as a Prerequisite for Survival in Highly Unstable Flow-Dominated Habitats. *Journal of Plant Growth Regulation*, **2004**, 23, 98-107	4.7	71
12	Diversity of Mechanical Architectures in Climbing Plants: An Evolutionary Perspective. *Journal of Plant Growth Regulation*, **2004**, 23, 108-128	4.7	84
11	Development and Growth Form of the Neotropical Liana Croton nuntians: The Effect of Light and Mode of Attachment on the Biomechanics of the Stem. *Journal of Plant Growth Regulation*, **2004**, 23, 83-97	4.7	28
10	Plants as concept generators for biomimetic light-weight structures with variable stiffness and self-repair mechanisms. *Journal of Bionic Engineering*, **2004**, 1, 199-205	2.7	10
9	Mechanical, chemical and X-ray analysis of wood in the two tropical lianas Bauhinia guianensis and Condylocarpon guianense: variations during ontogeny. *Planta*, **2003**, 217, 32-40	4.7	26
8	Micromechanics and anatomical changes during early ontogeny of two lianescent Aristolochia species. *Planta*, **2000**, 210, 691-700	4.7	37
7	The mechanics of Norway spruce [Picea abies (L.) Karst]: mechanical properties of standing trees from different thinning regimes. *Forest Ecology and Management*, **2000**, 135, 45-62	3.9	51
6	Biomechanics and functional anatomy of hollow-stemmed sphenopsids. I. Equisetum giganteum (Equisetaceae). *American Journal of Botany*, **1998**, 85, 305-314	2.7	41
5	Biomechanical Characteristics of the Ontogeny and Growth Habit of the Tropical Liana Condylocarpon guianense (Apocynaceae). *International Journal of Plant Sciences*, **1996**, 157, 406-417	2.6	49
4	Roadmap on soft robotics: multifunctionality, adaptability and growth without borders. *Multifunctional Materials*,	5.2	7
3	Spatiotemporal development of cuticular ridges on leaf surfaces of Hevea brasiliensis alters insect attachment	2	
2	Bio-inspired life-like motile materials systems: Changing the boundaries between living and technical systems in the Anthropocene. *Infrastructure Asset Management*,205301962110392	1.8	2
1	Smooth or with a Snap! Biomechanics of Trap Reopening in the Venus Flytrap (Dionaea muscipula). *Advanced Science*,2201362	13.6	1