

Mounya Elhilali

List of Publications by Year in descending order

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Version: 2024-02-01

113
papers

4,756
citations

201658

27
h-index

110368

64
g-index

128
all docs

128
docs citations

128
times ranked

2774
citing authors

#	ARTICLE	IF	CITATIONS
1	Rapid task-related plasticity of spectrotemporal receptive fields in primary auditory cortex. <i>Nature Neuroscience</i> , 2003, 6, 1216-1223.	14.8	762
2	Auditory attention—focusing the searchlight on sound. <i>Current Opinion in Neurobiology</i> , 2007, 17, 437-455.	4.2	418
3	Temporal coherence and attention in auditory scene analysis. <i>Trends in Neurosciences</i> , 2011, 34, 114-123.	8.6	360
4	Temporal Coherence in the Perceptual Organization and Cortical Representation of Auditory Scenes. <i>Neuron</i> , 2009, 61, 317-329.	8.1	215
5	Differential Dynamic Plasticity of A1 Receptive Fields during Multiple Spectral Tasks. <i>Journal of Neuroscience</i> , 2005, 25, 7623-7635.	3.6	214
6	Task Difficulty and Performance Induce Diverse Adaptive Patterns in Gain and Shape of Primary Auditory Cortical Receptive Fields. <i>Neuron</i> , 2009, 61, 467-480.	8.1	195
7	A spectro-temporal modulation index (STMI) for assessment of speech intelligibility. <i>Speech Communication</i> , 2003, 41, 331-348.	2.8	194
8	Active listening: Task-dependent plasticity of spectrotemporal receptive fields in primary auditory cortex. <i>Hearing Research</i> , 2005, 206, 159-176.	2.0	184
9	Does attention play a role in dynamic receptive field adaptation to changing acoustic salience in A1?. <i>Hearing Research</i> , 2007, 229, 186-203.	2.0	168
10	Interaction between Attention and Bottom-Up Saliency Mediates the Representation of Foreground and Background in an Auditory Scene. <i>PLoS Biology</i> , 2009, 7, e1000129.	5.6	153
11	Adaptive Changes in Cortical Receptive Fields Induced by Attention to Complex Sounds. <i>Journal of Neurophysiology</i> , 2007, 98, 2337-2346.	1.8	147
12	Dynamics of Precise Spike Timing in Primary Auditory Cortex. <i>Journal of Neuroscience</i> , 2004, 24, 1159-1172.	3.6	142
13	A cocktail party with a cortical twist: How cortical mechanisms contribute to sound segregation. <i>Journal of the Acoustical Society of America</i> , 2008, 124, 3751-3771.	1.1	89
14	Music in Our Ears: The Biological Bases of Musical Timbre Perception. <i>PLoS Computational Biology</i> , 2012, 8, e1002759.	3.2	86
15	Modelling auditory attention. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2017, 372, 20160101.	4.0	80
16	Investigating bottom-up auditory attention. <i>Frontiers in Human Neuroscience</i> , 2014, 8, 327.	2.0	72
17	Auditory Cortical Receptive Fields: Stable Entities with Plastic Abilities. <i>Journal of Neuroscience</i> , 2007, 27, 10372-10382.	3.6	70
18	The Auditory System at the Cocktail Party. <i>Springer Handbook of Auditory Research</i> , 2017, , .	0.7	70

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19	Segregating Complex Sound Sources through Temporal Coherence. PLoS Computational Biology, 2014, 10, e1003985.	3.2	65
20	Competing Streams at the Cocktail Party: Exploring the Mechanisms of Attention and Temporal Integration. Journal of Neuroscience, 2010, 30, 12084-12093.	3.6	59
21	Auditory salience using natural soundscapes. Journal of the Acoustical Society of America, 2017, 141, 2163-2176.	1.1	56
22	Computerized Lung Sound Screening for Pediatric Auscultation in Noisy Field Environments. IEEE Transactions on Biomedical Engineering, 2018, 65, 1564-1574.	4.2	56
23	Sparse coding for speech recognition. , 2010, , .		53
24	Adaptive Noise Suppression of Pediatric Lung Auscultations With Real Applications to Noisy Clinical Settings in Developing Countries. IEEE Transactions on Biomedical Engineering, 2015, 62, 2279-2288.	4.2	48
25	Impaired perception of temporal fine structure and musical timbre in cochlear implant users. Hearing Research, 2011, 280, 192-200.	2.0	45
26	Computerised lung sound analysis to improve the specificity of paediatric pneumonia diagnosis in resource-poor settings: protocol and methods for an observational study. BMJ Open, 2012, 2, e000506.	1.9	35
27	A Multistream Feature Framework Based on Bandpass Modulation Filtering for Robust Speech Recognition. IEEE Transactions on Audio Speech and Language Processing, 2013, 21, 416-426.	3.2	32
28	Research, robots, and reality: A statement on current trends in biorobotics. Behavioral and Brain Sciences, 2001, 24, 1072-1073.	0.7	30
29	Temporal Coherence and the Streaming of Complex Sounds. Advances in Experimental Medicine and Biology, 2013, 787, 535-543.	1.6	30
30	Push-pull competition between bottom-up and top-down auditory attention to natural soundscapes. ELife, 2020, 9, .	6.0	30
31	Recent advances in exploring the neural underpinnings of auditory scene perception. Annals of the New York Academy of Sciences, 2017, 1396, 39-55.	3.8	27
32	Detecting change in stochastic sound sequences. PLoS Computational Biology, 2018, 14, e1006162.	3.2	25
33	Design and Comparative Performance of a Robust Lung Auscultation System for Noisy Clinical Settings. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 2583-2594.	6.3	25
34	Listening panel agreement and characteristics of lung sounds digitally recorded from children aged 1â€“59 months enrolled in the Pneumonia Etiology Research for Child Health (PERCH) caseâ€“control study. BMJ Open Respiratory Research, 2017, 4, e000193.	3.0	23
35	A temporal saliency map for modeling auditory attention. , 2012, , .		22
36	A multiresolution analysis for detection of abnormal lung sounds. , 2012, 2012, 3139-42.		19

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37	Characterization of noise contaminations in lung sound recordings. , 2013, 2013, 2551-4.		17
38	Task-dependent neural representations of salient events in dynamic auditory scenes. <i>Frontiers in Neuroscience</i> , 2014, 8, 203.	2.8	17
39	Developing a Reference of Normal Lung Sounds in Healthy Peruvian Children. <i>Lung</i> , 2014, 192, 765-773.	3.3	17
40	A Gestalt inference model for auditory scene segregation. <i>PLoS Computational Biology</i> , 2019, 15, e1006711.	3.2	17
41	Investigating the Neural Correlates of a Streaming Percept in an Informational-Masking Paradigm. <i>PLoS ONE</i> , 2014, 9, e114427.	2.5	16
42	Abnormal sound event detection using temporal trajectories mixtures. , 2016, , .		16
43	Modulation Representations for Speech and Music. <i>Springer Handbook of Auditory Research</i> , 2019, , 335-359.	0.7	16
44	Electronic Stethoscope Filtering Mimics the Perceived Sound Characteristics of Acoustic Stethoscope. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2021, 25, 1542-1549.	6.3	14
45	One Click, Two Clicks: The Past Shapes the Future in Auditory Cortex. <i>Neuron</i> , 2005, 47, 325-327.	8.1	13
46	Sustained Firing of Model Central Auditory Neurons Yields a Discriminative Spectro-temporal Representation for Natural Sounds. <i>PLoS Computational Biology</i> , 2013, 9, e1002982.	3.2	13
47	Neural Response Selectivity to Natural Sounds in the Bat Midbrain. <i>Neuroscience</i> , 2020, 434, 200-211.	2.3	13
48	Digital auscultation in PERCH: Associations with chest radiography and pneumonia mortality in children. <i>Pediatric Pulmonology</i> , 2020, 55, 3197-3208.	2.0	13
49	The Stethoscope Gets Smart: Engineers from Johns Hopkins are giving the humble stethoscope an AI upgrade. <i>IEEE Spectrum</i> , 2019, 56, 36-41.	0.7	12
50	Connecting Deep Neural Networks to Physical, Perceptual, and Electrophysiological Auditory Signals. <i>Frontiers in Neuroscience</i> , 2018, 12, 532.	2.8	11
51	Neural correlates of perceptual switching while listening to bistable auditory streaming stimuli. <i>NeuroImage</i> , 2020, 204, 116220.	4.2	11
52	Biomimetic spectro-temporal features for music instrument recognition in isolated notes and solo phrases. <i>Eurasip Journal on Audio, Speech, and Music Processing</i> , 2015, 2015, .	2.1	9
53	Pitch, Timbre and Intensity Interdependently Modulate Neural Responses to Salient Sounds. <i>Neuroscience</i> , 2020, 440, 1-14.	2.3	9
54	Perceptual susceptibility to acoustic manipulations in speaker discrimination. <i>Journal of the Acoustical Society of America</i> , 2015, 137, 911-922.	1.1	8

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55	Joint Acoustic and Class Inference for Weakly Supervised Sound Event Detection. , 2019, , .		8
56	Ensemble modeling of auditory streaming reveals potential sources of bistability across the perceptual hierarchy. PLoS Computational Biology, 2020, 16, e1007746.	3.2	8
57	An Objective Measure for Selecting Microphone Modes in OMNI/DIR Hearing Aid Circuits. Ear and Hearing, 2008, 29, 199-213.	2.1	7
58	Modeling attention-driven plasticity in auditory cortical receptive fields. Frontiers in Computational Neuroscience, 2015, 9, 106.	2.1	7
59	Validation of Auscultation Technologies using Objective and Clinical Comparisons. , 2020, 2020, 992-997.		7
60	Auditory salience using natural scenes: An online study. Journal of the Acoustical Society of America, 2021, 150, 2952-2966.	1.1	7
61	Task-driven attentional mechanisms for auditory scene recognition. , 2013, , .		6
62	A Model for Statistical Regularity Extraction from Dynamic Sounds. Acta Acustica United With Acustica, 2019, 105, 1-4.	0.8	6
63	Primary Auditory Cortical Responses while Attending to Different Streams. , 2007, , 257-265.		6
64	A Biologically-Inspired Approach to the Cocktail Party Problem. , 0, , .		5
65	A joint acoustic and phonological approach to speech intelligibility assessment. , 2010, , .		5
66	Biomimetic multi-resolution analysis for robust speaker recognition. Eurasip Journal on Audio, Speech, and Music Processing, 2012, 2012, .	2.1	5
67	Abnormality detection in noisy biosignals. , 2013, 2013, 3949-52.		5
68	A Framework for Speech Activity Detection Using Adaptive Auditory Receptive Fields. IEEE/ACM Transactions on Audio Speech and Language Processing, 2015, 23, 2422-2433.	5.8	5
69	Feedback-Driven Sensory Mapping Adaptation for Robust Speech Activity Detection. IEEE/ACM Transactions on Audio Speech and Language Processing, 2017, 25, 481-492.	5.8	5
70	Modeling the Cocktail Party Problem. Springer Handbook of Auditory Research, 2017, , 111-135.	0.7	5
71	Computational framework for investigating predictive processing in auditory perception. Journal of Neuroscience Methods, 2021, 360, 109177.	2.5	5
72	Effect of background clutter on neural discrimination in the bat auditory midbrain. Journal of Neurophysiology, 2021, 126, 1772-1782.	1.8	5

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73	Multistream bandpass modulation features for robust speech recognition. , 0, , .		5
74	Cross-Referencing Self-Training Network for Sound Event Detection in Audio Mixtures. IEEE Transactions on Multimedia, 2023, 25, 4573-4585.	7.2	5
75	Information-bearing components of speech intelligibility under babble-noise and bandlimiting distortions. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	4
76	Evaluation of A "Direct-Comparison" Approach to Automatic Switching In Omnidirectional/Directional Hearing Aids. Journal of the American Academy of Audiology, 2008, 19, 708-720.	0.7	4
77	A model of auditory deviance detection. , 2013, , .		4
78	An objective measure of signal quality for pediatric lung auscultations. , 2020, 2020, 772-775.		4
79	Audio Object Classification Using Distributed Beliefs and Attention. IEEE/ACM Transactions on Audio Speech and Language Processing, 2020, 28, 729-739.	5.8	4
80	Neural Encoding of Auditory Statistics. Journal of Neuroscience, 2021, 41, 6726-6739.	3.6	4
81	Attentional and Contextual Priors in Sound Perception. PLoS ONE, 2016, 11, e0149635.	2.5	4
82	Goal-oriented auditory scene recognition. , 0, , .		4
83	Robust phoneme , recognition based on biomimetic speech contours. , 0, , .		4
84	A model of attention-driven scene analysis. , 2012, , .		3
85	The UMD-JHU 2011 speaker recognition system. , 2012, , .		3
86	Predictive analysis of two tone stream segregation via extended Kalman filter. , 2013, , .		3
87	Bayesian inference in auditory scenes. , 2013, 2013, 2792-5.		3
88	Detection of speech tokens in noise using adaptive spectrotemporal receptive fields. , 2015, , .		3
89	Amphibian Sounds Generating Network Based on Adversarial Learning. IEEE Signal Processing Letters, 2020, 27, 640-644.	3.6	3
90	Natural Statistics as Inference Principles of Auditory Tuning in Biological and Artificial Midbrain Networks. ENeuro, 2021, 8, ENEURO.0525-20.2021.	1.9	3

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91	Resetting of Auditory and Visual Segregation Occurs After Transient Stimuli of the Same Modality. <i>Frontiers in Psychology</i> , 2021, 12, 720131.	2.1	3
92	Sequential and Simultaneous Auditory Grouping Measured with Synchrony Detection. , 2010, , 489-496.		3
93	Digitally recorded and remotely classified lung auscultation compared with conventional stethoscope classifications among children aged 1â€“59 months enrolled in the Pneumonia Etiology Research for Child Health (PERCH) caseâ€“control study. <i>BMJ Open Respiratory Research</i> , 2022, 9, e001144.	3.0	3
94	Exploiting temporal coherence in speech for data-driven feature extraction. , 2011, , .		2
95	The enigma of cortical responses: Slow yet precise. , 2005, , 484-493.		2
96	Temporal Coherence Principle in Scene Analysis. , 2020, , 777-790.		2
97	Temporal Contrastive-Loss for Audio Event Detection. , 2022, , .		2
98	Recognizing the message and the messenger: biomimetic spectral analysis for robust speech and speaker recognition. <i>International Journal of Speech Technology</i> , 2013, 16, 313-322.	2.2	1
99	Exploring the role of temporal dynamics in acoustic scene classification. , 2015, , .		1
100	Correlates of Auditory Attention and Task Performance in Primary Auditory and Prefrontal Cortex. , 2010, , 555-570.		1
101	The Correlative Brain: A Stream Segregation Model. , 2007, , 247-256.		1
102	Auditory Streaming at the Cocktail Party: Simultaneous Neural and Behavioral Studies of Auditory Attention. , 2010, , 545-553.		1
103	Multistream robust speaker recognition based on speech intelligibility. , 2011, , .		0
104	Multilevel speech intelligibility for robust speaker recognition. , 2012, , .		0
105	Welcome to WASPAA 2013. , 2013, , .		0
106	Modeling goal-directed attention in tone sequences using a weighted Kalman filter. , 2015, , .		0
107	Rich Representation Spaces: Benefits in Digital Auscultation Signal Analysis. , 2016, , .		0
108	Sensory Mapping Adaptation Under Multiple Task Scenarios. , 2018, , .		0

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109	Editorial: Bio-inspired Audio Processing, Models and Systems. <i>Frontiers in Neuroscience</i> , 2019, 13, 978.	2.8	0
110	Bio-Mimetic Attentional Feedback in Music Source Separation. , 2020, , .		0
111	Rate Versus Temporal Code? A Spatio-Temporal Coherence Model of the Cortical Basis of Streaming. , 2010, , 497-506.		0
112	A Study of a Cross-Language Perception Based on Cortical Analysis Using Biomimetic STRFs. , 0, , .		0
113	Synthesizing Engaging Music Using Dynamic Models of Statistical Surprisal. , 2020, , .		0