Jack J W A Van Loon

List of Publications by Year
in descending order

125 papers	4,627 citations	117625 34 h-index	110387 64 g-index
136 all docs	136 docs citations	136 times ranked	4243 citing authors

#	Article	IF	Citations
1	Ground-Based Facilities for Simulation of Microgravity: Organism-Specific Recommendations for Their Use, and Recommended Terminology. Astrobiology, 2013, 13, 1-17.	3.0	372
2	The threshold at which substrate nanogroove dimensions may influence fibroblast alignment and adhesion. Biomaterials, 2007, 28, 3944-3951.	11.4	311
3	Some history and use of the random positioning machine, RPM, in gravity related research. Advances in Space Research, 2007, 39, 1161-1165.	2.6	233
4	Technology and Developments for the Random Positioning Machine, RPM. Microgravity Science and Technology, 2009, 21, 287-292.	1.4	185
5	Nitric oxide production by bone cells is fluid shear stress rate dependent. Biochemical and Biophysical Research Communications, 2004, 315, 823-829.	2.1	166
6	Dynamic shear stress in parallel-plate flow chambers. Journal of Biomechanics, 2005, 38, 159-167.	2.1	154
7	Round versus flat: Bone cell morphology, elasticity, and mechanosensing. Journal of Biomechanics, 2008, 41, 1590-1598.	2.1	131
8	Plant cell proliferation and growth are altered by microgravity conditions in spaceflight. Journal of Plant Physiology, 2010, 167, 184-193.	3.5	131
9	The role of the cytoskeleton in sensing changes in gravity by nonspecialized cells. FASEB Journal, 2014, 28, 536-547.	0.5	128
10	Bone cell responses to highâ€frequency vibration stress: does the nucleus oscillate within the cytoplasm?. FASEB Journal, 2006, 20, 858-864.	0.5	122
11	Simulated microgravity using the Random Positioning Machine inhibits differentiation and alters gene expression profiles of 2T3 preosteoblasts. American Journal of Physiology - Cell Physiology, 2005, 288, C1211-C1221.	4.6	120
12	Growing Tissues in Real and Simulated Microgravity: New Methods for Tissue Engineering. Tissue Engineering - Part B: Reviews, 2014, 20, 555-566.	4.8	117
13	Plastid position in Arabidopsis columella cells is similar in microgravity and on a random-positioning machine. Planta, 2000, 211, 415-422.	3.2	106
14	Towards human exploration of space: the THESEUS review series on muscle and bone research priorities. Npj Microgravity, 2017, 3, 8.	3.7	106
15	Differential Gene Regulation under Altered Gravity Conditions in Follicular Thyroid Cancer Cells: Relationship between the Extracellular Matrix and the Cytoskeleton. Cellular Physiology and Biochemistry, 2011, 28, 185-198.	1.6	88
16	Decreased mineralization and increased calcium release in isolated fetal mouse long bones under near weightlessness. Journal of Bone and Mineral Research, 1995, 10, 550-557.	2.8	85
17	Comparison of Microgravity Analogs to Spaceflight in Studies of Plant Growth and Development. Frontiers in Plant Science, 2019, 10, 1577.	3.6	81
18	The Impact of Simulated and Real Microgravity on Bone Cells and Mesenchymal Stem Cells. BioMed Research International, 2014, 2014, 1-15.	1.9	80

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19	Shortâ€term weightlessness produced by parabolic flight maneuvers altered gene expression patterns in human endothelial cells. FASEB Journal, 2012, 26, 639-655.	0.5	77
20	Zebrafish Bone and General Physiology Are Differently Affected by Hormones or Changes in Gravity. PLoS ONE, 2015, 10, e0126928.	2.5	74
21	Facilities for Simulation of Microgravity in the ESA Ground-Based Facility Programme. Microgravity Science and Technology, 2016, 28, 191-203.	1.4	71
22	Earth as a Tool for Astrobiologyâ€"A European Perspective. Space Science Reviews, 2017, 209, 43-81.	8.1	68
23	Microgravity and bone cell mechanosensitivity. Advances in Space Research, 2003, 32, 1551-1559.	2.6	66
24	The interaction between nanoscale surface features and mechanical loading and its effect on osteoblast-like cells behavior. Biomaterials, 2010, 31, 7758-7765.	11.4	66
25	Space as a Tool for Astrobiology: Review and Recommendations for Experimentations in Earth Orbit and Beyond. Space Science Reviews, 2017, 209, 83-181.	8.1	54
26	Simulated microgravity, Mars gravity, and 2g hypergravity affect cell cycle regulation, ribosome biogenesis, and epigenetics in Arabidopsis cell cultures. Scientific Reports, 2018, 8, 6424.	3.3	49
27	Microgravity simulation by diamagnetic levitation: effects of a strong gradient magnetic field on the transcriptional profile of Drosophila melanogaster. BMC Genomics, 2012, 13, 52.	2.8	47
28	Influence of the gravity on the discharge of a silo. Granular Matter, 2013, 15, 263-273.	2.2	45
29	Manufacturing substrate nano-grooves for studying cell alignment and adhesion. Microelectronic Engineering, 2008, 85, 1362-1366.	2.4	44
30	How Microgravity Affects the Biology of Living Systems. BioMed Research International, 2015, 2015, 1-4.	1.9	44
31	Gravitational and magnetic field variations synergize to cause subtle variations in the global transcriptional state of Arabidopsis in vitro callus cultures. BMC Genomics, 2012, 13, 105.	2.8	43
32	Inertial Shear Forces and the Use of Centrifuges in Gravity Research. What is the Proper Control?. Journal of Biomechanical Engineering, 2003, 125, 342-346.	1.3	42
33	Release of nitric oxide, but not prostaglandin E2, by bone cells depends on fluid flow frequency. Journal of Orthopaedic Research, 2006, 24, 1170-1177.	2.3	36
34	Spaceflight-related suboptimal conditions can accentuate the altered gravity response of Drosophila transcriptome. Molecular Ecology, 2010, 19, 4255-4264.	3.9	35
35	Novel, Moon and Mars, partial gravity simulation paradigms and their effects on the balance between cell growth and cell proliferation during early plant development. Npj Microgravity, 2018, 4, 9.	3.7	35
36	Hypergravity Facilities in the ESA Ground-Based Facility Program â€" Current Research Activities and Future Tasks. Microgravity Science and Technology, 2016, 28, 205-214.	1.4	33

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37	Initial Stress-Kick Is Required for Fluid Shear Stress-Induced Rate Dependent Activation of Bone Cells. Annals of Biomedical Engineering, 2005, 33, 104-110.	2.5	32
38	Proteomic Signature of Arabidopsis Cell Cultures Exposed to Magnetically Induced Hyper- and Microgravity Environments. Astrobiology, 2013, 13, 217-224.	3.0	32
39	Using the Moon as a high-fidelity analogue environment to study biological and behavioral effects of long-duration space exploration. Planetary and Space Science, 2012, 74, 111-120.	1.7	30
40	Human physiology adaptation to altered gravity environments. Acta Astronautica, 2021, 189, 216-221.	3.2	30
41	Functional alterations of root meristematic cells of Arabidopsis thaliana induced by a simulated microgravity environment. Journal of Plant Physiology, 2016, 207, 30-41.	3.5	29
42	Mechanomics and Physicomics in Gravisensing. Microgravity Science and Technology, 2009, 21, 159-167.	1.4	24
43	Invited Review Article: Advanced light microscopy for biological space research. Review of Scientific Instruments, 2014, 85, 101101.	1.3	24
44	Measuring Intracellular Viscosity in Conditions of Hypergravity. Biophysical Journal, 2019, 116, 1984-1993.	0.5	24
45	Comparative analysis of Drosophila melanogaster and Caenorhabditis elegans gene expression experiments in the European Soyuz flights to the International Space Station. Advances in Space Research, 2007, 40, 506-512.	2.6	23
46	ESA Parabolic Flights, Drop Tower and Centrifuge Opportunities for University Students. Microgravity Science and Technology, 2011, 23, 181-189.	1.4	23
47	Cell cycle acceleration and changes in essential nuclear functions induced by simulated microgravity in a synchronized <i>Arabidopsis</i> cell culture. Plant, Cell and Environment, 2019, 42, 480-494.	5.7	22
48	Germination of Arabidopsis Seed in Space and in Simulated Microgravity: Alterations in Root Cell Growth and Proliferation. Microgravity Science and Technology, 2009, 21, 293-297.	1.4	21
49	Simulation of Microgravity by Magnetic Levitation and Random Positioning: Effect on Human A431 Cell Morphology. Microgravity Science and Technology, 2011, 23, 249-261.	1.4	21
50	A Hypergravity Environment Induced by Centrifugation Alters Plant Cell Proliferation and Growth in an Opposite Way to Microgravity. Microgravity Science and Technology, 2012, 24, 373-381.	1.4	21
51	Cell Wall Assembly and Intracellular Trafficking in Plant Cells Are Directly Affected by Changes in the Magnitude of Gravitational Acceleration. PLoS ONE, 2013, 8, e58246.	2.5	21
52	Early Effects of Altered Gravity Environments on Plant Cell Growth and Cell Proliferation: Characterization of Morphofunctional Nucleolar Types in an Arabidopsis Cell Culture System. Frontiers in Astronomy and Space Sciences, 2016, 3, .	2.8	20
53	Effects of microgravity simulation on zebrafish transcriptomes and bone physiologyâ€”exposure starting at 5 days post fertilization. Npj Microgravity, 2016, 2, 16010.	3.7	19
54	An atomic force microscope operating at hypergravity for <i>in situ</i> measurement of cellular mechanoâ€response. Journal of Microscopy, 2009, 233, 234-243.	1.8	18

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55	Influence of nanostructural environment and fluid flow on osteoblast-like cell behavior: A model for cell-mechanics studies. Acta Biomaterialia, 2013, 9, 6653-6662.	8.3	18
56	Centrifuges for Microgravity Simulation. The Reduced Gravity Paradigm. Frontiers in Astronomy and Space Sciences, 2016, 3, .	2.8	18
57	Gravity control of growth form in <i>Brassica rapa</i> and <i>Arabidopsis thaliana</i> (Brassicaceae): Consequences for secondary metabolism. American Journal of Botany, 2009, 96, 652-660.	1.7	17
58	Differential transcriptional profile through cell cycle progression in Arabidopsis cultures under simulated microgravity. Genomics, 2019, 111, 1956-1965.	2.9	17
59	Substrate Nanotexture and Hypergravity Through Centrifugation Enhance Initial Osteoblastogenesis. Tissue Engineering - Part A, 2013, 19, 114-124.	3.1	16
60	Subcooled flow boiling in horizontal and vertical macro-channel under Earth-gravity and hyper-gravity conditions. International Journal of Heat and Mass Transfer, 2019, 133, 36-51.	4.8	16
61	Hypergravity Activates a Pro-Angiogenic Homeostatic Response by Human Capillary Endothelial Cells. International Journal of Molecular Sciences, 2020, 21, 2354.	4.1	16
62	Transient Intervals of Hyper-Gravity Enhance Endothelial Barrier Integrity: Impact of Mechanical and Gravitational Forces Measured Electrically. PLoS ONE, 2015, 10, e0144269.	2.5	16
63	Osteoclastic Invasion and Mineral Resorption of Fetal Mouse Long Bone Rudiments are Inhibited by Culture Under Intermittent Compressive Force. Connective Tissue Research, 1989, 20, 131-141.	2.3	14
64	Planarians Sense Simulated Microgravity and Hypergravity. BioMed Research International, 2014, 2014, 1-10.	1.9	14
65	Fluid dynamics during Random Positioning Machine micro-gravity experiments. Advances in Space Research, 2017, 59, 3045-3057.	2.6	14
66	The â€œrootâ€•experiment of the â€œcervantesâ€•spanish soyuz mission: Cell proliferation and nucleolar activity alterations in arabidopsis roots germinated in real or simulated microgravity. Microgravity Science and Technology, 2007, 19, 128-132.	1.4	13
67	Seed Germination and Seedling Growth under Simulated Microgravity Causes Alterations in Plant Cell Proliferation and Ribosome Biogenesis. Microgravity Science and Technology, 2009, 21, 169-174.	1.4	13
68	Exposure to hypergravity during zebrafish development alters cartilage material properties and strain distribution. Bone and Joint Research, 2021, 10, 137-148.	3.6	13
69	Hypergravity prevents seed production in Arabidopsis by disrupting pollen tube growth. Planta, 2009, 230, 863-870.	3.2	12
70	Hypergravity effects on glide arc plasma. European Physical Journal D, 2013, 67, 1.	1.3	12
71	Evaluation of Simulated Microgravity Environments Induced by Diamagnetic Levitation of Plant Cell Suspension Cultures. Microgravity Science and Technology, 2016, 28, 309-317.	1.4	12
72	Continuous Exposure to Simulated Hypergravity-Induced Changes in Proliferation, Morphology, and Gene Expression of Human Tendon Cells. Stem Cells and Development, 2018, 27, 858-869.	2.1	12

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73	Noise enhances the rapid nitric oxide production by bone cells in response to fluid shear stress. Technology and Health Care, 2009, 17, 57-65.	1.2	11
74	Effects of hypergravity on the angiogenic potential of endothelial cells. Journal of the Royal Society Interface, 2016, 13, 20160688.	3.4	11
75	Spiculous skeleton formation in the freshwater sponge<i>Ephydatia fluviatilis</i>under hypergravity conditions. PeerJ, 2019, 6, e6055.	2.0	11
76	Interaction of gravitropism and phototropism in roots of Brassica oleracea. Environmental and Experimental Botany, 2022, 193, 104700.	4.2	11
77	<i>Brassica rapa</i> L. seed development in hypergravity. Seed Science Research, 2009, 19, 63-72.	1.7	10
78	Drosophila GENE Experiment in the Spanish Soyuz Mission to the ISS: II. Effects of the Containment Constraints. Microgravity Science and Technology, 2009, 21, 299-304.	1.4	10
79	Experimental study of gliding arc plasma channel motion: buoyancy and gas flow phenomena under normal and hypergravity conditions. Plasma Sources Science and Technology, 2017, 26, 045014.	3.1	9
80	Editorial: Gravitational Physiology, Aging and Medicine. Frontiers in Physiology, 2019, 10, 1338.	2.8	9
81	The national â€" esa soyuz missions andromÃ¨de, marco polo, odissea, cervantes, delta and eneide. Microgravity Science and Technology, 2007, 19, 9-32.	1.4	8
82	Suboptimal evolutionary novel environments promote singular altered gravity responses of transcriptome during Drosophila metamorphosis. BMC Evolutionary Biology, 2013, 13, 133.	3.2	8
83	Influence of Oxygen in the Cultivation of Human Mesenchymal Stem Cells in Simulated Microgravity: An Explorative Study. Microgravity Science and Technology, 2013, 25, 59-66.	1.4	8
84	Gliding Arc in Noble Gases Under Normal and Hypergravity Conditions. IEEE Transactions on Plasma Science, 2014, 42, 2724-2725.	1.3	8
85	Gravity Deprivation: Is It Ethical for Optimal Physiology?. Frontiers in Physiology, 2020, 11, 470.	2.8	8
86	A novel device to study altered gravity and light interactions in seedling tropisms. Life Sciences in Space Research, 2022, 32, 8-16.	2.3	8
87	The Human Centrifuge. Microgravity Science and Technology, 2009, 21, 203-207.	1.4	7
88	Wave Turbulence on the Surface of a Fluid in a High-Gravity Environment. Physical Review Letters, 2019, 123, 244501.	7.8	7
89	Hypergravity affects cell traction forces of fibroblasts. Biophysical Journal, 2021, 120, 773-780.	0.5	7
90	Bone and space flight: an overview. , 1996, , 259-299.		7

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91	Adaptation response of Arabidopsis thaliana to random positioning. Advances in Space Research, 2013, 52, 1320-1331.	2.6	6
92	Gravity effects on a gliding arc in four noble gases: from normal to hypergravity. Plasma Sources Science and Technology, 2015, 24, 022002.	3.1	6
93	Degassing of a decompressed flowing liquid under hypergravity conditions. International Journal of Multiphase Flow, 2019, 115, 126-136.	3.4	6
94	Molecular impact of launch related dynamic vibrations and static hypergravity in planarians. Npj Microgravity, 2020, 6, 25.	3.7	6
95	Survival of the Halophilic Archaeon Halovarius luteus after Desiccation, Simulated Martian UV Radiation and Vacuum in Comparison to Bacillus atrophaeus. Origins of Life and Evolution of Biospheres, 2020, 50, 157-173.	1.9	6
96	Microgravity and bone cell mechanosensitivity: FLOW experiment during the DELTA mission. Microgravity Science and Technology, 2007, 19, 133-137.	1.4	5
97	Nanostructured substrate conformation can decrease osteoblast-like cell dysfunction in simulated microgravity conditions. Journal of Tissue Engineering and Regenerative Medicine, 2014, 8, 978-988.	2.7	5
98	Transcriptomic Analysis of Planarians under Simulated Microgravity or 8 g Demonstrates That Alteration of Gravity Induces Genomic and Cellular Alterations That Could Facilitate Tumoral Transformation. International Journal of Molecular Sciences, 2019, 20, 720.	4.1	5
99	Development of tissue culture techniques and hardware to study mineralization under microgravity conditions. Advances in Space Research, 1994, 14, 289-298.	2.6	4
100	Relation Between Motility, Accelerated Aging and Gene Expression in Selected Drosophila Strains under Hypergravity Conditions. Microgravity Science and Technology, 2013, 25, 67-72.	1.4	4
101	Role of Mechanical Properties of Cell Mediated Vesicles in Membrane Fusion. Biophysical Journal, 2013, 104, 620a.	0.5	4
102	Hypergravity synthesis of graphitic carbon nanomaterial in glide arc plasma. Materials Research Bulletin, 2014, 54, 61-65.	5.2	4
103	Embedding Arabidopsis Plant Cell Suspensions in Low-Melting Agarose Facilitates Altered Gravity Studies. Microgravity Science and Technology, 2017, 29, 115-119.	1.4	4
104	Artificially altered gravity elicits cell homeostasis imbalance in planarian worms, and cerium oxide nanoparticles counteract this effect. Journal of Biomedical Materials Research - Part A, 2021, 109, 2322-2333.	4.0	4
105	Photoactive chlorpromazine and promazine drugs exposed to hypergravity conditions after interaction with UV laser radiation. Acta Astronautica, 2021, 189, 260-268.	3.2	4
106	Solidâ€state foaming of epoxy resin under hypergravity and simulated microgravity. Advances in Polymer Technology, 2018, 37, 2616-2624.	1.7	3
107	Collaboration Around Rare Bone Diseases Leads to the Unique Organizational Incentive of the Amsterdam Bone Center. Frontiers in Endocrinology, 2020, 11, 481.	3.5	3
108	Use of Reduced Gravity Simulators for Plant Biological Studies. Methods in Molecular Biology, 2022, 2368, 241-265.	0.9	3

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109	Centrifuges and inertial shear forces. Journal of Gravitational Physiology: A Journal of the International Society for Gravitational Physiology, 2004, 11, 29-38.	0.0	3
110	TISSUE REPAIR AND REGENERATION IN SPACE AND ON EARTH. Frontiers in Physiology, 0, 9, .	2.8	2
111	Seeds-in-space education experiment during the Dutch soyuz mission DELTA. Microgravity Science and Technology, 2007, 19, 244-248.	1.4	1
112	Stress Response by Bone Cells and Implications on Microgravity Environment. Clinical Reviews in Bone and Mineral Metabolism, 2010, 8, 179-188.	0.8	1
113	Mechanics of Extracellular Vesicles from Red Blood Cells. Biophysical Journal, 2015, 108, 242a.	0.5	1
114	A Comparison of Torque Forces Used to Apply Intermaxillary Fixation Screws. Journal of Oral and Maxillofacial Surgery, 2015, 73, 2367-2374.	1.2	1
115	The SCD â€" Stem Cell Differentiation ESA Project: Preparatory Work for the Spaceflight Mission. Microgravity Science and Technology, 2016, 28, 19-28.	1.4	1
116	A Note on Liquid Velocities Arising during Decompression Degassing in Hypergravity. Microgravity Science and Technology, 2019, 31, 505-515.	1.4	1
117	Some Challenges in Gravity Related Research. Frontiers in Space Technologies, 2020, 1, .	1.4	1
118	The effect of hypergravity in intestinal permeability of nanoformulations and molecules. European Journal of Pharmaceutics and Biopharmaceutics, 2021, 163, 38-48.	4.3	1
119	The behavioural-driven response of the Drosophila imago transcriptome to different types of modified gravity. Genomics Discovery, 2013, 1, 1.	0.2	1
120	BIOPACK: the ground controlled late access biological research facility. Journal of Gravitational Physiology: A Journal of the International Society for Gravitational Physiology, 2004, 11, 57-65.	0.0	1
121	Stability Studies of UV Laser Irradiated Promethazine and Thioridazine after Exposure to Hypergravity Conditions. Molecules, 2022, 27, 1728.	3.8	1
122	Mineralization and resorption in fetal mouse long bones under microgravity; development of a vitro technique for experiments in the Biorack facility of spacelab. Cell Differentiation and Development, 1989, 27, 230.	0.4	0
123	Areas of Research. , 2011, , 55-170.		0
124	Inertial shear force and the impact on facilities for the International Space Station. Journal of Gravitational Physiology: A Journal of the International Society for Gravitational Physiology, 2002, 9, P359-60.	0.0	0
125	WHICH PRECOCIAL RODENT SPECIES IS MORE SUITABLE AS THE EXPERIMENTAL MODEL OF MICROGRAVITY INFLUENCE ON PRENATAL MUSCULOSKETAL DEVELOPMENT ON INTERNATIONAL SPACE STATION?. Life Sciences in Space Research, 2022, 33, 48-57.	2.3	0