

# Oskar C Aszmann

## List of Publications by Year in descending order

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94  
papers

3,745  
citations

147801

31  
h-index

144013

57  
g-index

104  
all docs

104  
docs citations

104  
times ranked

2650  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Extraction of Neural Information from the Surface EMG for the Control of Upper-Limb Prostheses: Emerging Avenues and Challenges. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 797-809.	4.9	725
2	Man/machine interface based on the discharge timings of spinal motor neurons after targeted muscle reinnervation. Nature Biomedical Engineering, 2017, 1, .	22.5	245
3	Prosthetic Myoelectric Control Strategies: A Clinical Perspective. Current Surgery Reports, 2014, 2, 1.	0.9	191
4	Self-Contained Neuromusculoskeletal Arm Prostheses. New England Journal of Medicine, 2020, 382, 1732-1738.	27.0	151
5	Bionic Limbs: Clinical Reality and Academic Promises. Science Translational Medicine, 2014, 6, 257ps12.	12.4	117
6	Bionic reconstruction to restore hand function after brachial plexus injury: a case series of three patients. Lancet, The, 2015, 385, 2183-2189.	13.7	116
7	New developments in prosthetic arm systems. Orthopedic Research and Reviews, 2016, Volume 8, 31-39.	1.1	111
8	Axonal components of nerves innervating the human arm. Annals of Neurology, 2017, 82, 396-408.	5.3	111
9	Toward higher-performance bionic limbs for wider clinical use. Nature Biomedical Engineering, 2023, 7, 473-485.	22.5	104
10	Context-Dependent Upper Limb Prosthesis Control for Natural and Robust Use. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 744-753.	4.9	81
11	Long-term implant of intramuscular sensors and nerve transfers for wireless control of robotic arms in above-elbow amputees. Science Robotics, 2019, 4, .	17.6	81
12	Translating Research on Myoelectric Control into Clinics—Are the Performance Assessment Methods Adequate?. Frontiers in Neurobotics, 2017, 11, 7.	2.8	79
13	Neuralgic amyotrophy: a paradigm shift in diagnosis and treatment. Journal of Neurology, Neurosurgery and Psychiatry, 2020, 91, 879-888.	1.9	66
14	Predicting wrist kinematics from motor unit discharge timings for the control of active prostheses. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 47.	4.6	65
15	Rehabilitation of Upper Extremity Nerve Injuries Using Surface EMG Biofeedback: Protocols for Clinical Application. Frontiers in Neuroscience, 2018, 12, 906.	2.8	62
16	Current rates of prosthetic usage in upper-limb amputees — have innovations had an impact on device acceptance?. Disability and Rehabilitation, 2022, 44, 3708-3713.	1.8	62
17	Decoding Motor Unit Activity From Forearm Muscles: Perspectives for Myoelectric Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 244-251.	4.9	58
18	Functional and Psychosocial Outcomes of Hand Transplantation Compared with Prosthetic Fitting in Below-Elbow Amputees: A Multicenter Cohort Study. PLoS ONE, 2016, 11, e0162507.	2.5	56

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19	Neural feedback strategies to improve grasping coordination in neuromusculoskeletal prostheses. <i>Scientific Reports</i> , 2020, 10, 11793.	3.3	49
20	Peripheral nerve transfers change target muscle structure and function. <i>Science Advances</i> , 2019, 5, eaau2956.	10.3	46
21	Grip control and motor coordination with implanted and surface electrodes while grasping with an osseointegrated prosthetic hand. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2019, 16, 49.	4.6	44
22	Motor Unit Characteristics after Targeted Muscle Reinnervation. <i>PLoS ONE</i> , 2016, 11, e0149772.	2.5	43
23	Game-Based Rehabilitation for Myoelectric Prosthesis Control. <i>JMIR Serious Games</i> , 2017, 5, e3.	3.1	43
24	Noninvasive, Accurate Assessment of the Behavior of Representative Populations of Motor Units in Targeted Reinnervated Muscles. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2014, 22, 810-819.	4.9	42
25	Broadband Prosthetic Interfaces: Combining Nerve Transfers and Implantable Multichannel EMG Technology to Decode Spinal Motor Neuron Activity. <i>Frontiers in Neuroscience</i> , 2017, 11, 421.	2.8	39
26	Counteracting Electrode Shifts in Upper-Limb Prosthesis Control via Transfer Learning. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2019, 27, 956-962.	4.9	39
27	Hand Transplantation Versus Hand Prosthetics: Pros and Cons. <i>Current Surgery Reports</i> , 2016, 4, 8.	0.9	37
28	Clinical Perspectives in Upper Limb Prostheses: An Update. <i>Current Surgery Reports</i> , 2019, 7, 1.	0.9	37
29	PlayBionic: Game-Based Interventions to Encourage Patient Engagement and Performance in Prosthetic Motor Rehabilitation. <i>PM and R</i> , 2018, 10, 1252-1260.	1.6	36
30	Outcomes, Challenges, and Pitfalls after Targeted Muscle Reinnervation in High-Level Amputees: Is It Worth the Effort?. <i>Plastic and Reconstructive Surgery</i> , 2019, 144, 1037e-1043e.	1.4	36
31	Monitoring of plexiform neurofibroma in children and adolescents with neurofibromatosis type 1 by [ <sup>18</sup> F]FDG-PET imaging. Is it of value in asymptomatic patients?. <i>Pediatric Blood and Cancer</i> , 2018, 65, e26733.	1.5	35
32	Elective amputation and bionic substitution restore functional hand use after critical soft tissue injuries. <i>Scientific Reports</i> , 2016, 6, 34960.	3.3	33
33	Algorithm for bionic hand reconstruction in patients with global brachial plexopathies. <i>Journal of Neurosurgery</i> , 2017, 127, 1163-1171.	1.6	32
34	Common Synaptic Input to Motor Neurons and Neural Drive to Targeted Reinnervated Muscles. <i>Journal of Neuroscience</i> , 2017, 37, 11285-11292.	3.6	32
35	Decoding motor neuron activity from epimysial thin-film electrode recordings following targeted muscle reinnervation. <i>Journal of Neural Engineering</i> , 2019, 16, 016010.	3.5	27
36	Diffusion tensor tractography for the surgical management of peripheral nerve sheath tumors. <i>Neurosurgical Focus</i> , 2015, 39, E17.	2.3	25

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37	Automated muscle fiber type population analysis with ImageJ of whole rat muscles using rapid myosin heavy chain immunohistochemistry. <i>Muscle and Nerve</i> , 2016, 54, 292-299.	2.2	25
38	Increasing motivation, effort and performance through game-based rehabilitation for upper limb myoelectric prosthesis control. , 2017, , .		25
39	Sensory recovery after decompression of the distal pudendal nerve: Anatomical review and quantitative neurosensory data of a prospective clinical study. <i>Microsurgery</i> , 2009, 29, 270-274.	1.3	23
40	Simulating Surgical Skills in Animals: Systematic Review, Costs & Acceptance Analyses. <i>Frontiers in Veterinary Science</i> , 2020, 7, 570852.	2.2	23
41	Home-Based Tactile Discrimination Training Reduces Phantom Limb Pain. <i>Pain Practice</i> , 2018, 18, 709-715.	1.9	22
42	A Structured Rehabilitation Protocol for Improved Multifunctional Prosthetic Control: A Case Study. <i>Journal of Visualized Experiments</i> , 2015, , e52968.	0.3	20
43	Bionic hand as artificial organ: Current status and future perspectives. <i>Artificial Organs</i> , 2019, 43, 109-118.	1.9	20
44	In musculus, veritas? Nerve -versus targeted muscle reinnervation versus regenerative peripheral nerve interface: Historical review. <i>Microsurgery</i> , 2020, 40, 516-522.	1.3	19
45	A surface EMG test tool to measure proportional prosthetic control. <i>Biomedizinische Technik</i> , 2015, 60, 207-13.	0.8	18
46	Attachment of upper arm prostheses with a subcutaneous osseointegrated implant in transhumeral amputees. <i>Prosthetics and Orthotics International</i> , 2018, 42, 93-100.	1.0	17
47	Ultrasound Anatomic Demonstration of the Infrapatellar Nerve Branches. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2018, 34, 2874-2883.	2.7	17
48	The Vienna psychosocial assessment procedure for bionic reconstruction in patients with global brachial plexus injuries. <i>PLoS ONE</i> , 2018, 13, e0189592.	2.5	15
49	Bionic reconstruction. <i>Wiener Klinische Wochenschrift</i> , 2019, 131, 599-607.	1.9	15
50	Structured Motor Rehabilitation After Selective Nerve Transfers. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	14
51	Bionic Upper Limb Reconstruction: A Valuable Alternative in Global Brachial Plexus Avulsion Injuries - A Case Series. <i>Journal of Clinical Medicine</i> , 2020, 9, 23.	2.4	14
52	Experimental nerve transfer model in the rat forelimb. <i>European Surgery - Acta Chirurgica Austriaca</i> , 2016, 48, 334-341.	0.7	12
53	Combining two open source tools for neural computation (BioPatRec and Netlab) improves movement classification for prosthetic control. <i>BMC Research Notes</i> , 2016, 9, 429.	1.4	10
54	Prosthetic reconstruction to restore function in transcarpal amputees. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2016, 69, 305-310.	1.0	10

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55	A Rapid Automated Protocol for Muscle Fiber Population Analysis in Rat Muscle Cross Sections Using Myosin Heavy Chain Immunohistochemistry. <i>Journal of Visualized Experiments</i> , 2017, , .	0.3	10
56	Reconstruction of the spinal accessory nerve with selective fascicular nerve transfer of the upper trunk. <i>Journal of Neurosurgery: Spine</i> , 2019, 31, 133-138.	1.7	10
57	MyoBeatz: Using music and rhythm to improve prosthetic control in a mobile game for health. , 2019, , .		10
58	Rehabilitation of high upper limb amputees after Targeted Muscle Reinnervation. <i>Journal of Hand Therapy</i> , 2022, 35, 58-66.	1.5	10
59	Targeted Muscle Reinnervation and Osseointegration for Pain Relief and Prosthetic Arm Control in a Woman with Bilateral Proximal Upper Limb Amputation. <i>World Neurosurgery</i> , 2020, 143, 365-373.	1.3	10
60	Targeted Muscle Reinnervation for Prosthetic Control. <i>Hand Clinics</i> , 2021, 37, 415-424.	1.0	10
61	Experimental Testing of Bionic Peripheral Nerve and Muscle Interfaces: Animal Model Considerations. <i>Frontiers in Neuroscience</i> , 2019, 13, 1442.	2.8	9
62	Cutaneous angiosome of the chimeric SLGA perforator flap: Anatomical study and clinical considerations. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2019, 72, 1142-1149.	1.0	8
63	Surface Electromyographic Biofeedback as a Rehabilitation Tool for Patients with Global Brachial Plexus Injury Receiving Bionic Reconstruction. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	7
64	Selective Denervation of the Facial Dermato-Muscular Complex in the Rat: Experimental Model and Anatomical Basis. <i>Frontiers in Neuroanatomy</i> , 2021, 15, 650761.	1.7	7
65	Prosthetic Embodiment and Body Image Changes in Patients Undergoing Bionic Reconstruction Following Brachial Plexus Injury. <i>Frontiers in Neurobotics</i> , 2021, 15, 645261.	2.8	7
66	Bidirectional bionic limbs: a perspective bridging technology and physiology. <i>Journal of Neural Engineering</i> , 2022, 19, 013001.	3.5	7
67	Advanced Rehabilitation for Amputees after Selective Nerve Transfers: EMG-Guided Training and Testing. <i>Biosystems and Biorobotics</i> , 2014, , 169-177.	0.3	6
68	Nerve grafts bridging the thenar branch of the median nerve to the ulnar nerve to enhance nerve recovery: a report of three cases. <i>Journal of Hand Surgery: European Volume</i> , 2017, 42, 281-285.	1.0	6
69	Proof of concept for multiple nerve transfers to a single target muscle. <i>ELife</i> , 2021, 10, .	6.0	5
70	Birth brachial plexus palsy caused by cervical rib. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2014, 67, 1004-1005.	1.0	4
71	The long-term effects of an implantable drop foot stimulator on gait in hemiparetic patients. <i>PLoS ONE</i> , 2019, 14, e0214991.	2.5	4
72	Feasibility of a Wireless Implantable Multi-electrode System for High-bandwidth Prosthetic Interfacing: Animal and Cadaver Study. <i>Clinical Orthopaedics and Related Research</i> , 2022, 480, 1191-1204.	1.5	4

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73	Multiregion thermal sensitivity mapping of the hand. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2014, 67, 1541-1547.	1.0	3
74	3D Body Image Perception and Pain Visualization Tool for Upper Limb Amputees. , 2019, , .		3
75	MR Imaging of Peripheral Nerves Using Targeted Application of Contrast Agents: An Experimental Proof-of-Concept Study. <i>Frontiers in Medicine</i> , 2020, 7, 613138.	2.6	3
76	Rehabilitation Following Targeted Muscle Reinnervation in Amputees. <i>Biosystems and Biorobotics</i> , 2014, , 775-779.	0.3	3
77	Tensor fasciae latae-tendon transfer for functional reconstruction of the quadriceps muscle after femoral nerve palsy. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2015, 68, 129-131.	1.0	2
78	Successful salvage via re-osseointegration of a loosened implant in a patient with transtibial amputation. <i>Prosthetics and Orthotics International</i> , 2021, 45, 76-80.	1.0	2
79	Experimental nerve transfer model in the neonatal rat. <i>Neural Regeneration Research</i> , 2022, 17, 1088.	3.0	2
80	Morphological Relation of Peripheral Nerve Sheath Tumors and Nerve Fascicles: Prospective Study and Classification. <i>Journal of Clinical Medicine</i> , 2022, 11, 552.	2.4	2
81	Can obstetrical brachial plexus palsy be caused by a cervical rib?. <i>European Surgery - Acta Chirurgica Austriaca</i> , 2014, 46, 118-127.	0.7	1
82	Multiuse of Disposable Microsurgical Instruments as a Cost-Efficient Alternative for Training and Research. <i>Plastic and Reconstructive Surgery - Global Open</i> , 2017, 5, e1320.	0.6	1
83	Modified amino-dextran as carriers of Gd-chelates for retrograde transport and visualization of peripheral nerves by magnetic resonance imaging (MRI). <i>Journal of Inorganic Biochemistry</i> , 2021, 222, 111495.	3.5	1
84	Therapy Interventions for Upper Limb Amputees Undergoing Selective Nerve Transfers. <i>Journal of Visualized Experiments</i> , 2021, , .	0.3	1
85	Actual prosthetic usage in relation to functional outcomes and wearing time in individuals with below-elbow amputation. <i>Prosthetics and Orthotics International</i> , 2022, 46, 408-413.	1.0	1
86	Feasibility Study on Disentangling Muscle Movements in TMR Patients Through a Myokinetic Control Interface for the Control of Artificial Hands. <i>IEEE Robotics and Automation Letters</i> , 2022, 7, 7240-7246.	5.1	1
87	Reply: Outcomes, Challenges, and Pitfalls after Targeted Muscle Reinnervation in High-Level Amputees: Is It Worth the Effort?. <i>Plastic and Reconstructive Surgery</i> , 2020, 145, 1010e-1010e.	1.4	0
88	Inner Amputations of the Upper Extremity. , 2021, , 17-23.		0
89	Avian extremity reconstruction via osseointegrated leg-prosthesis for intuitive embodiment. <i>Scientific Reports</i> , 2021, 11, 12360.	3.3	0
90	Motor Unit Characteristics After Selective Nerve Transfers. , 2021, , 83-91.		0

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91	Implantable Myoelectric Sensors for Prosthetic Control. , 2021, , 137-146.		0
92	Modern Myoprostheses in Electric Burn Injuries of the Upper Extremity. , 2020, , 317-324.		0
93	NIMG-09. DETECTION OF ASYMPTOMATIC MALIGNANT LESIONS BY [18F]FDG PET/MRI IN CHILDREN AND ADOLESCENTS WITH NEUROFIBROMATOSIS TYPE 1. Neuro-Oncology, 2021, 23, vi129-vi129.	1.2	0
94	Case Report: Bionic Reconstruction in an Adult With Obstetric Brachial Plexus Injury. Frontiers in Rehabilitation Sciences, 2022, 2, .	1.2	0