Philipp Gutruf

List of Publications by Year in Descending Order

64 papers	4,613 citations	35 h-index	67 g-index
70 ext. papers	5,887 ext. citations	13.9 avg, IF	5.66 L-index

#	Paper	IF	Citations
64	Wearable devices for continuous monitoring of biosignals: Challenges and opportunities.. *APL Bioengineering*, **2022**, 6, 021502	6.6	5
63	Osseosurface electronics-thin, wireless, battery-free and multimodal musculoskeletal biointerfaces. *Nature Communications*, **2021**, 12, 6707	17.4	6
62	Biosymbiotic, personalized, and digitally manufactured wireless devices for indefinite collection of high-fidelity biosignals. *Science Advances*, **2021**, 7, eabj3269	14.3	5
61	Soft, Wireless and subdermally implantable recording and neuromodulation tools. *Journal of Neural Engineering*, **2021**,	5	4
60	Activation of the dorsal, but not the ventral, hippocampus relieves neuropathic pain in rodents. *Pain*, **2021**, 162, 2865-2880	8	7
59	Wireless battery free fully implantable multimodal recording and neuromodulation tools for songbirds. *Nature Communications*, **2021**, 12, 1968	17.4	9
58	Wireless and battery-free platforms for collection of biosignals. *Biosensors and Bioelectronics*, **2021**, 178, 113007	11.8	22
57	Wireless, battery-free, subdermally implantable platforms for transcranial and long-range optogenetics in freely moving animals. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	7
56	Moving from Pedagogy to Andragogy in Biomedical Engineering Design: Strategies for Lab-at-Home and Distance Learning.. *Biomedical Engineering Education*, **2021**, 1, 301-305		
55	Wireless and battery-free technologies for neuroengineering. *Nature Biomedical Engineering*, **2021**,	19	26
54	Wireless, battery-free, and fully implantable electrical neurostimulation in freely moving rodents. *Microsystems and Nanoengineering*, **2021**, 7, 62	7.7	6
53	Wireless, Accumulation Mode Dosimeters for Monitoring Pulsed and Non-Pulsed Germicidal Lamps. *IEEE Sensors Journal*, **2021**, 21, 18706-18714	4	
52	Nicotine Sensors for Wearable Battery-Free Monitoring of Vaping. *ACS Sensors*, **2021**,	9.2	3
51	Excitatory VTA to DH projections provide a valence signal to memory circuits. *Nature Communications*, **2020**, 11, 1466	17.4	8
50	Wireless, battery-free subdermally implantable photometry systems for chronic recording of neural dynamics. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 2835-2845	11.5	55
49	Smartphone for monitoring basic vital signs: miniaturized, near-field communication based devices for chronic recording of health **2020**, 177-208		3
48	Skin-interfaced soft microfluidic systems with modular and reusable electronics for capacitive sensing of sweat loss, rate and conductivity. *Lab on A Chip*, **2020**, 20, 4391-4403	7.2	9

47	Sweat-activated biocompatible batteries for epidermal electronic and microfluidic systems. *Nature Electronics*, **2020**, 3, 554-562	28.4	48
46	Bio-Integrated Wearable Systems: A Comprehensive Review. *Chemical Reviews*, **2019**, 119, 5461-5533	68.1	496
45	Waterproof, electronics-enabled, epidermal microfluidic devices for sweat collection, biomarker analysis, and thermography in aquatic settings. *Science Advances*, **2019**, 5, eaau6356	14.3	142
44	Soft, Skin-Interfaced Microfluidic Systems with Passive Galvanic Stopwatches for Precise Chronometric Sampling of Sweat. *Advanced Materials*, **2019**, 31, e1902109	24	42
43	Flexible Inorganic Light Emitting Diodes Enabled by New Materials and Designs, With Examples of Their Use in Neuroscience Research **2019**, 1-39		
42	Wireless, battery-free optoelectronic systems as subdermal implants for local tissue oximetry. *Science Advances*, **2019**, 5, eaaw0873	14.3	65
41	Battery-free, fully implantable optofluidic cuff system for wireless optogenetic and pharmacological neuromodulation of peripheral nerves. *Science Advances*, **2019**, 5, eaaw5296	14.3	79
40	Semiconductor-Free Field-Emission Nanoelectronics: Application in Air-Channel Transistors **2019**,		1
39	Battery-free, lightweight, injectable microsystem for in vivo wireless pharmacology and optogenetics. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 21427-21437	11.5	61
38	Skin-integrated wireless haptic interfaces for virtual and augmented reality. *Nature*, **2019**, 575, 473-479	50.4	307
37	Wireless, battery-free, fully implantable multimodal and multisite pacemakers for applications in small animal models. *Nature Communications*, **2019**, 10, 5742	17.4	72
36	Battery-free, skin-interfaced microfluidic/electronic systems for simultaneous electrochemical, colorimetric, and volumetric analysis of sweat. *Science Advances*, **2019**, 5, eaav3294	14.3	299
35	Wireless optoelectronic photometers for monitoring neuronal dynamics in the deep brain. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E1374-E1383	11.5	113
34	Implantable, wireless device platforms for neuroscience research. *Current Opinion in Neurobiology*, **2018**, 50, 42-49	7.6	71
33	Wearable sensors: modalities, challenges, and prospects. *Lab on A Chip*, **2018**, 18, 217-248	7.2	504
32	Metal-Air Transistors: Semiconductor-Free Field-Emission Air-Channel Nanoelectronics. *Nano Letters*, **2018**, 18, 7478-7484	11.5	48
31	Epidermal Electronics: Wireless, Battery-Free Epidermal Electronics for Continuous, Quantitative, Multimodal Thermal Characterization of Skin (Small 47/2018). *Small*, **2018**, 14, 1870226	11	7
30	Fully implantable optoelectronic systems for battery-free, multimodal operation in neuroscience research. *Nature Electronics*, **2018**, 1, 652-660	28.4	92

29	Wireless, battery-free, flexible, miniaturized dosimeters monitor exposure to solar radiation and to light for phototherapy. *Science Translational Medicine*, **2018**, 10,	17.5	59
28	Wireless, Battery-Free Epidermal Electronics for Continuous, Quantitative, Multimodal Thermal Characterization of Skin. *Small*, **2018**, 14, e1803192	11	53
27	Perspective: Implantable optical systems for neuroscience research in behaving animal models Current approaches and future directions. *APL Photonics*, **2018**, 3, 120901	5.2	10
26	Epidermal electronics for noninvasive, wireless, quantitative assessment of ventricular shunt function in patients with hydrocephalus. *Science Translational Medicine*, **2018**, 10,	17.5	51
25	Fully Biodegradable Microsupercapacitor for Power Storage in Transient Electronics. *Advanced Energy Materials*, **2017**, 7, 1700157	21.8	145
24	Oximetry: Miniaturized Battery-Free Wireless Systems for Wearable Pulse Oximetry (Adv. Funct. Mater. 1/2017). *Advanced Functional Materials*, **2017**, 27,	15.6	3
23	Materials and Device Designs for an Epidermal UV Colorimetric Dosimeter with Near Field Communication Capabilities. *Advanced Functional Materials*, **2017**, 27, 1604465	15.6	108
22	Miniaturized Battery-Free Wireless Systems for Wearable Pulse Oximetry. *Advanced Functional Materials*, **2017**, 27, 1604373	15.6	182
21	Nanoscale TiO2 dielectric resonator absorbers. *Optics Letters*, **2016**, 41, 3391-4	3	34
20	Mechanical assembly of complex, 3D mesostructures from releasable multilayers of advanced materials. *Science Advances*, **2016**, 2, e1601014	14.3	152
19	Terahertz and optical Dielectric Resonator Antennas: Potential and challenges for efficient designs **2016**,		5
18	Mechanically Tunable Dielectric Resonator Metasurfaces at Visible Frequencies. *ACS Nano*, **2016**, 10, 133-41	16.7	198
17	Strain Engineering of Wave-like Nanofibers for Dynamically Switchable Adhesive/Repulsive Surfaces. *Advanced Functional Materials*, **2016**, 26, 399-407	15.6	39
16	Dielectric Resonator Reflectarray as High-Efficiency Nonuniform Terahertz Metasurface. *ACS Photonics*, **2016**, 3, 1019-1026	6.3	67
15	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). *Small*, **2015**, 11, 905-905	11	8
14	Flexible bi-layer terahertz chiral metamaterials. *Journal of Optics (United Kingdom)*, **2015**, 17, 085101	1.7	6
13	Epidermal electronics with advanced capabilities in near-field communication. *Small*, **2015**, 11, 906-12	11	191
12	Epidermal Electronics: Miniaturized Flexible Electronic Systems with Wireless Power and Near-Field Communication Capabilities (Adv. Funct. Mater. 30/2015). *Advanced Functional Materials*, **2015**, 25, 4919-4919	15.6	2

11	Mechanically Tunable High Refractive-Index Contrast TiO2PDMS Gratings. *Advanced Optical Materials*, **2015**, 3, 1565-1569	8.1	13
10	Donor-Induced Performance Tuning of Amorphous SrTiO3 Memristive Nanodevices: Multistate Resistive Switching and Mechanical Tunability. *Advanced Functional Materials*, **2015**, 25, 3172-3182	15.6	59
9	Stretchable and Tunable Microtectonic ZnO-Based Sensors and Photonics. *Small*, **2015**, 11, 4532-9	11	47
8	Visible-Blind UV Imaging with Oxygen-Deficient Zinc Oxide Flexible Devices. *Advanced Electronic Materials*, **2015**, 1, 1500264	6.4	13
7	Terahertz Magnetic Mirror Realized with Dielectric Resonator Antennas. *Advanced Materials*, **2015**, 27, 7137-44	24	48
6	Miniaturized Flexible Electronic Systems with Wireless Power and Near-Field Communication Capabilities. *Advanced Functional Materials*, **2015**, 25, 4761-4767	15.6	114
5	Flexible metasurfaces and metamaterials: A review of materials and fabrication processes at micro- and nano-scales. *Applied Physics Reviews*, **2015**, 2, 011303	17.3	204
4	ZnO: Stretchable and Tunable Microtectonic ZnO-Based Sensors and Photonics (Small 35/2015). *Small*, **2015**, 11, 4414-4414	11	
3	Strain response of stretchable micro-electrodes: Controlling sensitivity with serpentine designs and encapsulation. *Applied Physics Letters*, **2014**, 104, 021908	3.4	37
2	Terahertz reflectarray as a polarizing beam splitter. *Optics Express*, **2014**, 22, 16148-60	3.3	83
1	Transparent functional oxide stretchable electronics: micro-tectonics enabled high strain electrodes. *NPG Asia Materials*, **2013**, 5, e62-e62	10.3	58