

# Gerwin Schalk

## List of Publications by Year in descending order

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144  
papers

17,823  
citations

28272

55  
h-index

15730

125  
g-index

164  
all docs

164  
docs citations

164  
times ranked

10077  
citing authors

#	ARTICLE	IF	CITATIONS
1	A neural population selective for song in human auditory cortex. <i>Current Biology</i> , 2022, 32, 1470-1484.e12.	3.9	45
2	Within-subject reaction time variability: Role of cortical networks and underlying neurophysiological mechanisms. <i>NeuroImage</i> , 2021, 237, 118127.	4.2	18
3	Modulation in cortical excitability disrupts information transfer in perceptual-level stimulus processing.. <i>NeuroImage</i> , 2021, 243, 118498.	4.2	6
4	Dynamics of Oddball Sound Processing: Trial-by-Trial Modeling of ECoG Signals. <i>Frontiers in Human Neuroscience</i> , 2021, 15, 794654.	2.0	2
5	iEEGview: an open-source multifunction GUI-based Matlab toolbox for localization and visualization of human intracranial electrodes. <i>Journal of Neural Engineering</i> , 2020, 17, 016016.	3.5	27
6	Individual Word Classification During Imagined Speech Using Intracranial Recordings. <i>Springer Briefs in Electrical and Computer Engineering</i> , 2019, , 83-91.	0.5	3
7	Workshops of the seventh international brain-computer interface meeting: not getting lost in translation. <i>Brain-Computer Interfaces</i> , 2019, 6, 71-101.	1.8	8
8	A quantitative method for evaluating cortical responses to electrical stimulation. <i>Journal of Neuroscience Methods</i> , 2019, 311, 67-75.	2.5	41
9	Electrical Stimulation Mapping of the Brain: Basic Principles and Emerging Alternatives. <i>Journal of Clinical Neurophysiology</i> , 2018, 35, 86-97.	1.7	88
10	Real-time detection and discrimination of visual perception using electrocorticographic signals. <i>Journal of Neural Engineering</i> , 2018, 15, 036001.	3.5	22
11	SEEGview: A Toolbox for Localization and Visualization of Stereo-Electroencephalography (SEEG) Electrodes. , 2018, , .		1
12	Temporal Pattern Localization using Mixed Integer Linear Programming. , 2018, , .		0
13	Passive functional mapping of receptive language areas using electrocorticographic signals. <i>Clinical Neurophysiology</i> , 2018, 129, 2517-2524.	1.5	21
14	Encoding of Multiple Reward-Related Computations in Transient and Sustained High-Frequency Activity in Human OFC. <i>Current Biology</i> , 2018, 28, 2889-2899.e3.	3.9	56
15	Noninvasive Brain-Computer Interfaces. , 2018, , 357-377.		3
16	Optimal referencing for stereo-electroencephalographic (SEEG) recordings. <i>NeuroImage</i> , 2018, 183, 327-335.	4.2	95
17	ECoG-Based BCIs. , 2018, , 297-322.		6
18	BCI Software. , 2018, , 323-340.		2

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19	Perspectives on Brain-Computer Interfaces. , 2018, , 721-724.		0
20	An ECoG-Based BCI Based on Auditory Attention to Natural Speech. Springer Briefs in Electrical and Computer Engineering, 2017, , 7-19.	0.5	1
21	Towards Continuous Speech Recognition for BCI. Springer Briefs in Electrical and Computer Engineering, 2017, , 21-29.	0.5	8
22	Instantaneous voltage as an alternative to power- and phase-based interpretation of oscillatory brain activity. NeuroImage, 2017, 157, 545-554.	4.2	22
23	Spatiotemporal dynamics of word retrieval in speech production revealed by cortical high-frequency band activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E4530-E4538.	7.1	53
24	Contralesional Brain-Computer Interface Control of a Powered Exoskeleton for Motor Recovery in Chronic Stroke Survivors. Stroke, 2017, 48, 1908-1915.	2.0	151
25	Facephenes and rainbows: Causal evidence for functional and anatomical specificity of face and color processing in the human brain. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12285-12290.	7.1	95
26	Spontaneous Decoding of the Timing and Content of Human Object Perception from Cortical Surface Recordings Reveals Complementary Information in the Event-Related Potential and Broadband Spectral Change. PLoS Computational Biology, 2016, 12, e1004660.	3.2	74
27	Robust signal identification for dynamic pattern classification. , 2016, , .		1
28	Alpha power indexes task-related networks on large and small scales: A multimodal ECoG study in humans and a non-human primate. NeuroImage, 2016, 134, 122-131.	4.2	77
29	Electrocorticographic mapping of expressive language function without requiring the patient to speak: A report of three cases. Epilepsy & Behavior Case Reports, 2016, 6, 13-18.	1.5	6
30	Decoding details of human functions using electrocorticography. , 2016, , .		0
31	Differential roles of high gamma and local motor potentials for movement preparation and execution. Brain-Computer Interfaces, 2016, 3, 88-102.	1.8	28
32	Neural correlate of the construction of sentence meaning. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6256-E6262.	7.1	151
33	A method to establish the spatiotemporal evolution of task-related cortical activity from electrocorticographic signals in single trials. Journal of Neuroscience Methods, 2016, 271, 76-85.	2.5	21
34	Word pair classification during imagined speech using direct brain recordings. Scientific Reports, 2016, 6, 25803.	3.3	113
35	Intraoperative mapping of expressive language cortex using passive real-time electrocorticography. Epilepsy & Behavior Case Reports, 2016, 5, 46-51.	1.5	28
36	Oscillatory phase modulates the timing of neuronal activations and resulting behavior. NeuroImage, 2016, 133, 294-301.	4.2	30

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37	Spatio-Temporal Progression of Cortical Activity Related to Continuous Overt and Covert Speech Production in a Reading Task. PLoS ONE, 2016, 11, e0166872.	2.5	54
38	The effects of spatial filtering and artifacts on electrocorticographic signals. Journal of Neural Engineering, 2015, 12, 056008.	3.5	50
39	Electrocorticographic representations of segmental features in continuous speech. Frontiers in Human Neuroscience, 2015, 09, 97.	2.0	72
40	A general framework for dynamic cortical function: the function-through-biased-oscillations (FBO) hypothesis. Frontiers in Human Neuroscience, 2015, 9, 352.	2.0	41
41	Cortical alpha activity predicts the confidence in an impending action. Frontiers in Neuroscience, 2015, 9, 243.	2.8	12
42	The Plurality of Human Brainâ€“Computer Interfacing [Scanning the Issue]. Proceedings of the IEEE, 2015, 103, 868-870.	21.3	3
43	Near-Instantaneous Classification of Perceptual States from Cortical Surface Recordings. Springer Briefs in Electrical and Computer Engineering, 2015, , 105-114.	0.5	0
44	Identifying the attended speaker using electrocorticographic (ECoG) signals. Brain-Computer Interfaces, 2015, 2, 161-173.	1.8	25
45	NeuralAct: A Tool to Visualize Electrocortical (ECoG) Activity on a Three-Dimensional Model of the Cortex. Neuroinformatics, 2015, 13, 167-174.	2.8	51
46	Brain-to-text: decoding spoken phrases from phone representations in the brain. Frontiers in Neuroscience, 2015, 9, 217.	2.8	195
47	Towards an Auditory Attention BCI. Springer Briefs in Electrical and Computer Engineering, 2015, , 29-42.	0.5	0
48	Assessing dynamics, spatial scale, and uncertainty in task-related brain network analyses. Frontiers in Computational Neuroscience, 2014, 8, 31.	2.1	9
49	ECoG high gamma activity reveals distinct cortical representations of lyrics passages, harmonic and timbre-related changes in a rock song. Frontiers in Human Neuroscience, 2014, 8, 798.	2.0	28
50	Non-supervised technique to adapt spatial filters for ECoG data analysis. , 2014, , .		1
51	Simultaneous real-time monitoring of multiple cortical systems. Journal of Neural Engineering, 2014, 11, 056001.	3.5	3
52	Real-time functional mapping: potential tool for improving language outcome in pediatric epilepsy surgery. Journal of Neurosurgery: Pediatrics, 2014, 14, 287-295.	1.3	26
53	Localizing ECoG electrodes on the cortical anatomy without post-implantation imaging. NeuroImage: Clinical, 2014, 6, 64-76.	2.7	17
54	Coupled Hidden Markov Model for Electrocorticographic Signal Classification. , 2014, , .		6

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55	Real-Time Functional Mapping With Electrocorticography in Pediatric Epilepsy. <i>Clinical EEG and Neuroscience</i> , 2014, 45, 205-211.	1.7	27
56	A general method for assessing brain-computer interface performance and its limitations. <i>Journal of Neural Engineering</i> , 2014, 11, 026018.	3.5	16
57	P18: Functional mapping of expressive language area with ECoG and ECS. <i>Clinical Neurophysiology</i> , 2014, 125, S52-S53.	1.5	0
58	Spatial and temporal relationships of electrocorticographic alpha and gamma activity during auditory processing. <i>NeuroImage</i> , 2014, 97, 188-195.	4.2	74
59	Decoding spectrotemporal features of overt and covert speech from the human cortex. <i>Frontiers in Neuroengineering</i> , 2014, 7, 14.	4.8	144
60	Toward gaze-independent brain-computer interfaces. <i>Clinical Neurophysiology</i> , 2013, 124, 831-833.	1.5	1
61	A low-frequency oscillatory neural signal in humans encodes a developing decision variable. <i>NeuroImage</i> , 2013, 83, 795-808.	4.2	15
62	cortiQ - Clinical software for electrocorticographic real-time functional mapping of the eloquent cortex. , 2013, 2013, 6365-8.		18
63	Real-Time Software for Functional Mapping of Eloquent Cortex Using Electrocorticography. <i>Biomedizinische Technik</i> , 2013, 58 Suppl 1, .	0.8	2
64	The Tracking of Speech Envelope in the Human Cortex. <i>PLoS ONE</i> , 2013, 8, e53398.	2.5	109
65	BCI Hardware and Software. , 2012, , 165-188.		8
66	BCIs That Use Electrocorticographic Activity. , 2012, , 252-264.		2
67	Silent Communication: Toward Using Brain Signals. <i>IEEE Pulse</i> , 2012, 3, 43-46.	0.3	28
68	Recording Human Electrocorticographic (ECoG) Signals for Neuroscientific Research and Real-time Functional Cortical Mapping. <i>Journal of Visualized Experiments</i> , 2012, , .	0.3	80
69	Decoding covert spatial attention using electrocorticographic (ECoG) signals in humans. <i>NeuroImage</i> , 2012, 60, 2285-2293.	4.2	49
70	Dynamics of electrocorticographic (ECoG) activity in human temporal and frontal cortical areas during music listening. <i>NeuroImage</i> , 2012, 61, 841-848.	4.2	45
71	Communication and Control by Listening: Toward Optimal Design of a Two-Class Auditory Streaming Brain-Computer Interface. <i>Frontiers in Neuroscience</i> , 2012, 6, 181.	2.8	14
72	Electrocorticographic (ECoG) correlates of human arm movements. <i>Experimental Brain Research</i> , 2012, 223, 1-10.	1.5	41

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73	Decoding onset and direction of movements using Electrocorticographic (ECoG) signals in humans. <i>Frontiers in Neuroengineering</i> , 2012, 5, 15.	4.8	53
74	Temporal evolution of gamma activity in human cortex during an overt and covert word repetition task. <i>Frontiers in Human Neuroscience</i> , 2012, 6, 99.	2.0	63
75	Review of the BCI Competition IV. <i>Frontiers in Neuroscience</i> , 2012, 6, 55.	2.8	686
76	BCI Software Platforms. <i>Biological and Medical Physics Series</i> , 2012, , 303-331.	0.4	30
77	Current trends in hardware and software for brain-computer interfaces (BCIs). <i>Journal of Neural Engineering</i> , 2011, 8, 025001.	3.5	91
78	Rapid Communication with a 300-Matrix Speller Using Electrographic Signals (ECoG). <i>Frontiers in Neuroscience</i> , 2011, 5, 5.	2.8	105
79	Spatiotemporal dynamics of electrocorticographic high gamma activity during overt and covert word repetition. <i>NeuroImage</i> , 2011, 54, 2960-2972.	4.2	170
80	Nonuniform High-Gamma (60-500 Hz) Power Changes Dissociate Cognitive Task and Anatomy in Human Cortex. <i>Journal of Neuroscience</i> , 2011, 31, 2091-2100.	3.6	83
81	Brain-Computer Interfaces Using Electrographic Signals. <i>IEEE Reviews in Biomedical Engineering</i> , 2011, 4, 140-154.	18.0	329
82	Toward a gaze-independent matrix speller brain-computer interface. <i>Clinical Neurophysiology</i> , 2011, 122, 1063-1064.	1.5	4
83	Decoding vowels and consonants in spoken and imagined words using electrocorticographic signals in humans. <i>Journal of Neural Engineering</i> , 2011, 8, 046028.	3.5	173
84	Neural Correlates of Visual Spatial Attention in Electrographic Signals in Humans. <i>Frontiers in Human Neuroscience</i> , 2011, 5, 89.	2.0	48
85	Prior Knowledge Improves Decoding of Finger Flexion from Electrographic Signals. <i>Frontiers in Neuroscience</i> , 2011, 5, 127.	2.8	24
86	Defense-related insights and solutions from neuroscience and neuroengineering. , 2011, , .		1
87	Using the electrocorticographic speech network to control a brain-computer interface in humans. <i>Journal of Neural Engineering</i> , 2011, 8, 036004.	3.5	137
88	Electrographic Frequency Alteration Mapping for Extraoperative Localization of Speech Cortex. <i>Neurosurgery</i> , 2010, 66, E407-E409.	1.1	50
89	A Procedure for Measuring Latencies in Brain-Computer Interfaces. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 1785-1797.	4.2	33
90	Brain-computer interfacing based on cognitive control. <i>Annals of Neurology</i> , 2010, 67, 809-816.	5.3	88

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91	Can Electrocorticography (ECoG) Support Robust and Powerful Brain-Computer Interfaces?. Frontiers in Neuroengineering, 2010, 3, 9.	4.8	57
92	Does the "P300"™ speller depend on eye gaze?. Journal of Neural Engineering, 2010, 7, 056013.	3.5	255
93	Cortical activity during motor execution, motor imagery, and imagery-based online feedback. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4430-4435.	7.1	474
94	Decoding Finger Flexion from Electrocorticographic Signals Using a Sparse Gaussian Process. , 2010, , .		9
95	Passive real-time identification of speech and motor cortex during an awake craniotomy. Epilepsy and Behavior, 2010, 18, 123-128.	1.7	55
96	Current Trends in Brain-Computer Interface (BCI) Research and Development. International Journal of Human-Computer Interaction, 2010, 27, 1-4.	4.8	8
97	A Practical Guide to Brain-Computer Interfacing with BCI2000. , 2010, , .		142
98	Brain-Computer Interfaces. , 2010, , 3-8.		1
99	Brain Sensors and Signals. , 2010, , 9-35.		10
100	User Tutorials. , 2010, , 59-81.		1
101	Introducing BCI2000. , 2010, , 37-46.		0
102	Detection of spontaneous class-specific visual stimuli with high temporal accuracy in human electrocorticography. , 2009, 2009, 6465-8.		4
103	Decoding flexion of individual fingers using electrocorticographic signals in humans. Journal of Neural Engineering, 2009, 6, 066001.	3.5	247
104	Effective brain-computer interfacing using BCI2000. , 2009, 2009, 5498-501.		6
105	A practical procedure for real-time functional mapping of eloquent cortex using electrocorticographic signals in humans. Epilepsy and Behavior, 2009, 15, 278-286.	1.7	140
106	Sensor Modalities for Brain-Computer Interfacing. Lecture Notes in Computer Science, 2009, , 616-622.	1.3	7
107	Evolution of brain-computer interfaces: going beyond classic motor physiology. Neurosurgical Focus, 2009, 27, E4.	2.3	96
108	Using an EEG-Based Brain-Computer Interface for Virtual Cursor Movement with BCI2000. Journal of Visualized Experiments, 2009, , .	0.3	28

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109	Using BCI2000 in BCI Research. The Frontiers Collection, 2009, , 259-279.	0.2	2
110	Brain-Computer Interaction. Lecture Notes in Computer Science, 2009, , 719-723.	1.3	0
111	Brain-computer interfaces (BCIs): Detection instead of classification. Journal of Neuroscience Methods, 2008, 167, 51-62.	2.5	94
112	Two-dimensional movement control using electrocorticographic signals in humans. Journal of Neural Engineering, 2008, 5, 75-84.	3.5	442
113	Advanced Neurotechnologies for Chronic Neural Interfaces: New Horizons and Clinical Opportunities. Journal of Neuroscience, 2008, 28, 11830-11838.	3.6	256
114	Non-invasive brain-computer interface system: Towards its application as assistive technology. Brain Research Bulletin, 2008, 75, 796-803.	3.0	250
115	Real-time detection of event-related brain activity. NeuroImage, 2008, 43, 245-249.	4.2	85
116	Towards an independent brain-computer interface using steady state visual evoked potentials. Clinical Neurophysiology, 2008, 119, 399-408.	1.5	294
117	Unique Cortical Physiology Associated With Ipsilateral Hand Movements and Neuroprosthetic Implications. Stroke, 2008, 39, 3351-3359.	2.0	67
118	Brain-computer symbiosis. Journal of Neural Engineering, 2008, 5, P1-P15.	3.5	58
119	Three cases of feature correlation in an electrocorticographic BCI. , 2008, 2008, 5318-21.		5
120	Non-Invasive Brain-Computer Interface System to Operate Assistive Devices. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2532-5.	0.5	3
121	Electrocorticographic Frequency Alteration Mapping: A Clinical Technique for Mapping the Motor Cortex. Operative Neurosurgery, 2007, 60, ONS-260-ONS-271.	0.8	76
122	An MEG-based brain-computer interface (BCI). NeuroImage, 2007, 36, 581-593.	4.2	360
123	Spectral Changes in Cortical Surface Potentials during Motor Movement. Journal of Neuroscience, 2007, 27, 2424-2432.	3.6	654
124	Decoding two-dimensional movement trajectories using electrocorticographic signals in humans. Journal of Neural Engineering, 2007, 4, 264-275.	3.5	456
125	A $\mu$ -Rhythm Matched Filter for Continuous Control of a Brain-Computer Interface. IEEE Transactions on Biomedical Engineering, 2007, 54, 273-280.	4.2	61
126	The Emerging World Of Motor Neuroprosthetics: a Neurosurgical Perspective. Neurosurgery, 2006, 59, 1-14.	1.1	135



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127	Electrocorticography-based brain computer Interface-the seattle experience. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 194-198.	4.9	212
128	ECoG factors underlying multimodal control of a brain-computer interface. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 246-250.	4.9	198
129	The wadsworth BCI research and development program: at home with BCI. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 229-233.	4.9	294
130	BCI meeting 2005-workshop on technology: hardware and software. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 128-131.	4.9	14
131	The BCI competition III: validating alternative approaches to actual BCI problems. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 153-159.	4.9	832
132	Long-term spinal reflex studies in awake behaving mice. Journal of Neuroscience Methods, 2005, 149, 134-143.	2.5	12
133	The Interaction of a New Motor Skill and an Old One: H-Reflex Conditioning and Locomotion in Rats. Journal of Neuroscience, 2005, 25, 6898-6906.	3.6	59
134	Patients with ALS can use sensorimotor rhythms to operate a brain-computer interface. Neurology, 2005, 64, 1775-1777.	1.1	530
135	The BCI Competition 2003: Progress and Perspectives in Detection and Discrimination of EEG Single Trials. IEEE Transactions on Biomedical Engineering, 2004, 51, 1044-1051.	4.2	535
136	BCI2000: A General-Purpose Brain-Computer Interface (BCI) System. IEEE Transactions on Biomedical Engineering, 2004, 51, 1034-1043.	4.2	2,248
137	A brain-computer interface using electrocorticographic signals in humans. Journal of Neural Engineering, 2004, 1, 63-71.	3.5	1,066
138	The Wadsworth Center brain-computer interface (BCI) research and development program. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2003, 11, 1-4.	4.9	182
139	Temporal transformation of multiunit activity improves identification of single motor units. Journal of Neuroscience Methods, 2002, 114, 87-98.	2.5	3
140	EEG-based communication: presence of an error potential. Clinical Neurophysiology, 2000, 111, 2138-2144.	1.5	219
141	Brain-computer interface technology: a review of the first international meeting. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 2000, 8, 164-173.	1.4	1,703
142	Tracking of the Mu Rhythm using an Empirically Derived Matched Filter. , 0, , .		4
143	Neural Responses to Speech-Specific Modulations Derived from a Spectro-Temporal Filter Bank. , 0, , .		1
144	Continuous speech recognition from ECoG. , 0, , .		4