



# ESI Highly Cited Papers in January 2024

1. [Highly efficient GaAs solar cells by limiting light emission angle](#)  
Emily D Kosten, Jackson H Atwater, James Parsons, Albert Polman & Harry A Atwater  
*Light Sci Appl* **2**, e45 (2013). DOI: 10.1038/lsci.2013.1
2. [Surface brightens up Si quantum dots: direct bandgap-like size-tunable emission](#)  
Kateřina Dohnalová, Alexander N Poddubny, Alexei A Prokofiev, Wieteke DAM de Boer, Chinnaswamy P Umesh, Jos MJ Paulusse, Han Zuilhof & Tom Gregorkiewicz  
*Light Sci Appl* **2**, e47 (2013). DOI: 10.1038/lsci.2013.3
3. [New yellow Ba<sub>0.93</sub>Eu<sub>0.07</sub>Al<sub>2</sub>O<sub>4</sub> phosphor for warm-white light-emitting diodes through single-emitting-center conversion](#)  
Xufan Li, John D Budai, Feng Liu, Jane Y Howe, Jiahua Zhang, Xiao-Jun Wang, Zhanjun Gu, Chengjun Sun, Richard S Meltzer & Zhengwei Pan  
*Light Sci Appl* **2**, e50 (2013). DOI: 10.1038/lsci.2013.6
4. [Helicity dependent directional surface plasmon polariton excitation using a metasurface with interfacial phase discontinuity](#)  
Lingling Huang, Xianzhong Chen, Benfeng Bai, Qiaofeng Tan, Guofan Jin, Thomas Zentgraf & Shuang Zhang  
*Light Sci Appl* **2**, e70 (2013). DOI: 10.1038/lsci.2013.26
5. [Ultra-thin, planar, Babinet-inverted plasmonic metalenses](#)  
Xingjie Ni, Satoshi Ishii, Alexander V Kildishev & Vladimir M Shalaev  
*Light Sci Appl* **2**, e72 (2013). DOI: 10.1038/lsci.2013.28
6. [Plasmonics for solid-state lighting: enhanced excitation and directional emission of highly efficient light sources](#)  
Gabriel Lozano, Davy J Louwers, Said RK Rodríguez, Shunsuke Murai, Olaf TA Jansen, Marc A Verschuuren & Jaime Gómez Rivas  
*Light Sci Appl* **2**, e66 (2013). DOI: 10.1038/lsci.2013.22
7. [A systematic study on efficiency enhancements in phosphorescent green, red and blue microcavity organic light emitting devices](#)  
Chaoyu Xiang, Wonhoe Koo, Franky So, Hisahiro Sasabe & Junji Kido  
*Light Sci Appl* **2**, e74 (2013). DOI: 10.1038/lsci.2013.30
8. [Exceeding the limit of plasmonic light trapping in textured screen-printed solar cells using Al nanoparticles and wrinkle-like graphene sheets](#)  
Xi Chen, Baohua Jia, Yinan Zhang & Min Gu  
*Light Sci Appl* **2**, e92 (2013). DOI: 10.1038/lsci.2013.48
9. [Functionalized polymer nanofibers: a versatile platform for manipulating light at the nanoscale](#)  
Pan Wang, Yipei Wang & Limin Tong  
*Light Sci Appl* **2**, e102 (2013). DOI: 10.1038/lsci.2013.58



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10. **Handheld high-throughput plasmonic biosensor using computational on-chip imaging**  
Arif E Cetin, Ahmet F Coskun, Betty C Galarreta, Min Huang, David Herman, Aydogan Ozcan & Hatice Altug  
*Light Sci Appl* **3**, e122 (2014). DOI: 10.1038/lsta.2014.3
11. **A visible light-driven plasmonic photocatalyst**  
Francesca Pincella, Katsuhiro Isozaki & Kazushi Miki  
*Light Sci Appl* **3**, e133 (2014). DOI: 10.1038/lsta.2014.14
12. **Healthy, natural, efficient and tunable lighting: four-package white LEDs for optimizing the circadian effect, color quality and vision performance**  
Ji Hye Oh, Su Ji Yang & Young Rag Do  
*Light Sci Appl* **3**, e141 (2014). DOI: 10.1038/lsta.2014.22
13. **Ultrafast lasers-reliable tools for advanced materials processing**  
Koji Sugioka & Ya Cheng  
*Light Sci Appl* **3**, e149 (2014). DOI: 10.1038/lsta.2014.30
14. **Metallic nanostructures for light trapping in energy-harvesting devices**  
Chuan Fei Guo, Tianyi Sun, Feng Cao, Qian Liu & Zhifeng Ren  
*Light Sci Appl* **3**, e161 (2014). DOI: 10.1038/lsta.2014.42
15. **Adaptive optical microscopy: the ongoing quest for a perfect image**  
Martin J Booth  
*Light Sci Appl* **3**, e165 (2014). DOI: 10.1038/lsta.2014.46
16. **Generating optical orbital angular momentum at visible wavelengths using a plasmonic metasurface**  
Ebrahim Karimi, Sebastian A Schulz, Israel De Leon, Hammam Qassim, Jeremy Upham & Robert W Boyd  
*Light Sci Appl* **3**, e167 (2014). DOI: 10.1038/lsta.2014.48
17. **Optical storage arrays: a perspective for future big data storage**  
Min Gu, Xiangping Li & Yaoyu Cao  
*Light Sci Appl* **3**, e177 (2014). DOI: 10.1038/lsta.2014.58
18. **Light scattering and surface plasmons on small spherical particles**  
Xiaofeng Fan, Weitao Zheng & David J Singh  
*Light Sci Appl* **3**, e179 (2014). DOI: 10.1038/lsta.2014.60
19. **Design and fabrication of broadband ultralow reflectivity black Si surfaces by laser micro/nanoprocessing**  
Jing Yang, Fangfang Luo, Tsung Sheng Kao, Xiong Li, Ghim Wei Ho, Jinghua Teng, Xiangang Luo & Minghui Hong  
*Light Sci Appl* **3**, e185 (2014). DOI: 10.1038/lsta.2014.66



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20. **Fundamentals of phase-only liquid crystal on silicon (LCOS) devices**  
Zichen Zhang, Zheng You & Daping Chu  
*Light Sci Appl* **3**, e213 (2014). DOI: 10.1038/lsta.2014.94
21. **Coding metamaterials, digital metamaterials and programmable metamaterials**  
Tie Jun Cui, Mei Qing Qi, Xiang Wan, Jie Zhao & Qiang Cheng  
*Light Sci Appl* **3**, e218 (2014). DOI: 10.1038/lsta.2014.99
22. **Observation of efficient population of the red-emitting state from the green state by non-multiphonon relaxation in the Er<sup>3+</sup>-Yb<sup>3+</sup> system**  
Jiahua Zhang, Zhendong Hao, Jing Li, Xia Zhang, Yongshi Luo & Guohui Pan  
*Light Sci Appl* **4**, e239 (2015). DOI: 10.1038/lsta.2015.12
23. **Massive individual orbital angular momentum channels for multiplexing enabled by Dammann gratings**  
Ting Lei, Meng Zhang, Yuru Li, Ping Jia, Gordon Ning Liu, Xiaogeng Xu, Zhaohui Li, Changjun Min, Jiao Lin, Changyuan Yu, Hanben Niu & Xiaocong Yuan  
*Light Sci Appl* **4**, e257 (2015). DOI: 10.1038/lsta.2015.30
24. **Advances in InGaAs/InP single-photon detector systems for quantum communication**  
Jun Zhang, Mark A Itzler, Hugo Zbinden & Jian-Wei Pan  
*Light Sci Appl* **4**, e286 (2015). DOI: 10.1038/lsta.2015.59
25. **Giant photonic spin Hall effect in momentum space in a structured metamaterial with spatially varying birefringence**  
Xiaohui Ling, Xinxing Zhou, Xunong Yi, Weixing Shu, Yachao Liu, Shizhen Chen, Hailu Luo, Shuangchun Wen & Diyanfan Fan  
*Light Sci Appl* **4**, e290 (2015). DOI: 10.1038/lsta.2015.63
26. **Nanoplasmonic waveguides: towards applications in integrated nanophotonic circuits**  
Yurui Fang & Mengtao Sun  
*Light Sci Appl* **4**, e294 (2015). DOI: 10.1038/lsta.2015.67
27. **Optical tuning of exciton and trion emissions in monolayer phosphorene**  
Jiong Yang, Renjing Xu, Jiajie Pei, Ye Win Myint, Fan Wang, Zhu Wang, Shuang Zhang, Zongfu Yu & Yuerui Lu  
*Light Sci Appl* **4**, e312 (2015). DOI: 10.1038/lsta.2015.85
28. **Broadband diffusion of terahertz waves by multi-bit coding metasurfaces**  
Li-Hua Gao, Qiang Cheng, Jing Yang, Shao-Jie Ma, Jie Zhao, Shuo Liu, Hai-Bing Chen, Qiong He, Wei-Xiang Jiang, Hui-Feng Ma, Qi-Ye Wen, Lan-Ju Liang, Biao-Bing Jin, Wei-Wei Liu, Lei Zhou, Jian-Quan Yao, Pei-Heng Wu & Tie-Jun Cui  
*Light Sci Appl* **4**, e324 (2015). DOI: 10.1038/lsta.2015.97
29. **On-chip light sources for silicon photonics**  
Zhiping Zhou, Bing Yin & Jurgen Michel  
*Light Sci Appl* **4**, e358 (2015). DOI: 10.1038/lsta.2015.131



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30. Tailoring color emissions from N-doped graphene quantum dots for bioimaging applications  
Dan Qu, Min Zheng, Jing Li, Zhigang Xie & Zaicheng Sun  
*Light Sci Appl* **4**, e364 (2015). DOI: 10.1038/lsci.2015.137
31. Photoexcitation dynamics in solution-processed formamidinium lead iodide perovskite thin films for solar cell applications  
Hong-Hua Fang, Feng Wang, Sampson Adjokatse, Ni Zhao, Jacky Even & Maria Antonietta Loi  
*Light Sci Appl* **5**, e16056 (2016). DOI: 10.1038/lsci.2016.56
32. High-efficiency surface plasmon meta-couplers: concept and microwave-regime realizations  
Wujiong Sun, Qiong He, Shulin Sun & Lei Zhou  
*Light Sci Appl* **5**, e16003 (2016). DOI: 10.1038/lsci.2016.3
33. Anisotropic coding metamaterials and their powerful manipulation of differently polarized terahertz waves  
Shuo Liu, Tie Jun Cui, Quan Xu, Di Bao, Liangliang Du, Xiang Wan, Wen Xuan Tang, Chunmei Ouyang, Xiao Yang Zhou, Hao Yuan, Hui Feng Ma, Wei Xiang Jiang, Jiaguang Han, Weili Zhang & Qiang Cheng  
*Light Sci Appl* **5**, e16076 (2016). DOI: 10.1038/lsci.2016.76
34. Energy transfer in plasmonic photocatalytic composites  
Xiang-Chao Ma, Ying Dai, Lin Yu & Bai-Biao Huang  
*Light Sci Appl* **5**, e16017 (2016). DOI: 10.1038/lsci.2016.17
35. A single Eu<sup>2+</sup>-activated high-color-rendering oxychloride white-light phosphor for white-light-emitting diodes  
Peng-Peng Dai, Cong Li, Xin-Tong Zhang, Jun Xu, Xi Chen, Xiu-Li Wang, Yan Jia, Xiaojun Wang & Yi-Chun Liu  
*Light Sci Appl* **5**, e16024 (2016). DOI: 10.1038/lsci.2016.24
36. Supra-(carbon nanodots) with a strong visible to near-infrared absorption band and efficient photothermal conversion  
Di Li, Dong Han, Song-Nan Qu, Lei Liu, Peng-Tao Jing, Ding Zhou, Wen-Yu Ji, Xiao-Yun Wang, Tong-Fei Zhang & De-Zhen Shen  
*Light Sci Appl* **5**, e16120 (2016). DOI: 10.1038/lsci.2016.120
37. Ultrafast laser processing of materials: from science to industry  
Mangirdas Malinauskas, Albertas Žukauskas, Satoshi Hasegawa, Yoshio Hayasaki, Vygantas Mizeikis, Ričardas Buvildas & Saulius Juodkazis  
*Light Sci Appl* **5**, e16133 (2016). DOI: 10.1038/lsci.2016.133
38. Experimental quantum secure direct communication with single photons  
Jian-Yong Hu, Bo Yu, Ming-Yong Jing, Lian-Tuan Xiao, Suo-Tang Jia, Guo-Qing Qin & Gui-Lu Long  
*Light Sci Appl* **5**, e16144 (2016). DOI: 10.1038/lsci.2016.144



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39. **Ca<sub>1-x</sub>Li<sub>x</sub>Al<sub>1-x</sub>Si<sub>1+x</sub>N<sub>3</sub>:Eu<sup>2+</sup> solid solutions as broadband, color-tunable and thermally robust red phosphors for superior color rendition white light-emitting diodes**  
Le Wang, Rong-Jun Xie, Yuanqiang Li, Xiaojun Wang, Chong-Geng Ma, Dong Luo, Takashi Takeda, Yi-Ting Tsai, Ru-Shi Liu & Naoto Hirosaki  
*Light Sci Appl* **5**, e16155 (2016). DOI: 10.1038/lsci.2016.155
40. **Information entropy of coding metasurface**  
Tie-Jun Cui, Shuo Liu & Lian-Lin Li  
*Light Sci Appl* **5**, e16172 (2016). DOI: 10.1038/lsci.2016.172
41. **Control over emissivity of zero-static-power thermal emitters based on phase-changing material GST**  
Kai-Kai Du, Qiang Li, Yan-Biao Lyu, Ji-Chao Ding, Yue Lu, Zhi-Yuan Cheng & Min Qiu  
*Light Sci Appl* **6**, e16194 (2017). DOI: 10.1038/lsci.2016.194
42. **Tomographic flow cytometry by digital holography**  
Francesco Merola, Pasquale Memmolo, Lisa Miccio, Roberto Savoia, Martina Mugnano, Angelo Fontana, Giuliana D'Ippolito, Angela Sardo, Achille Iolascon, Antonella Gambale & Pietro Ferraro  
*Light Sci Appl* **6**, e16241 (2017). DOI: 10.1038/lsci.2016.241
43. **Quantification of light-enhanced ionic transport in lead iodide perovskite thin films and its solar cell applications**  
Yi-Cheng Zhao, Wen-Ke Zhou, Xu Zhou, Kai-Hui Liu, Da-Peng Yu & Qing Zhao  
*Light Sci Appl* **6**, e16243 (2017). DOI: 10.1038/lsci.2016.243
44. **Parametric down-conversion photon-pair source on a nanophotonic chip**  
Xiang Guo, Chang-ling Zou, Carsten Schuck, Hojoong Jung, Risheng Cheng & Hong X Tang  
*Light Sci Appl* **6**, e16249 (2017). DOI: 10.1038/lsci.2016.249
45. **Generation of wavelength-independent subwavelength Bessel beams using metasurfaces**  
Wei Ting Chen, Mohammadreza Khorasaninejad, Alexander Y. Zhu, Jaewon Oh, Robert C. Devlin, Aun Zaidi & Federico Capasso  
*Light Sci Appl* **6**, e16259 (2017). DOI: 10.1038/lsci.2016.259
46. **Three-dimensional chiral microstructures fabricated by structured optical vortices in isotropic material**  
Jincheng Ni, Chaowei Wang, Chenchu Zhang, Yanlei Hu, Liang Yang, Zhaoxin Lao, Bing Xu, Jiawen Li, Dong Wu & Jiaru Chu  
*Light Sci Appl* **6**, e17011 (2017). DOI: 10.1038/lsci.2017.11
47. **Ultrasensitive broadband phototransistors based on perovskite/organic-semiconductor vertical heterojunctions**  
Chao Xie, Peng You, Zhike Liu, Li Li & Feng Yan  
*Light Sci Appl* **6**, e17023 (2017). DOI: 10.1038/lsci.2017.23
48. **Multifunctional interleaved geometric-phase dielectric metasurfaces**  
Elhanan Maguid, Igor Yulevich, Michael Yannai, Vladimir Kleiner, Mark L Brongersma & Erez Hasman  
*Light Sci Appl* **6**, e17027 (2017). DOI: 10.1038/lsci.2017.27



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49. **Optical manipulation from the microscale to the nanoscale: fundamentals, advances and prospects**  
Dongliang Gao, Weiqiang Ding, Manuel Nieto-Vesperinas, Xumin Ding, Mahdy Rahman, Tianhang Zhang, ChweeTeck Lim & Cheng-Wei Qiu  
*Light Sci Appl* **6**, e17039 (2017). DOI: 10.1038/lsci.2017.39
50. **Going beyond the limit of an LCD's color gamut**  
Hai-Wei Chen, Rui-Dong Zhu, Juan He, Wei Duan, Wei Hu, Yan-Qing Lu, Ming-Chun Li, Seok-Lyul Lee, Ya-Jie Dong & Shin-Tson Wu  
*Light Sci Appl* **6**, e17043 (2017). DOI: 10.1038/lsci.2017.43
51. **Beam switching and bifocal zoom lensing using active plasmonic metasurfaces**  
Xinghui Yin, Tobias Steinle, Lingling Huang, Thomas Taubner, Matthias Wuttig, Thomas Zentgraf & Harald Giessen  
*Light Sci Appl* **6**, e17016 (2017). DOI: 10.1038/lsci.2017.16
52. **Plasmonic nano-printing: large-area nanoscale energy deposition for efficient surface texturing**  
Lei Wang, Qi-Dai Chen, Xiao-Wen Cao, Ričardas Buvildas, Xuewen Wang, Saulius Juodkazis & Hong-Bo Sun  
*Light Sci Appl* **6**, e17112 (2017). DOI: 10.1038/lsci.2017.112
53. **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 Sci Appl* **7**, 17134 (2018). DOI: 10.1038/lsci.2017.134
54. **Phase recovery and holographic image reconstruction using deep learning in neural networks**  
Yair Rivenson, Yibo Zhang, Harun Günaydin, Da Teng & Aydogan Ozcan  
*Light Sci Appl* **7**, 17141 (2018). DOI: 10.1038/lsci.2017.141
55. **Twisted photons: new quantum perspectives in high dimensions**  
Manuel Erhard, Robert Fickler, Mario Krenn & Anton Zeilinger  
*Light Sci Appl* **7**, 17146 (2018). DOI: 10.1038/lsci.2017.146
56. **Giant intrinsic chiro-optical activity in planar dielectric nanostructures**  
Alexander Y Zhu, Wei Ting Chen, Aun Zaidi, Yao-Wei Huang, Mohammadreza Khorasaninejad, Vyshakh Sanjeev, Cheng-Wei Qiu & Federico Capasso  
*Light Sci Appl* **7**, 17158 (2018). DOI: 10.1038/lsci.2017.158
57. **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 Sci Appl* **7**, 17168 (2018). DOI: 10.1038/lsci.2017.168



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58. **Boron nitride nanoresonators for phonon-enhanced molecular vibrational spectroscopy at the strong coupling limit**  
Marta Autore, Peining Li, Irene Dolado, Francisco J Alfaro-Mozaz, Ruben Esteban, Ainhoa Atxabal, Fèlix Casanova, Luis E Hueso, Pablo Alonso-González, Javier Aizpurua, Alexey Y Nikitin, Saúl Vélez & Rainer Hillenbrand  
*Light Sci Appl* **7**, 17172 (2018). DOI: 10.1038/lsci.2017.172
59. **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 Sci Appl* **7**, 8 (2018). DOI: 10.1038/s41377-018-0013-1
60. **Reflective chiral meta-holography: multiplexing holograms for circularly polarized waves**  
Qiu Wang, Eric Plum, Quanlong Yang, Xueqian Zhang, Quan Xu, Yuehong Xu, Jiaguang Han & Weili Zhang  
*Light Sci Appl* **7**, 25 (2018). DOI: 10.1038/s41377-018-0019-8
61. **Thermal camouflage based on the phase-changing material GST**  
Yurui Qu, Qiang Li, Lu Cai, Meiyuan Pan, Pintu Ghosh, Kaikai Du & Min Qiu  
*Light Sci Appl* **7**, 26 (2018). DOI: 10.1038/s41377-018-0038-5
62. **All-optical active THz metasurfaces for ultrafast polarization switching and dynamic beam splitting**  
Longqing Cong, Yogesh Kumar Srivastava, Huifang Zhang, Xueqian Zhang, Jiaguang Han & Ranjan Singh  
*Light Sci Appl* **7**, 28 (2018). DOI: 10.1038/s41377-018-0024-y
63. **Strategies for reducing speckle noise in digital holography**  
Vittorio Bianco, Pasquale Memmolo, Marco Leo, Silvio Montresor, Cosimo Distante, Melania Paturzo, Pascal Picart, Bahram Javidi & Pietro Ferraro  
*Light Sci Appl* **7**, 48 (2018). DOI: 10.1038/s41377-018-0050-9
64. **Looking at sound: optoacoustics with all-optical ultrasound detection**  
Georg Wissmeyer, Miguel A. Pleitez, Amir Rosenthal & Vasilis Ntziachristos  
*Light Sci Appl* **7**, 53 (2018). DOI: 10.1038/s41377-018-0036-7
65. **A hybrid invisibility cloak based on integration of transparent metasurfaces and zero-index materials**  
Hongchen Chu, Qi Li, Bingbing Liu, Jie Luo, Shulin Sun, Zhi Hong Hang, Lei Zhou & Yun Lai  
*Light Sci Appl* **7**, 50 (2018). DOI: 10.1038/s41377-018-0052-7
66. **Hybrid graphene metasurfaces for high-speed mid-infrared light modulation and single-pixel imaging**  
Beibei Zeng, Zhiqin Huang, Akhilesh Singh, Yu Yao, Abul K. Azad, Aditya D. Mohite, Antoinette J. Taylor, David R. Smith & Hou-Tong Chen  
*Light Sci Appl* **7**, 51 (2018). DOI: 10.1038/s41377-018-0055-4
67. **Plasmonic nanostructure design and characterization via Deep Learning**  
Itzik Malkiel, Michael Mrejen, Achiya Nagler, Uri Arieli, Lior Wolf & Haim Suchowski  
*Light Sci Appl* **7**, 60 (2018). DOI: 10.1038/s41377-018-0060-7



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68. **Multimode optical fiber transmission with a deep learning network**  
Babak Rahmani, Damien Loterie, Georgia Konstantinou, Demetri Psaltis & Christophe Moser  
*Light Sci Appl* **7**, 69 (2018). DOI: 10.1038/s41377-018-0074-1
69. **Broadband achromatic dielectric metascreens**  
Sajan Shrestha, Adam C. Overvig, Ming Lu, Aaron Stein & Nanfang Yu  
*Light Sci Appl* **7**, 85 (2018). DOI: 10.1038/s41377-018-0078-x
70. **X-ray-activated long persistent phosphors featuring strong UVC afterglow emissions**  
Yan-Min Yang, Zhi-Yong Li, Jun-Ying Zhang, Yue Lu, Shao-Qiang Guo, Qing Zhao, Xin Wang, Zi-Jun Yong, Hong Li, Ju-Ping Ma, Yoshihiro Kuroiwa, Chikako Moriyoshi, Li-Li Hu, Li-Yan Zhang, Li-Rong Zheng & Hong-Tao Sun  
*Light Sci Appl* **7**, 88 (2018). DOI: 10.1038/s41377-018-0089-7
71. **In vivo theranostics with near-infrared-emitting carbon dots-highly efficient photothermal therapy based on passive targeting after intravenous administration**  
Xin Bao, Ye Yuan, Jingqin Chen, Bohan Zhang, Di Li, Ding Zhou, Pengtao Jing, Guiying Xu, Yingli Wang, Kateřina Holá, Dezhen Shen, Changfeng Wu, Liang Song, Chengbo Liu, Radek Zbořil & Songnan Qu  
*Light Sci Appl* **7**, 91 (2018). DOI: 10.1038/s41377-018-0090-1
72. **Independent control of harmonic amplitudes and phases via a time-domain digital coding metasurface**  
Jun Yan Dai, Jie Zhao, Qiang Cheng & Tie Jun Cui  
*Light Sci Appl* **7**, 90 (2018). DOI: 10.1038/s41377-018-0092-z
73. **High-fidelity multimode fibre-based endoscopy for deep brain *in vivo* imaging**  
Sergey Turtaev, Ivo T. Leite, Tristan Altwegg-Boussac, Janelle M. P. Pakan, Nathalie L. Rochefort & Tomáš Čižmár  
*Light Sci Appl* **7**, 92 (2018). DOI: 10.1038/s41377-018-0094-x
74. **Multichannel vectorial holographic display and encryption**  
Ruizhe Zhao, Basudeb Sain, Qunshuo Wei, Chengchun Tang, Xiaowei Li, Thomas Weiss, Lingling Huang, Yongtian Wang & Thomas Zentgraf  
*Light Sci Appl* **7**, 95 (2018). DOI: 10.1038/s41377-018-0091-0
75. **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 Sci Appl* **8**, 3 (2019). DOI: 10.1038/s41377-018-0113-y
76. **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 Sci Appl* **8**, 9 (2019). DOI: 10.1038/s41377-019-0121-6



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77. [Real-time high-resolution mid-infrared optical coherence tomography](#)  
Niels M. Israelsen, Christian R. Petersen, Ajanta Barh, Deepak Jain, Mikkel Jensen, Günter Hanneschläger, Peter Tidemand-Lichtenberg, Christian Pedersen, Adrian Podoleanu & Ole Bang  
*Light Sci Appl* **8**, 11 (2019). DOI: 10.1038/s41377-019-0122-5
78. [New strategy for designing orangish-red-emitting 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 Sci Appl* **8**, 15 (2019). DOI: 10.1038/s41377-019-0126-1
79. [PhaseStain: the digital staining of label-free quantitative phase microscopy images using deep learning](#)  
Yair Rivenson, Tairan Liu, Zhensong Wei, Yibo Zhang, Kevin de Haan & Aydogan Ozcan  
*Light Sci Appl* **8**, 23 (2019). DOI: 10.1038/s41377-019-0129-y
80. [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 Sci Appl* **8**, 22 (2019). DOI: 10.1038/s41377-019-0132-3
81. [Optical orbital-angular-momentum-multiplexed data transmission under high scattering](#)  
Lei Gong, Qian Zhao, Hao Zhang, Xin-Yao Hu, Kun Huang, Jia-Miao Yang & Yin-Mei Li  
*Light Sci Appl* **8**, 27 (2019). DOI: 10.1038/s41377-019-0140-3
82. [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 Sci Appl* **8**, 38 (2019). DOI: 10.1038/s41377-019-0148-8
83. [Artificial neural networks enabled by nanophotonics](#)  
Qiming Zhang, Haoyi Yu, Martina Barbiero, Baokai Wang & Min Gu  
*Light Sci Appl* **8**, 42 (2019). DOI: 10.1038/s41377-019-0151-0
84. [3D Janus plasmonic helical nanoapertures for polarization-encrypted data storage](#)  
Yang Chen, Xiaodong Yang & Jie Gao  
*Light Sci Appl* **8**, 45 (2019). DOI: 10.1038/s41377-019-0156-8
85. [High-efficiency, large-area, topology-optimized metasurfaces](#)  
Thaibao Phan, David Sell, Evan W. Wang, Sage Doshay, Kofi Edee, Jianji Yang & Jonathan A. Fan  
*Light Sci Appl* **8**, 48 (2019). DOI: 10.1038/s41377-019-0159-5
86. [Soliton bursts and deterministic dissipative Kerr soliton generation in auxiliary-assisted microcavities](#)  
Heng Zhou, Yong Geng, Wenwen Cui, Shu-Wei Huang, Qiang Zhou, Kun Qiu & Chee Wei Wong  
*Light Sci Appl* **8**, 50 (2019). DOI: 10.1038/s41377-019-0161-y



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87. [A broadband achromatic metasurface array for integral imaging in the visible](#)  
Zhi-Bin Fan, Hao-Yang Qiu, Han-Le Zhang, Xiao-Ning Pang, Li-Dan Zhou, Lin Liu, Hui Ren, Qiong-Hua Wang & Jian-Wen Dong  
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Hailong Zhou, Jianji Dong, Junwei Cheng, Wenchan Dong, Chaoran Huang, Yichen Shen, Qiming Zhang, Min Gu, Chao Qian, Hongsheng Chen, Zhichao Ruan & Xinliang Zhang

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Weiwei Fu, Dong Zhao, Ziqin Li, Songde Liu, Chao Tian & Kun Huang  
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Dongjie Liu, Guogang Li, Peipei Dang, Qianqian Zhang, Yi Wei, Lei Qiu, Maxim S. Molokeev, Hongzhou Lian, Mengmeng Shang & Jun Lin  
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201. [Graphene/MoS<sub>2-x</sub>O<sub>x</sub>/graphene photomemristor with tunable non-volatile responsivities for neuromorphic vision processing](#)  
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