# Felix Scholkmann

List of Publications by Year
in descending order



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|---|---|---|---|
| 106 papers | 6,084 citations | 147801 31 h-index | 79698 73 g-index |
| 109 all docs | 109 docs citations | 109 times ranked | 5059 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A review on continuous wave functional near-infrared spectroscopy and imaging instrumentation and methodology. NeuroImage, 2014, 85, 6-27. | 4.2 | 1,371 |
| 2 | How to detect and reduce movement artifacts in near-infrared imaging using moving standard deviation and spline interpolation. Physiological Measurement, 2010, 31, 649-662. | 2.1 | 469 |
| 3 | False positives and false negatives in functional near-infrared spectroscopy: issues, challenges, and the way forward. Neurophotonics, 2016, 3, 031405. | 3.3 | 378 |
| 4 | An Efficient Algorithm for Automatic Peak Detection in Noisy Periodic and Quasi-Periodic Signals. Algorithms, 2012, 5, 588-603. | 2.1 | 275 |
| 5 | General equation for the differential pathlength factor of the frontal human head depending on wavelength and age. Journal of Biomedical Optics, 2013, 18, 105004. | 2.6 | 269 |
| 6 | Applications of Functional Near-Infrared Spectroscopy (fNIRS) Neuroimaging in Exerciseâ€“Cognition Science: A Systematic, Methodology-Focused Review. Journal of Clinical Medicine, 2018, 7, 466. | 2.4 | 263 |
| 7 | Current Status and Issues Regarding Pre-processing of fNIRS Neuroimaging Data: An Investigation of Diverse Signal Filtering Methods Within a General Linear Model Framework. Frontiers in Human Neuroscience, 2018, 12, 505. | 2.0 | 251 |
| 8 | Functional near-infrared spectroscopy in movement science: a systematic review on cortical activity in postural and walking tasks. Neurophotonics, 2017, 4, 041403. | 3.3 | 176 |
| 9 | Between-brain connectivity during imitation measured by fNIRS. NeuroImage, 2012, 63, 212-222. | 4.2 | 165 |
| 10 | Best practices for fNIRS publications. Neurophotonics, 2021, 8, 012101. | 3.3 | 142 |
| 11 | Human Intracranial High Frequency Oscillations (HFOs) Detected by Automatic Time-Frequency Analysis. PLoS ONE, 2014, 9, e94381. | 2.5 | 128 |
| 12 | Signal Processing in Functional Near-Infrared Spectroscopy (fNIRS): Methodological Differences Lead to Different Statistical Results. Frontiers in Human Neuroscience, 2017, 11, 641. | 2.0 | 125 |
| 13 | A new methodical approach in neuroscience: assessing inter-personal brain coupling using functional near-infrared imaging (fNIRI) hyperscanning. Frontiers in Human Neuroscience, 2013, 7, 813. | 2.0 | 111 |
| 14 | Permutation entropy based time series analysis: Equalities in the input signal can lead to false conclusions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 1883-1892. | 2.1 | 100 |
| 15 | Modelling confounding effects from extracerebral contamination and systemic factors on functional near-infrared spectroscopy. NeuroImage, 2016, 143, 91-105. | 4.2 | 99 |
| 16 | Heart Rate Variability as a Prognostic Factor for Cancer Survival â€“ A Systematic Review. Frontiers in Physiology, 2018, 9, 623. | 2.8 | 78 |
| 17 | Testing the potential of a virtual reality neurorehabilitation system during performance of observation, imagery and imitation of motor actions recorded by wireless functional near-infrared spectroscopy (fNIRS). Journal of NeuroEngineering and Rehabilitation, 2010, 7, 57. | 4.6 | 77 |
| 18 | Between-brain coherence during joint n-back task performance: A two-person functional near-infrared spectroscopy study. Behavioural Brain Research, 2012, 234, 212-222. | 2.2 | 77 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Measuring tissue hemodynamics and oxygenation by continuous-wave functional near-infrared spectroscopyâ€"how robust are the different calculation methods against movement artifacts?. Physiological Measurement, 2014, 35, 717-734. | 2.1 | 67 |
| 20 | Electron microscopy of SARS-CoV-2: a challenging task â€“ Authors' reply. Lancet, The, 2020, 395, e100. | 13.7 | 64 |
| 21 | Wearable and modular functional near-infrared spectroscopy instrument with multidistance measurements at four wavelengths. Neurophotonics, 2017, 4, 1. | 3.3 | 57 |
| 22 | Non-neuronal evoked and spontaneous hemodynamic changes in the anterior temporal region of the human head may lead to misinterpretations of functional near-infrared spectroscopy signals. Neurophotonics, 2017, 5, 1. | 3.3 | 48 |
| 23 | False positives and false negatives in functional near-infrared spectroscopy: issues, challenges, and the way forward. Neurophotonics, 2016, 3, 030401. | 3.3 | 47 |
| 24 | Short-channel regression in functional near-infrared spectroscopy is more effective when considering heterogeneous scalp hemodynamics. Neurophotonics, 2020, 7, 035011. | 3.3 | 46 |
| 25 | Microbial Colonization From the Fetus to Early Childhoodâ€"A Comprehensive Review. Frontiers in Cellular and Infection Microbiology, 2020, 10, 573735. | 3.9 | 42 |
| 26 | Effect of short-term colored-light exposure on cerebral hemodynamics and oxygenation, and systemic physiological activity. Neurophotonics, 2017, 4, 1. | 3.3 | 40 |
| 27 | Order out of Randomness: Self-Organization Processes in Astrophysics. Space Science Reviews, 2018, 214, 1. | 8.1 | 38 |
| 28 | A Distinct Role of the Autonomic Nervous System in Modulating the Function of Lymphatic Vessels under Physiological and Tumor-Draining Conditions. Cell Reports, 2019, 27, 3305-3314.e13. | 6.4 | 38 |
| 29 | The Effect of Inner Speech on Arterial CO2 and Cerebral Hemodynamics and Oxygenation: A Functional NIRS Study. Advances in Experimental Medicine and Biology, 2013, 789, 81-87. | 1.6 | 37 |
| 30 | The Pulse-Respiration Quotient: A Powerful but Untapped Parameter for Modern Studies About Human Physiology and Pathophysiology. Frontiers in Physiology, 2019, 10, 371. | 2.8 | 35 |
| 31 | Trial-to-trial variability differentiates motor imagery during observation between low versus high responders: A functional near-infrared spectroscopy study. Behavioural Brain Research, 2012, 229, 29-40. | 2.2 | 34 |
| 32 | The relationship between sympathetic nervous activity and cerebral hemodynamics and oxygenation: A study using skin conductance measurement and functional near-infrared spectroscopy. Behavioural Brain Research, 2014, 270, 95-107. | 2.2 | 34 |
| 33 | In vivo visualization and quantification of collecting lymphatic vessel contractility using near-infrared imaging. Scientific Reports, 2016, 6, 22930. | 3.3 | 33 |
| 34 | Non-chemical and non-contact cell-to-cell communication: a short review. American Journal of Translational Research (discontinued), 2013, 5, 586-93. | 0.0 | 29 |
| 35 | Cerebral hemodynamic and oxygenation changes induced by inner and heard speech: a study combining functional near-infrared spectroscopy and capnography. Journal of Biomedical Optics, 2014, 19, 017002. | 2.6 | 28 |
| 36 | Extension of mental preparation positively affects motor imagery as compared to motor execution: A functional near-infrared spectroscopy study. Cortex, 2012, 48, 593-603. | 2.4 | 27 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Systemic physiology augmented functional near-infrared spectroscopy: a powerful approach to study the embodied human brain. Neurophotonics, 2022, 9, . | 3.3 | 26 |
| 38 | Long range physical cell-to-cell signalling via mitochondria inside membrane nanotubes: a hypothesis. Theoretical Biology and Medical Modelling, 2016, 13, 16. | 2.1 | 25 |
| 39 | Autopsy-Based Pulmonary and Vascular Pathology: Pulmonary Endotheliitis and Multi-Organ Involvement in COVID-19 Associated Deaths. Respiration, 2022, 101, 155-165. | 2.6 | 25 |
| 40 | A New Approach for Automatic Removal of Movement Artifacts in Near-Infrared Spectroscopy Time Series by Means of Acceleration Data. Algorithms, 2015, 8, 1052-1075. | 2.1 | 24 |
| 41 | Phosphenes, retinal discrete dark noise, negative afterimages and retinogeniculate projections: A new explanatory framework based on endogenous ocular luminescence. Progress in Retinal and Eye Research, 2017, 60, 101-119. | 15.5 | 24 |
| 42 | In vivo precision assessment of a near-infrared spectroscopy-based tissue oximeter (OxyPrem v1.3) in neonates considering systemic hemodynamic fluctuations. Journal of Biomedical Optics, 2018, 23, 1. | 2.6 | 24 |
| 43 | The Role of Methemoglobin and Carboxyhemoglobin in COVID-19: A Review. Journal of Clinical Medicine, 2021, 10, 50. | 2.4 | 24 |
| 44 | Physiological effects of mechanical pain stimulation at the lower back measured by functional near-infrared spectroscopy and capnography. Journal of Integrative Neuroscience, 2014, 13, 121-142. | 1.7 | 23 |
| 45 | Dog behavior but not frontal brain reaction changes in repeated positive interactions with a human: A non-invasive pilot study using functional near-infrared spectroscopy (fNIRS). Behavioural Brain Research, 2015, 281, 172-176. | 2.2 | 22 |
| 46 | Individual Differences in Hemodynamic Responses Measured on the Head Due to a Long-Term Stimulation Involving Colored Light Exposure and a Cognitive Task: A SPA-fNIRS Study. Brain Sciences, 2021, 11, 54. | 2.3 | 22 |
| 47 | Cortical Sensorimotor Processing of Painful Pressure in Patients with Chronic Lower Back Painâ€"An Optical Neuroimaging Study using fNIRS. Frontiers in Human Neuroscience, 2016, 10, 578. | 2.0 | 20 |
| 48 | New Directions in Exercise Prescription: Is There a Role for Brain-Derived Parameters Obtained by Functional Near-Infrared Spectroscopy?. Brain Sciences, 2020, 10, 342. | 2.3 | 20 |
| 49 | New Parents Experienced Lower Parenting Self-Efficacy during the COVID-19 Pandemic Lockdown. Children, 2021, 8, 79. | 1.5 | 20 |
| 50 | Cerebral and systemic physiological effects of wearing face masks in young adults. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, . | 7.1 | 20 |
| 51 | Systematic Analysis of Mouse Genome Reveals Distinct Evolutionary and Functional Properties Among Circadian and Ultradian Genes. Frontiers in Physiology, 2018, 9, 1178. | 2.8 | 19 |
| 52 | A new method for fusion, denoising and enhancement of x-ray images retrieved from Talbotâ€"Lau grating interferometry. Physics in Medicine and Biology, 2014, 59, 1425-1440. | 3.0 | 17 |
| 53 | Color-dependent changes in humans during a verbal fluency task under colored light exposure assessed by SPA-fNIRS. Scientific Reports, 2021, 11, 9654. | 3.3 | 16 |
| 54 | Frontal cerebral oxygenation asymmetry: intersubject variability and dependence on systemic physiology, season, and time of day. Neurophotonics, 2020, 7, 1. | 3.3 | 16 |

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|---|---|---|---|
| 55 | Assessment of intermittent UMTS electromagnetic field effects on blood circulation in the human auditory region using a nearâ€infrared system. Bioelectromagnetics, 2012, 33, 40-54. | 1.6 | 15 |
| 56 | Two emerging topics regarding long-range physical signaling in neurosystems: Membrane nanotubes and electromagnetic fields. Journal of Integrative Neuroscience, 2015, 14, 135-153. | 1.7 | 15 |
| 57 | Different mechanosensory stimulations of the lower back elicit specific changes in hemodynamics and oxygenation in cortical sensorimotor areasâ€"A <scp>fNIRS</scp> study. Brain and Behavior, 2016, 6, e00575. | 2.2 | 15 |
| 58 | Cerebral hemodynamic responses in preterm-born neonates to visual stimulation: classification according to subgroups and analysis of frontotemporalâ€"occipital functional connectivity. Neurophotonics, 2019, 6, 1. | 3.3 | 13 |
| 59 | The Physical Mechanism for Retinal Discrete Dark Noise: Thermal Activation or Cellular Ultraweak Photon Emission?. PLoS ONE, 2016, 11, e0148336. | 2.5 | 12 |
| 60 | Relationship between intelligence and spectral characteristics of brain biophoton emission: Correlation does not automatically imply causation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5540-1. | 7.1 | 12 |
| 61 | Short-term pulse rate variability is better characterized by functional near-infrared spectroscopy than by photoplethysmography. Journal of Biomedical Optics, 2016, 21, 091308. | 2.6 | 12 |
| 62 | Impact of Changes in Systemic Physiology on fNIRS/NIRS Signals: Analysis Based on Oblique Subspace Projections Decomposition. Advances in Experimental Medicine and Biology, 2018, 1072, 119-125. | 1.6 | 12 |
| 63 | Systemic physiology augmented functional near-infrared spectroscopy hyperscanning: a first evaluation investigating entrainment of spontaneous activity of brain and body physiology between subjects. Neurophotonics, 2022, 9, 026601. | 3.3 | 12 |
| 64 | Enhancement of motor imageryâ€related cortical activation during firstâ€person observation measured by functional nearâ€infrared spectroscopy. European Journal of Neuroscience, 2012, 35, 1513-1521. | 2.6 | 11 |
| 65 | Oscillations of ultra-weak photon emission from cancer and non-cancer cells stressed by culture medium change and TNF-Î±. Scientific Reports, 2017, 7, 11249. | 3.3 | 10 |
| 66 | Multimodal recording of brain activity in term newborns during photic stimulation by near-infrared spectroscopy and electroencephalography. Journal of Biomedical Optics, 2012, 17, 086011. | 2.6 | 9 |
| 67 | Additional evidence supporting the view of the neural signal as a propagating density pulse â€" A comment on Barz et al. (2013). Medical Hypotheses, 2014, 82, 243. | 1.5 | 9 |
| 68 | Phosphene perception is due to the ultra-weak photon emission produced in various parts of the visual system: glutamate in the focus. Reviews in the Neurosciences, 2016, 27, 291-299. | 2.9 | 9 |
| 69 | A Multi-Layered Study on Harmonic Oscillations in Mammalian Genomics and Proteomics. International Journal of Molecular Sciences, 2019, 20, 4585. | 4.1 | 9 |
| 70 | Characterizing reproducibility of cerebral hemodynamic responses when applying short-channel regression in functional near-infrared spectroscopy. Neurophotonics, 2022, 9, 015004. | 3.3 | 9 |
| 71 | The circadecadal rhythm of oscillation of umbilical cord blood parameters correlates with geomagnetic activity â€" An analysis of long-term measurements (1999â€"2011). Chronobiology International, 2016, 33, 1136-1147. | 2.0 | 8 |
| 72 | Absolute Values of Optical Properties (Î¼a, Î¼Î„s, Î¼eff and DPF) of Human Head Tissue: Dependence on Head Region and Individual. Advances in Experimental Medicine and Biology, 2018, 1072, 325-330. | 1.6 | 8 |

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|---|---|---|---|
| 73 | Long-Term Changes in Optical Properties (Î¼a, Î¼â€²s, Î¼eff and DPF) of Human Head Tissue During Functional Neuroimaging Experiments. Advances in Experimental Medicine and Biology, 2018, 1072, 331-337. | 1.6 | 8 |
| 74 | Assessment of Potential Short-Term Effects of Intermittent UMTS Electromagnetic Fields on Blood Circulation in an Exploratory Study, Using Near-Infrared Imaging. Advances in Experimental Medicine and Biology, 2012, 737, 83-88. | 1.6 | 7 |
| 75 | Electromagnetic elds and optomechanics in cancer diagnostics and treatment. Frontiers in Bioscience - Landmark, 2018, 23, 1391-1406. | 3.0 | 7 |
| 76 | Reference Ranges for Hemoglobin and Hematocrit Levels in Neonates as a Function of Gestational Age (22â€“42 Weeks) and Postnatal Age (0â€“29 Days): Mathematical Modeling. Children, 2019, 6, 38. | 1.5 | 7 |
| 77 | Comparison of Two NIRS Tissue Oximeters (Moxy and Nimo) for Non-Invasive Assessment of Muscle Oxygenation and Perfusion. Advances in Experimental Medicine and Biology, 2020, 1232, 253-259. | 1.6 | 7 |
| 78 | Absorption spectra of early stool from preterm infants need to be considered in abdominal NIRS oximetry. Biomedical Optics Express, 2019, 10, 2784. | 2.9 | 7 |
| 79 | Endogenous spontaneous ultraweak photon emission in the formation of eye-specific retinogeniculate projections before birth. Reviews in the Neurosciences, 2016, 27, 411-419. | 2.9 | 6 |
| 80 | Changes in Spinal Muscle Oxygenation and Perfusion During the Biering-SÃ¸rensen Test: Preliminary Results of a Study Employing NIRS-Based Muscle Oximetry. Advances in Experimental Medicine and Biology, 2018, 1072, 103-109. | 1.6 | 6 |
| 81 | Correlations between Background Radiation Inside a Multilayer Interleaving Structure, Geomagnetic Activity, and Cosmic Radiation: A Fourth-Order Cumulant-Based Correlation Analysis. Mathematics, 2020, 8, 344. | 2.2 | 6 |
| 82 | COVID-19: The Significance of Platelets, Mitochondria, Vitamin D, Serotonin and the Gut Microbiota. Current Medicinal Chemistry, 2021, 28, 7634-7657. | 2.4 | 6 |
| 83 | Newborn Incubators Do Not Protect from High Noise Levels in the Neonatal Intensive Care Unit and Are Relevant Noise Sources by Themselves. Children, 2021, 8, 704. | 1.5 | 6 |
| 84 | The Role of Systemic Physiology in Individual Hemodynamic Responses Measured on the Head Due to Long-Term Stimulation Involving Colored Light Exposure and a Cognitive Task: An SPA-fNIRS Study. Brain Sciences, 2022, 12, 597. | 2.3 | 6 |
| 85 | Characterizing Fluctuations of Arterial and Cerebral Tissue Oxygenation in Preterm Neonates by Means of Data Analysis Techniques for Nonlinear Dynamical Systems. Advances in Experimental Medicine and Biology, 2016, 876, 511-519. | 1.6 | 5 |
| 86 | In Vitro Comparisons of Near-Infrared Spectroscopy Oximeters: Impact of Slow Changes in Scattering of Liquid Phantoms. Advances in Experimental Medicine and Biology, 2018, 1072, 375-379. | 1.6 | 5 |
| 87 | Exposure to High-Frequency Sound and Ultrasound in Public Places: Examples from Zurich, Switzerland. Acoustics, 2019, 1, 816-824. | 1.4 | 5 |
| 88 | Characterization of the optical properties of color pastes for the design of optical phantoms mimicking biological tissue. Journal of Biophotonics, 2019, 12, e201800300. | 2.3 | 5 |
| 89 | Long-Term Blue Light Exposure Changes Frontal and Occipital Cerebral Hemodynamics: Not All Subjects React the Same. Advances in Experimental Medicine and Biology, 2021, 1269, 217-222. | 1.6 | 5 |
| 90 | Pulse oximetry, racial bias and statistical bias: further improvements of pulse oximetry are necessary. Annals of Intensive Care, 2022, 12, 19. | 4.6 | 5 |

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|---|---|---|---|
| 91 | Liquid Blood Phantoms to Validate NIRS Oximeters: Yeast Versus Nitrogen for Deoxygenation. Advances in Experimental Medicine and Biology, 2018, 1072, 381-385. | 1.6 | 4 |
| 92 | Right-Left Asymmetry of Prefrontal Cerebral Oxygenation: Does it Depend on Systemic Physiological Activity, Absolute Tissue Oxygenation or Hemoglobin Concentration?. Advances in Experimental Medicine and Biology, 2020, 1232, 105-112. | 1.6 | 4 |
| 93 | Possible role of biochemiluminescent photons for lysergic acid diethylamide (LSD)-induced phosphenes and visual hallucinations. Reviews in the Neurosciences, 2017, 28, 77-86. | 2.9 | 3 |
| 94 | Exoplanet Predictions Based on Harmonic Orbit Resonances. Galaxies, 2017, 5, 56. | 3.0 | 3 |
| 95 | Influence of study design on effects of mask wearing on fMRI BOLD contrast and systemic physiology â€" A comment on Law etÂal. (2021). NeuroImage, 2021, 244, 118549. | 4.2 | 3 |
| 96 | The Effect of Venous and Arterial Occlusion of the Arm on Changes in Tissue Hemodynamics, Oxygenation, and Ultra-Weak Photon Emission. Advances in Experimental Medicine and Biology, 2013, 765, 257-264. | 1.6 | 3 |
| 97 | Myelin sheath and cyanobacterial thylakoids as concentric multilamellar structures with similar bioenergetic properties. Open Biology, 2021, 11, 210177. | 3.6 | 3 |
| 98 | Error detection and error memory in spatial navigation as reflected by electrodermal activity. Cognitive Processing, 2013, 14, 377-389. | 1.4 | 2 |
| 99 | The RONO (Rank-Order-Normalization) Procedure for Power-Spectrum Analysis of Datasets with Non-Normal Distributions. Algorithms, 2020, 13, 157. | 2.1 | 2 |
| 100 | No alteration of back muscle oxygenation during isometric exercise in individuals with non-specific low back pain. Scientific Reports, 2022, 12, 8306. | 3.3 | 2 |
| 101 | Changes in Water Properties in Human Tissue after Double Filtration Plasmapheresisâ€"A Case Study. Molecules, 2022, 27, 3947. | 3.8 | 2 |
| 102 | Comment on â€˜A new method for fusion, denoising and enhancement of x-ray images retrieved from Talbotâ€“Lau grating interferometryâ€™. Physics in Medicine and Biology, 2015, 60, 925-928. | 3.0 | 1 |
| 103 | Reply to: Role of ambient humidity underestimated in research on correlation between radioactive decay rates and space weather. Scientific Reports, 2022, 12, 2530. | 3.3 | 1 |
| 104 | The Influence of Inner and Heard Speech in Arts Speech Therapy on Brain Oxygenation and Hemodynamics. Journal of Alternative and Complementary Medicine, 2014, 20, A78-A78. | 2.1 | 0 |
| 105 | Synchronized Oscillations of Arterial Oxygen Saturation, Cerebral Tissue Oxygenation and Heart Rate in Preterm Neonates: Investigation of Long-Term Measurements with Multiple Einsteinâ€™s Cross Wavelet Analysis. Advances in Experimental Medicine and Biology, 2018, 1072, 157-161. | 1.6 | 0 |
| 106 | A four-month cycle in COVID-19 cases in Switzerland. Innovation(China), 2022, 3, 100232. | 9.1 | 0 |