Wei-Chuan Shih

List of Publications by Citations

84 papers	1,809 citations	26 h-index	40 g-index
130 ext. papers	2,423 ext. citations	5.4 avg, IF	5.17 L-index

#	Paper	IF	Citations
84	3D Cross-Point Plasmonic Nanoarchitectures Containing Dense and Regular Hot Spots for Surface-Enhanced Raman Spectroscopy Analysis. *Advanced Materials*, **2016**, 28, 8695-8704	24	127
83	Surface-enhanced Raman spectroscopy with monolithic nanoporous gold disk substrates. *Nanoscale*, **2013**, 5, 4105-9	7.7	80
82	Fabricating optical lenses by inkjet printing and heat-assisted in situ curing of polydimethylsiloxane for smartphone microscopy. *Journal of Biomedical Optics*, **2015**, 20, 047005	3.5	69
81	Monolithic NPG nanoparticles with large surface area, tunable plasmonics, and high-density internal hot-spots. *Nanoscale*, **2014**, 6, 8199-207	7.7	69
80	Characterization of nanoporous gold disks for photothermal light harvesting and light-gated molecular release. *Nanoscale*, **2014**, 6, 5718-24	7.7	68
79	Label-free, in situ SERS monitoring of individual DNA hybridization in microfluidics. *Nanoscale*, **2014** , 6, 8521-6	7.7	66
78	Gold nanoshell-decorated silicone surfaces for the near-infrared (NIR) photothermal destruction of the pathogenic bacterium E. faecalis. *ACS Applied Materials & Interfaces*, **2015**, 7, 3981-93	9.5	64
77	Microfluidic surface-enhanced Raman scattering sensor with monolithically integrated nanoporous gold disk arrays for rapid and label-free biomolecular detection. *Journal of Biomedical Optics*, **2014**, 19, 111611	3.5	59
76	Performance of line-scan Raman microscopy for high-throughput chemical imaging of cell population. *Applied Optics*, **2014**, 53, 2881-5	1.7	57
75	Reagent- and separation-free measurements of urine creatinine concentration using stamping surface enhanced Raman scattering (S-SERS). *Biomedical Optics Express*, **2015**, 6, 849-58	3.5	54
74	Simultaneous Chemical and Refractive Index Sensing in the 1-2.5 μm Near-Infrared Wavelength Range on Nanoporous Gold Disks. *Nano Letters*, **2016**, 16, 4641-7	11.5	51
73	Intrinsic Raman spectroscopy for quantitative biological spectroscopy part I: theory and simulations. *Optics Express*, **2008**, 16, 12726-36	3.3	48
72	Morphological control and plasmonic tuning of nanoporous gold disks by surface modifications. *Journal of Materials Chemistry C*, **2015**, 3, 247-252	7.1	44
71	Open-source do-it-yourself multi-color fluorescence smartphone microscopy. *Biomedical Optics Express*, **2017**, 8, 5075-5086	3.5	44
70	Nanoporous metals by alloy corrosion: Bioanalytical and biomedical applications. *MRS Bulletin*, **2018**, 43, 49-56	3.2	42
69	Laser rapid thermal annealing enables tunable plasmonics in nanoporous gold nanoparticles. *Nanoscale*, **2014**, 6, 12470-5	7.7	40
68	High-speed hyperspectral Raman imaging for label-free compositional microanalysis. *Biomedical Optics Express*, **2013**, 4, 2376-82	3.5	39

67	Nanoporous Metals: From Plasmonic Properties to Applications in Enhanced Spectroscopy and Photocatalysis. *ACS Nano*, **2021**, 15, 6038-6060	16.7	38
66	Photothermal inactivation of heat-resistant bacteria on nanoporous gold disk arrays. *Optical Materials Express*, **2016**, 6, 1217	2.6	37
65	Stamping surface-enhanced Raman spectroscopy for label-free, multiplexed, molecular sensing and imaging. *Journal of Biomedical Optics*, **2014**, 19, 050501	3.5	34
64	Parallel Raman microspectroscopy using programmable multipoint illumination. *Optics Letters*, **2012**, 37, 1289-91	3	33
63	Intrinsic Raman spectroscopy for quantitative biological spectroscopy part II: experimental applications. *Optics Express*, **2008**, 16, 12737-45	3.3	33
62	Internal and external morphology-dependent plasmonic resonance in monolithic nanoporous gold nanoparticles. *RSC Advances*, **2014**, 4, 36682-36688	3.7	31
61	Label-free, zeptomole cancer biomarker detection by surface-enhanced fluorescence on nanoporous gold disk plasmonic nanoparticles. *Journal of Biophotonics*, **2015**, 8, 855-63	3.1	31
60	Constrained regularization: hybrid method for multivariate calibration. *Analytical Chemistry*, **2007**, 79, 234-9	7.8	31
59	Smartphone Nanocolorimetry for On-Demand Lead Detection and Quantitation in Drinking Water. *Analytical Chemistry*, **2018**, 90, 11517-11522	7.8	29
58	Infrared contrast of crude-oil-covered water surfaces. *Optics Letters*, **2008**, 33, 3019-21	3	26
57	Noninvasive glucose sensing by transcutaneous Raman spectroscopy. *Journal of Biomedical Optics*, **2015**, 20, 051036	3.5	25
56	Nanoporous Gold Disks Functionalized with Stabilized G-Quadruplex Moieties for Sensing Small Molecules. *ACS Applied Materials & Interfaces*, **2016**, 8, 29968-29976	9.5	25
55	Integrated Nanogap Platform for Sub-Volt Dielectrophoretic Trapping and Real-Time Raman Imaging of Biological Nanoparticles. *Nano Letters*, **2018**, 18, 5946-5953	11.5	25
54	Modeling of thickness dependent infrared radiance contrast of native and crude oil covered water surfaces. *Optics Express*, **2008**, 16, 10535-42	3.3	25
53	EBL-Based Fabrication and Different Modeling Approaches for Nanoporous Gold Nanodisks. *ACS Photonics*, **2017**, 4, 1870-1878	6.3	24
52	Determination of uncertainty in parameters extracted from single spectroscopic measurements. *Journal of Biomedical Optics*, **2007**, 12, 064012	3.5	22
51	10Enhanced Heterogeneous Nanocatalysis on a Nanoporous Gold Disk Array with High-Density Hot Spots. *ACS Applied Materials & Interfaces*, **2019**, 11, 13499-13506	9.5	21
50	Symmetry Breaking-Induced Plasmonic Mode Splitting in Coupled Gold-Silver Alloy Nanodisk Array for Ultrasensitive RGB Colorimetric Biosensing. *ACS Applied Materials & Interfaces*, **2019**, 11, 2273-2281	9.5	19

49	Effective Light Directed Assembly of Building Blocks with Microscale Control. *Small*, **2017**, 13, 1700684	11	18
48	Line-scan Raman microscopy complements optical coherence tomography for tumor boundary detection. *Laser Physics Letters*, **2014**, 11, 105602	1.5	17
47	Analysis of ethyl and methyl centralite vibrational spectra for mapping organic gunshot residues. *Analyst, The*, **2014**, 139, 4270-8	5	14
46	Plasmonic nanoparticle-based expansion microscopy with surface-enhanced Raman and dark-field spectroscopic imaging. *Biomedical Optics Express*, **2018**, 9, 603-615	3.5	13
45	Nanoporous Gold Nanocomposites as a Versatile Platform for Plasmonic Engineering and Sensing. *Sensors*, **2017**, 17,	3.8	13
44	Far-field plasmonic coupling in 2-dimensional polycrystalline plasmonic arrays enables wide tunability with low-cost nanofabrication. *Nanoscale Horizons*, **2017**, 2, 267-276	10.8	12
43	Mitigating fringing in discrete frequency infrared imaging using time-delayed integration. *Biomedical Optics Express*, **2018**, 9, 832-843	3.5	12
42	Direct-write patterning of nanoporous gold microstructures by in situ laser-assisted dealloying. *Optics Express*, **2016**, 24, 23610-23617	3.3	12
41	Plasmonic nano-aperture label-free imaging (PANORAMA). *Nature Communications*, **2020**, 11, 5805	17.4	11
40	Catalytic assembly of DNA nanostructures on a nanoporous gold array as 3D architectures for label-free telomerase activity sensing. *Nanoscale Horizons*, **2017**, 2, 217-224	10.8	10
39	In situ patterning of hierarchical nanoporous gold structures by in-plane dealloying. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2015**, 194, 34-40	3.1	10
38	Photothermal generation of programmable microbubble array on nanoporous gold disks. *Optics Express*, **2018**, 26, 16893-16902	3.3	10
37	Automated image curvature assessment and correction for high-throughput Raman spectroscopy and microscopy. *Biomedical Spectroscopy and Imaging*, **2014**, 3, 359-368	1.3	10
36	Fabrication of multipoint side-firing optical fiber by laser micro-ablation. *Optics Letters*, **2017**, 42, 1808-1811	3	9
35	Raman spectroscopy as a diagnostic tool for monitoring acute nephritis. *Journal of Biophotonics*, **2016**, 9, 260-9	3.1	9
34	Compressed sensing hyperspectral imaging in the 0.9-2.5 μm shortwave infrared wavelength range using a digital micromirror device and InGaAs linear array detector. *Applied Optics*, **2018**, 57, 5019-5024	1.7	8
33	Improvement of tissue analysis and classification using optical coherence tomography combined with Raman spectroscopy. *Journal of Innovative Optical Health Sciences*, **2015**, 08, 1550006	1.2	8
32	MEMS tunable gratings with analog actuation. *Information Sciences*, **2003**, 149, 31-40	7.7	8

31	Smartphone Nano-Colorimetry for On-Demand Multiplex Lead and Mercury Detection and Quantitation in Drinking Water. *IEEE Sensors Journal*, **2020**, 20, 6685-6691	4	7
30	3-Dimensional Plasmonic Substrates Based on Chicken Eggshell Bio-Templates for SERS-Based Bio-Sensing. *Micromachines*, **2017**, 8, 196	3.3	6
29	Automated batch characterization of inkjet-printed elastomer lenses using a LEGO platform. *Applied Optics*, **2017**, 56, 7346-7350	1.7	5
28	Detection of phytocannabinoids from buccal swabs by headspace solid phase microextraction gas chromatography/mass spectrometry. *Analytical Methods*, **2018**, 10, 942-946	3.2	5
27	Investigation of Thermal Properties of Graphene-Coated Membranes by Laser Irradiation to Remove Biofoulants. *Environmental Science & Technology*, **2019**, 53, 903-911	10.3	5
26	Mid-Infrared Laser Spectroscopy Detection and Quantification of Explosives in Soils Using Multivariate Analysis and Artificial Intelligence. *Applied Sciences (Switzerland)*, **2020**, 10, 4178	2.6	4
25	Magnetic Active Water Filter Membrane for Induced Heating to Remove Biofoulants. *ACS Applied Materials & Interfaces*, **2020**, 12, 10291-10298	9.5	4
24	Commercial and emerging technologies for cancer diagnosis and prognosis based on circulating tumor exosomes. *JPhys Photonics*, **2020**, 2, 032002	2.5	4
23	Toward the identification of marijuana varieties by headspace chemical forensics. *Forensic Chemistry*, **2018**, 11, 23-31	2.8	3
22	Constrained regularization for noninvasive glucose sensing using Raman spectroscopy. *Journal of Innovative Optical Health Sciences*, **2015**, 08, 1550022	1.2	3
21	Directed Concentrating of Micro-/Nanoparticles via Near-Infrared Laser Generated Plasmonic Microbubbles. *ACS Omega*, **2020**, 5, 32481-32489	3.9	3
20	Imaging the Electrochemical Impedance of Single Cells via Conductive Polymer Thin Film. *ACS Sensors*, **2021**, 6, 485-492	9.2	3
19	Hyperspectral expansion microscopy **2017**,		2
18	Morphological, plasmonic and SERS characterization of DC-sputtered gold nanoislands. *Biomedical Spectroscopy and Imaging*, **2015**, 4, 95-103	1.3	2
17	High-throughput Raman and surface-enhanced Raman microscopy **2012**,		2
16	Optically Tunable Tin Oxide-Coated Hollow Gold-Silver Nanorattles for Use in Solar-Driven Applications. *ACS Omega*, **2020**, 5, 23769-23777	3.9	2
15	SERS-Based Ultrasensitive Lateral Flow Assay for Quantitative Sensing of Protein Biomarkers. *IEEE Journal of Selected Topics in Quantum Electronics*, **2021**, 27, 1-8	3.8	2
14	Portable SERS sensor for malachite green and other small dye molecules **2017**,		1

13	Single-molecule DNA hybridization on nanoporous gold nanoparticle array chip **2017**,		1
12	Nanoporous Gold Nanoparticles and Arrays for Label-Free Nanoplasmonic Biosensing. *Integrated Analytical Systems*, **2018**, 25-67	0.4	1
11	Photothermal inactivation of bacteria on plasmonic nanostructures **2016**,		1
10	Raman spectroscopy complements optical coherent tomography in tissue classification and cancer detection **2015**,		1
9	**2015**,		1
8	A flexible optrode for deep brain neurophotonics **2011**,		1
7	Noninvasive Glucose Sensing with Raman Spectroscopy **2009**, 391-419		1
6	Modeling the surface of fast-cured polymer droplet lenses for precision fabrication. *Applied Optics*, **2018**, 57, 10342-10347	1.7	1
5	Photothermal Generation of Programmable Microbubble Array on Nanoporous Gold Disks **2018**,		1
4	Introduction to Spectroscopy for Noninvasive Glucose Sensing331-356		1
3	Nanoplasmonic sensing on DNA topological structure functionalized nanoporous gold disks **2016**,		0
2	Exploring the synergy of radiative coupling and substrate undercut in arrayed gold nanodisks for economical, ultra-sensitive label-free biosensing.. *IEEE Sensors Journal*, **2021**, 21, 23971-23978	4	0
1	Raman spectra and DFT calculations for botryococcene and methylsqualene hydrocarbons from the B race of the green microalga Botryococcus braunii. *Journal of Molecular Structure*, **2017**, 1147, 427-437	3.4	