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# ESI Highly Cited Papers in January 2023

1. Passive technologies for future large-scale photonic integrated circuits on silicon: polarization handling, light non-reciprocity and loss reduction
   Daoxin Dai, Jared Bauters & John E Bowers.
   *Light Sci Appl* **1**, e1 (2012). DOI: 10.1038/lsa.2012.1

2. Bismuth-doped optical fibers: a challenging active medium for near-IR lasers and optical amplifiers
   Evgeny M Dianov.
   *Light Sci Appl* **1**, e12 (2012). DOI: 10.1038/lsa.2012.12

3. Surface plasmon resonance of layer-by-layer gold nanoparticles induced photoelectric current in environmentally-friendly plasmon-sensitized solar cell
   Yen-Hsun Su, Yuan-Feng Ke, Shi-Liang Cai & Qian-Yu Yao.
   *Light Sci Appl* **1**, e14 (2012). DOI: 10.1038/lsa.2012.14

4. Controlling light-with-light without nonlinearity
   Jianfa Zhang, Kevin F MacDonald & Nikolay I Zheludev.
   *Light Sci Appl* **1**, e18 (2012). DOI: 10.1038/lsa.2012.18

5. 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/lsa.2013.1

6. 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/lsa.2013.3

7. New yellow $Ba_{0.93}Eu_{0.07}Al_2O_4$ 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/lsa.2013.6

8. 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/lsa.2013.26

9. 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/lsa.2013.28

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10. 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/lsa.2013.22

11. 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/lsa.2013.30

12. 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/lsa.2013.48

13. 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/lsa.2013.58

14. 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/lsa.2014.3

15. A visible light-driven plasmonic photocatalyst
Francesca Pincella, Katsuhiro Isozaki & Kazushi Miki .
*Light Sci Appl* **3**, e133 (2014). DOI: 10.1038/lsa.2014.14

16. 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/lsa.2014.22

17. Ultrafast lasers-reliable tools for advanced materials processing
Koji Sugioka & Ya Cheng.
*Light Sci Appl* **3**, e149 (2014). DOI: 10.1038/lsa.2014.30

18. 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/lsa.2014.42

19. Adaptive optical microscopy: the ongoing quest for a perfect image
Martin J Booth.
*Light Sci Appl* **3**, e165 (2014). DOI: 10.1038/lsa.2014.46

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# ESI Highly Cited Papers in January 2023

20. 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/lsa.2014.48

21. 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/lsa.2014.58

22. 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/lsa.2014.60

23. 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/lsa.2014.66

24. 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/lsa.2014.99

25. 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/lsa.2014.94

26. Highly efficient hybrid warm white organic light-emitting diodes using a blue thermally activated delayed fluorescence emitter: exploiting the external heavy-atom effect
Dongdong Zhang, Lian Duan, Yunge Zhang, Minghan Cai, Deqiang Zhang & Yong Qiu .
*Light Sci Appl* **4**, e232 (2015). DOI: 10.1038/lsa.2015.5

27. Observation of efficient population of the red-emitting state from the green state by non-multiphonon relaxation in the $Er^{3+}$-$Yb^{3+}$ system
Jiahua Zhang, Zhendong Hao, Jing Li, Xia Zhang, Yongshi Luo & Guohui Pan .
*Light Sci Appl* **4**, e239 (2015). DOI: 10.1038/lsa.2015.12

28. 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/lsa.2015.30

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29. 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/lsa.2015.59

30. 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 & Dianyuan Fan.
*Light Sci Appl* **4**, e290 (2015). DOI: 10.1038/lsa.2015.63

31. Nanoplasmonic waveguides: towards applications in integrated nanophotonic circuits
Yurui Fang & Mengtao Sun.
*Light Sci Appl* **4**, e294 (2015). DOI: 10.1038/lsa.2015.67

32. 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/lsa.2015.85

33. 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/lsa.2015.97

34. Plasmon-driven reaction controlled by the number of graphene layers and localized surface plasmon distribution during optical excitation
Zhi-gao Dai, Xiang-heng Xiao, Wei Wu, Yu-peng Zhang, Lei Liao, Shi-shang Guo, Jian-jian Ying, Chong-xin Shan, Meng-tao Sun & Chang-zhong Jiang.
*Light Sci Appl* **4**, e342 (2015). DOI: 10.1038/lsa.2015.115

35. On-chip light sources for silicon photonics
Zhiping Zhou, Bing Yin & Jurgen Michel.
*Light Sci Appl* **4**, e358 (2015). DOI: 10.1038/lsa.2015.131

36. 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/lsa.2015.137

37. 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/lsa.2016.56

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38. 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/lsa.2016.3

39. 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/lsa.2016.76

40. 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/lsa.2016.17

41. A single $Eu^{2+}$-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/lsa.2016.24

42. 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/lsa.2016.120

43. Ultrafast laser processing of materials: from science to industry
Mangirdas Malinauskas, Albertas Žukauskas, Satoshi Hasegawa, Yoshio Hayasaki, Vygantas Mizeikis, Ričardas Buividas & Saulius Juodkazis.
*Light Sci Appl* **5**, e16133 (2016). DOI: 10.1038/lsa.2016.133

44. 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/lsa.2016.144

45. $Ca_{1-x}Li_xAl_{1-x}Si_{1+x}N_3:Eu^{2+}$ 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/lsa.2016.155

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46. Information entropy of coding metasurface
Tie-Jun Cui, Shuo Liu & Lian-Lin Li .
*Light Sci Appl* **5**, e16172 (2016). DOI: 10.1038/lsa.2016.172

47. 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/lsa.2016.194

48. 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/lsa.2016.241

49. 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/lsa.2016.243

50. 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/lsa.2016.249

51. 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/lsa.2016.259

52. 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/lsa.2017.11

53. 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/lsa.2017.27

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54. 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/lsa.2017.39

55. 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/lsa.2017.43

56. 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/lsa.2017.16

57. Plasmonic nano-printing: large-area nanoscale energy deposition for efficient surface texturing
Lei Wang, Qi-Dai Chen, Xiao-Wen Cao, Ričardas Buividas, Xuewen Wang, Saulius Juodkazis & Hong-Bo Sun.
*Light Sci Appl* **6**, e17112 (2017). DOI: 10.1038/lsa.2017.112

58. 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/lsa.2017.23

59. 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/lsa.2017.134

60. Phase recovery and holographic image reconstruction using deep learning in neural networks
Yair Rivenson, Yibo Zhang, Harun Günaydın, Da Teng & Aydogan Ozcan.
*Light Sci Appl* **7**, 17141 (2018). DOI: 10.1038/lsa.2017.141

61. 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/lsa.2017.146

62. 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/lsa.2017.158

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63. 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/lsa.2017.168

64. 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, Saül Vélez & Rainer Hillenbrand.
*Light Sci Appl* **7**, 17172 (2018). DOI: 10.1038/lsa.2017.172

65. Bifunctional gap-plasmon metasurfaces for visible light: polarization-controlled unidirectional surface plasmon excitation and beam steering at normal incidence
Fei Ding, Rucha Deshpande & Sergey I Bozhevolnyi.
*Light Sci Appl* **7**, 17178 (2018). DOI: 10.1038/lsa.2017.178

66. Quenching of the red $Mn^{4+}$ luminescence in $Mn^{4+}$-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

67. Gold-patched graphene nano-stripes for high-responsivity and ultrafast photodetection from the visible to infrared regime
Semih Cakmakyapan, Ping Keng Lu, Aryan Navabi & Mona Jarrahi.
*Light Sci Appl* **7**, 20 (2018). DOI: 10.1038/s41377-018-0020-2

68. Thermal camouflage based on the phase-changing material GST
Yurui Qu, Qiang Li, Lu Cai, Meiyan Pan, Pintu Ghosh, Kaikai Du & Min Qiu .
*Light Sci Appl* **7**, 26 (2018). DOI: 10.1038/s41377-018-0038-5

69. 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

70. 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

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71. 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

72. 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

73. 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

74. 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

75. 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

76. Broadband achromatic dielectric metalenses
Sajan Shrestha, Adam C. Overvig, Ming Lu, Aaron Stein & Nanfang Yu.
*Light Sci Appl* **7**, 85 (2018). DOI: 10.1038/s41377-018-0078-x

77. 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

78. 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

79. 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

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80. 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

81. 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

82. 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

83. Real-time high-resolution mid-infrared optical coherence tomography
Niels M. Israelsen, Christian R. Petersen, Ajanta Barh, Deepak Jain, Mikkel Jensen, Günther Hannesschläger, Peter Tidemand-Lichtenberg, Christian Pedersen, Adrian Podoleanu & Ole Bang.
*Light Sci Appl* **8**, 11 (2019). DOI: 10.1038/s41377-019-0122-5

84. 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 Sci Appl* **8**, 15 (2019). DOI: 10.1038/s41377-019-0126-1

85. 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

86. 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

87. 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

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88. 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

89. 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

90. 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

91. High-efficiency, large-area, topology-optimized metasurfaces
Thaibao Phan, David Sell, Evan W. Wang, Sage Doshay, Kofi Edee, Jianji Yang & Jonathan A. Fan.
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