

Edward F Chang

List of Publications by Year in descending order

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Version: 2024-02-01

116
papers

15,437
citations

28190

55
h-index

27345

106
g-index

126
all docs

126
docs citations

126
times ranked

12743
citing authors

#	ARTICLE	IF	CITATIONS
1	Role of Extent of Resection in the Long-Term Outcome of Low-Grade Hemispheric Gliomas. <i>Journal of Clinical Oncology</i> , 2008, 26, 1338-1345.	0.8	1,160
2	Human hippocampal neurogenesis drops sharply in children to undetectable levels in adults. <i>Nature</i> , 2018, 555, 377-381.	13.7	1,074
3	Selective cortical representation of attended speaker in multi-talker speech perception. <i>Nature</i> , 2012, 485, 233-236.	13.7	768
4	Phonetic Feature Encoding in Human Superior Temporal Gyrus. <i>Science</i> , 2014, 343, 1006-1010.	6.0	748
5	Functional organization of human sensorimotor cortex for speech articulation. <i>Nature</i> , 2013, 495, 327-332.	13.7	544
6	Speech synthesis from neural decoding of spoken sentences. <i>Nature</i> , 2019, 568, 493-498.	13.7	518
7	Reconstructing Speech from Human Auditory Cortex. <i>PLoS Biology</i> , 2012, 10, e1001251.	2.6	486
8	Categorical speech representation in human superior temporal gyrus. <i>Nature Neuroscience</i> , 2010, 13, 1428-1432.	7.1	484
9	Environmental Noise Retards Auditory Cortical Development. <i>Science</i> , 2003, 300, 498-502.	6.0	481
10	Seizure characteristics and control following resection in 332 patients with low-grade gliomas. <i>Journal of Neurosurgery</i> , 2008, 108, 227-235.	0.9	452
11	Vagus nerve stimulation for epilepsy: a meta-analysis of efficacy and predictors of response. <i>Journal of Neurosurgery</i> , 2011, 115, 1248-1255.	0.9	387
12	Intraoperative subcortical stimulation mapping for hemispheric perirolandic gliomas located within or adjacent to the descending motor pathways: evaluation of morbidity and assessment of functional outcome in 294 patients. <i>Journal of Neurosurgery</i> , 2004, 100, 369-375.	0.9	327
13	Critical Period Window for Spectral Tuning Defined in the Primary Auditory Cortex (A1) in the Rat. <i>Journal of Neuroscience</i> , 2007, 27, 180-189.	1.7	326
14	Contemporary model of language organization: an overview for neurosurgeons. <i>Journal of Neurosurgery</i> , 2015, 122, 250-261.	0.9	314
15	Functional mapping-guided resection of low-grade gliomas in eloquent areas of the brain: improvement of long-term survival. <i>Journal of Neurosurgery</i> , 2011, 114, 566-573.	0.9	253
16	Temporal plasticity in the primary auditory cortex induced by operant perceptual learning. <i>Nature Neuroscience</i> , 2004, 7, 974-981.	7.1	241
17	Preoperative prognostic classification system for hemispheric low-grade gliomas in adults. <i>Journal of Neurosurgery</i> , 2008, 109, 817-824.	0.9	226
18	Predictors of seizure freedom after resection of supratentorial low-grade gliomas. <i>Journal of Neurosurgery</i> , 2011, 115, 240-244.	0.9	215

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19	The Encoding of Speech Sounds in the Superior Temporal Gyrus. <i>Neuron</i> , 2019, 102, 1096-1110.	3.8	211
20	Neuroprosthesis for Decoding Speech in a Paralyzed Person with Anarthria. <i>New England Journal of Medicine</i> , 2021, 385, 217-227.	13.9	209
21	Extent of Surgical Resection Predicts Seizure Freedom in Low-Grade Temporal Lobe Brain Tumors. <i>Neurosurgery</i> , 2012, 70, 921-928.	0.6	206
22	Rates and Predictors of Seizure Freedom With Vagus Nerve Stimulation for Intractable Epilepsy. <i>Neurosurgery</i> , 2016, 79, 345-353.	0.6	200
23	Volumetric extent of resection and residual contrast enhancement on initial surgery as predictors of outcome in adult patients with hemispheric anaplastic astrocytoma. <i>Journal of Neurosurgery</i> , 2006, 105, 34-40.	0.9	196
24	Machine translation of cortical activity to text with an encoder–decoder framework. <i>Nature Neuroscience</i> , 2020, 23, 575-582.	7.1	189
25	Single-Trial Speech Suppression of Auditory Cortex Activity in Humans. <i>Journal of Neuroscience</i> , 2010, 30, 16643-16650.	1.7	180
26	Mood variations decoded from multi-site intracranial human brain activity. <i>Nature Biotechnology</i> , 2018, 36, 954-961.	9.4	164
27	Rates and predictors of long-term seizure freedom after frontal lobe epilepsy surgery: a systematic review and meta-analysis. <i>Journal of Neurosurgery</i> , 2012, 116, 1042-1048.	0.9	163
28	Rates and predictors of seizure freedom in resective epilepsy surgery: an update. <i>Neurosurgical Review</i> , 2014, 37, 389-405.	1.2	158
29	A Spatial Map of Onset and Sustained Responses to Speech in the Human Superior Temporal Gyrus. <i>Current Biology</i> , 2018, 28, 1860-1871.e4.	1.8	156
30	Epilepsy and brain tumors. <i>Handbook of Clinical Neurology</i> / Edited By P J Vinken and G W Bruyn, 2016, 134, 267-285.	1.0	151
31	Development of spectral and temporal response selectivity in the auditory cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 16460-16465.	3.3	145
32	The Control of Vocal Pitch in Human Laryngeal Motor Cortex. <i>Cell</i> , 2018, 174, 21-31.e9.	13.5	144
33	Real-time decoding of question-and-answer speech dialogue using human cortical activity. <i>Nature Communications</i> , 2019, 10, 3096.	5.8	144
34	Encoding of Articulatory Kinematic Trajectories in Human Speech Sensorimotor Cortex. <i>Neuron</i> , 2018, 98, 1042-1054.e4.	3.8	141
35	Human Superior Temporal Gyrus Organization of Spectrotemporal Modulation Tuning Derived from Speech Stimuli. <i>Journal of Neuroscience</i> , 2016, 36, 2014-2026.	1.7	138
36	Towards Large-Scale, Human-Based, Mesoscopic Neurotechnologies. <i>Neuron</i> , 2015, 86, 68-78.	3.8	129

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37	The auditory representation of speech sounds in human motor cortex. <i>ELife</i> , 2016, 5, .	2.8	129
38	Perceptual restoration of masked speech in human cortex. <i>Nature Communications</i> , 2016, 7, 13619.	5.8	122
39	Seizures in supratentorial meningioma: a systematic review and meta-analysis. <i>Journal of Neurosurgery</i> , 2016, 124, 1552-1561.	0.9	113
40	Parallel and distributed encoding of speech across human auditory cortex. <i>Cell</i> , 2021, 184, 4626-4639.e13.	13.5	103
41	Seizure control outcomes after resection of dysembryoplastic neuroepithelial tumor in 50 patients. <i>Journal of Neurosurgery: Pediatrics</i> , 2010, 5, 123-130.	0.8	99
42	A speech envelope landmark for syllable encoding in human superior temporal gyrus. <i>Science Advances</i> , 2019, 5, eaay6279.	4.7	99
43	Does Adult Neurogenesis Persist in the Human Hippocampus?. <i>Cell Stem Cell</i> , 2018, 23, 780-781.	5.2	95
44	Immature excitatory neurons develop during adolescence in the human amygdala. <i>Nature Communications</i> , 2019, 10, 2748.	5.8	95
45	Semi-automated Anatomical Labeling and Inter-subject Warping of High-Density Intracranial Recording Electrodes in Electrocorticography. <i>Frontiers in Neuroinformatics</i> , 2017, 11, 62.	1.3	94
46	Progressive Degradation and Subsequent Refinement of Acoustic Representations in the Adult Auditory Cortex. <i>Journal of Neuroscience</i> , 2003, 23, 10765-10775.	1.7	92
47	SEIZURE CHARACTERISTICS AND CONTROL AFTER MICROSURGICAL RESECTION OF SUPRATENTORIAL CEREBRAL CAVERNOUS MALFORMATIONS. <i>Neurosurgery</i> , 2009, 65, 31-38.	0.6	92
48	The cortical computations underlying feedback control in vocal production. <i>Current Opinion in Neurobiology</i> , 2015, 33, 174-181.	2.0	90
49	Dynamic speech representations in the human temporal lobe. <i>Trends in Cognitive Sciences</i> , 2014, 18, 472-479.	4.0	82
50	Transient aphasias after left hemisphere resective surgery. <i>Journal of Neurosurgery</i> , 2015, 123, 581-593.	0.9	79
51	Multiinstitutional validation of the University of California at San Francisco Low-Grade Glioma Prognostic Scoring System. <i>Journal of Neurosurgery</i> , 2009, 111, 203-210.	0.9	78
52	Real-world experience with direct brain-responsive neurostimulation for focal onset seizures. <i>Epilepsia</i> , 2020, 61, 1749-1757.	2.6	77
53	Neural speech recognition: continuous phoneme decoding using spatiotemporal representations of human cortical activity. <i>Journal of Neural Engineering</i> , 2016, 13, 056004.	1.8	74
54	Stereotactic probability and variability of speech arrest and anomia sites during stimulation mapping of the language dominant hemisphere. <i>Journal of Neurosurgery</i> , 2017, 126, 114-121.	0.9	68

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55	Dynamic Encoding of Speech Sequence Probability in Human Temporal Cortex. <i>Journal of Neuroscience</i> , 2015, 35, 7203-7214.	1.7	65
56	Minimally invasive surgical approaches for temporal lobe epilepsy. <i>Epilepsy and Behavior</i> , 2015, 47, 24-33.	0.9	62
57	Homotopic organization of essential language sites in right and bilateral cerebral hemispheric dominance. <i>Journal of Neurosurgery</i> , 2011, 114, 893-902.	0.9	60
58	Seizure outcomes in nonresective epilepsy surgery: an update. <i>Neurosurgical Review</i> , 2017, 40, 181-194.	1.2	58
59	Relationship between hospital surgical volume, lobectomy rates, and adverse perioperative events at US epilepsy centers. <i>Journal of Neurosurgery</i> , 2013, 118, 169-174.	0.9	57
60	Spatial resolution dependence on spectral frequency in human speech cortex electrocorticography. <i>Journal of Neural Engineering</i> , 2016, 13, 056013.	1.8	55
61	A probabilistic map of the human ventral sensorimotor cortex using electrical stimulation. <i>Journal of Neurosurgery</i> , 2015, 123, 340-349.	0.9	53
62	Human Sensorimotor Cortex Control of Directly Measured Vocal Tract Movements during Vowel Production. <i>Journal of Neuroscience</i> , 2018, 38, 2955-2966.	1.7	51
63	Efficacy of vagus nerve stimulation in posttraumatic versus nontraumatic epilepsy. <i>Journal of Neurosurgery</i> , 2012, 117, 970-977.	0.9	49
64	Factors Associated With Failed Focal Neocortical Epilepsy Surgery. <i>Neurosurgery</i> , 2014, 75, 648-656.	0.6	49
65	Speech map in the human ventral sensory-motor cortex. <i>Current Opinion in Neurobiology</i> , 2014, 24, 63-67.	2.0	49
66	A Modular Approach to Vocal Learning: Disentangling the Diversity of a Complex Behavioral Trait. <i>Neuron</i> , 2019, 104, 87-99.	3.8	47
67	Neurosurgical Patients as Human Research Subjects: Ethical Considerations in Intracranial Electrophysiology Research. <i>Neurosurgery</i> , 2018, 83, 29-37.	0.6	45
68	Characteristics and Treatment of Seizures in Patients with High-Grade Glioma: A Review. <i>Neurosurgery Clinics of North America</i> , 2012, 23, 227-235.	0.8	44
69	Speech Computations of the Human Superior Temporal Gyrus. <i>Annual Review of Psychology</i> , 2022, 73, 79-102.	9.9	44
70	Deep learning as a tool for neural data analysis: Speech classification and cross-frequency coupling in human sensorimotor cortex. <i>PLoS Computational Biology</i> , 2019, 15, e1007091.	1.5	43
71	Dynamic network modeling and dimensionality reduction for human ECoG activity. <i>Journal of Neural Engineering</i> , 2019, 16, 056014.	1.8	43
72	New Developments in Understanding the Complexity of Human Speech Production. <i>Journal of Neuroscience</i> , 2016, 36, 11440-11448.	1.7	42

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73	Control of Spoken Vowel Acoustics and the Influence of Phonetic Context in Human Speech Sensorimotor Cortex. <i>Journal of Neuroscience</i> , 2014, 34, 12662-12677.	1.7	41
74	Speaker-normalized sound representations in the human auditory cortex. <i>Nature Communications</i> , 2019, 10, 2465.	5.8	41
75	Chronic ambulatory electrocorticography from human speech cortex. <i>NeuroImage</i> , 2017, 153, 273-282.	2.1	40
76	High-Resolution, Non-Invasive Imaging of Upper Vocal Tract Articulators Compatible with Human Brain Recordings. <i>PLoS ONE</i> , 2016, 11, e0151327.	1.1	39
77	The peri-Sylvian cortical network underlying single word repetition revealed by electrocortical stimulation and direct neural recordings. <i>Brain and Language</i> , 2019, 193, 58-72.	0.8	38
78	Brain2Char: a deep architecture for decoding text from brain recordings. <i>Journal of Neural Engineering</i> , 2020, 17, 066015.	1.8	37
79	Human cortical encoding of pitch in tonal and non-tonal languages. <i>Nature Communications</i> , 2021, 12, 1161.	5.8	36
80	Neural Encoding of Auditory Features during Music Perception and Imagery. <i>Cerebral Cortex</i> , 2018, 28, 4222-4233.	1.6	35
81	Neural decoding of spoken vowels from human sensory-motor cortex with high-density electrocorticography. , 2014, 2014, 6782-5.		33
82	Real-time classification of auditory sentences using evoked cortical activity in humans. <i>Journal of Neural Engineering</i> , 2018, 15, 036005.	1.8	32
83	The influence of lexical statistics on temporal lobe cortical dynamics during spoken word listening. <i>Brain and Language</i> , 2015, 147, 66-75.	0.8	28
84	Direct cortical stimulation of inferior frontal cortex disrupts both speech and music production in highly trained musicians. <i>Cognitive Neuropsychology</i> , 2019, 36, 158-166.	0.4	26
85	Functional alterations in cortical processing of speech in glioma-infiltrated cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	26
86	Seizure Outcome After Surgical Resection of Insular Glioma. <i>Neurosurgery</i> , 2018, 83, 709-718.	0.6	24
87	Neural correlates of sine-wave speech intelligibility in human frontal and temporal cortex. <i>Brain and Language</i> , 2018, 187, 83-91.	0.8	22
88	Compartmentalized dynamics within a common multi-area mesoscale manifold represent a repertoire of human hand movements. <i>Neuron</i> , 2022, 110, 154-174.e12.	3.8	19
89	Decoding naturalistic affective behaviour from spectro-spatial features in multiday human iEEG. <i>Nature Human Behaviour</i> , 2022, 6, 823-836.	6.2	19
90	Toward a Speech Neuroprosthesis. <i>JAMA - Journal of the American Medical Association</i> , 2020, 323, 413.	3.8	18

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91	Human Responses to Visually Evoked Threat. <i>Current Biology</i> , 2021, 31, 601-612.e3.	1.8	18
92	Transformation of a temporal speech cue to a spatial neural code in human auditory cortex. <i>ELife</i> , 2020, 9, .	2.8	17
93	Critical Language Areas Show Increased Functional Connectivity in Human Cortex. <i>Cerebral Cortex</i> , 2018, 28, 4161-4168.	1.6	15
94	Direct electrical stimulation of human cortex evokes high gamma activity that predicts conscious somatosensory perception. <i>Journal of Neural Engineering</i> , 2018, 15, 026015.	1.8	14
95	Inhibition of Manual Movements at Speech Arrest Sites in the Posterior Inferior Frontal Lobe. <i>Neurosurgery</i> , 2019, 85, E496-E501.	0.6	14
96	Real-time, time-locked frequency mapping of event-related cortical activation. <i>Journal of Neural Engineering</i> , 2012, 9, 046018.	1.8	13
97	Thin-film, high-density micro-electrocorticographic decoding of a human cortical gyrus. , 2016, 2016, 1528-1531.		11
98	Decoding speech using the timing of neural signal modulation. , 2016, 2016, 1532-1535.		11
99	Cortical Encoding of Manual Articulatory and Linguistic Features in American Sign Language. <i>Current Biology</i> , 2020, 30, 4342-4351.e3.	1.8	9
100	Perinatal Asphyxia Affects Rat Auditory Processing: Implications for Auditory Perceptual Impairments in Neurodevelopmental Disorders. <i>PLoS ONE</i> , 2010, 5, e15326.	1.1	8
101	Harnessing the Power of Artificial Intelligence in Otolaryngology and the Communication Sciences. <i>JARO - Journal of the Association for Research in Otolaryngology</i> , 2022, 23, 319-349.	0.9	8
102	Involvement of White Matter Language Tracts in Glioma: Clinical Implications, Operative Management, and Functional Recovery After Injury. <i>Frontiers in Neuroscience</i> , 0, 16, .	1.4	8
103	Learning nonnative speech sounds changes local encoding in the adult human cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	7
104	Understanding Variable Motor Responses to Direct Electrical Stimulation of the Human Motor Cortex During Brain Surgery. <i>Frontiers in Surgery</i> , 2021, 8, 730367.	0.6	7
105	Nonresective epilepsy surgery. <i>Epilepsia</i> , 2010, 51, 87-89.	2.6	6
106	Dynamic Structure of Neural Variability in the Cortical Representation of Speech Sounds. <i>Journal of Neuroscience</i> , 2016, 36, 7453-7463.	1.7	6
107	Thin-film microfabrication and intraoperative testing of μ ECoG and iEEG depth arrays for sense and stimulation. <i>Journal of Neural Engineering</i> , 2021, 18, 045014.	1.8	6
108	Managing Common Complex Symptomatic Epilepsies: Tumors and Trauma. <i>Epilepsy Currents</i> , 2013, 13, 232-235.	0.4	5

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109	Direct Cortical Neurophysiology of Speech Perception. , 2016, , 479-489.		5
110	ECoG data analyses to inform closed-loop BCI experiments for speech-based prosthetic applications. , 2016, 2016, 5713-5716.		5
111	Sparse coding of ECoG signals identifies interpretable components for speech control in human sensorimotor cortex. , 2017, 2017, 3636-3639.		2
112	Spontaneous Neural Activity in the Superior Temporal Gyrus Recapitulates Tuning for Speech Features. Frontiers in Human Neuroscience, 2018, 12, 360.	1.0	1
113	Cortical Representation of Speech Sounds: Insights from Intracranial Electrophysiology. Springer Handbook of Auditory Research, 2022, , 45-79.	0.3	1
114	Speech Decoding as Machine Translation. Springer Briefs in Electrical and Computer Engineering, 2021, , 23-33.	0.3	0
115	Neuronal Tumors. Pediatric Oncology, 2010, , 159-173.	0.5	0
116	Epilepsy: Neocortical. , 2020, , 367-389.		0