

| TITLE | AUTHOR(s) | Journal | Year |
|--|---|------------------------|-------------|
| “Single-pixel infrared and visible microscope” | N. Radwell, K. J. Mitchell, G. M. Gibson, M. P. Edgar, R. W. Bowman and M. J. Padgett | Optica | 2014 |
| “A fast 3D reconstruction system with a low-cost camera accessory” | Y. Zhang, G. M. Gibson, R. Hay, R. W. Bowman, M. J. Padgett, M. P. Edgar | Scientific Reports | 2015 |
| “Amorphous molybdenum silicon superconducting thin films” | D. Bosworth, S.-L. Sahonta, R. H. Hadfield, Z. H. Barber | AIP Advances | 2015 |
| “Development of a 3D printer using scanning projection stereolithography” | M. P. Lee, G. J. T. Cooper, T. Hinkley, G. M. Gibson, M. J. Padgett, L. Cronin | Scientific Reports | 2015 |
| “Divergence of an orbital-angular-momentum-carrying beam upon propagation” | M. J. Padgett, F. M. Miatto, M. Lavery, A. Zeilinger, R. W. Boyd | New Journal of Physics | 2015 |
| “Generalized photon sieves: fine control of complex fields with simple pinhole arrays” | R. Liu, F. Li, M. J. Padgett, D. B. Phillips | Optica | 2015 |
| “High-dimensional quantum cryptography with twisted light” | M. Mirhosseini, O. S. Magaña-Loaiza, M. N. O’Sullivan, B. Rodenburg, M. Malik, M. P. J. Lavery, M. J. Padgett, D. J. Gauthier, R. W. Boyd | New Journal of Physics | 2015 |
| “Image retrodiction at low light levels” | M. Sonnleitner, J. Jeffers and S. M. Barnett | Optica | 2015 |
| “Imaging with a small number of photons” | P. A. Morris, R. S. Aspden, J. E. C. Bell, R. W. Boyd and M. J. Padgett | Nature Communications | 2015 |
| “More than meets the eye” | M. Edgar, M. J. Padgett, D. Faccio, J. Leach | Physics World | 2015 |
| “Nanoantenna enhancement for telecom-wavelength superconducting single photon detectors” | R. M. Heath, M. G. Tanner, T. D. Drysdale, S. Miki, V. Giannini, S. A. Maier, R. H. Hadfield | Nano Letters | 2015 |
| “Near video-rate linear Stokes imaging with single-pixel detectors” | S. S. Welsh, M. P. Edgar, R. Bowman, B. Sun and M. J. Padgett | Journal of Optics | 2015 |
| “Optical Metrology with Lights Orbital Angular Mometum” | M. P. Lavery, D. Robertson, F. Speirits, S. Barnett, M. J. Padgett | Frontiers in Optics | 2015 |
| “Photon-sparse microscopy: visible light imaging using infrared illumination” | R. S. Aspden, N. R. Gemmell, P. A. Morris, D. S. Tasca, L. Mertens, M. G. Tanner, R. A. Kirkwood, A. Ruggeri, A. Tosi, R. W. Boyd, G. S. Buller, R. H. Hadfield and M. J. Padgett | Optica | 2015 |

| | | | |
|---|---|----------------------------|------|
| "Photon-sparse microscopy: visible light imaging using infrared illumination" | R. S. Aspden, N. R. Gemmell, P. A. Morris, D. S. Tasca, L. Mertens, M. G. Tanner, R. A. Kirkwood, A. Ruggeri, A. Tosi, R. W. Boyd, G. S. Buller, R. H. Hadfield and M. J. Padgett | Optica | 2015 |
| "Precision Metrology Using Weak Measurements" | L. Zhang, A. Datta, and I. A. Walmsley | Physical Review Letters | 2015 |
| "Quantum-enhanced tomography of unitary processes" | X.-Q. Zhou, H. Cable, R. Whittaker, P. Shadbolt, J. L. O'Brien, and J. C. F. Matthews | Optica | 2015 |
| "Simultaneous real-time visible and infrared video with single-pixel detectors" | M. P. Edgar, G. M. Gibson, R. W. Bowman, B. Sun, N. Radwell, K. J. Mitchell, S. S. Welsh and M. J. Padgett | Scientific Reports | 2015 |
| "Single-photon sensitive light-in-flight imaging" | G. Garipey, N. Krstajic, R. Henderson, C. Li, R. R. Thomson, G. S. Buller, B. Heshmat, R. Raskar, J. Leach and D. Faccio | Nature Communications | 2015 |
| "Spatially structured photons that travel in free space slower than the speed of light" | D. Giovannini, J. Romero, V. Potocek, G. Ferenczi, F. Speirits, S. M. Barnett, D. Faccio, M. J. Padgett | Science | 2015 |
| "Trans-spectral Ghost Microscopy" | R. Aspden, N. R. Gemmell, P. Morris, D. S. Tasca, L. Mertens, M. G. Tanner, R. A. Kirkwood, A. Ruggeri, A. Tosi, R. W. Boyd, G. S. Buller, R. H. Hadfield, and M. J. Padgett | Optical Society of America | 2015 |
| "Two-photon interference at telecom wavelengths for time-bin entangled single photons from quantum-dot spin qubits" | L. Yu, C. M. Natarajan, T. Horikiri, C. Langrock, J. S. Pelc, M. G. Tanner, E. Abe, S. Maier, C. Schneider, S. Höfling, M. Kamp, R. H. Hadfield, M. M. Fejer, Y. Yamamoto | Nature Communications | 2015 |
| "Underwater depth imaging using time-correlated single-photon counting" | A. Maccarone, A. McCarthy, X. Ren, R. E. Warburton, A. M. Wallace, J. Moffat, Y. Petillot, and G. S. Buller | Optics Express | 2015 |
| "256x256, 100kfps, 61% Fill-factor time-resolved SPAD image sensor for microscopy applications" | I. Gyongy, N. Calder, A. Davies, N. Dutton, P. A. Dalgarno, R. R. Duncan, C. Rickman, R. Henderson | | 2016 |
| "A comparison of singlet oxygen explicit dosimetry (SOED) and singlet oxygen luminescence dosimetry (SOLD) for photofrin- | M. M. Kim, R. Penjweini, N. R. Gemmell, I. Veilleux, A. McCarthy, G.S Buller, R.H Hadfield, B.C Wilson, T.C Zhu | | 2016 |

| | | | |
|--|--|--|-------------|
| mediated photodynamic therapy" | | | |
| "Backside illuminated SPAD image sensor with 7.83 μ m pitch in 3D-stacked CMOS technology" | T. Al Abbas, N. Dutton, O. Almer, S. Pellegrini, Y Henrion, R. Henderson | | 2016 |
| "Detection-dependent six-photon Holland-Burnett state interference" | R. B. Jin, M. Fujiwara, R. Shimizu, R.J. Collins, G.S. Buller, T. Yamashita, S. Miki, H. Terai, M. Takeoka and M. Sasaki | Scientific Reports | 2016 |
| "High-speed spatial control of the intensity, phase and polarisation of vector beams using a digital micro-mirror device" | K. J. Mitchell, S. Turtaev, M. J. Padgett, T. Cizmar, D. B. Phillips | | 2016 |
| "Holographic tracking and sizing of optically trapped microprobes in diamond anvil cells" | F. Saglimbeni, S. Bianchi, G. Gibson, R. Bowman, M. J. Padgett, R. Di Leonardo | Optics Express | 2016 |
| "Holographic tracking and sizing of optically trapped microprobes in diamond anvil cells" | F. Saglimbeni, S. Bianchi, G. Gibson, R. Bowman, M. J. Padgett, R. Di Leonardo | | 2016 |
| "Robust Bayesian Target Detection Algorithm for Depth Imaging From Sparse Single-Photon Data" | Y. Altmann, X. Ren, A. McCarthy, G.S. Buller, S. McLaughlin | IEEE Transactions on Computational Imaging | 2016 |
| "A Comparison of Singlet Oxygen Explicit Dosimetry (SOED) and Singlet Oxygen Luminescence Dosimetry (SOLD) for Photofrin-Mediated Photodynamic Therapy." | M. M. Kim, R. Penjweini, N. R. Gemmell, I. Veilleux, A. McCarthy, G. S. Buller, R. H. Hadfield, B. C. Wilson, T.C. Zhu | Cancers | 2016 |
| "Chiral rotational spectroscopy" | R. Cameron, J. Götte, S. Barnett | Physical Review A | 2016 |
| "Comparing the information capacity of Laguerre-Gaussian and Hermite-Gaussian modal sets in a finite-aperture system" | S. Restuccia, D. Giovannini, G. M. Gibson, M. J Padgett | Optics Express | 2016 |
| "Computational imaging with adaptive spatially-variable resolution" | D.B. Phillips, M.J. Sun, M. Edgar, J. Taylor, G. Gibson, S. Barnett and M. Padgett | Proceedings from Frontiers in Optics, Optical Society of America | 2016 |
| "Detection and tracking of moving objects hidden from view" | G. Gariepy, F. Tonolini, R. Henderson, J. Leach and D. Faccio | Nature Photonics | 2016 |

| | | | |
|---|---|---|-------------|
| “Development of InSb dry etch for mid-IR applications” | V. Pusino, C. Xie, A. Khalid, I. Thayne and D. R. S. Cumming | Microelectronic Engineering | 2016 |
| “Direct measurement of large-scale quantum states via expectation values of non-Hermitian matrices” | E. Bolduc, G. Gariépy, J. Leach | Nature Communications | 2016 |
| “First-Photon 3D Imaging with a Single-Pixel Camera” | M. Edgar, M.J. Sun, G. Spalding, G. Gibson and M. J. Padgett | Proceedings from Frontiers in Optics, Optical Society of America | 2016 |
| “Gaussian systems for quantum-enhanced multiple phase estimation” | C. Gagatsos, D. Branford, A. Datta | Physical Review A | 2016 |
| “Ghost Imaging” | M. Padgett, R. Aspden, G. Gibson, M. Edgar and G. Spalding | Optics and Photonics News | 2016 |
| “High-speed spatial control of the intensity, phase and polarisation of vector beams using a digital micro-mirror device” | K. Mitchell, S. Turtaev, M. J. Padgett, T. Čížmár, D. Phillips | Optics Express | 2016 |
| “Image processing applied to photon sparse data” | L. Mertens, M. Sonnleitner, J. Leach, M. Agnew and M. Padgett | Proceedings from Frontiers in Optics, Optical Society of America | 2016 |
| “Improving the signal-to-noise ratio of single-pixel imaging using digital microscanning” | M. Sun, M. P. Edgar, G. M. Gibson, M. J. Padgett | Optics Express | 2016 |
| “Long Distance Free-Space Propagation of Light Carrying Orbital Angular Momentum” | M. P. Lavery, C. Peuntinger, K. Guenther, T. Bauer, P. Banze, D. Elser, R. W. Boyd, M. J. Padgett, C. Marquardt and G. Leuchs | Proceedings from Applications of Lasers for Sensing and Free Space Communications, Optical Society of America | 2016 |
| “Matter-wave grating distinguishing conservative and dissipative interactions” | R. Cameron, J. Götte, S. Barnett, J. Cotter | Physical Review A | 2016 |
| “Non-diffractive computational ghost imaging” | D. Phillips, R. He, Q. Chen, G. M. Gibson, M. J. Padgett | Optics Express | 2016 |
| “Noninvasive, near-field terahertz imaging of hidden objects using a single-pixel detector.” | R. I. Stantchev, B. Sun, S. M. Hornett, P. A. Hobson, G. M. Gibson, M. J. Padgett, E. Hendry | New Journal of Physics | 2016 |
| “Observation of image pair creation and annihilation from superluminal scattering sources” | M. Clerici, G. C. Spalding, R. Warburton, A. Lyons, C. Aniculaesei, J. M. Richards, J. Leach, R. Henderson, D. Faccio | Science Advances | 2016 |

| | | | |
|--|--|---|-------------|
| “On the natures of the spin and orbital parts of optical angular momentum” | S. Barnett, L. Allen, R. Cameron, C. Gilson, M. J. Padgett, F. Speirits, A. Yao | Journal of Optics | 2016 |
| “Phase-contrast ghost imaging using an orbital angular momentum phase-filter” | P.A. Morris, R. Aspden, R. He, Q. Chen and M.J. Padgett | Proceedings from Laser Science, Optical Society of America, | 2016 |
| “Picosecond laser ranging at wavelengths up to 2.4 μm using an InAs avalanche photodiode” | S. Butera, P. Vines, I. Sandall, C. H. Tan, and G. S. Buller | Electronics Letters | 2016 |
| “Quantum Enhanced Estimation of a Multidimensional Field” | T. Baumgratz, A. Datta | Physical Review Letters | 2016 |
| “Quantum Information with Structured Light” | M. Mirhosseini, O. S. Magana-Loaiza, M. N. O’Sullivan, B. Rodenburg, Z. Shi, M. Malik, M. P. Lavery, M. J. Padgett, D. J. Gauthier and R. W. Boyd | Proceedings from Laser Science, Optical Society of America, | 2016 |
| “Roadmap on structured light” | H. Rubinsztein-Dunlop, A. Forbes, M.V. Berry, M.R. Dennis, D. L. Andrews, M. Mansuripur, Cornelia Denz, C. Alpmann, P. Banzer, T. Bauer, E. Karimi, L. Marrucci, M. Padgett, M. Ritsch-Martel, N. M Litchinitser, N. P. Bigelow, C. R.-Guzmán, A. Belmonte, J.P. Torres, T. W. Neely, M. Baker, R. Gordon, A. B. Stilgoe, J. Romero, A. G. White, R. Fickler, A. E. Willner, G. Xie, B. McMorrin and A. M Weiner | Journal of Optics | 2016 |
| “Security against jamming and noise exclusion in imaging” | W. Roga, J. Jeffers | Physical Review A | 2016 |
| “Single-pixel three-dimensional imaging with time-based depth resolution.” | M. P. Edgar, G. M. Gibson, B. Sun, N. Radwell, R. Lamb, M. J. Padgett | Nature Communications | 2016 |
| “Smart-aggregation imaging for single molecule localisation with SPAD cameras” | I. Gyongy, A. Davies, N. Dutton, R. R. Duncan, C. Rickman, R. Henderson and P. A. Dalgarno | Scientific Reports | 2016 |
| “Superconducting nanowire single-photon detectors with non-periodic dielectric multilayers” | T. Yamashita, K. Waki, S. Miki, R. A. Kirkwood, R. H. Hadfield, H. Terai | Scientific Reports | 2016 |
| “The conditions for the preservation of duality | K. van Kruijning, J. Götze | Journal of Optics | 2016 |

| | | | |
|---|--|--|------|
| symmetry in a linear medium" | | | |
| "The transition from a coherent optical vortex to a Rankine vortex: beam contrast dependence on topological charge" | E. Toninelli, R. Aspden, D. Phillips, G. M. Gibson, M. J. Padgett | Journal of Modern Optics | 2016 |
| "Video recording true single-photon double-slit interference" | R. Aspden, M. J. Padgett, G. Spalding | American Journal of Physics | 2016 |
| "3um Pitch, 1um Active Diameter SPAD Arrays in 130nm CMOS Imaging Technology" | Z. You, L. Parmesan, S. Pellegrini, R. Henderson | | 2017 |
| "8.25um Pitch 66% Fill Factor Global Shared Well SPAD Image Sensor in 40nm CMOS FSI Technology" | T. Al Abbas, N. Dutton, O. Almer, F. Mattioli Della Rocca, S. Pellegrini, B. R. Rae, D. Golanski, R. Henderson | | 2017 |
| "A 16.5 Giga Events/s 1024 x 8 SPAD Line Sensor with per-pixel Zoomable 50ps-6.4ns/bin Histogramming TDC" | A. Erdogan, R. Walker, N. Finlayson, N. Krstajic, G. O. S. Williams, R. Henderson | | 2017 |
| "A 7Gbps integrated multiple input multiple output visible light communication demonstrator" | S. Rajbhandari, A.V.N. Jalajakumari, H. Chun, G. Faulkner, K. Cameron, R. Henderson, D. Tsonev, H. Haas, E. Xie, J.J.D. McKendry, J. Herrnsdorf, R. Ferreira, E. Gu, M.D. Dawson, D. O'Brien | Journal of Lightwave Technology | 2017 |
| "A Bayesian approach to denoising of single-photon binary images" | Y. Altmann, R. Aspden, M. J. Padgett, S. McLaughlin | IEEE Transactions on Computational Imaging | 2017 |
| "A High Stability Optical Shadow Sensor with Applications for Precision Accelerometers" | S.G. Bramsiepe, D. Loomes, R.P. Middlemiss, D. J. Paul, G.D. Hammond | arXiv | 2017 |
| "A miniaturized 4 K platform for superconducting infrared photon counting detectors" | N.R Gemmell, M. Hills, T. Bradshaw, T. Rawlings, B. Green, R.M Heath, K. Tsimvradidis, S. Dobrovolskiy, V. Zwiller, S.N Dorenbos, M. Crook, R.H Hadfield | Superconductor Science and Technology | 2017 |
| "A Multigigabit per Second Integrated Multiple-Input Multiple-Output VLC Demonstrator" | S. Rajbhandari, A.V.N. Jalajakumari, H. Chun, G. Faulkner, K. Cameron, R. Henderson, D. Tsonev, H. Haas, E. Xie, J.J.D. McKendry, J. Herrnsdorf, R. Ferreira, E. Gu, M.D. Dawson, D. O'Brien | Journal of Lightwave Technology | 2017 |

| | | | |
|--|--|--|-------------|
| "A Russian Dolls ordering of the Hadamard basis for compressive single-pixel imaging" | M. J. Sun, L. T. Meng, M. P. Edgar, M. J. Padgett, N. Radwell | Scientific Reports | 2017 |
| "Absorption spectroscopy at the ultimate quantum limit from single-photon states" | R. Whittaker, C. Erven, A. Neville, M. Berry, J. L. O'Brien, H. Cable, J. C. F. Matthews | New Journal of Physics | 2017 |
| "Adaptive foveated single-pixel imaging with dynamic supersampling" | D. B. Phillips, M. Sun, J. M. Taylor, M. P. Edgar, S. M. Barnett, G. M. Gibson, M. J. Padgett | Science Advances | 2017 |
| "An introduction to ghost imaging: quantum and classical" | M. J. Padgett, R. W. Boyd | Philosophical Transactions of the Royal Society, | 2017 |
| "Atmospheric CO2 Sensing with a Random Modulation Continuous Wave Integrated Path Differential Absorption Lidar" | M. Quatrevalet, X. Ai, A. Pérez-Serrano, P. Adamiec, J. Barbero, A. Fix, J. Manuel G Tijero, I. Esquivias, J.G Rarity, G. Ehret | IEEE Journal of Selected Topics in Quantum Electronics | 2017 |
| "Ballistic and snake photon imaging for accurate location of optical endomicroscopy fibres" | M. S. Tanner, T. R. Choudhary, T. Craven, B. Mills, M. Bradley, R. Henderson, K. Dhaliwal, R. R. Thomson | Biomedical Optics Express | 2017 |
| "Bounding the quantum limits of precision for phase estimation with loss and thermal noise" | C. N. Gagatsos, B. A. Bash, S. Guha, A. Datta | Physical Review A | 2017 |
| "Characterization of amorphous molybdenum silicide (MoSi) superconducting thin films and nanowires" | A. Banerjee, L. J. Baker, A. Doye, M. Nord, R. M. Heath, K. Erotokritou, D. Bosworth, Z. H. Barber, I. Maclaren, R. H. Hadfield | Superconductor Science and Technology | 2017 |
| "Chip-based quantum key distribution" | P Sibson, C Erven, M Godfrey, S Miki, T Yamashita, M Fujiwara, M Sasaki, H Terai, M.G Tanner, C.M Natarajan, R.H Hadfield, J.L O'Brien, M.G Thompson | Nature Communications | 2017 |
| "Chirality and the angular momentum of light" | R. P. Cameron, J. B. Götte, S. M. Barnett, A. M. Yao | Philosophical Transactions of the Royal Society, | 2017 |
| "Comparative study of sampling strategies for sparse photon multispectral Lidar imaging: towards mosaic filter arrays" | R. Tobin, Y. Altmann, X. Ren, A. McCarthy, R.A. Lamb, S. McLaughlin, and G.S. Buller | Journal of Optics | 2017 |
| "Comparison of nematic liquid-crystal and DMD based spatial light | S. Turtaev, I. T. Leite, K. J. Mitchell, M. J. Padgett, D. B. Phillips, T Čížmár | Optics Express | 2017 |

| | | | |
|--|--|--|-------------|
| modulation in complex photonics" | | | |
| "Compressed sensing with near-field THz radiation" | R. I. Stantchev, D. B. Phillips, P. Hobson, S. M. Hornett, M. J. Padgett, E. Hendry | Optica | 2017 |
| "Compressed sensing with near-field THz radiation" | R. I. Stantchev, D. B. Phillips, P. Hobson, S. M. Hornett, M. J. Padgett, E. Hendry | Optica 4 | 2017 |
| "Demonstrating an absolute quantum advantage in direct absorption measurement" | P.-A. Moreau, J. Sabines-Chesterking, R. Whittaker, S. K. Joshi, P. M. Birchall, A. McMillan, J. G. Rarity & J. C. F. Matthews | Scientific Reports | 2017 |
| "Design, fabrication and application of GaN-based micro-LED arrays with individual addressing by N-electrodes" | E. Xie, M. Stonehouse, R. Ferreira, J.J.D McKendry, J. Herrnsdorf, X. He, S. Rajbhandari, H. Chun, A.V.N Jalajakumari, O. Almer, G. Faulkner, I. M. Watson, E. Gu, R. Henderson, D. O'Brien, M.D. Dawson | IEEE Photonics Journal | 2017 |
| "Extending the Dynamic Range of Oversampled Binary SPAD Image Sensors" | N. Dutton, T. Al Abbas, I. Gyongy, R. Henderson | | 2017 |
| "Fast and accurate positioning system enabled by structured illumination with light-emitting diodes" | J. Herrnsdorf, M. Strain, E. Gu, R. Henderson, M. D. Dawson | Journal of Lightwave Technology | 2017 |
| "Fast Hyperspectral Unmixing in Presence of Nonlinearity or Mismodelling effects" | A. Halimi, J.M. Bioucas-Dias, N. Dobigeon, G.S. Buller, and S. McLaughlin | IEEE Transactions on Computational Imaging | 2017 |
| "Fast tracking of hidden objects with single-pixel detectors" | S. Chan, R.E. Warburton, G. Gariepy, Y. Altmann, S. McLaughlin, J. Leach and D. Faccio | Electronics Letters | 2017 |
| "Field tests of a portable MEMS gravimeter" | R. P. Middlemiss, S. G. Bramsiepe, R. Douglas, J. Hough, D. J. Paul, S. Rowan, G.D. Hammond | Sensors | 2017 |
| "Free-space propagation of high-dimensional structured optical fields in an urban environment" | M. P. J. Lavery, C. Peuntinger, K. Günthner, P. Banzer, D. Elser, R. W. Boyd | Science Advances | 2017 |
| "From retrodiction to Bayesian quantum imaging" | F. C. Speirits, M. Sonnleitner, S. M. Barnett | Journal of Optics | 2017 |
| "Fundamental limits of quantum-secure covert optical sensing" | B. A. Bash, C. N. Gagatsos, A. Datta, S. Guha | arXiv | 2017 |

| | | | |
|---|--|---|-------------|
| "Gb/s data communications with colloidal quantum dot colour converters" | M. Leitaó, J.M.M. Santos, B. Guilhabert, S. Watson, A.E. Kelly, M.S. Islim, H. Haas, M.D. Dawson, and N. Laurand | | 2017 |
| "Ghost Imaging Using Optical Correlations" | P. A. Moreau, E. Toninelli, T. Gregory, M. J. Padgett | Laser Photonics | 2017 |
| "High extinction ratio integrated photonic filters for silicon quantum photonics" | M. Piekarek, D. Bonneau, S. Miki, T. Yamashita, M. Fujiwara, H. Terai, M.G Tanner, C.M Natarajan, R.H Hadfield, J.L O'Brien, M.G Thompson, | Optics Letters, | 2017 |
| "High-speed Polarisation Shaping of Arbitrary Vector Beams Using a Digital Micro-mirror Device" | K. J. Mitchell, S. Turtaev, M. J. Padgett, T. Cizmar, D. B. Phillips | | 2017 |
| "Holographic quantum imaging: reconstructing spatial properties via two-particle interference" | N. Trautmann, G. Ferenczi, S. Croke, S. M. Barnett | Journal of Optics | 2017 |
| "Hypervelocity Time-of-Flight Characterisation of a 14GS/s Histogramming CMOS SPAD Sensor" | N. Finlayson, T. Al Abbas, F. Mattioli Della Rocca, O. Almer, S. Gneccchi, N. Dutton, R. Henderson | | 2017 |
| "Image reconstruction from photon sparse data" | L. Mertens, M. Sonnleitner, J. Leach, M. Agnew, M. J. Padgett | Scientific Reports | 2017 |
| "InGaN micro-LEDs integrated onto ultra-thin colloidal quantum dot functionalised glass" | K.J. Rae, C. Foucher, B. Guilhabert, M.S. Islim, D. Zhu, R.A. Oliver, D.J. Wallis, H. Haas, N. Laurand, and M.D. Dawson | Optics Express | 2017 |
| "Long-range depth profiling of camouflaged targets using single-photon detection" | R. Tobin, A. Halimi, A. McCarthy, X. Ren, K.J. McEwan, S. McLaughlin, and G.S. Buller | Optical Engineering | 2017 |
| "Long-range depth profiling of camouflaged targets using single-photon detection," | R. Tobin, A. Halimi, A. McCarthy, X. Ren, K.J. McEwan, S. McLaughlin, and G.S. Buller | Optical Engineering | 2017 |
| "Machine Learning Assisted Identification of People Hidden Behind a Corner" | P. Caramazza, A. Boccolini, G. Musarra, M. Hullin, R. Murray-Smith, D. Faccio | Computational Optical Sensing and Imaging | 2017 |
| "Machine Learning Assisted Identification of People Hidden Behind a Corner," | P. Caramazza, A. Boccolini, G. Musarra, M. Hullin, R. Murray-Smith, D. Faccio | Computational Optical Sensing and Imaging | 2017 |
| "Measuring the orbital angular momentum spectrum of an electron beam" | V. Grillo, A.H Tavabi, F. Venturi, H. Larocque, R. Balboni, G.C Gazzadi | Nature Communications | 2017 |

| | | | |
|--|---|---|-------------|
| "MEMS gravimeters as a new tool for gravity imaging" | R. P. Middlemiss, S. G. Bramsiepe, R. Douglas, S. Hild, J. Hough, D. J. Paul, A. Samarelli, S. Rowan, G. D. Hammond | Philosophical Transactions of the Royal Society A | 2017 |
| "MEMS gravimeters as a new tool for gravity imaging," | R. P. Middlemiss, S. G. Bramsiepe, R. Douglas, S. Hild, J. Hough, D. J. Paul, A. Samarelli, S. Rowan, G. D. Hammond | Philosophical Transactions of the Royal Society A | 2017 |
| "Multiplexed Single-Mode Wavelength-to-Time Mapping of Multimode Light" | H. Chandrasekharan, F. Idzieski, I. Gris-Sanchez, N. Krstajic, R. Walker, H. Bridle, P. A. Dalgarno, W. Macpherson, R. Henderson, T. Birks, R. Thomson | Nature Communications | 2017 |
| "Multispectral Mid-infrared Light Emitting Diodes on a GaAs Substrate" | M. Aziz, C. Xie, V. Pusino, A. Khalid, M. Steer, I.G. Thayne and D.R.S. Cumming | Applied Physics Letters | 2017 |
| "Neural network identification of people hidden from view with a single-pixel, single-photon detector" | P. Caramazza, A. Boccolini, D. Buschek, M. Hullin, C. Higham, R. Henderson, R. Murray-Smith, D. Faccio | arXiv | 2017 |
| "Neural network identification of people hidden from view with a single-pixel, single-photon detector," | P. Caramazza, A. Boccolini, D. Buschek, M. Hullin, C. Higham, R. Henderson, R. Murray-Smith, D. Faccio | arXiv preprint arXiv:1709.07244 | 2017 |
| "Non-line-of-sight tracking of people at long range" | S. Chan, R. E. Warburton, G. Gariepy, J. Leach, D. Faccio | Optics Express | 2017 |
| "Object Depth Profile and Reflectivity Restoration from Sparse Single-Photon Data Acquired in Underwater Environments" | A. Halimi, A. Maccarone, A. McCarthy, S. McLaughlin and G.S. Buller | | 2017 |
| "Object Tracking and Reconstruction with a Quanta Image Sensor" | I. Gyongy, T. Al Abbas, N. Dutton, R. Henderson | | 2017 |
| "Observation of laser pulse propagation in optical fibers with a SPAD camera" | R. Warburton, C. Aniculaesei, M. Clerici, Y. Altmann, G. Gariepy, R. McCracken, D. Reid, S. McLaughlin, M. Petrovich, J. Hayes, R. Henderson, D. Faccio, J. Leach | Scientific Reports | 2017 |
| "Octave-Spanning Broadband Absorption of Terahertz Light using Metasurface Fractal-Cross Absorbers" | M. Kenney, J. Grant, Y. D. Shah, I. Escorcia-Carranza, M. Humphreys, D. R. S. Cumming | ACS Photonics | 2017 |

| | | | |
|--|--|--|-------------|
| "Optical implementation of spin squeezing" | T. Ono, J. Sabines-Chesterking, H. Cable, J. L. O'Brien, J. C. F. Matthews | New Journal of Physics | 2017 |
| "Orbital angular momentum 25 years on" | M. J. Padgett | Optics Express | 2017 |
| "pH sensing through a single optical fibre using SERS and CMOS SPAD line arrays" | K. Ehrlich, A. Kufcsak, S.L. Mcaughtrie, H. Fleming, N. Krstajic, C. Campbell, R. Henderson, K. Dhaliwal, R.R. Thomson & M.G. Tanner | Optics Express | 2017 |
| "pH sensing through a single optical fibre using SERS and CMOS SPAD line arrays," | K. Ehrlich, A. Kufcsak, S.L. Mcaughtrie, H. Fleming, N. Krstajic, C. Campbell, R. Henderson, K. Dhaliwal, R.R. Thomson & M.G. Tanner | Optics Express | 2017 |
| "Polarisation structuring of broadband light" | K. J. Mitchell, N. Radwell, S. Franke-Arnold, M. J. Padgett, D. B. Phillips | Optics Express | 2017 |
| "Positioning and space-division multiple access enabled by structured illumination with light-emitting diodes" | J. Herrnsdorf, M. J. Strain, E. Gu, R. Henderson, M. D. Dawson | Journal of Lightwave Technology | 2017 |
| "Programmable holographic technique for implementing unitary and nonunitary transformations" | Y. Wang, V. Potoček, S. M. Barnett, X. Feng | Physical Review | 2017 |
| "Quantum position measurement of a shadow: beating the classical limit" | E. Toninelli, M. P. Edgar, P. A. Moreau, G. M. Gibson, G.D. Hammond | Frontiers in Optics | 2017 |
| "Reaching for the quantum limits in the simultaneous estimation of phase and phase diffusion" | M. Szczykulska, T. Baumgratz, A. Datta | Quantum Sci. Technol. | 2017 |
| "Real-time computational photon-counting LiDAR" | M. Edgar, S. Johnson, D. B. Phillips, M. J. Padgett | Optical Engineering | 2017 |
| "Real-time imaging of methane gas leaks using a single-pixel camera" | G.M Gibson, B. Sun, M. P. Edgar, D. B. Phillips, N. Hempler, G. T. Maker | Optics Express | 2017 |
| "Roadmap on structured light" | H. Rubinsztein-Dunlop, A. Forbes et al | Journal of Optics | 2017 |
| "Robust Spectral Unmixing of Sparse Multispectral Lidar Waveforms using Gamma Markov Random Fields" | Y. Altmann, A. Maccarone, A. McCarthy, G. Newstadt, G.S. Buller, S. McLaughlin, A. Hero | IEEE Transactions on Computational Imaging | 2017 |
| "Single-chip, Mid-infrared Array for Room Temperature Video Rate Imaging" | C. Xie, M. Aziz, V. Pusino, A. Khalid, M. Steer, I.G. Thayne, M. Sorel, and D. R.S. Cumming | OSA Optica | 2017 |

| | | | |
|---|--|---|-------------|
| "Single-photon three-dimensional imaging at up to 10 kilometers range" | A. Pawlikowska, A. Halimi, R.A. Lamb, and G.S. Buller | Optics Express | 2017 |
| "Slow light in flight imaging" | K. Wilson, B. Little, G. Gariepy, R. Henderson, J. Howell, D. Faccio | Physical Review A | 2017 |
| "Slow light in flight imaging" | K. Wilson, B. Little, G. Gariepy, R. Henderson, J. Howell, D. Faccio | Physical Review A | 2017 |
| "Stratified, computational interaction via machine learning" | R. Murray-Smith | The Eighteenth Yale Workshop on Adaptive and Learning Systems | 2017 |
| "Stratified, computational interaction via machine learning," | R. Murray-Smith | | 2017 |
| "Sub-shot-noise shadow sensing with quantum correlations" | E. Toninelli, M. P. Edgar, P. A. Moreau, G. M. Gibson, G.D. Hammond, M. J. Padgett | Optics Express | 2017 |
| "Sub-Shot-Noise Transmission Measurement Enabled by Active Feed-Forward of Heralded Single Photons" | J. Sabines-Chesterking, R. Whittaker, S.K. Joshi, P.A. Moreau, A. McMillan, H.V. Cable, J.L. O'Brien, J.G. Rarity and J. C. F. Matthews | Physical Review Applied | 2017 |
| "Time-resolved spectroscopy at 19,000 lines per second using a CMOS SPAD line array enables advanced biophotonics applications" | A. Ufcsak, A. Erdogan, R. Walker, E. Katjana, M. G. Tanner, A. Megia-Fernandez, E. Scholefield, P. Emanuel, K. Dhaliwal, M. Bradley, R. Henderson, N. Krstajic | Optics Express | 2017 |
| "Video-rate photometric stereo imaging with general lighting luminaires" | J. Herrnsdorf, L. Broadbent, G.C. Wright, M.D. Dawson, and M.J. Strain | | 2017 |
| "Will a decaying atom feel a friction force?" | M. Sonnleitner, N. Trautmann, S. M. Barnett | Physical Review Letters | 2017 |
| "Will a decaying atom feel a friction force?" | M. Sonnleitner, N. Trautmann, S. M. Barnett | Physical Review Letters | 2017 |
| "A compact fiber-optic probe-based singlet oxygen luminescence detection system." | N. R. Gemmell, A. McCarthy, M. M. Kim, I. Veilleux, T. C. Zhu, G. S. Buller, B. C. Wilson, R. H. Hadfield | Journal of biophotonics | 2017 |
| "1000 fps computational ghost imaging using LED-based structured illumination" | Z. H Xu, W. Chen, J. Penuelas, M. J. Padgett & M.J Sun | Optics Express | 2018 |
| "1000 fps computational ghost imaging using LED-based structured illumination," | Z. H Xu, W. Chen, J. Penuelas, M. J. Padgett, M.J Sun | Optics Express | 2018 |
| "A 256x256, 100kFPS, 61% Fill-factor SPAD Image | I. Gyongy, N. Calder, A. Davies, N. Dutton, R.R. | IEEE Transactions on Electron Devices | 2018 |

| | | | |
|--|---|--|-------------|
| Sensor for Time-resolved Microscopy Applications" | Duncan, C. Rickman, P.A. Dalgarno & R. Henderson | | |
| "A 256×256, 100kFPS, 61% Fill-factor SPAD Image Sensor for Time-resolved Microscopy Applications," | I. Gyongy, N. Calder, A. Davies, N. Dutton, R.R. Duncan, C. Rickman, P.A. Dalgarno & R. Henderson | IEEE Transactions on Electron Devices | 2018 |
| "A CMOS SPAD Sensor with a Multi-Event Folded Flash Time-to-Digital Converter for Ultra-fast Optical Transient Capture" | T. Al Abbas, N. Dutton, O. Almer, N. Finlayson, F. Mattioli Della Rocca, & R. Henderson | IEEE Sensors Journal | 2018 |
| "A CMOS SPAD Sensor with a Multi-Event Folded Flash Time-to-Digital Converter for Ultra-fast Optical Transient Capture," | T. Al Abbas, N. Dutton, O. Almer, N. Finlayson, F. Mattioli Della Rocca, & R. Henderson | IEEE Sensors Journal | 2018 |
| "A CMOS SPAD Sensor with a Multi-Event Folded Flash Time-to-Digital Converter for Ultra-fast Optical Transient Capture," | T. Al Abbas, N. Dutton, O. Almer, N. Finlayson, F. Mattioli & R. Henderson | IEEE Sensors Journal | 2018 |
| "A high stability optical shadow sensor with applications for precise accelerometers" | S. G. Bramsiepe, D. Loomes, R. P. Middlemiss, D. J. Paul and G. D. Hammond | IEEE Sensors Journal | 2018 |
| "A high stability optical shadow sensor with applications for precise accelerometers," | S. G. Bramsiepe, D. Loomes, R. P. Middlemiss, D. J. Paul and G. D. Hammond | IEEE Sensors | 2018 |
| "A high stability optical shadow sensor with applications for precise accelerometers," | S. G. Bramsiepe, D. Loomes, R.P. Middlemiss, D.J. Paul and G.D. Hammond | IEEE Sensors | 2018 |
| "A trillion frames per second: the techniques and applications of light-in-flight photography," | D. Faccio, A. Velten | Rep. Prog. Phys | 2018 |
| "AsSb-based nBnBn Heterostructure for Dual-color Infrared Detection and Monolithically Integrated on GaAs," | C. Xie, V. Pusino, A. Khalid, A. P. Craig, A. R. Marshall, and David R.S. Cumming | IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) | 2018 |
| "Attosecond-Resolution Hong-Ou-Mandel Interferometry," | A. Lyons, G.C. Knee, E. Bolduc, T. Roger, J. Leach, E.M. Gauger, D. Faccio | Science. Advances | 2018 |
| "Characterization of Electronic Displays using CMOS-Compatible Single Photon Avalanche Diode Image Sensors," | H. Mai, I. Gyongy, N. Dutton, R. Henderson & I. Underwood | Journal of the Society for Information Display | 2018 |

| | | | |
|---|---|----------------------------|-------------|
| "CMOS compatible metamaterial absorbers for hyperspectral medium wave infrared imaging and sensing applications," | J. Grant, M. G. Kenney, Y. D. Shah, I. Escorcia Carranza, and D. R. S. Cumming | OSA journal Optics Express | 2018 |
| "Cylindrical microlensing for enhanced collection efficiency of small pixel SPAD arrays in single-molecule localisation microscopy" | I. Gyongy, A. Davies, B. Gallinet, N. Dutton, R.R. Duncan, C. Rickman, R. Henderson & P. Dalgarno | Optics Express | 2018 |
| "Deep learning for real-time single-pixel video" | C. F. Higham, R. Murray-Smith, M.J. Padgett & M.P. Edgar | Scientific Reports | 2018 |
| "Deep learning for real-time single-pixel video," | C. F. Higham, R. Murray-Smith, M.J. Padgett & M.P. Edgar | Scientific Reports | 2018 |
| "Deep Learning: An Introduction for Applied Mathematicians" | C. F. Higham and D. J. Higham | Siam Review | 2018 |
| "Deep Learning: An Introduction for Applied Mathematicians," | C. F. Higham and D. J. Higham | Siam Review | 2018 |
| "Design, fabrication and application of GaN-based micro-LED arrays with individual addressing by N-electrodes," | E. Xie, M. Stonehouse, R. Ferreira, J.J.D McKendry, J. Herrnsdorf, X. He, S. Rajbhandari, H. Chun, A.V.N Jalajakumari, O. Almer, G. Faulkner, I.M. Watson, E. Gu, R. Henderson, D. O'Brien & M.D Dawson | IEEE photonics journal | 2018 |
| "Enhancing the recovery of a temporal sequence of images using joint deconvolution" | P. Caramazza, K. Wilson, G. Gariepy, J. Leach, S. McLaughlin, D. Faccio, Y. Altmann | Scientific Reports | 2018 |
| "Enhancing the recovery of a temporal sequence of images using joint deconvolution," | P. Caramazza, K. Wilson, G. Gariepy, J. Leach, S. McLaughlin, D. Faccio, Y. Altmann | Scientific Reports | 2018 |
| "Ghost Imaging Using Optical Correlations," | P. A Moreau, E. Toninelli, T. Gregory, M.J. Padgett | Laser & Photonics Reviews | 2018 |
| "High Dynamic Range Imaging at the Quantum Limit with SPAD-based Image Sensors," | N. Dutton, T. Al abbas, I. Gyongy, F. Mattioli & R. Henderson | Sensors | 2018 |
| "High-resolution depth profiling using a range-gated CMOS SPAD quanta image sensor," | R. Ximing, P. Connolly, A. Halimi, Y. Altmann, S. McLaughlin, I. Gyongy, R. Henderson & G.S. Buller | Optics Express | 2018 |
| "High-resolution depth profiling using a range- | X. Ren, PWR Connolly, A. Halimi, Y. Altmann, S. | Optics Express | 2018 |

| | | | |
|--|--|---|-------------|
| gated Si CMOS SPAD quanta image sensor" | McLaughlin, I. Gyongy, R. Henderson and G.S. Buller | | |
| "How fast is a twisted photon?," | A. Lyons, T. Roger, N. Westerberg, S. Vezzoli, C. Maitland & J. Leach | Optica | 2018 |
| "Imaging Beyond a Multimode Fibre with Time of Flight Depth Information," | D. Stellinga, D.B Phillips, M.P. Edgar, S. Turtaev, T. Čížmár, M.J. Padgett | CLEO: Science and Innovations | 2018 |
| "Individual differences in bilingual grammar, International Symposium on Bilingual Processing" | C.Cohen, C. Higham, S. Waqar Nabi, L. Schwartz, M. Putnam, G. Jan Kootstra and J. Van Hell | | 2018 |
| "Individual differences in bilingual grammar, International Symposium on Bilingual Processing," | C.Cohen, C. Higham, S. Waqar Nabi, L. Schwartz, M. Putnam, G. Jan Kootstra and J. Van Hell | | 2018 |
| "Light, the universe and everything – 12 Herculean tasks for quantum cowboys and black diamond skiers," | G. Agarwal, R.E Allen, I. Bezděková, R.W Boyd, G. Chen, R. Hanson | Journal of Modern Optics | 2018 |
| "Maximum-likelihood quantum process tomography via projected gradient descent" | G. C. Knee, E. Bolduc, J. Leach, E. M. Gauger | arXiv | 2018 |
| "Maximum-likelihood quantum process tomography via projected gradient descent," | G. C. Knee, E. Bolduc, J. Leach, E. M. Gauger | arXiv:1803.10062 | 2018 |
| "Neural Network classification for intensity imaging through multimode optical fibres," | P. Caramazza, R. Murray-Smith, and D. Faccio | Computational Optical Sensing and Imaging | 2018 |
| "On the fundamental quantum limits of multi-carrier laser interferometric gravitational-wave detectors," | D. Branford, H. Miao, A. Datta, | arXiv:1804.02682 | 2018 |
| "Poissonian communications: free space optical data transfer at the few-photon level" | A. D. Griffiths, J. Herrnsdorf, C. Lowe, M. Macdonald, R. Henderson, M.J. Strain, M. D. Dawson | | 2018 |
| "Poissonian communications: free space optical data transfer at the few-photon level," | A. D. Griffiths, J. Herrnsdorf, C. Lowe, M. Macdonald, R. Henderson, M.J. Strain, M. D. Dawson | | 2018 |
| "Polarization Encoded Color Image Embedded in a Dielectric Metasurface," | X. Zang, F. Dong, F. Yue, C. Zhang, L. Xu, Z. Song, M. Chen, P. Chen, G.S. Buller, Y. | Adv. Materials | 2018 |

| | | | |
|---|---|---|-------------|
| | Zhu, S. Zhuang, W. Chu, S. Zhang, X. Chen | | |
| "Practical classification of different moving targets using automotive radar and deep neural networks," | A. Angelov, A. Robertson, R. Murray-Smith, F. Fioranelli | IET Radar, Sonar & Navigation | 2018 |
| "Real-time computational photon-counting LiDAR," | M. P. Edgar, S. Johnson, D. Phillips, M. J. Padgett | Optical Engineering | 2018 |
| "Resolution limits of quantum ghost imaging" | P.A. Moreau et al | Optics Express | 2018 |
| "Resolution limits of quantum ghost imaging," | P.A Moreau, E. Toninelli, P.A Morris, R.S Aspden, T. Gregory & G.Spalding | Optics Express | 2018 |
| "Resolution-enhanced imaging with quantum correlations," | E. Toninelli, P.A. Moreau, A. Mihalyi, T. Gregory, M.P. Edgar, M.J. Padgett | CLEO: QELS_Fundamental Science | 2018 |
| "Reversal of orbital angular momentum arising from an extreme Doppler shift," | G.M. Gibson, E. Toninelli, S.A.R Horsley, G.C Spalding, E. Hendry, D.B Phillips | Proceedings of the National Academy of Sciences | 2018 |
| "Single-Photon Tracking for High-Speed Vision" | I. Gyongy, N. Dutton, R. Henderson | Sensors | 2018 |
| "Single-Photon Tracking for High-Speed Vision," | I. Gyongy, N. Dutton, R. Henderson | Sensors | 2018 |
| "Spectral Classification of Sparse Photon Depth Images" | Y. Altmann, A. Maccarone, A McCarthy, S. McLaughlin and G.S. Buller | Optics Express | 2018 |
| "Spectral Classification of Sparse Photon Depth Images," | Y. Altmann, A. Maccarone, A McCarthy, S. McLaughlin and G.S. Buller | Optics Express | 2018 |
| "Sub-nanosecond Temporally Resolved Imaging with a Single Pixel Camera," | S. Johnson, M.P Edgar, D. Phillips, M. J. Padgett | CLEO: QELS Fundamental Science | 2018 |
| "Testing for entanglement with periodic coarse graining," | D.S Tasca, L. Rudnicki, R.S Aspden, M.J. Padgett, P.HS Ribeiro & S. P. Walborn | Physical Review A | 2018 |
| "Twisted'electrons," | H. Larocque, I. Kaminer, V. Grillo, G. Leuchs, M.J Padgett & R.W Boyd | Contemporary Physics 59 | 2018 |
| "Ultra-narrow linewidth polarization-insensitive filter using a symmetry-breaking selective plasmonic metasurface" | Y.D. Shah, J. Grant, D. Hao, M. Kenney, V. Pusino, and D.R.S. Cumming | ACS Photonics | 2018 |
| "Ultra-narrow linewidth polarization-insensitive filter using a symmetry-breaking selective plasmonic metasurface," | Y. D. Shah, J. Grant, D. Hao, M. Kenney, V. Pusino, and David R.S. Cumming | ACS Photonics | 2018 |