



NECEM WEBINAR:

“Capturing tonic water’s blue glow for photonic applications”

Dr. Marc Etherington, Northumbria University

Wednesday 16th September 2020, 2-3 pm (UK)

Via Zoom email Justina.heslop@newcastle.ac.uk to register

Andrew T. Turley^a, Antonio Prlj^a, Andrew Danos^b, Andrew P. Monkman^b, Basile F. E. Curchod^a, Paul R. McGonigal^{a,*}, Marc K. Etherington^{c,*}

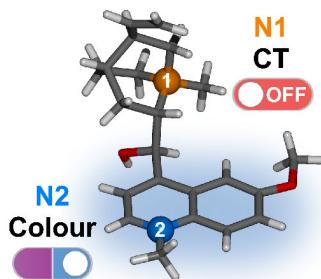
^aDepartment of Chemistry, Durham University, South Road, Durham, DH1 3LE. UK

^bDepartment of Physics, Durham University, South Road, Durham. DH1 3LE. UK

^cDepartment of Mathematics, Physics and Electrical Engineering, Northumbria University, Ellison Place, Newcastle upon Tyne. NE1 8ST. UK

E-mail: marc.k.etherington@northumbria.ac.uk and paul.mcgonigal@durham.ac.uk

Tonic water’s bright blue emission on a sunny day originates from the compound quinine when in acidic environments. We have shown that *N*-alkylation of quinine’s nitrogen atoms can independently control its emission colour and photoluminescence quantum yield through turning on and off a through space charge transfer state. This doubly methylated derivate has enhanced PLQY compared to acidified quinine sulfate and demonstrates high emission yields in tap water and across a variety of different organic solvents. These new organic salts open pathways to quinine-based fluorescent polymers and solid-state fluorescence standards. Furthermore, this *N*-alkylation modification can be applied to any tertiary amine to imbue new photonic and functional properties.



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Biography



Marc Etherington started his independent academic career as a Vice-Chancellor's Senior Fellow at Northumbria University in January 2020. His research focuses on how protonation and N-alkylation can be used to develop new light-emitting materials and how solid-state interactions and effects alter the material properties with relevance to device applications. Before moving to Northumbria, he was a PDRA with Prof. Andy Monkman at Durham University. He obtained his PhD under the supervision of Prof. Neil Greenham at the University of Cambridge, studying how external magnetic fields affect the fundamental processes and performance of organic photovoltaics and light-emitting diodes.