

NEWRAD Conference 2023 Agenda



Date: Monday 11 September – Friday 15 September 2023

Location: National Physical Laboratory, Hampton Road, Teddington, TW11 0LW, UK

Monday 11 September

16:00 – 20:00	Conference Registration & Welcome Reception (Food provided)	Bushy House, NPL, Glazebrook Road, Teddington. Directions will be provided.
20:00	Day End	

Tuesday 12 September

08:30 – 09:00	Registration and Breakfast	NPL Reception
09:00 – 09:30	Welcome speeches	NPL Auditorium
09:30 – 10:30	Session 1: Quantum Optic Technologies (QOT) Metrological characterization of a commercial single-photon source with high photon flux emission Observation of photon number dependent afterpulsing in commercial SNSPD Measurements of Low Optical Power with Cryostat-Based Predictable Quantum Efficient Detector at Liquid Nitrogen Temperature	NPL Auditorium Hristina Georgieva, PTB Sebastian Raupach, PTB Farshid Manoocheri, Aalto University
10:30 – 11:00	Break	NPL Reception
11:00 – 12:40	Session 2: Source-based Radiometry (SBR) Spectral analysis of deviations from key comparison reference values	NPL Auditorium Erkki Ikonen, Aalto University

	Development of a new LED-based Standard Light Source for Total Spectral Radiant Flux Calibration in 4pi geometry	Yuri Nakazawa, NMIJ
	Uncertainty of evaluation of spectral mismatch correction factor	Yasaman Rezazadeh, Aalto University
	Design and Characterisation of a Low-Photon Flux UV-Radiance Standard for the Calibration of a Radioluminescence Detection System	Richard Dieter Taubert, PTB
	Characterisation of an LED-based integrating sphere source for detection of changes of AERONET Europe radiometers	Kerstin Schwind, PTB
12:40 – 13:40	Lunch	NPL Reception
13:40 – 15:10	Session 3: Earth Observation & Climate Metrology (ECM)	NPL Auditorium
	Invited Talk - The covariance matrix unveiled: Strategies for handling uncertainty and correlation in satellite data	Emma Woolliams, NPL
	Independent calibration approach for the CLARREO Pathfinder Mission	Kurtis Thome, NASA Goddard Space Flight Center
	Uncertainty Budget and Sensitivity Analysis for In-Situ Surface Reflectance Measurements	Mohammad H. Tahersima, Science Systems and Applications, Inc.
	Traceability of Lunar Direct Irradiances Measured with Precision Filter Radiometer	Natalia Kouremeti PMOD/WRC
15:10 – 17:00	Poster Session A: QOT & SBR (Refreshments provided)	NPL Reception
17:00	Day End	

Wednesday 13 September

08:30 – 09:00	Registration and Breakfast	NPL Reception
09:00 – 10:30	Session 4: Earth Observation & Sensors (EOS)	NPL Auditorium
	Invited Talk - The Libera Mission: Bringing Next-Generation Technology to an Established Climate Data Record	John Lehman, NIST on behalf of Dave Harber, LASP
	Field Operation and Results of the Calibration Test Site SI-Traceable Transfer Radiometer (CaTSSITTR)	Brian Wenny, Science Systems & Applications, Inc.

	Traceable Radiometry Underpinning Terrestrial- and Helio- Studies (TRUTHS) – A ‘gold standard’ reference spectrometer in space to support the climate emergency	Nigel Fox, <i>NPL</i>
	A Portable Broadband Radiance Source for Ground Validation Sites	Ling Li, <i>NIM</i>
10:30 – 11:00	Break	NPL Reception
11:00 – 11:50	Session 5: Novel Applications (NA) Invited Talk - Optical metrology needs in support of laser-based manufacturing	NPL Auditorium Volker Brandl, <i>PRIMES GmbH</i>
	Calibrating the global network of gravitational wave observatories via laser power calibration at NIST and PTB.	Dripta Bhattacharjee, <i>Kenyon College</i>
11:50 – 12:50	Session 6: Detector-Based Radiometry - Scale Realisations (DBS) Radiant Power Measurements with Pyroelectric Detectors and Lock-In Amplifiers with Chopper Implementation of a Frequency-Programmable Josephson Voltage Standard to provide a direct realisation of an SI traceable optical power scale	NPL Auditorium Tobias Pohl, <i>PTB</i> Malcolm White, <i>NIST</i>
	Realization of detector-based spectral radiance scale at NIM	Xu Nan, <i>NIM</i>
12:50 – 14:00	Lunch	NPL Reception
14:00 – 14:50	Session 7: Optical Properties of Materials/Components (OPM) Part 1 Invited Talk - Traceability for climate monitoring with remote sensing methods in the infrared - overview of current community needs and developments at PTB	NPL Auditorium Christian Monte, <i>PTB</i>
	Carbon Nanotubes at the Microscale for Earth Outgoing Radiation Measurements	Patrick McArdle, <i>NIST</i>
14:50 – 15:10	Break	NPL Reception
15:10 – 17:00	Poster Session B: ECM, EOS, DBS & PQED (Refreshments provided)	NPL Reception
17:00 – 18:00	Travel to Hampton Court Palace (NEWRAD Social Event - Travel provided)	
18:00 – 19:45	Private, Guided Tour at Hampton Court Palace	
19:45 – 20:00	Travel to conference dinner at The King's Head, Teddington (Travel provided)	
20:00 – 22:00	Conference dinner at The King's Head, Teddington	
22:00	Day End	

Thursday 14 September

08:30 – 09:00	Registration and Breakfast	NPL Reception
09:00 – 10:20	<p>Session 7: Optical Properties of Materials/Components (OPM) Part 2</p> <p>Integrating Sphere for Relative and Absolute Reflectance Measurements from 250 nm to 2400 nm</p> <p>Gonioreflectometer for Measuring 3D Spectral BRDF of Non-rigid Samples</p> <p>Use of BTDF Measurements to Determine Transmittance Haze</p> <p>New primary facility for the measurement of bidirectional diffuse transmittance at Physikalisch Technische Bundesanstalt</p>	<p>NPL Auditorium</p> <p>Heather J. Patrick, <i>NIST</i></p> <p>Robin Aschan, <i>Aalto University</i></p> <p>Ellie Molloy, <i>Measurement Standards Laboratory of New Zealand</i></p> <p>Tatjana Quast, <i>PTB</i></p>
10:20 – 10:50	Break	NPL Reception
10:50 – 12:40	<p>Session 8: Solar/Stellar/Lunar radiometry (SSLR)</p> <p>Invited Talk - Calibrating the universe with NIST traceable artificial stars</p> <p>Traceable Aerosol Optical Depth derived from direct solar spectral irradiance measurements</p> <p>On the way to a better traceability of the solar irradiance measurements to the SI primary standards for optical power</p> <p>Design and Development of a Portable Tuneable Radiation Source from UV to IR for in situ Calibration of Radiometers Measuring Atmospheric Aerosol Properties</p> <p>Primary calibration of reference solar modules with direct solar radiation</p>	<p>NPL Auditorium</p> <p>Susana Deustua, <i>NIST</i></p> <p>Julian Gröbner, <i>PMOD/WRC</i></p> <p>Natalia Engler, <i>PMOD/WRC</i></p> <p>Marek Smid, <i>Czech Metrology Institute</i></p> <p>Stefan Winter, <i>PTB</i></p>
12:40 – 13:40	Lunch / Scientific Committee meeting	NPL Reception / F16-CS6 and CS7
13:40 – 15:10	<p>Session 9: Detector-Based Radiometry – Application (DBA) Part 1</p> <p>Invited Talk - Dark Uncertainties in Photometry and Radiometry</p> <p>Measurement of space solar cell and its uncertainty analysis</p> <p>Measurement of 140 kW continuous-wave laser power using radiation pressure</p>	<p>NPL Auditorium</p> <p>Annette Koo, <i>Measurement Standards Laboratory of New Zealand</i></p> <p>Meng Haifeng, <i>NIM</i></p> <p>Paul A. Williams, <i>NIST</i></p>

	A Portable Tuneable Laser Projector Compatible with a BSL-3 Laboratory for UV-Blue Disinfection Dose Determinations	Cameron Miller, NIST
15:10 – 17:00	Poster Session C: OPM, SSLR, DBA, NA & PQED (Refreshments Provided)	NPL Reception
17:00	Day End	

Friday 15 September

08:30 – 09:00	Registration and Breakfast	NPL Reception
09:00 – 09:40	Session 9: Detector-Based Radiometry – Application (DBA) Part 2 Photoacoustic detector for terahertz power measurements	NPL Auditorium Sucheta Sharma, Aalto University
	High-Power Radiation-Pressure-based Laser Metrology Using an Electrostatic Force Balance	Brian Simonds, NIST
09:40 – 10:50	Session 10: Predictable Quantum Efficiency Detectors (PQED) Invited Talk - Cryogenic radiometry for study of other primary standard detectors	NPL Auditorium Geiland Porrovecchio, Czech Metrology Institute
	Validating the predicted PQED spectral responsivity	Lutz Werner, PTB
	Quantum yield of Predictable Quantum Efficient Detector at ultraviolet and short visible wavelengths	Mikhail Korpusenko, Aalto University
10:50 – 11:30	Closing Session	NPL Auditorium
11:30 – 12:00	Break	NPL Reception
12:00 – 14:00	Optional NPL Lab Tours	NPL

