Philipp Gutruf

List of Publications by Year
in descending order

67 papers	7,242 citations	94381 37 h-index	133188 59 g-index
70 all docs	70 docs citations	70 times ranked	9021 citing authors

#	Article	IF	Citations
1	Bio-Integrated Wearable Systems: A Comprehensive Review. Chemical Reviews, 2019, 119, 5461-5533.	23.0	822
2	Wearable sensors: modalities, challenges, and prospects. Lab on A Chip, 2018, 18, 217-248.	3.1	778
3	Skin-integrated wireless haptic interfaces for virtual and augmented reality. Nature, 2019, 575, 473-479.	13.7	610
4	Battery-free, skin-interfaced microfluidic/electronic systems for simultaneous electrochemical, colorimetric, and volumetric analysis of sweat. Science Advances, 2019, 5, eaav3294.	4.7	497
5	Flexible metasurfaces and metamaterials: A review of materials and fabrication processes at micro- and nano-scales. Applied Physics Reviews, 2015, 2, 011303.	5.5	303
6	Mechanically Tunable Dielectric Resonator Metasurfaces at Visible Frequencies. ACS Nano, 2016, 10, 133-141.	7.3	255
7	Miniaturized Batteryâ€Free Wireless Systems for Wearable Pulse Oximetry. Advanced Functional Materials, 2017, 27, 1604373.	7.8	248
8	Epidermal Electronics with Advanced Capabilities in Near-Field Communication. Small, 2015, 11, 906-912.	5.2	224
9	Waterproof, electronics-enabled, epidermal microfluidic devices for sweat collection, biomarker analysis, and thermography in aquatic settings. Science Advances, 2019, 5, eaau6356.	4.7	208
10	Mechanical assembly of complex, 3D mesostructures from releasable multilayers of advanced materials. Science Advances, 2016, 2, e1601014.	4.7	200
11	Fully Biodegradable Microsupercapacitor for Power Storage in Transient Electronics. Advanced Energy Materials, 2017, 7, 1700157.	10.2	196
12	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.	3.3	167
13	Fully implantable optoelectronic systems for battery-free, multimodal operation in neuroscience research. Nature Electronics, 2018, 1, 652-660.	13.1	157
14	Miniaturized Flexible Electronic Systems with Wireless Power and Nearâ€Field Communication Capabilities. Advanced Functional Materials, 2015, 25, 4761-4767.	7.8	148
15	Wireless, battery-free, fully implantable multimodal and multisite pacemakers for applications in small animal models. Nature Communications, 2019, 10, 5742.	5.8	146
16	Wireless and battery-free technologies for neuroengineering. Nature Biomedical Engineering, 2023, 7, 405-423.	11.6	141
17	Materials and Device Designs for an Epidermal UV Colorimetric Dosimeter with Near Field Communication Capabilities. Advanced Functional Materials, 2017, 27, 1604465.	7.8	135
18	Battery-free, fully implantable optofluidic cuff system for wireless optogenetic and pharmacological neuromodulation of peripheral nerves. Science Advances, 2019, 5, eaaw5296.	4.7	127

#	Article	IF	Citations
19	Wireless, battery-free optoelectronic systems as subdermal implants for local tissue oximetry. Science Advances, 2019, 5, eaaw0873.	4.7	116
20	Terahertz reflectarray as a polarizing beam splitter. Optics Express, 2014, 22, 16148.	1.7	111
21	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.	3.3	110
22	Implantable, wireless device platforms for neuroscience research. Current Opinion in Neurobiology, 2018, 50, 42-49.	2.0	104
23	Sweat-activated biocompatible batteries for epidermal electronic and microfluidic systems. Nature Electronics, 2020, 3, 554-562.	13.1	99
24	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.	3.3	94
25	Wireless, battery-free, flexible, miniaturized dosimeters monitor exposure to solar radiation and to light for phototherapy. Science Translational Medicine, 2018, 10, .	5.8	91
26	Dielectric Resonator Reflectarray as High-Efficiency Nonuniform Terahertz Metasurface. ACS Photonics, 2016, 3, 1019-1026.	3.2	82
27	Metalâ€“Air Transistors: Semiconductor-Free Field-Emission Air-Channel Nanoelectronics. Nano Letters, 2018, 18, 7478-7484.	4.5	76
28	Wireless, Batteryâ€Free Epidermal Electronics for Continuous, Quantitative, Multimodal Thermal Characterization of Skin. Small, 2018, 14, e1803192.	5.2	73
29	Donorâ€Induced Performance Tuning of Amorphous SrTiO₃ Memristive Nanodevices: Multistate Resistive Switching and Mechanical Tunability. Advanced Functional Materials, 2015, 25, 3172-3182.	7.8	68
30	Epidermal electronics for noninvasive, wireless, quantitative assessment of ventricular shunt function in patients with hydrocephalus. Science Translational Medicine, 2018, 10, .	5.8	68
31	Transparent functional oxide stretchable electronics: micro-tectonics enabled high strain electrodes. NPG Asia Materials, 2013, 5, e62-e62.	3.8	67
32	Terahertz Magnetic Mirror Realized with Dielectric Resonator Antennas. Advanced Materials, 2015, 27, 7137-7144.	11.1	63
33	Soft, Skinâ€Interfaced Microfluidic Systems with Passive Galvanic Stopwatches for Precise Chronometric Sampling of Sweat. Advanced Materials, 2019, 31, e1902109.	11.1	62
34	Stretchable and Tunable Microtectonic ZnO-Based Sensors and Photonics. Small, 2015, 11, 4532-4539.	5.2	54
35	Strain response of stretchable micro-electrodes: Controlling sensitivity with serpentine designs and encapsulation. Applied Physics Letters, 2014, 104, 021908.	1.5	47
36	Strain Engineering of Waveâ€Like Nanofibers for Dynamically Switchable Adhesive/Repulsive Surfaces. Advanced Functional Materials, 2016, 26, 399-407.	7.8	47

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37	Wireless and battery-free platforms for collection of biosignals. Biosensors and Bioelectronics, 2021, 178, 113007.	5.3	40
38	Nanoscale TiO_2 dielectric resonator absorbers. Optics Letters, 2016, 41, 3391.	1.7	36
39	Wearable devices for continuous monitoring of biosignals: Challenges and opportunities. APL Bioengineering, 2022, 6, 021502.	3.3	36
40	Wireless, battery-free, and fully implantable electrical neurostimulation in freely moving rodents. Microsystems and Nanoengineering, 2021, 7, 62.	3.4	34
41	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, .	3.3	31
42	Wireless battery free fully implantable multimodal recording and neuromodulation tools for songbirds. Nature Communications, 2021, 12, 1968.	5.8	30
43	Osseosurface electronicsâ€"thin, wireless, battery-free and multimodal musculoskeletal biointerfaces. Nature Communications, 2021, 12, 6707.	5.8	29
44	Activation of the dorsal, but not the ventral, hippocampus relieves neuropathic pain in rodents. Pain, 2021, 162, 2865-2880.	2.0	27
45	Excitatory VTA to DH projections provide a valence signal to memory circuits. Nature Communications, 2020, 11, 1466.	5.8	24
46	Skin-interfaced soft microfluidic systems with modular and reusable electronics for <i>in situ</i> capacitive sensing of sweat loss, rate and conductivity. Lab on A Chip, 2020, 20, 4391-4403.	3.1	23
47	Biosymbiotic, personalized, and digitally manufactured wireless devices for indefinite collection of high-fidelity biosignals. Science Advances, 2021, 7, eabj3269.	4.7	22
48	Mechanically Tunable High Refractiveâ€Index Contrast TiO₂â€"PDMS Gratings. Advanced Optical Materials, 2015, 3, 1565-1569.	3.6	18
49	Visibleâ€Blind UV Imaging with Oxygenâ€Deficient Zinc Oxide Flexible Devices. Advanced Electronic Materials, 2015, 1, 1500264.	2.6	14
50	Soft, wireless and subdermally implantable recording and neuromodulation tools. Journal of Neural Engineering, 2021, 18, 041001.	1.8	13
51	Perspective: Implantable optical systems for neuroscience research in behaving animal modelsâ€"Current approaches and future directions. APL Photonics, 2018, 3, .	3.0	11
52	Epidermal Electronics: Wireless, Batteryâ€Free Epidermal Electronics for Continuous, Quantitative, Multimodal Thermal Characterization of Skin (Small 47/2018). Small, 2018, 14, 1870226.	5.2	9
53	Nicotine Sensors for Wearable Battery-Free Monitoring of Vaping. ACS Sensors, 2022, 7, 82-88.	4.0	9
54	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). Small, 2015, 11, 905-905.	5.2	8

#	ARTICLE	IF	CITATIONS
55	Flexible bi-layer terahertz chiral metamaterials. Journal of Optics (United Kingdom), 2015, 17, 085101.	1.0	8
56	Terahertz and optical Dielectric Resonator Antennas: Potential and challenges for efficient designs. , 2016, , .		7
57	Smartphone for monitoring basic vital signs: miniaturized, near-field communication based devices for chronic recording of health. , 2020, , 177-208.		5
58	Oximetry: Miniaturized Batteryâ€Free Wireless Systems for Wearable Pulse Oximetry (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Overlock 1	7.8	4
59	Epidermal Electronics: Miniaturized Flexible Electronic Systems with Wireless Power and Nearâ€Field Communication Capabilities (Adv. Funct. Mater. 30/2015). Advanced Functional Materials, 2015, 25, 4919-4919.	7.8	3
60	Passive electric monopole array for terahertz surface wave launcher. , 2015, , .		1
61	UV Sensors: Materials and Device Designs for an Epidermal UV Colorimetric Dosimeter with Near Field Communication Capabilities (Adv. Funct. Mater. 2/2017). Advanced Functional Materials, 2017, 27, .	7.8	1
62	Semiconductor-Free Field-Emission Nanoelectronics: Application in Air-Channel Transistors. , 2019, , .		1
63	Moving from Pedagogy to Andragogy in Biomedical Engineering Design: Strategies for Lab-at-Home and Distance Learning. Biomedical Engineering Education, 2021, 1, 301-305.	0.6	1
64	Wireless, Accumulation Mode Dosimeters for Monitoring Pulsed and Non-Pulsed Germicidal Lamps. IEEE Sensors Journal, 2021, 21, 18706-18714.	2.4	1
65	ZnO: Stretchable and Tunable Microtectonic ZnO-Based Sensors and Photonics (Small 35/2015). Small, 2015, 11, 4414-4414.	5.2	0
66	Fabrication of micro-scale single-crystal silicon structures for efficient terahertz magnetic mirror. , 2016, , .		0
67	Mechanically Tunable Thin Film High Refractive Index Contrast TiO2â€"Gratings in Elastomeric Matrix. , 2015, , .		0