Ilkka Laakso

List of Publications by Year in Descending Order

95 papers	2,060 citations	25 h-index	42 g-index
107 ext. papers	2,640 ext. citations	2.9 avg, IF	5.5 L-index

#	Paper	IF	Citations
95	The Effect of Inter-pulse Interval on TMS Motor Evoked Potentials in Active Muscles.. *Frontiers in Human Neuroscience*, **2022**, 16, 845476	3.3	0
94	Assessment of Human Exposure to Electromagnetic Fields: Review and Future Directions. *IEEE Transactions on Electromagnetic Compatibility*, **2021**, 63, 1619-1630	2	17
93	Human exposure to radiofrequency energy above 6 GHz: review of computational dosimetry studies. *Physics in Medicine and Biology*, **2021**, 66,	3.8	12
92	Nonuniform Exposure to the Cornea from Millimeter Waves. *Health Physics*, **2021**, 120, 525-531	2.3	1
91	Effect of Incidence Angle on the Spatial-Average of Incident Power Density Definition to Correlate Skin Temperature Rise for Millimeter Wave Exposures. *IEEE Transactions on Electromagnetic Compatibility*, **2021**, 1-16	2	6
90	A 50 Hz magnetic field affects hemodynamics, ECG and vascular endothelial function in healthy adults: A pilot randomized controlled trial. *PLoS ONE*, **2021**, 16, e0255242	3.7	
89	A probabilistic transcranial magnetic stimulation localization method. *Journal of Neural Engineering*, **2021**, 18,	5	1
88	TMS activation site estimation using multiscale realistic head models. *Journal of Neural Engineering*, **2020**, 17, 036004	5	8
87	Inter-individual variations in electric fields induced in the brain by exposure to uniform magnetic fields at 50 Hz. *Physics in Medicine and Biology*, **2020**, 65, 215006	3.8	1
86	Group-level analysis of induced electric field in deep brain regions by different TMS coils. *Physics in Medicine and Biology*, **2020**, 65, 025007	3.8	6
85	Computational errors of the induced electric field in voxelized and tetrahedral anatomical head models exposed to spatially uniform and localized magnetic fields. *Physics in Medicine and Biology*, **2020**, 65, 015001	3.8	8
84	Review on biophysical modelling and simulation studies for transcranial magnetic stimulation. *Physics in Medicine and Biology*, **2020**, 65, 24TR03	3.8	4
83	Effect of Electrical Conductivity Uncertainty in the Assessment of the Electric Fields Induced in the Brain by Exposure to Uniform Magnetic Fields at 50 Hz. *IEEE Access*, **2020**, 8, 222297-222309	3.5	2
82	Cost of focality in TDCS: Interindividual variability in electric fields. *Brain Stimulation*, **2020**, 13, 117-124	5.1	32
81	Can electric fields explain inter-individual variability in transcranial direct current stimulation of the motor cortex?. *Scientific Reports*, **2019**, 9, 626	4.9	65
80	Effects of posture on electric fields of non-invasive brain stimulation. *Physics in Medicine and Biology*, **2019**, 64, 065019	3.8	8
79	Real-time estimation of electric fields induced by transcranial magnetic stimulation with deep neural networks. *Brain Stimulation*, **2019**, 12, 1500-1507	5.1	12

78	Comparison of Numerical Techniques for the Evaluation of Human Exposure From Measurement Data. *IEEE Transactions on Magnetics*, **2019**, 55, 1-4	2	5
77	Efficiently searching through large tACS parameter spaces using closed-loop Bayesian optimization. *Brain Stimulation*, **2019**, 12, 1484-1489	5.1	22
76	Group-level and functional-region analysis of electric-field shape during cerebellar transcranial direct current stimulation with different electrode montages. *Journal of Neural Engineering*, **2019**, 16, 036001	5	19
75	Risk Management of Heatstroke Based on Fast Computation of Temperature and Water Loss Using Weather Data for Exposure to Ambient Heat and Solar Radiation. *IEEE Access*, **2018**, 6, 3774-3785	3.5	11
74	Atlas of optimal coil orientation and position for TMS: A computational study. *Brain Stimulation*, **2018**, 11, 839-848	5.1	35
73	A high-resolution computational localization method for transcranial magnetic stimulation mapping. *NeuroImage*, **2018**, 172, 85-93	7.9	24
72	. *IEEE Transactions on Electromagnetic Compatibility*, **2018**, 60, 328-337	2	18
71	Where and what TMS activates: Experiments and modeling. *Brain Stimulation*, **2018**, 11, 166-174	5.1	60
70	. *IEEE Transactions on Electromagnetic Compatibility*, **2018**, 60, 589-597	2	34
69	TMS Motor Thresholds Correlate With TDCS Electric Field Strengths in Hand Motor Area. *Frontiers in Neuroscience*, **2018**, 12, 426	5.1	29
68	Assessment of the Induced Electric Fields in a Carbon-Fiber Electrical Vehicle Equipped with a Wireless Power Transfer System. *Energies*, **2018**, 11, 684	3.1	26
67	Combined Simulation of Bioelectromagnetics and Nerve Activation and its Application. *IEEJ Transactions on Fundamentals and Materials*, **2018**, 138, 265-270	0.2	3
66	Risk Evaluation of Heat Stroke with Multiphysics Computation and its Application. *IEEJ Transactions on Fundamentals and Materials*, **2018**, 138, 288-294	0.2	1
65	EMF EXPOSURE ANALYSIS FOR A COMPACT MULTI-BAND 5G ANTENNA. *Progress in Electromagnetics Research M*, **2018**, 68, 193-201	0.6	4
64	NUMERICAL MODELING OF ELECTROMAGNETIC FIELD EXPOSURE FROM 5G MOBILE COMMUNICATIONS AT 10 GHZ. *Progress in Electromagnetics Research M*, **2018**, 72, 61-67	0.6	4
63	Coil model comparison for cerebellar transcranial magnetic stimulation. *Biomedical Physics and Engineering Express*, **2018**, 5, 015020	1.5	10
62	. *IEEE Access*, **2018**, 6, 70964-70973	3.5	15
61	. *IEEE Access*, **2018**, 1-1	3.5	7

60	A multi-scale computational approach based on TMS experiments for the assessment of electro-stimulation thresholds of the brain at intermediate frequencies. *Physics in Medicine and Biology*, **2018**, 63, 225006	3.8	15
59	**2018**,		1
58	. *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, **2018**, 2, 302-309	2.8	8
57	. *IEEE Transactions on Electromagnetic Compatibility*, **2017**, 59, 677-685	2	21
56	Time constants for temperature elevation in human models exposed to dipole antennas and beams in the frequency range from 1 to 30 GHz. *Physics in Medicine and Biology*, **2017**, 62, 1676-1699	3.8	29
55	Evaluation method for in situ electric field in standardized human brain for different transcranial magnetic stimulation coils. *Physics in Medicine and Biology*, **2017**, 62, 2224-2238	3.8	11
54	On the averaging area for incident power density for human exposure limits at frequencies over 6 GHz. *Physics in Medicine and Biology*, **2017**, 62, 3124-3138	3.8	47
53	Modelling of induced electric fields based on incompletely known magnetic fields. *Physics in Medicine and Biology*, **2017**, 62, 6567-6578	3.8	8
52	. *IEEE Transactions on Electromagnetic Compatibility*, **2017**, 59, 739-746	2	10
51	Human exposure to pulsed fields in the frequency range from 6 to 100 GHz. *Physics in Medicine and Biology*, **2017**, 62, 6980-6992	3.8	29
50	Variability in TDCS electric fields: Effects of electrode size and configuration **2017**,		5
49	The Effect of Dual-Hemisphere Transcranial Direct Current Stimulation Over the Parietal Operculum on Tactile Orientation Discrimination. *Frontiers in Behavioral Neuroscience*, **2017**, 11, 173	3.5	6
48	Sub-voxel refinement method for tissue boundary conductivities in volume conductor models. *URSI Radio Science Bulletin*, **2017**, 2017, 13-18	0.1	
47	Relationship between peak spatial-averaged specific absorption rate and peak temperature elevation in human head in frequency range of 1-30 GHz. *Physics in Medicine and Biology*, **2016**, 61, 5406-5425	3.8	34
46	SAR evaluation in models of an adult and a child for magnetic field from wireless power transfer systems at 6.78 MHz. *Biomedical Physics and Engineering Express*, **2016**, 2, 027001	1.5	7
45	Dielectric polarization transients in biological tissue moving in a static magnetic field. *Bioelectromagnetics*, **2016**, 37, 409-22	1.6	1
44	Effect of microscopic modeling of skin in electrical and thermal analysis of transcranial direct current stimulation. *Physics in Medicine and Biology*, **2016**, 61, 8825-8838	3.8	14
43	Thresholds of central nervous system stimulation at intermediate frequencies **2016**,		1

42	Evaluation method for in-situ electric field of different TMS coils in human brain **2016**,		1
41	Why intra-epidermal electrical stimulation achieves stimulation of small fibres selectively: a simulation study. *Physics in Medicine and Biology*, **2016**, 61, 4479-90	3.8	16
40	Electric fields of motor and frontal tDCS in a standard brain space: A computer simulation study. *NeuroImage*, **2016**, 137, 140-151	7.9	76
39	Computational dosimetry for child and adult human models due to contact current from 10 Hz to 110 MHz. *Radiation Protection Dosimetry*, **2015**, 167, 642-52	0.9	4
38	In-situ electric field in human body model in different postures for wireless power transfer system in an electrical vehicle. *Physics in Medicine and Biology*, **2015**, 60, 163-73	3.8	39
37	Inter-subject Variability in Electric Fields of Motor Cortical tDCS. *Brain Stimulation*, **2015**, 8, 906-13	5.1	200
36	Computational estimation of body temperature and sweating in the aged during passive heat exposure. *International Journal of Thermal Sciences*, **2015**, 89, 154-163	4.1	24
35	Quasistatic Approximation for Exposure Assessment of Wireless Power Transfer. *IEICE Transactions on Communications*, **2015**, E98.B, 1156-1163	0.5	7
34	An equivalent skin conductivity model for low-frequency magnetic field dosimetry. *Biomedical Physics and Engineering Express*, **2015**, 1, 015201	1.5	32
33	Evaluation of nonuniform field exposures with coupling factors. *Physics in Medicine and Biology*, **2015**, 60, 8129-40	3.8	21
32	Effects of coil orientation on the electric field induced by TMS over the hand motor area. *Physics in Medicine and Biology*, **2014**, 59, 203-18	3.8	107
31	Computation of Temperature Elevation in a Fetus Exposed to Ambient Heat and Radio Frequency Fields. *Numerical Heat Transfer; Part A: Applications*, **2014**, 65, 1176-1186	2.3	3
30	Analysis of in situ electric field and specific absorption rate in human models for wireless power transfer system with induction coupling. *Physics in Medicine and Biology*, **2014**, 59, 3721-35	3.8	22
29	Multi-scale simulations predict responses to non-invasive nerve root stimulation. *Journal of Neural Engineering*, **2014**, 11, 056013	5	21
28	FDTD computation of temperature elevation in the elderly for far-field RF exposures. *Radiation Protection Dosimetry*, **2014**, 158, 497-500	0.9	4
27	FDTD analysis of temperature elevation in the lens of human and rabbit models due to near-field and far-field exposures at 2.45 GHz. *Radiation Protection Dosimetry*, **2013**, 155, 284-91	0.9	7
26	The relationship between specific absorption rate and temperature elevation in anatomically based human body models for plane wave exposure from 30 MHz to 6 GHz. *Physics in Medicine and Biology* , **2013**, 58, 903-21	3.8	27
25	Evaluation of the induced electric field and compliance procedure for a wireless power transfer system in an electrical vehicle. *Physics in Medicine and Biology*, **2013**, 58, 7583-93	3.8	57

24	Computational dosimetry of induced electric fields during realistic movements in the vicinity of a 3 T MRI scanner. *Physics in Medicine and Biology*, **2013**, 58, 2625-40	3.8	25
23	Computational analysis shows why transcranial alternating current stimulation induces retinal phosphenes. *Journal of Neural Engineering*, **2013**, 10, 046009	5	67
22	On the issues related to compliance of LF pulsed exposures with safety standards and guidelines. *Physics in Medicine and Biology*, **2013**, 58, 8597-607	3.8	11
21	Computation of induced electric field for the sacral nerve activation. *Physics in Medicine and Biology* , **2013**, 58, 7745-55	3.8	10
20	Confirmation of quasi-static approximation in SAR evaluation for a wireless power transfer system. *Physics in Medicine and Biology*, **2013**, 58, N241-9	3.8	59
19	Computation of temperature elevation in fetus due to radio-frequency exposure with a new thermal modeling. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 3753-6	0.9	0
18	Computational dosimetry for grounded and ungrounded human models due to contact current. *Physics in Medicine and Biology*, **2013**, 58, 5153-72	3.8	15
17	Computational analysis of thresholds for magnetophosphenes. *Physics in Medicine and Biology*, **2012**, 57, 6147-65	3.8	11
16	Evaluation of SAR in a human body model due to wireless power transmission in the 10 MHz band. *Physics in Medicine and Biology*, **2012**, 57, 4991-5002	3.8	52
15	Improving the computational speed and reducing the staircasing error for simulations of human exposure to low frequency magnetic fields **2012**,		3
14	Reducing the staircasing error in computational dosimetry of low-frequency electromagnetic fields. *Physics in Medicine and Biology*, **2012**, 57, N25-34	3.8	82
13	Computational estimation of decline in sweating in the elderly from measured body temperatures and sweating for passive heat exposure. *Physiological Measurement*, **2012**, 33, N51-60	2.9	15
12	Fast multigrid-based computation of the induced electric field for transcranial magnetic stimulation. *Physics in Medicine and Biology*, **2012**, 57, 7753-65	3.8	103
11	Estimation of the whole-body averaged SAR of grounded human models for plane wave exposure at respective resonance frequencies. *Physics in Medicine and Biology*, **2012**, 57, 8427-42	3.8	13
10	DOMINANT FACTORS AFFECTING TEMPERATURE ELEVATION IN ADULT AND CHILD MODELS EXPOSED TO SOLAR RADIATION IN HOT ENVIRONMENT. *Progress in Electromagnetics Research B*, **2011**, 34, 47-61	0.7	5
9	Dominant factors affecting temperature rise in simulations of human thermoregulation during RF exposure. *Physics in Medicine and Biology*, **2011**, 56, 7449-71	3.8	59
8	Comparison of SAR calculation algorithms for the finite-difference time-domain method. *Physics in Medicine and Biology*, **2010**, 55, N421-31	3.8	16
7	Computational estimation of magnetically induced electric fields in a rotating head. *Physics in Medicine and Biology*, **2009**, 54, 341-51	3.8	21

6	Assessment of the computational uncertainty of temperature rise and SAR in the eyes and brain under far-field exposure from 1 to 10 GHz. *Physics in Medicine and Biology*, **2009**, 54, 3393-404	3.8	26
5	Alternative approach for modeling material interfaces in FDTD. *Microwave and Optical Technology Letters*, **2008**, 50, 1211-1214	1.2	1
4	Numerical specific absorption rate analysis and measurement of a small indoor base station antenna. *Microwave and Optical Technology Letters*, **2008**, 50, 2516-2521	1.2	4
3	Performance of convolutional PML absorbing boundary conditions in finite-difference time-domain SAR calculations. *Physics in Medicine and Biology*, **2007**, 52, 7183-92	3.8	25
2	Electric field dependent effects of motor cortical TDCS		3
1	Assessing tACS-induced phosphene perception using closed-loop Bayesian optimization		2