Axel Thielscher

List of Publications by Year in Descending Order

128 papers	6,366 citations	40 h-index	78 g-index
148 ext. papers	8,338 ext. citations	5.1 avg, IF	6.25 L-index

#	Paper	IF	Citations
128	A checklist for assessing the methodological quality of concurrent tES-fMRI studies (ContES checklist): a consensus study and statement.. *Nature Protocols*, **2022**,	18.8	1
127	Differences in electric field strength between clinical and non-clinical populations induced by prefrontal tDCS: A cross-diagnostic, individual MRI-based modeling study.. *NeuroImage: Clinical*, **2022**, 34, 103011	5.3	0
126	Relationship between high-frequency activity in the cortical sensory and the motor hand areas, and their myelin content.. *Brain Stimulation*, **2022**, 15, 717-726	5.1	0
125	Database of 25 validated coil models for electric field simulations for TMS.. *Brain Stimulation*, **2022**, 15, 697-706	5.1	0
124	Multichannel anodal tDCS over the left dorsolateral prefrontal cortex in a paediatric population. *Scientific Reports*, **2021**, 11, 21512	4.9	0
123	Interindividual variability of electric fields during transcranial temporal interference stimulation (tTIS). *Scientific Reports*, **2021**, 11, 20357	4.9	3
122	Efficient high-resolution TMS mapping of the human motor cortex by nonlinear regression. *NeuroImage*, **2021**, 245, 118654	7.9	0
121	The Myelin Content of the Human Precentral Hand Knob Reflects Interindividual Differences in Manual Motor Control at the Physiological and Behavioral Level. *Journal of Neuroscience*, **2021**, 41, 3163-3179	6.6	8
120	Transcranial focused ultrasound stimulation with high spatial resolution. *Brain Stimulation*, **2021**, 14, 290-300	5.1	10
119	Recordings of Neural Magnetic Activity From the Auditory Brainstem Using Color Centers in Diamond: A Simulation Study. *Frontiers in Neuroscience*, **2021**, 15, 643614	5.1	2
118	The impact of CT image parameters and skull heterogeneity modeling on the accuracy of transcranial focused ultrasound simulations. *Journal of Neural Engineering*, **2021**, 18,	5	2
117	Safety evaluation of a new setup for transcranial electric stimulation during magnetic resonance imaging. *Brain Stimulation*, **2021**, 14, 488-497	5.1	1
116	Effects of bifrontal transcranial direct current stimulation on brain glutamate levels and resting state connectivity: multimodal MRI data for the cathodal stimulation site. *European Archives of Psychiatry and Clinical Neuroscience*, **2021**, 271, 111-122	5.1	7
115	Inter-individual and age-dependent variability in simulated electric fields induced by conventional transcranial electrical stimulation. *NeuroImage*, **2021**, 224, 117413	7.9	20
114	Detection of biological signals from a live mammalian muscle using an early stage diamond quantum sensor. *Scientific Reports*, **2021**, 11, 2412	4.9	12
113	Sensitivity and resolution improvement for in vivo magnetic resonance current-density imaging of the human brain. *Magnetic Resonance in Medicine*, **2021**, 86, 3131-3146	4.4	1
112	Concurrent TMS-fMRI for causal network perturbation and proof of target engagement. *NeuroImage*, **2021**, 237, 118093	7.9	12

111	Estimation of individually induced e-field strength during transcranial electric stimulation using the head circumference. *Brain Stimulation*, **2021**, 14, 1055-1058	5.1	4
110	On the reconstruction of magnetic resonance current density images of the human brain: Pitfalls and perspectives. *NeuroImage*, **2021**, 243, 118517	7.9	0
109	Fast evaluation of the Biot-Savart integral using FFT for electrical conductivity imaging. *Journal of Computational Physics*, **2020**, 411, 109408	4.1	6
108	Transducer modeling for accurate acoustic simulations of transcranial focused ultrasound stimulation. *Journal of Neural Engineering*, **2020**, 17, 046010	5	11
107	Guidelines for TMS/tES clinical services and research through the COVID-19 pandemic. *Brain Stimulation*, **2020**, 13, 1124-1149	5.1	45
106	Accurate and robust whole-head segmentation from magnetic resonance images for individualized head modeling. *NeuroImage*, **2020**, 219, 117044	7.9	14
105	A novel approach to localize cortical TMS effects. *NeuroImage*, **2020**, 209, 116486	7.9	41
104	Value and limitations of intracranial recordings for validating electric field modeling for transcranial brain stimulation. *NeuroImage*, **2020**, 208, 116431	7.9	22
103	Stimulating aged brains with transcranial direct current stimulation: Opportunities and challenges. *Psychiatry Research - Neuroimaging*, **2020**, 306, 111179	2.9	9
102	Accurate TMS Head Modeling: Interfacing SimNIBS and BEM-FMM in a MATLAB-Based Module. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2020**, 2020, 5326-5329	0.9	0
101	Increasing propensity to mind-wander by transcranial direct current stimulation? A registered report. *European Journal of Neuroscience*, **2020**, 51, 755-780	3.5	16
100	Probing EEG activity in the targeted cortex after focal transcranial electrical stimulation. *Brain Stimulation*, **2020**, 13, 815-818	5.1	2
99	Optimizing the electric field strength in multiple targets for multichannel transcranial electric stimulation. *Journal of Neural Engineering*, **2020**,	5	3
98	Accessibility of cortical regions to focal TES: Dependence on spatial position, safety, and practical constraints. *NeuroImage*, **2019**, 203, 116183	7.9	29
97	Optimization of tumor treating fields using singular value decomposition and minimization of field anisotropy. *Physics in Medicine and Biology*, **2019**, 64, 04NT03	3.8	8
96	The stray magnetic fields in Magnetic Resonance Current Density Imaging (MRCDI). *Physica Medica*, **2019**, 59, 142-150	2.7	7
95	Towards precise brain stimulation: Is electric field simulation related to neuromodulation?. *Brain Stimulation*, **2019**, 12, 1159-1168	5.1	57
94	Can Transcranial Electrical Stimulation Localize Brain Function?. *Frontiers in Psychology*, **2019**, 10, 213	3.4	27

93	Commentary: Transcranial stimulation of the frontal lobes increases propensity of mind-wandering without changing meta-awareness. *Frontiers in Psychology*, **2019**, 10, 130	3.4	2
92	Blinding is compromised for transcranial direct current stimulation at 1 mA for 20 min in young healthy adults. *European Journal of Neuroscience*, **2019**, 50, 3261-3268	3.5	45
91	Distilling the essence of TMS-evoked EEG potentials (TEPs): A call for securing mechanistic specificity and experimental rigor. *Brain Stimulation*, **2019**, 12, 1051-1054	5.1	24
90	Safety of transcranial focused ultrasound stimulation: A systematic review of the state of knowledge from both human and animal studies. *Brain Stimulation*, **2019**, 12, 1367-1380	5.1	42
89	Electric field simulations for transcranial brain stimulation using FEM: an efficient implementation and error analysis. *Journal of Neural Engineering*, **2019**, 16, 066032	5	38
88	Accurate anatomical head segmentations: a data set for biomedical simulations. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 6118-6123	0.9	3
87	SimNIBS 2.1: A Comprehensive Pipeline for Individualized Electric Field Modelling for Transcranial Brain Stimulation **2019**, 3-25		39
86	SURG-01. OPTIMALTTF-1: FINAL RESULTS OF A PHASE 1 STUDY: FIRST GLIOBLASTOMA RECURRENCE EXAMINING TARGETED SKULL REMODELING SURGERY TO ENHANCE TUMOR TREATING FIELDS STRENGTH. *Neuro-Oncology*, **2019**, 21, vi239-vi240	1	78
85	Enhancing Tumor Treating Fields Therapy with Skull-Remodeling Surgery. The Role of Finite Element Methods in Surgery Planning. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 6995-6997	0.9	4
84	Comparison of prospective head motion correction with NMR field probes and an optical tracking system. *Magnetic Resonance in Medicine*, **2019**, 81, 719-729	4.4	16
83	A principled approach to conductivity uncertainty analysis in electric field calculations. *NeuroImage*, **2019**, 188, 821-834	7.9	57
82	Miniature ultrasound ring array transducers for transcranial ultrasound neuromodulation of freely-moving small animals. *Brain Stimulation*, **2019**, 12, 251-255	5.1	22
81	The non-transcranial TMS-evoked potential is an inherent source of ambiguity in TMS-EEG studies. *NeuroImage*, **2019**, 185, 300-312	7.9	126
80	A Review on Tumor-Treating Fields (TTFields): Clinical Implications Inferred From Computational Modeling. *IEEE Reviews in Biomedical Engineering*, **2018**, 11, 195-207	6.4	40
79	. *IEEE/ASME Transactions on Mechatronics*, **2018**, 23, 624-635	5.5	3
78	Effects of transcranial direct current stimulation for treating depression: A modeling study. *Journal of Affective Disorders*, **2018**, 234, 164-173	6.6	40
77	Age-dependent effects of brain stimulation on network centrality. *NeuroImage*, **2018**, 176, 71-82	7.9	32
76	Human in-vivo brain magnetic resonance current density imaging (MRCDI). *NeuroImage*, **2018**, 171, 26-39	7.9	35

75	Feasibility and resolution limits of opto-magnetic imaging of neural network activity in brain slices using color centers in diamond. *Scientific Reports*, **2018**, 8, 4503	4.9	12
74	Automatic skull segmentation from MR images for realistic volume conductor models of the head: Assessment of the state-of-the-art. *NeuroImage*, **2018**, 174, 587-598	7.9	102
73	Sensitivity analysis of magnetic field measurements for magnetic resonance electrical impedance tomography (MREIT). *Magnetic Resonance in Medicine*, **2018**, 79, 748-760	4.4	6
72	On the importance of precise electrode placement for targeted transcranial electric stimulation. *NeuroImage*, **2018**, 181, 560-567	7.9	51
71	Importance of electrode position for the distribution of tumor treating fields (TTFields) in a human brain. Identification of effective layouts through systematic analysis of array positions for multiple tumor locations. *PLoS ONE*, **2018**, 13, e0201957	3.7	21
70	[OA019] Human in-vivo Magnetic Resonance Current Density Imaging (MRCDI) and MR Electrical Impedance Tomography (MREIT). *Physica Medica*, **2018**, 52, 8	2.7	
69	Skull segmentation from MR scans using a higher-order shape model based on convolutional restricted Boltzmann machines **2018**,		1
68	Head models of healthy and depressed adults for simulating the electric fields of non-invasive electric brain stimulation. *F1000Research*, **2018**, 7, 704	3.6	11
67	ACTR-43. OPEN-LABEL PHASE 1 CLINICAL TRIAL TESTING PERSONALIZED AND TARGETED SKULL REMODELING SURGERY TO MAXIMIZE TTFIELDS INTENSITY FOR RECURRENT GLIOBLASTOMA INTERIM ANALYSIS AND SAFETY ASSESSMENT (OPTIMALTTF-1). *Neuro-Oncology*, **2018**, 20, vi21-vi21	1	3
66	EXTH-40. OPTIMIZING ARRAY LAYOUTS FOR GLIOBLASTOMA THERAPY WITH TUMOR TREATING FIELDS (TTFIELDS) USE OF OBLIQUE ARRAY LAYOUTS SURPASS DEFAULT LEFT-RIGHT/ANTERIOR-POSTERIOR POSITIONS IN A COMPUTER SIMULATION MODEL. *Neuro-Oncology*, **2018**, 20, vi93-vi93	1	78
65	Estimating the Intensity and Anisotropy of Tumor Treating Fields Jsing Singular Value Decomposition. Towards a More Comprehensive Estimation of Anti-tumor Efficacy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2018**, 2018, 4897-4900	0.9	7
64	EXTH-38. A NEW COMPUTATIONAL METHOD FOR COMPREHENSIVE ESTIMATION OF ANTI TUMOR EFFICACY OF TUMOR TREATING FIELDS (TTFIELDS). ACCOUNTING FOR FIELD INTENSITY, EXPOSURE TIME AND UNWANTED SPATIAL FIELD CORRELATION. *Neuro-Oncology*, **2018**, 20, vi93-vi93	1	78
63	Head models of healthy and depressed adults for simulating the effects of non-invasive brain stimulation. *F1000Research*, **2018**, 7, 704	3.6	6
62	The impact of large structural brain changes in chronic stroke patients on the electric field caused by transcranial brain stimulation. *NeuroImage: Clinical*, **2017**, 15, 106-117	5.3	49
61	Transcranial magnetic stimulation of right inferior parietal cortex causally influences prefrontal activation for visual detection. *European Journal of Neuroscience*, **2017**, 46, 2807-2816	3.5	6
60	Impact of tumor position, conductivity distribution and tissue homogeneity on the distribution of tumor treating fields in a human brain: A computer modeling study. *PLoS ONE*, **2017**, 12, e0179214	3.7	23
59	Comparing TMS perturbations to occipital and parietal cortices in concurrent TMS-fMRI studies-Methodological considerations. *PLoS ONE*, **2017**, 12, e0181438	3.7	7
58	EXTH-04. GUIDING PRINCIPLES FOR PREDICTING THE DISTRIBUTION OF TUMOR TREATING FIELDS IN A HUMAN BRAIN: A COMPUTER MODELING STUDY INVESTIGATING THE IMPACT OF TUMOR POSITION, CONDUCTIVITY DISTRIBUTION AND TISSUE HOMOGENEITY. *Neuro-Oncology*, **2017**, 19, vi73-vi73	1	8

57	How to target inter-regional phase synchronization with dual-site Transcranial Alternating Current Stimulation. *NeuroImage*, **2017**, 163, 68-80	7.9	50
56	Centre-surround organization of fast sensorimotor integration in human motor hand area. *NeuroImage*, **2017**, 158, 37-47	7.9	25
55	Where does TMS Stimulate the Motor Cortex? Combining Electrophysiological Measurements and Realistic Field Estimates to Reveal the Affected Cortex Position. *Cerebral Cortex*, **2017**, 27, 5083-5094	5.1	64
54	Spatiotemporal structure of intracranial electric fields induced by transcranial electric stimulation in humans and nonhuman primates. *Scientific Reports*, **2016**, 6, 31236	4.9	182
53	Combining non-invasive transcranial brain stimulation with neuroimaging and electrophysiology: Current approaches and future perspectives. *NeuroImage*, **2016**, 140, 4-19	7.9	180
52	Enhancing Predicted Efficacy of Tumor Treating Fields Therapy of Glioblastoma Using Targeted Surgical Craniectomy: A Computer Modeling Study. *PLoS ONE*, **2016**, 11, e0164051	3.7	21
51	Transcranial brain stimulation: closing the loop between brain and stimulation. *Current Opinion in Neurology*, **2016**, 29, 397-404	7.1	55
50	Reaching with the sixth sense: Vestibular contributions to voluntary motor control in the human right parietal cortex. *NeuroImage*, **2016**, 124, 869-875	7.9	15
49	Evaluation of a Modified High-Definition Electrode Montage for Transcranial Alternating Current Stimulation (tACS) of Pre-Central Areas. *Brain Stimulation*, **2016**, 9, 700-704	5.1	33
48	Bringing transcranial mapping into shape: Sulcus-aligned mapping captures motor somatotopy in human primary motor hand area. *NeuroImage*, **2015**, 120, 164-75	7.9	64
47	Transcranial Magnetic Stimulation: An Automated Procedure to Obtain Coil-specific Models for Field Calculations. *Brain Stimulation*, **2015**, 8, 1205-8	5.1	14
46	Modeling the effects of noninvasive transcranial brain stimulation at the biophysical, network, and cognitive level. *Progress in Brain Research*, **2015**, 222, 261-87	2.9	33
45	On the importance of electrode parameters for shaping electric field patterns generated by tDCS. *NeuroImage*, **2015**, 120, 25-35	7.9	140
44	Concurrent TMS-fMRI Reveals Interactions between Dorsal and Ventral Attentional Systems. *Journal of Neuroscience*, **2015**, 35, 11445-57	6.6	37
43	Field modeling for transcranial magnetic stimulation: A useful tool to understand the physiological effects of TMS?. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 222-5	0.9	238
42	Determinants of the electric field during transcranial direct current stimulation. *NeuroImage*, **2015**, 109, 140-50	7.9	370
41	Design of a new MR-compatible haptic interface with six actuated degrees of freedom **2014**,		7
40	A key region in the human parietal cortex for processing proprioceptive hand feedback during reaching movements. *NeuroImage*, **2014**, 84, 615-25	7.9	43

39	Connectivity between right inferior frontal gyrus and supplementary motor area predicts after-effects of right frontal cathodal tDCS on picture naming speed. *Brain Stimulation*, **2014**, 7, 122-9	5.1	35
38	Electric field calculations in brain stimulation based on finite elements: an optimized processing pipeline for the generation and usage of accurate individual head models. *Human Brain Mapping*, **2013**, 34, 923-35	5.9	267
37	Effects of parietal TMS on visual and auditory processing at the primary cortical level -- a concurrent TMS-fMRI study. *Cerebral Cortex*, **2013**, 23, 873-84	5.1	23
36	Electric field calculations in brain stimulation: The importance of geometrically accurate head models. *Biomedizinische Technik*, **2012**, 57,	1.3	3
35	The neural mechanisms of reliability weighted integration of shape information from vision and touch. *NeuroImage*, **2012**, 60, 1063-72	7.9	42
34	Uncovering a context-specific connectional fingerprint of human dorsal premotor cortex. *Journal of Neuroscience*, **2012**, 32, 7244-52	6.6	34
33	How the brain tissue shapes the electric field induced by transcranial magnetic stimulation. *NeuroImage*, **2011**, 58, 849-59	7.9	205
32	Impact of the gyral geometry on the electric field induced by transcranial magnetic stimulation. *NeuroImage*, **2011**, 54, 234-43	7.9	250
31	Effects of transcranial magnetic stimulation on visual evoked potentials in a visual suppression task. *NeuroImage*, **2011**, 54, 1375-84	7.9	37
30	Assessment of MR compatibility of a PET insert developed for simultaneous multiparametric PET/MR imaging on an animal system operating at 7 T. *Magnetic Resonance in Medicine*, **2011**, 65, 269-79	4.4	46
29	Contributions of the PPC to online control of visually guided reaching movements assessed with fMRI-guided TMS. *Cerebral Cortex*, **2011**, 21, 1602-12	5.1	49
28	Interleaved TMS/CASL: Comparison of different rTMS protocols. *NeuroImage*, **2010**, 49, 612-20	7.9	30
27	Disrupting parietal function prolongs dominance durations in binocular rivalry. *Current Biology*, **2010**, 20, 2106-11	6.3	89
26	New coil positioning method for interleaved transcranial magnetic stimulation (TMS)/functional MRI (fMRI) and its validation in a motor cortex study. *Journal of Magnetic Resonance Imaging*, **2009**, 29, 189-97	5.6	38
25	Seeing the hand while reaching speeds up on-line responses to a sudden change in target position. *Journal of Physiology*, **2009**, 587, 4605-16	3.9	31
24	Determining the cortical target of transcranial magnetic stimulation. *NeuroImage*, **2009**, 47, 1319-30	7.9	20
23	Simultaneous PET-MRI: a new approach for functional and morphological imaging. *Nature Medicine*, **2008**, 14, 459-65	50.5	829
22	Texture segmentation in human perception: a combined modeling and fMRI study. *Neuroscience*, **2008**, 151, 730-6	3.9	23

21	Globally consistent depth sorting of overlapping 2D surfaces in a model using local recurrent interactions. *Biological Cybernetics*, **2008**, 98, 305-37	2.8	28
20	A computational model to link psychophysics and cortical cell activation patterns in human texture processing. *Journal of Computational Neuroscience*, **2007**, 22, 255-82	1.4	14
19	Neural correlates of perceptual choice and decision making during fear-disgust discrimination. *Journal of Neuroscience*, **2007**, 27, 2908-17	6.6	132
18	Cholinergic enhancement of episodic memory in healthy young adults. *Psychopharmacology*, **2005**, 182, 170-9	4.7	53
17	Accuracy of stereotaxic positioning of transcranial magnetic stimulation. *Brain Topography*, **2005**, 17, 253-9	4.3	63
16	Neural mechanisms of human texture processing: texture boundary detection and visual search. *Spatial Vision*, **2005**, 18, 227-57		18
15	Electric field properties of two commercial figure-8 coils in TMS: calculation of focality and efficiency. *Clinical Neurophysiology*, **2004**, 115, 1697-708	4.3	200
14	Neural mechanisms of cortico-cortical interaction in texture boundary detection: a modeling approach. *Neuroscience*, **2003**, 122, 921-39	3.9	43
13	Motor and phosphene thresholds: consequences of cortical anisotropy. *Supplements To Clinical Neurophysiology*, **2003**, 56, 198-203		4
12	Spatial congruence of neuronavigated transcranial magnetic stimulation and functional neuroimaging. *Clinical Neurophysiology*, **2002**, 113, 462-8	4.3	64
11	Linking physics with physiology in TMS: a sphere field model to determine the cortical stimulation site in TMS. *NeuroImage*, **2002**, 17, 1117-30	7.9	166
10	The navigation of transcranial magnetic stimulation. *Psychiatry Research - Neuroimaging*, **2001**, 108, 123-31	2.9	124
9	Motor thresholds in humans: a transcranial magnetic stimulation study comparing different pulse waveforms, current directions and stimulator types. *Clinical Neurophysiology*, **2001**, 112, 250-8	4.3	303
8	Blinding is compromised for transcranial direct current stimulation at 1 mA for 20 minutes in young healthy adults		4
7	Optimizing the Electric Field Strength in Multiple Targets for Multichannel Transcranial Electric Stimulation		1
6	The non-transcranial TMS-evoked potential is an inherent source of ambiguity in TMS-EEG studies		2
5	SimNIBS 2.1: A Comprehensive Pipeline for Individualized Electric Field Modelling for Transcranial Brain Stimulation		12
4	Efficient Electric Field Simulations for Transcranial Brain Stimulation		8

List of Publications

3	A novel approach to localize cortical TMS effects	1
2	Comparing and Validating Automated Tools for Individualized Electric Field Simulations in the Human Head	2
1	Spatiotemporal structure of intracranial electric fields induced by transcranial electric stimulation in human and nonhuman primates	1