

# Outstanding Papers in 2019

[Electrons dynamics control by shaping femtosecond laser pulses in micro/nanofabrication: modeling, method, measurement and application](#)

Lan Jiang, An-Dong Wang, Bo Li, Tian-Hong Cui & Yong-Feng Lu

*Light: Science & Applications* 2018, 7: 17134; doi: 10.1038/LSA.2017.134

[Phase recovery and holographic image reconstruction using deep learning in neural networks](#)

Yair Rivenson, Yibo Zhang, Harun Günaydin, Da Teng & Aydogan Ozcan

*Light: Science & Applications* 2018, 7: 17141; doi: 10.1038/LSA.2017.141

[Twisted photons: new quantum perspectives in high dimensions](#)

Manuel Erhard, Robert Fickler, Mario Krenn & Anton Zeilinger

*Light: Science & Applications* 2018, 7: 17146; doi: 10.1038/LSA.2017.146

[Liquid crystal display and organic light-emitting diode display: present status and future perspectives](#)

Hai-Wei Chen, Jiun-Haw Lee, Bo-Yen Lin, Stanley Chen & Shin-Tson Wu

*Light: Science & Applications* 2018, 7: 17168; doi: 10.1038/LSA.2017.168

[Quenching of the red Mn<sup>4+</sup> luminescence in Mn<sup>4+</sup>-doped fluoride LED phosphors](#)

Tim Senden, Relinde J.A. van Dijk-Moes & Andries Meijerink

*Light: Science & Applications* 2018, 7: 8; doi: 10.1038/s41377-018-0013-1

[Broadband achromatic dielectric metalenses](#)

Sajan Shrestha, Adam C. Overvig, Ming Lu, Aaron Stein & Nanfang Yu

*Light: Science & Applications* 2018, 7: 85; doi: 10.1038/S41377-018-0078-x

[Interference-assisted kaleidoscopic meta-plexer for arbitrary spin-wavefront manipulation](#)

He-Xiu Xu, Guangwei Hu, Ying Li, Lei Han, Jianlin Zhao, Yunming Sun, Fang Yuan, Guang-Ming Wang, Zhi Hao Jiang, Xiaohui Ling, Tie Jun Cui & Cheng-Wei Qiu

*Light: Science & Applications* 2019, 8: 3; doi: 10.1038/s41377-018-0113-y

[Direct observation of ultrafast plasmonic hot electron transfer in the strong coupling regime](#)

Hangyong Shan, Ying Yu, Xingli Wang, Yang Luo, Shuai Zu, Bowen Du, Tianyang Han, Bowen Li, Yu Li, Jiarui Wu, Feng Lin, Kebin Shi, Beng Kang Tay, Zheng Liu, Xing Zhu & Zheyu Fang

*Light: Science & Applications* 2019, 8: 9; doi: 10.1038/s41377-019-0121-6

[Real-time high-resolution mid-infrared optical coherence tomography](#)

Niels M. Israelsen, Christian R. Petersen, Ajanta Barh, Deepak Jain, Mikkel Jensen, Günther Hanneschläger, Peter Tidemand-Lichtenberg, Christian Pedersen, Adrian Podoleanu & Ole Bang

*Light: Science & Applications* 2019, 8: 11; doi: 10.1038/S41377-019-0122-5

[New strategy for designing orangish-redemitting phosphor via oxygen-vacancy-induced electronic localization](#)

Yi Wei, Gongcheng Xing, Kang Liu, Guogang Li, Peipei Dang, Sisi Liang, Min Liu, Ziyong Cheng, Dayong Jin & Jun Lin

*Light: Science & Applications* 2019, 8: 15; doi: 10.1038/s41377-019-0126-1

[Implementation and security analysis of practical quantum secure direct communication](#)

Ruoyang Qi, Zhen Sun, Zaisheng Lin, Penghao Niu, Wentao Hao, Liyuan Song, Qin Huang, Jiancun Gao, Liuguo Yin & Gui-Lu Long

*Light: Science & Applications* 2019, 8: 22; doi: 10.1038/s41377-019-0132-3

[Emerging ultra-narrow-band cyan-emitting phosphor for white LEDs with enhanced color rendition](#)

Ming Zhao, Hongxu Liao, Maxim S. Molokeev, Yayun Zhou, Qinyuan Zhang, Quanlin Liu & Zhiguo Xia

*Light: Science & Applications* 2019, 8: 38; doi: 10.1038/s41377-019-0148-8

[Optical vortices 30 years on: OAM manipulation from topological charge to multiple singularities](#)

Yijie Shen, Xuejiao Wang, Zhenwei Xie, Changjun Min, Xing Fu, Qiang Liu, Mali Gong & Xiaocong Yuan

*Light: Science & Applications* 2019, 8: 90; doi: 10.1038/S41377-019-0194-2