Alan R Hargens

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/4656251/publications.pdf

Version: 2024-02-01

71102 88630 5,783 143 41 citations h-index papers

g-index 145 145 145 4265 docs citations times ranked citing authors all docs

70

#	Article	IF	CITATIONS
1	Biomechanical changes in the lumbar spine following spaceflight and factors associated with postspaceflight disc herniation. Spine Journal, 2022, 22, 197-206.	1.3	13
2	Cerebrovascular Effects of Lower Body Negative Pressure at 3T MRI : Implications for Longâ€Duration Space Travel. Journal of Magnetic Resonance Imaging, 2022, , .	3.4	2
3	Cardiovascular, Lymphatic, and Ocular Health in Space. Life, 2022, 12, 268.	2.4	5
4	Using hierarchical unsupervised learning to integrate and reduce multi-level and multi-paraspinal muscle MRI data in relation to low back pain. European Spine Journal, 2022, 31, 2046-2056.	2.2	1
5	Spaceflight-Associated Vascular Remodeling and Gene Expression in Mouse Calvaria. Frontiers in Physiology, 2022, 13, .	2.8	1
6	Changes in Optic Nerve Head and Retinal Morphology During Spaceflight and Acute Fluid Shift Reversal. JAMA Ophthalmology, 2022, 140, 763.	2.5	14
7	Reduced Gravity by Lower Body Positive Pressure. , 2021, , 479-488.		O
8	Parabolic Flight. , 2021, , 489-498.		0
9	Generating waist area-dependent ground reaction forces for long-duration spaceflight. Journal of Biomechanics, 2021, 118, 110272.	2.1	О
10	Mechanical countermeasures to headward fluid shifts. Journal of Applied Physiology, 2021, 130, 1766-1777.	2.5	15
11	Intraocular pressure and choroidal thickness respond differently to lower body negative pressure during spaceflight. Journal of Applied Physiology, 2021, 131, 613-620.	2.5	21
12	Ground-Based Analogs for Human Spaceflight. Frontiers in Physiology, 2020, 11, 716.	2.8	54
13	The Mobile Lower Body Negative Pressure Gravity Suit for Long-Duration Spaceflight. Frontiers in Physiology, 2020, 11, 977.	2.8	9
14	Parabolic Flight., 2020,, 1-8.		0
15	Parabolic Flight., 2020, , 1-8.		О
16	Intracranial Pressure After Soccer Heading. FASEB Journal, 2020, 34, 1-1.	0.5	3
17	The NASA Twins Study: A multidimensional analysis of a year-long human spaceflight. Science, 2019, 364,	12.6	576
18	Assessment of Jugular Venous Blood Flow Stasis and Thrombosis During Spaceflight. JAMA Network Open, 2019, 2, e1915011.	5.9	152

#	Article	IF	Citations
19	Noninvasive diagnostics for extremity compartment syndrome following traumatic injury: A state-of-the-art review. Journal of Trauma and Acute Care Surgery, 2019, 87, S59-S66.	2.1	16
20	Skeletal changes during and after spaceflight. Nature Reviews Rheumatology, 2018, 14, 229-245.	8.0	135
21	From the international space station to the clinic: how prolonged unloading may disrupt lumbar spine stability. Spine Journal, 2018, 18, 7-14.	1.3	92
22	Spaceflight-Induced Intracranial Hypertension and Visual Impairment: Pathophysiology and Countermeasures. Physiological Reviews, 2018, 98, 59-87.	28.8	186
23	Aging Decreases Hand Volume Expansion with Water Immersion. Frontiers in Physiology, 2018, 9, 72.	2.8	1
24	Tibia Bone Microvascular Flow Dynamics as Compared to Anterior Tibial Artery Flow During Body Tilt. Aerospace Medicine and Human Performance, 2018, 89, 357-364.	0.4	6
25	The Effects of Resistance Exercise on Intracranial Pressure. FASEB Journal, 2018, 32, 587.8.	0.5	1
26	Gender differences in tibial microvascular flow responses to head down tilt and lower body negative pressure. Physiological Reports, 2017, 5, e13143.	1.7	9
27	Lower-body negative pressure decreases noninvasively measured intracranial pressure and internal jugular vein cross-sectional area during head-down tilt. Journal of Applied Physiology, 2017, 123, 260-266.	2.5	29
28	Thirty days of spaceflight does not alter murine calvariae structure despite increased Sost expression. Bone Reports, 2017, 7, 57-62.	0.4	18
29	Muscle Microvascular Blood Flow, Oxygenation, pH, and Perfusion Pressure Decrease in Simulated Acute Compartment Syndrome. Journal of Bone and Joint Surgery - Series A, 2017, 99, 1453-1459.	3.0	22
30	Introduction to Visual Impairment and Intracranial Pressure. , 2017, , 1-3.		0
31	Bone microvascular flow differs from skin microvascular flow in response to head-down tilt. Journal of Applied Physiology, 2017, 123, 860-866.	2.5	8
32	Lumbar Spine Paraspinal Muscle and Intervertebral Disc Height Changes in Astronauts After Long-Duration Spaceflight on the International Space Station. Spine, 2016, 41, 1917-1924.	2.0	77
33	Treadmill exercise within lower-body negative pressure attenuates simulated spaceflight-induced reductions of balance abilities in men but not women. Npj Microgravity, 2016, 2, 16022.	3.7	16
34	WISE 2005: Aerobic and resistive countermeasures prevent paraspinal muscle deconditioning during 60-day bed rest in women. Journal of Applied Physiology, 2016, 120, 1215-1222.	2.5	30
35	Long-duration bed rest as an analog to microgravity. Journal of Applied Physiology, 2016, 120, 891-903.	2.5	234
36	Spaceflightâ€induced bone loss alters failure mode and reduces bending strength in murine spinal segments. Journal of Orthopaedic Research, 2016, 34, 48-57.	2.3	34

3

#	Article	IF	Citations
37	Treadmill exercise within lower body negative pressure protects leg lean tissue mass and extensor strength and endurance during bed rest. Physiological Reports, 2016, 4, e12892.	1.7	11
38	The effect of simulated microgravity on lumbar spine biomechanics: an in vitro study. European Spine Journal, 2016, 25, 2889-2897.	2.2	13
39	Disc herniations in astronauts: What causes them, and what does it tell us about herniation on earth?. European Spine Journal, 2016, 25, 144-154.	2.2	77
40	OSTEOPOROSIS, CIRCULATION, AND FLUID DYNAMICS., 2016,, 253-282.		0
41	Intraocular and Intracranial Pressures During Head-Down Tilt with Lower Body Negative Pressure. Aviation, Space, and Environmental Medicine, 2015, 86, 3-7.	0.5	39
42	Shoulder skin and muscle hemodynamics during backpack carriage. Applied Ergonomics, 2015, 51, 80-84.	3.1	8
43	Lower-body negative pressure restores leg bone microvascular flow to supine levels during head-down tilt. Journal of Applied Physiology, 2015, 119, 101-109.	2.5	15
44	Lower Body Negative Pressure Counters Internal Jugular Vein Engorgement during Simulated Microgravity. FASEB Journal, 2015, 29, 990.9.	0.5	0
45	Lumbar Paraspinal Muscle Atrophy during Long Duration Spaceflight. FASEB Journal, 2015, 29, 990.4.	0.5	0
46	Cerebral Vascular Changes in Space Mice Calvaria. FASEB Journal, 2015, 29, 990.8.	0.5	0
47	Altered Disc Compression in Children With Idiopathic Low Back Pain. Spine, 2014, 39, 243-248.	2.0	14
48	Sexâ€specific responses of bone metabolism and renal stone risk during bed rest. Physiological Reports, 2014, 2, e12119.	1.7	17
49	Upper extremity hemodynamics and sensation with backpack loads. Applied Ergonomics, 2014, 45, 608-612.	3.1	19
50	Postoperative Imaging of Bioabsorbable Anchors in Rotator Cuff Repair. American Journal of Sports Medicine, 2014, 42, 552-557.	4.2	51
51	Body posture and backpack loading: an upright magnetic resonance imaging study of the adult lumbar spine. European Spine Journal, 2014, 23, 1407-1413.	2.2	18
52	WISE-2005: Countermeasures to prevent muscle deconditioning during bed rest in women. Journal of Applied Physiology, 2014, 116, 654-667.	2.5	45
53	Effect of microgravity on the biomechanical properties of lumbar and caudal intervertebral discs in mice. Journal of Biomechanics, 2014, 47, 2983-2988.	2.1	39
54	Accuracy of Water Displacement Hand Volumetry Using an Ethanol and Water Mixture. Aviation, Space, and Environmental Medicine, 2014, 85, 187-190.	0.5	3

#	Article	IF	CITATIONS
55	Intraocular/Intracranial Pressure Mismatch Hypothesis for Visual Impairment Syndrome in Space. Aviation, Space, and Environmental Medicine, 2014, 85, 78-80.	0.5	47
56	Maximizing information from space data resources: a case for expanding integration across research disciplines. European Journal of Applied Physiology, 2013, 113, 1645-1654.	2.5	42
57	Bone hemodynamic responses to changes in external pressure. Bone, 2013, 52, 604-610.	2.9	14
58	Loop Securities of Arthroscopic Sliding-Knot Techniques When the Suture Loop Is Not Evenly Tensioned. Arthroscopy - Journal of Arthroscopic and Related Surgery, 2013, 29, 1380-1386.	2.7	15
59	Fifteen days of microgravity causes growth in calvaria of mice. Bone, 2013, 56, 290-295.	2.9	39
60	Space physiology VI: exercise, artificial gravity, and countermeasure development for prolonged space flight. European Journal of Applied Physiology, 2013, 113, 2183-2192.	2.5	127
61	Movement-Induced Knot Migration After Anterior Stabilization in the Shoulder. Arthroscopy - Journal of Arthroscopic and Related Surgery, 2013, 29, 485-490.	2.7	28
62	Comparison of cardiovascular and biomechanical parameters of supine lower body negative pressure and upright lower body positive pressure to simulate activity in 1/6 G and 3/8 G. Journal of Applied Physiology, 2013, 115, 275-284.	2.5	20
63	Increased microvascular flow and foot sensation with mild continuous external compression. Physiological Reports, 2013, 1, e00157.	1.7	3
64	Effect of Load Carriage on Lumbar Spine Kinematics. Spine, 2013, 38, E783-E791.	2.0	41
65	Anterior-Posterior Transcranial Ultrasound to Measure Cranial Oscillations. Aviation, Space, and Environmental Medicine, 2013, 84, 995-1000.	0.5	2
66	Body position and backpack loading: an upright magnetic resonance imaging study of the adult lumbar spine. FASEB Journal, 2013, 27, lb778.	0.5	0
67	Noninvasive Measurements of Pressure for Detecting Compartment Syndromes. Journal of Orthopedics & Rheumatology, 2013, 1, 5.	0.1	4
68	Leg intramuscular pressures and in vivo knee forces during lower body positive and negative pressure treadmill exercise. Journal of Applied Physiology, 2012, 113, 31-38.	2.5	17
69	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
70	Photoplethysmography for non-invasivein vivomeasurement of bone hemodynamics. Physiological Measurement, 2012, 33, 1027-1042.	2.1	27
71	Modeling Intracranial Pressure in Microgravity during Parabolic Flight. FASEB Journal, 2012, 26, 1085.11.	0.5	0
72	The Headache of High Altitude and Microgravityâ€"Similarities with Clinical Syndromes of Cerebral Venous Hypertension. High Altitude Medicine and Biology, 2011, 12, 379-386.	0.9	65

#	Article	IF	CITATIONS
73	Toe Blood Pressure and Leg Muscle Oxygenation with Body Posture. Aviation, Space, and Environmental Medicine, 2011, 82, 531-534.	0.5	3
74	Bruxism and Temporal Bone Hypermobility in Patients with Multiple Sclerosis. Cranio - Journal of Craniomandibular Practice, 2011, 29, 178-186.	1.4	7
75	Blood Flow and Oxygenation are Modulated by External Pressure during Isometric Muscle Contraction. FASEB Journal, 2011, 25, 1046.2.	0.5	0
76	The Effect of Backpacks on the Lumbar Spine in Children. Spine, 2010, 35, 83-88.	2.0	58
77	Oxygen Consumption During Walking and Running Under Fractional Weight Bearing Conditions. Aviation, Space, and Environmental Medicine, 2010, 81, 550-554.	0.5	22
78	LBNP exercise protects aerobic capacity and sprint speed of female twins during 30 days of bed rest. Journal of Applied Physiology, 2009, 106, 919-928.	2.5	40
79	Cardiovascular adaptations, fluid shifts, and countermeasures related to space flight. Respiratory Physiology and Neurobiology, 2009, 169, S30-S33.	1.6	173
80	Rhythmic contractility in the hepatic portal "corkscrew―vein of the rat snake. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2009, 152, 389-397.	1.8	1
81	Heritability of bone density: Regional and gender differences in monozygotic twins. Journal of Orthopaedic Research, 2009, 27, 150-154.	2.3	23
82	Noninvasive monitoring of elevated intramuscular pressure in a model compartment syndrome via quantitative fascial motion. Journal of Orthopaedic Research, 2009, 27, 489-494.	2.3	21
83	WISE-2005: effect of aerobic and resistive exercises on orthostatic tolerance during 60Âdays bed rest in women. European Journal of Applied Physiology, 2009, 106, 217-227.	2.5	59
84	Depth of penetration of negative pressure wound therapy into underlying tissues. Wound Repair and Regeneration, 2009, 17, 113-117.	3.0	17
85	Comparing two devices of suspended treadmill walking by varying body unloading and Froude number. Gait and Posture, 2009, 30, 446-451.	1.4	48
86	New Noninvasive Ultrasound Technique for Monitoring Perfusion Pressure in a Porcine Model of Acute Compartment Syndrome. Journal of Orthopaedic Trauma, 2009, 23, 186-192.	1.4	24
87	WISE-2005. Medicine and Science in Sports and Exercise, 2009, 41, 2165-2176.	0.4	43
88	Mobility of the Elastic Counterpressure Space Suit Glove. Aviation, Space, and Environmental Medicine, 2009, 80, 890-893.	0.5	9
89	Richard von Volkmann. Clinical Orthopaedics and Related Research, 2008, 466, 500-506.	1.5	17
90	Effects of dynamic and static handgrip exercises on hand and wrist volume. European Journal of Applied Physiology, 2008, 103, 41-45.	2.5	16

#	Article	IF	Citations
91	WISE-2005: Supine treadmill exercise within lower body negative pressure and flywheel resistive exercise as a countermeasure to bed rest-induced bone loss in women during 60-day simulated microgravity. Bone, 2008, 42, 572-581.	2.9	72
92	Inelastic Compression Legging Produces Gradient Compression and Significantly Higher Skin Surface Pressures Compared with an Elastic Compression Stocking. Vascular, 2008, 16, 25-30.	0.9	5
93	Asymmetric Loads and Pain Associated With Backpack Carrying by Children. Journal of Pediatric Orthopaedics, 2008, 28, 512-517.	1.2	40
94	Intramuscular Pressures in Antigravity Muscles Using Gravity-Independent, Pneumatic Hardware. Aviation, Space, and Environmental Medicine, 2008, 79, 749-753.	0.5	2
95	Pathophysiology of Low Back Pain during Exposure to Microgravity. Aviation, Space, and Environmental Medicine, 2008, 79, 365-373.	0.5	64
96	Backpack straps decrease upper extremity blood flow. FASEB Journal, 2008, 22, 957.28.	0.5	0
97	Hypergravity exercise training on a humanâ€powered centrifuge. FASEB Journal, 2008, 22, 752.7.	0.5	0
98	Cardiac atrophy in women following bed rest. Journal of Applied Physiology, 2007, 103, 8-16.	2.5	148
99	Supine LBNP Exercise Maintains Exercise Capacity in Male Twins during 30-d Bed Rest. Medicine and Science in Sports and Exercise, 2007, 39, 1315-1326.	0.4	44
100	Lower body negative pressure treadmill exercise as a countermeasure for bed rest-induced bone loss in female identical twins. Bone, 2007, 40, 529-537.	2.9	75
101	Lower body negative pressure exercise plus brief postexercise lower body negative pressure improve post-bed rest orthostatic tolerance. Journal of Applied Physiology, 2007, 103, 1964-1972.	2.5	51
102	LBNP treadmill exercise maintains spine function and muscle strength in identical twins during 28-day simulated microgravity. Journal of Applied Physiology, 2007, 102, 2274-2278.	2.5	38
103	Genetic Heritability of Urinary Stone Risk in Identical Twins. Journal of Urology, 2006, 175, 2125-2128.	0.4	27
104	Renal Stone Risk in a Simulated Microgravity Environment: Impact of Treadmill Exercise With Lower Body Negative Pressure. Journal of Urology, 2006, 176, 127-131.	0.4	28
105	Paraspinal Muscle Vasculature Contributes to Posterolateral Spinal Fusion. Spine, 2006, 31, 891-896.	2.0	10
106	Noninvasive Measurements of Intramuscular Pressure Using Pulsed Phase-locked Loop Ultrasound for Detecting Compartment Syndromes. Journal of Orthopaedic Trauma, 2006, 20, 458-463.	1.4	45
107	Ambulation in simulated fractional gravity using lower body positive pressure: cardiovascular safety and gait analyses. Journal of Applied Physiology, 2006, 101, 771-777.	2.5	84
108	Tibialis anterior muscle oxygenation during lower body pressure. FASEB Journal, 2006, 20, A805.	0.5	0

#	Article	IF	Citations
109	Mild external compression of the leg increases muscle blood flow and oxygenation. FASEB Journal, 2006, 20, .	0.5	O
110	Lower Body Positive-pressure Exercise after Knee Surgery. Clinical Orthopaedics and Related Research, 2005, 431, 213-219.	1.5	50
111	Use of Tissue Ultrafiltration for Treatment of Compartment Syndrome. Journal of Orthopaedic Trauma, 2005, 19, 267-275.	1.4	35
112	System for determination of ultrasonic wave speeds and their temperature dependence in liquids and in vitro tissues. Journal of the Acoustical Society of America, 2005, 117, 646-652.	1.1	5
113	Space Exercise and Earth Benefits. Current Pharmaceutical Biotechnology, 2005, 6, 305-317.	1.6	21
114	Noninvasive assessment of intracranial pressure waveforms by using pulsed phase lock loop technology. Journal of Neurosurgery, 2005, 103, 361-367.	1.6	17
115	High Contact Pressure Beneath Backpack Straps of Children Contributes to Pain. JAMA Pediatrics, 2005, 159, 1186.	3.0	19
116	Axial loadâ€"dependent cervical spinal alterations during simulated upright posture: a comparison of healthy controls and patients with cervical degenerative disease. Journal of Neurosurgery: Spine, 2005, 2, 137-144.	1.7	22
117	Exercise within lower body negative pressure partially counteracts lumbar spine deconditioning associated with 28-day bed rest. Journal of Applied Physiology, 2005, 99, 39-44.	2.5	83
118	A simple method for measuring interstitial fluid pressure in cancer tissues. Microvascular Research, 2005, 70, 116-120.	2.5	64
119	The ratio of animal protein intake to potassium intake is a predictor of bone resorption in space flight analogues and in ambulatory subjects. American Journal of Clinical Nutrition, 2004, 80, 1058-1065.	4.7	58
120	Ultrasonic device for the noninvasive diagnosis of compartment syndrome. Physiological Measurement, 2004, 25, N1-N9.	2.1	36
121	Intramuscular pressure and EMG relate during static contractions but dissociate with movement and fatigue. Journal of Applied Physiology, 2004, 96, 1522-1529.	2.5	42
122	Ischemic-preconditioning does not prevent neuromuscular dysfunction after ischemia–reperfusion injury. Journal of Orthopaedic Research, 2004, 22, 918-923.	2.3	25
123	Wavelet packet transform for R-R interval variability. Medical Engineering and Physics, 2004, 26, 313-319.	1.7	27
124	Human cutaneous vascular responses to whole-body tilting, Gzcentrifugation, and LBNP. Journal of Applied Physiology, 2004, 96, 2153-2160.	2.5	35
125	Evaluation of Treadmill Exercise in a Lower Body Negative Pressure Chamber as a Countermeasure for Weightlessness-Induced Bone Loss: A Bed Rest Study With Identical Twins. Journal of Bone and Mineral Research, 2003, 18, 2223-2230.	2.8	85
126	Lumbar spine disc heights and curvature: upright posture vs. supine compression harness. Aviation, Space, and Environmental Medicine, 2003, 74, 512-6.	0.5	15

#	Article	IF	CITATIONS
127	Cranial diameter pulsations measured by non-invasive ultrasound decrease with tilt. Aviation, Space, and Environmental Medicine, 2003, 74, 882-5.	0.5	14
128	Lower-body negative-pressure exercise and bed-rest???mediated orthostatic intolerance. Medicine and Science in Sports and Exercise, 2002, 34, 1446-1453.	0.4	35
129	Lumbar Spine Disc Height and Curvature Responses to an Axial Load Generated by a Compression Device Compatible with Magnetic Resonance Imaging. Spine, 2001, 26, 2596-2600.	2.0	111
130	Supine lower body negative pressure exercise simulates metabolic and kinetic features of upright exercise. Journal of Applied Physiology, 2000, 89, 649-654.	2.5	42
131	Supine lower body negative pressure exercise during bed rest maintains upright exercise capacity. Journal of Applied Physiology, 2000, 89, 218-227.	2.5	107
132	Leg intramuscular pressures during locomotion in humans. Journal of Applied Physiology, 1998, 84, 1976-1981.	2.5	64
133	Noninvasive Measurement of Pulsatile Intracranial Pressure Using Ultrasound., 1998, 71, 66-69.		26
134	Upright exercise or supine lower body negative pressure exercise maintains exercise responses after bed rest. Medicine and Science in Sports and Exercise, 1997, 29, 892-900.	0.4	49
135	Near-Infrared Spectroscopy for Monitoring of Tissue Oxygenation of Exercising Skeletal Muscle in a Chronic Compartment Syndrome Model*. Journal of Bone and Joint Surgery - Series A, 1997, 79, 838-43.	3.0	83
136	Intramuscular Deoxygenation during Exercise in Patients Who Have Chronic Anterior Compartment Syndrome of the Leg*. Journal of Bone and Joint Surgery - Series A, 1997, 79, 844-9.	3.0	104
137	Cardiovascular adaptation to spaceflight. Medicine and Science in Sports and Exercise, 1996, 28, 977-982.	0.4	117
138	Acute Cutaneous Microvascular Flow Responses to Whole-Body Tilting in Humans. Microvascular Research, 1993, 46, 351-358.	2.5	12
139	A new ?transducer-tipped? fiber optic catheter for measuring intramuscular pressures. Journal of Orthopaedic Research, 1990, 8, 464-468.	2.3	35
140	Wide tourniquet cuffs more effective at lower inflation pressures. Acta Orthopaedica, 1988, 59, 447-451.	1.4	135
141	Gravitational haemodynamics and oedema prevention in the giraffe. Nature, 1987, 329, 59-60.	27.8	163
142	Fluid shifts in vascular and extravascular spaces during and after simulated weightlessness. Medicine and Science in Sports and Exercise, 1983, 15, 421???427.	0.4	31
143	Normal transcapillary pressures in human skeletal muscle and subcutaneous tissues. Microvascular Research, 1981, 22, 177-189.	2.5	32