

	Imperial College of Science Technology and Medicine, Department of Physics, London, SW7 2AZ		
	British		www.mrforeman.com
	+44 (0)207 5947721		xv6ErPoAAAAJ
	m.foreman@physics.org		Matthew_Foreman
			matthew-foreman-121a2a12
			0000-0001-5864-9636
			1282392/matthew-r-foreman

RESEARCH EXPERIENCE

Oct 2016 – present	Royal Society University Research Fellow , Photonics, Imperial College London, UK <i>“Mesoscopic plasmon speckle: fundamentals and applications”</i>
Jan 2015 – Sep 2016	Max Planck Research Fellow , Max Planck Institute for the Science of Light, Germany <i>“Anisotropic whispering-gallery mode resonators”</i>
Sep 2013 – Jan 2015	Alexander von Humboldt Fellow , Max Planck Institute for the Science of Light, Germany <i>“Hybrid photonic-plasmonic micro-resonators for single molecule sensing”</i>
Oct 2012 – Sep 2013	Max Planck Research Fellow , Max Planck Institute for the Science of Light, Germany <i>“Theory of plasmon enhanced whispering-gallery mode biosensing”</i>
Dec 2011 – Sep 2012	KTS Research Fellow , National Physical Laboratory, UK <i>“Characterisation and calibration of 3D optical tomographic systems for surface metrology”</i>
Nov 2010 – Nov 2011	Research Associate , Photonics, Imperial College London, UK <i>“Super-Resolution Photonics for Advanced Storage Systems (SURPASS)”</i>
Jul 2010 – Oct 2010	Visiting Lecturer – Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan
Jan 2010 – Oct 2010	EPSRC Research Fellow , Photonics, Imperial College London, UK <i>“Single molecule studies via polarisation microscopy”</i>

TEACHING / SUPERVISION EXPERIENCE

LECTURING	2017 – 2019	Partial differential equations (Y2 undergraduate level - 6 hours) – Department of Materials – Imperial College London, UK
	2017 – 2019	Electromagnetism (Y2 undergraduate level - 6 hours) – Department of Materials – Imperial College London, UK
	2013	Whispering Gallery Mode Resonators (postgraduate level - 8 hours) – Friedrich-Alexander Universität Erlangen-Nürnberg - SAOT Winter Academy, Hintertux, Austria
	2010	Polarisation imaging (postgraduate level - 18 hours), Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan
	2010	Fundamentals of Matlab (postgraduate level - 20 hours), Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan
SUPERVISION	2017 – present	PhD supervisor – graduated: 1 student as lead supervisor current: 2 + (1) students as lead (co-) supervisor
	2007 – present	MSc/MRes project supervisor – 12 students
	2009 – present	BSc project supervisor – 4 students
	2009 – present	UROP project supervisor – 15 students
	2013	PhD intern supervisor – 2 students
ASSESSMENTS	2022	PhD examiner – 1 student (pending) – Department of Medical Physics and Biomedical Engineering, University College London, UK
	2021	PhD LSA examiner – 1 student – Department of Physics, Imperial College London, UK
	2016 – present	MSc Optics/Physics project assessor – 17 students – Department of Physics, Imperial College London, UK
	2011 – 2017	Undergraduate project assessor – 33 students – Department of Physics, Imperial College London, UK
OTHER	2017 – 2019	Undergraduate tutorials – Department of Materials, Imperial College London, UK
	2010 – 2011	Undergraduate tutorials – Department of Physics, Imperial College London, UK
	2008 – 2010	Laboratory demonstrator – MSc Optics, Imperial College London, UK
	2007 – 2008	Undergraduate classworks – Department of Physics, Imperial College London, UK

DR. MATTHEW R. FOREMAN : CURRICULUM VITAE CTD.



PROFESSIONAL ACTIVITIES

EDITORIAL	2021 – present	Section Editor – Sensors, Multidisciplinary Digital Publishing Institute (MDPI) 2020 Impact Factor: 3.275
	2017 – present	Associate Editor – Optics Express, Optical Publishing Group 2020 Impact Factor: 3.669
	2007 – 2010	Senior layout- and copy- editor – Journal of the European Optical Society
PEER REVIEW	2017	Proposal reviewer – National Natural Science Foundation of China (NSCF) and Israel Science Foundation (ISF)
	2011 – 2015	Proposal reviewer – Romanian National Council for Scientific Research
	2011	Proposal reviewer – Georgian Shota Rustaveli National Science Foundation
	2007 – present	Scientific reviewer – including Nature Publishing, American Physical Society, Optical Society of America, American Chemical Society. Full Publons record: https://publons.com/author/1282392
COMMITTEE	2017 – present	Chair – Physics Fellows' Forum, Imperial College London, UK
	2017 – present	Committee Member – Juno subcommittee on Career Development and Advice, Imperial College London, UK
	2017	Round table – Royal Society, Berlin-Brandenburg Akademie der Wissenschaften and Leopoldina
	2014	Workshop organisation – Developed online registration system, administered registration and facilitated production of conference proceedings for 560. WE Heraeus Workshop, Bad Honnef, Germany
OUTREACH	2017	Outreach Volunteer – Imperial Festival, Imperial College London, UK
	2015	Outreach Volunteer – Siegman International School on Lasers, Max Planck Institute for the Science of Light, Germany
	2013	Outreach Volunteer – Lange Nacht der Wissenschaften (Long Night of Science), Max Planck Institute for the Science of Light, Germany
OTHER	2018 – present	Mentor – Institute of Physics Membership Accreditation and Recognition Scheme, Imperial College London, UK
	2018	Scientific Consultant – Lightvert Ltd., UK
	2007 – 2010	Administrative assistant – Journal of the European Optical Society: Rapid Publications



AWARDS AND HONOURS

2019	Fellow of UK Higher Education Authority
2017	Associate Fellow of UK Higher Education Authority
2016 – 2021	Royal Society University Research Fellowship – The Royal Society, UK
2015	Outstanding Reviewer – Optics Communications
2013 – 2015	Humboldt Research Fellowship – Alexander von Humboldt Foundation, Germany
2011	Excellence in Teaching Award – Faculty of Natural Sciences, Imperial College London, UK
2010	Springer Outstanding PhD Research Prize – Springer-Verlag
2010	EPSRC PhD Plus Fellowship – Engineering and Physical Sciences Research Council, UK
2010	Young Researcher Invitation – Lindau Nobel Laureate Meeting
2007	Springer Presentation Award – EOS Advanced Imaging Topical Meeting
2003 – 2006	Peter Fisher Prize, Finals Prize and Millard Scholarship in Physics – Oxford University, UK



EDUCATION

Oct 2006 – Jan 2010	PhD Physics, Imperial College London, UK (Supervisor: Prof. Peter Török) <i>“Informational limits in optical polarimetry and vectorial imaging”</i>
Sep 2002 – Jul 2006	MPhys Physics, Trinity College, University of Oxford, UK 1st class



CITATION STATISTICS (SOURCE: GOOGLE SCHOLAR)

----- A FULL PUBLICATION LIST CAN BE FOUND BELOW. -----

Total papers (invited): 48 (5)	Total citations (since 2016): 2246 (1832)
Total books/chapters: 2	h-index (since 2016): 20 (17)
Conference presentations (invited/keynote): 36 (9/1)	i10-index (since 2016): 35 (25)

DR. MATTHEW R. FOREMAN : CURRICULUM VITAE CTD.



GRANTS AND FUNDING OBTAINED

2021 – 2024	Royal Society Extension Grant	~ £ 471k
2020 – 2024	Microsoft Research (Cambridge) Scholarship	~ £ 145k
2018 – 2022	Royal Society Research Grant	~ £ 84k
2017 – 2021	EPSRC DTA Scholarship	~ £ 150k
2016 – 2021	Royal Society University Research Fellowship	~ £ 515k
2013 – 2015	Alexander von Humboldt Research Fellowship	~ € 100k
2011 – 2012	EPSRC Knowledge Transfer Grant	~ £ 85k
2010 – 2011	EPSRC PhD Plus Fellowship	~ £ 35k



SCIENTIFIC COLLABORATIONS

2020 – present	Dr. J. Clegg, Microsoft Research, Cambridge, UK
2020 – present	Prof. M. Neil, Imperial College London, London, UK
2019 – present	Prof. D. Kim, Yonsei University, Seoul, South Korea
2018 – present	Prof. R. Sapienza, Imperial College London, London, UK
2020 – 2021	Dr. H. L. G. Schwefel, University of Otago, Dunedin, New Zealand
2018 – 2019	Dr. Jess Wade, Imperial College London, London, UK
2018 – 2019	Prof. F. Goudail, Institut d'Optique, Paris, France
2016 – 2019	Prof. P. Török, Imperial College London, London, UK
2016 – 2019	Prof. S. Arnold, New York University Polytechnic School of Engineering, New York, USA
2016 – 2018	Prof. S. Hell, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany
2014 – 2015	Prof. D.-P. Tsai, Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan
2013 – 2014	Dr. G. Gagliardi, Consiglio Nazionale delle Ricerche, Istituto Nazionale di Ottica (INO), Naples, Italy
2012 – 2014	Dr. S. Yang, Brigham and Women's Hospital, Boston, USA
2011 – 2018	Dr. Y. Sivan, Ben-Gurion University, Beer-Sheva, Israel
2011 – 2012	Prof. J. Coupland, Loughborough University, Loughborough, UK
2010 – 2013	Prof. F.-J. Kao, Biophotonics Institute, National Yang-Ming University, Taipei, Taiwan
2009 – 2012	Carl Zeiss AG, Jena, Germany
2009 – 2012	CEA-LETI, Grenoble, France
2008 – 2012	Prof. P. Urbach, Eindhoven University of Technology, Eindhoven, Netherlands
2006 – 2008	Dr. S. Sherif, Canadian National Research Center (NRC-CNRC), Ottawa, Canada



MEMBERSHIP OF PROFESSIONAL / LEARNED SOCIETIES

- UK Higher Education Authority (Fellow)
- Institute of Physics (Full Member)
- European Optical Society (Full Member)
- The Royal Society (Research Fellow)
- Humboldt Foundation (Research Fellow Alumni)
- Max Planck Society (Research Fellow Alumni)

DR. MATTHEW R. FOREMAN : PUBLICATION LIST

All publications are available from www.mrforeman.com/publications.php.



PEER-REVIEWED PUBLICATIONS (ITALICS DENOTES INVITED ARTICLE)

- N. Byrnes and **M. R. Foreman**, “Polarisation statistics of vector scattering matrices from the circular orthogonal ensemble” *Opt. Commun.* **503**, 127462 (2022).
- J. Berk and **M. R. Foreman**, “Role of Multiple Scattering in Single Particle Perturbations in Absorbing Random Media” *Phys. Rev. Research* **3**, 033111 (2021).
- J. Berk and **M. R. Foreman**, “Theory of Multiple Scattering Enhanced Single Particle Plasmonic Sensing” *ACS Photon* **8**, 2227–2233 (2021).
- F. Azeem, L. S. Trainor, P. A. Devane, D. S. Norman, A. Rueda, N. J. Lambert, M. Kumari, **M. R. Foreman**, H. G. L. Schwefel, “Dielectric perturbations: anomalous resonance frequency shifts in optical resonators” *Opt. Lett.* **46**, 2477–2480 (2021).
- N. Byrnes and **M. R. Foreman**, “Symmetry constraints for vector scattering and transfer matrices containing evanescent components: energy conservation, reciprocity and time reversal” *Phys. Rev. Research* **3**, 013129 (2021).
- J. Berk, C. Paterson and **M. R. Foreman**, “Tracking Single Particles using Surface Plasmon Leakage Radiation Speckle” *IEEE J. Lightwave Technol.* **39**, 3950–3960 (2021).
- K. L. C. Seow, P. Török, **M. R. Foreman**, “Single Pixel Polarimetric Imaging through Scattering Media” *Opt. Lett.* **45**, 5740–5743 (2020).
- N. Byrnes and **M. R. Foreman**, “Universal bounds for imaging in scattering media” *New J. Phys.* **22**, 083023 (2020).
- Y. Xiang, **M. R. Foreman** and P. Török, “SNR Enhancement in Brillouin Microspectroscopy using Spectrum Reconstruction” *Biomed. Opt. Express* **11**, 1020–1031 (2020).
- **M. R. Foreman**, “Field correlations in surface plasmon speckle” *Sci. Reps.* **9**, 8359 (2019).
- P. Török and **M. R. Foreman**, “Precision and informational limits in inelastic optical spectroscopy” *Sci. Reps.* **9**, 6140 (2019).
- **M. R. Foreman** and F. Goudail, “On the equivalence of optimisation metrics in Stokes polarimetry” *Opt. Eng.* **58**, 082410 (2019).
- *N. T. Urban, M. R. Foreman, S. W. Hell and Y. Sivan, “Nanoparticle-assisted STED nanoscopy with gold nanoparticles” ACS Photon.* **5**, 2574–2583 (2018).
- **M. R. Foreman**, D. Keng, E. Treasurer, J. Lopez and S. Arnold, “Whispering gallery mode single nano-particle detection and sizing: the validity of the dipole approximation” *Opt. Lett.* **42**, 963–966 (2017).
- F. Sedlmeir, **M. R. Foreman**, U. Vogl, R. Zeltner, G. Schunk, D. V. Strekalov, C. Marquardt, G. Leuchs and H. G. L. Schwefel “Polarization-selective out-coupling of whispering gallery modes” *Phys. Rev. Applied* **7**, 024029 (2017).
- **M. R. Foreman**, F. Sedlmeir, H. G. L. Schwefel and G. Leuchs, “Dielectric tuning and coupling of whispering gallery modes using an anisotropic prism” *J. Opt. Soc. Am. B* **33**, 2177–2195 (2016).
- W. T. Chen, P. Török, **M. R. Foreman**, C. Y. Liao, W.-Y. Tsai, P. R. Wu and D. P. Tsai, “Integrated plasmonic metasurfaces for spectropolarimetry” *Nanotechnology* **27**, 224002 (2016).
- **M. R. Foreman** A. Favaro and A. Aiello “Optimal frames for polarization state reconstruction” *Phys. Rev. Lett.* **115**, 263901 (2015). Featured as cover article for *Phys. Rev. Lett.*
- E. Kim, **M. R. Foreman**, M. D. Baaske and F. Vollmer “Thermal characterisation of (bio)polymers with a temperature-stabilized whispering gallery mode microsensor” *Appl. Phys. Lett.* **106**, 161101 (2015).
- **M. R. Foreman** and F. Vollmer “Tracking anomalous diffusion kinetics in polymer microspheres” *Phys. Rev. Lett.* **114**, 118001 (2015). Featured as “Editor’s Suggestion” in *Phys. Rev. Lett.*
- **M. R. Foreman**, *J. D. Swaim and F. Vollmer “Whispering gallery mode sensors” Adv. Opt. Photon.* **7**, 168–240 (2015).
- M. D. Baaske, **M. R. Foreman** and F. Vollmer “Single molecule nucleic acid interactions monitored on a label-free microcavity biosensor platform” *Nat. Nanotech.* **9**, 933–939 (2014).
- Y. Sonnefraud, H. G. Sinclair, Y. Sivan, **M. R. Foreman**, C. W. Dunsby, M. A. A. Neil, P. M. French and S. A. Maier “Experimental proof of concept of nanoparticle assisted STED” *Nano. Lett.* **14**, 4449–4453 (2014).
- **M. R. Foreman**, *S. Avino, R. Zullo, H.-P. Looock, F. Vollmer and G. Gagliardi “Enhanced nanoparticle detection with liquid droplet resonators” Eur. Phys. J. Spec. Top.* **223**, 1971–1988 (2014).
- C. Macías-Romero, **M. R. Foreman**, P. R. T. Munro and P. Török “Confocal polarization imaging in high numerical aperture space” *Opt. Lett.* **39**, 2322–2325 (2014). Featured in *V. J. Biomed. Opt.*
- *N. Mazumder, C.-W. Hu, J. Qiu, M. R. Foreman, C. Macías-Romero, P. Török, and F.-J. Kao “Revealing molecular structure and orientation with Stokes vector resolved second harmonic generation microscopy” Methods* **66**, 237–245 (2014).



PEER-REVIEWED PUBLICATIONS CTD.

- **M. R. Foreman**, W.-L. Jin and F. Vollmer “Optimizing detection limits in whispering gallery mode biosensing” *Opt. Express* **22**, 5491–5511 (2014). Featured in *V. J. Biomed. Opt.*
- G. Antonacci, **M. R. Foreman**, C. Paterson and P. Török “Spectral broadening in Brillouin imaging” *Appl. Phys. Lett.* **103** 221105 (2013).
- **M. R. Foreman** and F. Vollmer “Level repulsion in hybrid photonic-plasmonic microresonators for enhanced biodetection” *Phys. Rev. A* **88**, 023831 (2013).
- **M. R. Foreman** and F. Vollmer “Theory of resonance shifts of whispering gallery modes by arbitrary plasmonic nanoparticles” *New J. Phys.* **15**, 083006 (2013). Featured as a “Highlight of 2013” by *New J. Phys.*
- **M. R. Foreman**, C. L. Giusca, P. Török and R. K. Leach “Phase-retrieved pupil function and coherent transfer function in confocal microscopy” *J. Microsc.* **251**, 99–107 (2013).
- **M. R. Foreman**, C. L. Giusca, J. M. Coupland, P. Török and R. Leach, “Determination of the transfer function for optical surface topography measuring instruments - a review” *Meas. Sci. Technol.* **24**, 052001 (2013).
- N. Mazumder, J. Qiu, **M. R. Foreman**, C. Macías-Romero, P. Török, and F.-J. Kao, “Stokes vector based polarization resolved second harmonic microscopy of starch granules” *Biomed. Opt. Express* **4**, 538–547 (2013).
- **M. R. Foreman**, Y. Sivan, S. A. Maier and P. Török “Independence of plasmonic near-field enhancements to illumination beam profile” *Phys. Rev. B* **86**, 155441 (2012).
- N. Mazumder, J. Qiu, **M. R. Foreman**, C. Macías-Romero, C. Hu, H. Tsai, P. Török, and F. Kao, “Polarization-resolved second harmonic generation microscopy with a four-channel Stokes-polarimeter” *Opt. Express* **20**, 14090–14099 (2012)
- C. Macías-Romero, **M. R. Foreman** and P. Török, “Spatial and temporal variations in vector fields” *Opt. Express* **19**, 25077–25083 (2011).
- **M. R. Foreman** and P. Török, “Fundamental limits in single molecule orientation measurements” *New J. Phys.* **13**, 093013 (2011). Image featured in *New J. Phys* promotional material.
- **M. R. Foreman** and P. Török, “Spin-orbit coupling and conservation of angular momentum flux in non-paraxial imaging of forbidden radiation” *New J. Phys.* **13**, 063041 (2011).
- C. Macías-Romero, R. Lim, **M. R. Foreman** and P. Török, “Synthesis of partially spatially coherent beams” *Opt. Lett.* **36**, 1638–1640 (2011).
- **M. R. Foreman** and P. Török, “Computational methods in vectorial imaging” *J. Mod. Opt.* **58**, 339–364 (2011).
- T. Dellwig, **M. R. Foreman** and F.-J. Kao, “Coherent long-distance signal detection using stimulated emission: a feasibility study” *Chinese J. Phys.* **48**, 873–884 (2010).
- **M. R. Foreman** and P. Török, “Information and resolution in electromagnetic optical systems” *Phys. Rev. A* **82**, 043835 (2010). Image featured in *Phys. Rev. A Kaleidoscope*.
- **M. R. Foreman** and P. Török, “Focusing of inhomogeneous partially coherent, partially polarised electromagnetic fields” *J. Opt. Soc. Am. A* **26**, 2470–2479 (2009).
- **M. R. Foreman**, C. Macías-Romero, and P. Török, “*A priori* information and optimisation in polarimetry” *Opt. Express* **16**, 15212–15227 (2008).
- **M. R. Foreman**, C. Macías-Romero, and P. Török, “Determination of the three dimensional orientation of single molecules” *Opt. Lett.* **33**, 1020–1022 (2008). Featured in *V. J. Biomed. Opt.*
- **M. R. Foreman**, S. S. Sherif, P. R. T. Munro, and P. Török, “Inversion of the Debye-Wolf diffraction integral using an eigenfunction representation of the electric fields in the focal region” *Opt. Express* **16**, 4901–4917 (2008). Featured in *V. J. Biomed. Opt.*
- S. S. Sherif, **M. R. Foreman**, and P. Török “Eigenfunction expansion of the electric fields in the focal region of a high numerical aperture focusing system” *Opt. Express* **16**, 3397–3407 (2008). Featured in *V. J. Biomed. Opt.*
- **M. R. Foreman**, S. S. Sherif, and P. Török, “Photon statistics in single molecule orientational imaging” *Opt. Express* **15**, 13597–13606 (2007). Featured in *V. J. Biomed. Opt.*



BOOKS AND BOOK CHAPTERS

- S. Arnold, D. Keng, E. Treasurer and **M. R. Foreman**, *How latitude location on a micro-world enables real-time nanoparticle sizing*, in “Nano-Optics: Principles Enabling Basic Research and Applications”, B. Di Bartolo, J. Collins, and L. Silvestri, eds., NATO Science for Peace and Security Series B: Physics and Biophysics (Springer Netherlands, 2017).
- **M. R. Foreman**, “Informational limits in optical polarimetry and vectorial imaging” Springer Theses Series (Springer, 2012).

DR. MATTHEW R. FOREMAN : PUBLICATION LIST CTD.



NON PEER-REVIEWED PUBLICATIONS

- **M. R. Foreman**, “Single-particle spectroscopy: Whispers of absorption” *Nat. Photon.* **10**, 755–757 (2016).



CONFERENCE/COLLOQUIA PRESENTATIONS (*ITALICS*/UNDERLINE DENOTES INVITED/KEYNOTE)

- **M. R. Foreman** “*Random scattering of surface plasmons for sensing applications*” *ICOEO, Xi’an, China, Nov 2021.*
- J. Berk, H. Lee, D. Kim and **M. R. Foreman** “Disordered Surface Plasmon Sensor for Multiple Scattering Enhanced Single Particle Detection” *PIERS 2021, Hangzhou, China, Nov 2021.*
- **M. R. Foreman** “Statistics of polarised light in disordered media” *IOP Stochastic Electromagnetics and Coherence*, online, Sep 2021.
- J. Berk, C. Paterson and **M. R. Foreman** “Tracking using Surface Plasmon Leakage Radiation Speckle ” *OSA Optical Sensors and Sensing Congress*, online, Jul 2021.
- **M. R. Foreman** “*Quantitative sensing with whispering gallery mode resonators*” *WOMA 2019, Hong Kong, Dec 2019.*
- **M. R. Foreman** “Field Correlations in Surface Plasmon Speckle” *Complex Nanophotonics Science Camp, Windsor, UK, 2019.*
- *F. Sedlmeir, H. G. L. Schwefel and M. R. Foreman* “*Differential tuning and coupling of whispering gallery modes*” *PIERS 2019, Rome, Italy, Jun 2019.*
- **M. R. Foreman** “Field Correlations in Surface Plasmon Speckle” *SPP9, Copenhagen, Denmark, May 2019.*
- C. Seow, P. Török, **M. R. Foreman** “Single-Pixel Polarimetric Imaging through Scattering Media” *Focus on Microscopy 2019, London, UK, Apr 2019.*
- **M. R. Foreman**, N. T. Urban, Y. Sivan and S. W. Hell “STED nanoscopy with hybrid nanospheres” *Focus on Microscopy 2018, Singapore, Mar 2018.*
- Y. Sivan, **M. R. Foreman**, N. T. Urban and S. W. Hell “STED nanoscopy assisted by small metal nanoparticles – new advances” *Nanometa 2017, Tirol, Austria, Jan 2017.*
- **M. R. Foreman**, A. Favaro and A. Aiello “Multipoles, spherical t-designs and polarization state reconstruction” *Particle, Condensed Matter and Quantum Physics: Links Via Maxwell’s Equations Topical Meeting, Chicheley Hall, UK, Nov 2015.*
- **M. R. Foreman**, A. Favaro and A. Aiello “Optimal Frames for Polarisation State Reconstruction” *600. WE Heraeus Workshop, Bad Honnef, Germany, Oct 2015.*
- **M. R. Foreman** and F. Vollmer “Nanoparticle based plasmonic enhancement of high Q optical microresonators” *IPC 14, San Diego, USA, Oct 2014.*
- **M. R. Foreman**, M. D. Baaske and F. Vollmer “Single molecule detection with a high Q plasmonic-photonic biosensor” *Photon 14, London, UK, Sep 2014.*
- **M. R. Foreman**, A. Webster, J. Huang and F. Vollmer “Single particle sensing with conically scattered surface plasmons” *Photon 14, London, UK, Sep 2014.*
- *M. D. Baaske, M. R. Foreman and F. Vollmer*, “*Single molecule detection with high Q plasmonic photonic biosensors*” *ICTON 2014, Graz, Austria, Jul 2014.*
- **M. R. Foreman**, W.-L. Jin and F. Vollmer, “Optimizing detection limits in whispering gallery mode biosensing” *560. WE Heraeus Workshop, Bad Honnef, Germany, Apr 2014.*
- G. Antonacci, **M. R. Foreman**, C. Paterson and P. Török, “Scanning confocal Brillouin microscopy” *Focus on Microscopy 2014, Sydney, Australia, Apr 2014.*
- *F. Vollmer, M. R. Foreman, M. Baaske* “*Level-repulsion in hybrid photonic plasmonic resonators: enhancing WGM biosensing,*” *SPIE Photonics West, San Francisco, USA, Feb 2014.*
- G. Antonacci, **M. R. Foreman**, C. Paterson and P. Török, “Dark field Brillouin microscopy for biomedical imaging ” *ECBO 2013, Munich, Germany, May 2014.*
- G. Antonacci, **M. R. Foreman**, C. Paterson and P. Török, “Dark-field brillouin microscopy for elasticity imaging” *Focus on Microscopy 2013, Maastricht, Netherlands, Apr 2013.*
- Y. Sivan, **M. R. Foreman**, S. Maier and P. Török “Independence of plasmonic near-field enhancements to the illumination beam profile” *The International Conference on Surface Plasmon Photonics SPP6, Ottawa, Canada May 2013.*
- R. K. Leach, J. Coupland, R. Mandal, C. Giusca, **M. R. Foreman** “Calibration of areal surface topography measuring instruments: are we there yet?” *27th Annual Meeting of the American Society for Precision Engineering, San Diego, USA October 2012.*



SELECTED CONFERENCE/COLLOQUIA PRESENTATIONS CTD.

- **M. R. Foreman**, Y. Sivan, and P. Török, “Illumination matching in plasmonic fluorescence imaging” Focus on Microscopy 2012, Singapore, Apr 2012.
- **M. R. Foreman**, and P. Török, “Fundamental limits in determining the orientation of single molecules” *IEEE International Symposium on Biomedical Imaging, Barcelona, Spain May 2012.*
- **M. R. Foreman**, and P. Török, “Analysis of resolution in data storage and beyond” *IQEC/CLEO Pacific Rim, Sydney, Australia Aug 2011.*
- **M. R. Foreman**, and P. Török, “Rigorous electromagnetic imaging of spheres on dielectric surfaces” Focus on Microscopy 2011, Konstanz, Germany Apr 2011.
- **M. R. Foreman**, and P. Török, “Focusing of inhomogeneous partially coherent, partially polarised electromagnetic fields” EOS Advanced Imaging Topical Meeting, Engelberg, Switzerland June 2010.
- **M. R. Foreman**, and P. Török, “Singular system analysis in electromagnetic focusing problems” *TaCoNa Photonics 2009, Bad Honnef, Germany Oct 2009.*
- *C. Macías-Romero, A. S. Van de Nes, M. R. Foreman, P. R. T. Munro and P. Török, “Multiplexed optical data storage” nanoCharm Advanced Polarimetric Imaging Techniques Meeting, Paris, France November 2009.*
- **M. R. Foreman**, C. Macías-Romero, and P. Török, “Information theoretic analysis of polarisation microscopy,” EOS Advanced Imaging Topical Meeting, Jena, Germany June 2009.
- **M. R. Foreman**, C. Macías-Romero, and P. Török, “Determination of the three dimensional orientation of single molecules,” Focus on Microscopy 2009, Krakow, Poland Apr 2009.
- **M. R. Foreman**, S. S. Sherif, P.R.T. Munro, and P. Török, “Inverse problems in high numerical aperture focusing systems,” Focus on Microscopy 2008, Osaka, Japan Apr 2008.
- **M. R. Foreman**, S. S. Sherif, and P. Török, “Polarisation structured illumination,” EOS Advanced Imaging Topical Meeting, Lille, France Sept 2007.
- **M. R. Foreman**, S. S. Sherif, and P. Török, “Determination of the orientation of a dipole subject to random orientational motion,” Focus on Microscopy 2007, Valencia, Spain Apr 2007.