

Andrew R. D. Smedley

PERSONAL INFORMATION

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ResearcherID: N-9865-2014

EMPLOYMENT HISTORY

PDRA at Centre for Atmospheric Science, University of Manchester, UK	2020–date
PDRA at School of Mathematics, University of Manchester, UK	2018–2020
PDRA at Centre for Atmospheric Science, University of Manchester, UK	2003–2018
Research Assistant at Atmospheric Physics Laboratory, UCL, UK	1998–1999

EDUCATION

PhD in Atmospheric Physics, <i>The spectral scattering properties of cloud types</i> . UMIST, Manchester, UK.	1998–2003
BA and MSc Honours Degree in Natural Science (Physical): First / 2:1 University of Cambridge, UK	1994–1998

PROJECTS

PDRA on “ICE-RF” Responsible for experimental setup and radiative and cloud microphysical measurements of clouds in Manchester Ice Cloud Chamber. Projects aims to improve estimates of cirrus radiative forcing and backscattering for input to climate models and for better satellite retrievals of clouds	2020–date
PDRA on “Lost Meteorites of Antarctica” project Responsible for geophysical modelling, spatial and data analysis for project expeditions. Projects aim was to find a predicted layer of meteorites hidden under the surface of ice sheets due to solar heating	2018–2020
PDRA on DEFRA UV and Ozone Baseline Measurements Responsible for continued operation, instrument calibration and data analysis for Manchester and Reading surface radiation and ozone monitoring sites	2003–2017
EPSRC Analytic Scattering project; Industrial RT investigations	2015–2017
EMRP <i>SolarUV</i> EURAMET-funded project Awarded Researcher Excellence Grant to apply DOAS retrieval techniques to in-house array spectrometer system in a monitoring scenario.	2012–2014

AWARDS

Royal Astronomical Society Group Achievement Award in Geophysics Awarded to the UK Fireball Alliance (UKFALL) in recognition of the recovery of the Winchcombe meteorite, which fell in Gloucestershire in Feb 2021	2022
Distinguished Service, <i>CIE Division 6 Secretariat</i> Acted as Division Secretary for Division 6 within the International Commission on Illumination (CIE) tracking progress of technical committees and their reports, working closely with the Division Director and Division Editor	2008–2013
Science Communicator Award, <i>Researchers in Residence</i>	2005
Robinson College Scholarship, <i>University of Cambridge</i> Awarded in recognition of end of year examination results	1995–1998

TEACHING AND SUPERVISION

Assistant on NERC Advanced Scripting Course	2021
Assisting with problem classes and lectures: <i>Stability Analysis and Introduction to Calculus 10121</i>	2018–2019
External examiner for Anna Vaskuri, Aalto University PhD thesis: <i>Spectral modelling of light-emitting diodes and atmospheric ozone absorption</i>	2018
Co-supervision of Roberto Carrasco-Hernandez, University of Manchester PhD thesis: <i>Calculation of patterns of solar radiation within urban geometries</i>	2013–2015
Responsible for MPhys final year project direction, supervisions and examination	2013–2015

FIELD WORK AND INSTRUMENT EXPERIENCE

I have extensive experience of solar radiation instrumentation from designing instrument control software, data processing and database archival and management, through to daily maintenance, instrument characterisation and calibration procedures to international standards in the laboratory. This covers traditional spectroradiometers, array-based single monochromator instruments, and Brewer spectrophotometers, as well as camera-based systems and broadband and multifilter detectors. Alongside this I have taken a lead in preparation and assessment of risk assessments, managing the Health and Safety aspect of the calibration dark laboratory, Manchester surface radiation monitoring site, and field work that I am involved in.

Lost Meteorites of Antarctica – Antarctica field campaigns 2018–2019

Two-part field campaign to carry out initial reconnaissance of deep field blue ice areas predicted to act as meteorite stranding zones, and to test full array of detection equipment in Antarctic setting at Sky-Blu research station.

I was actively involved in field preparations, undertaking analysis to predict the most favourable blue ice areas to visit, contingency planning, producing high-resolution mapping, preferred routings, liaising with the teams in the field, and updating the public facing project website in real time.

- Lost Meteorites of Antarctica – Svalbard field campaign* 2018
 Ten day field campaign to test prototype detection equipment in high Arctic environment at BAS Arctic Station, Ny-Alesund, Svalbard (79°N).
 Responsible for meteorite samples, in field experimental procedure and field notes.
- EMRP Solar UV Intercomparison – Davos, Switzerland* 2014
 Lead University of Manchester participation in international intercomparison of array spectroradiometers; responsible for field work planning, instrument operation, data processing and calibration. Instrument produced results close to benchmark QASUME instrument and ranked highly amongst participants.
- Baseline measurement and analysis of UK Ozone and UV monitoring – UK* 2003–2017
 Responsible for continued operation, maintenance, data transfer and processing, dissemination and archival from a suite of solar and ozone monitoring instruments at Manchester surface radiation monitoring site and data transfers, processing, dissemination and archival from remote site at Reading. Together these two sites constitute the mainland UK's commitment to the Vienna Convention to Protect the Ozone Layer which also requires monitoring of spectral solar UV. A third site at Lerwick run by partners UK Met Office comprises the third and most northerly site.
- Baseline measurement and analysis of UK Ozone and UV calibrations – Spain* 2005–2017
 As part of the monitoring exercise, the three UK Brewer spectrophotometers require biennial calibration by intercomparison. Initially carried out in the UK, latterly at the RBCC-E site at El Arenosillo, Spain, I prepared the instruments for transit, running pre-calibration experimental routines, and re-processing both spectral and ozone data in light of their revised calibrations.

MEDIA

- New Scientist* – "The amazing Antarctic discovery that could tell us how Earth was made" – 27 May 2020
BBC News – "Antarctic meteorites yield global bombardment rate" – 30 Apr 2020
BBC News – "UK Antarctic meteorite hunt bags large haul" – 27 Feb 2019
The Atlantic – "The Mystery of Antarctica's Missing Meteorites" – 26 Feb 2019
New Scientist – "Searching for Antarctica's penguins, lost meteorites, and oldest ice" – 20 Nov 2018
BBC News – "Tech trials to find Antarctica's 'missing' iron meteorites" – 28 Mar 2018
CBS News – "Antarctic expedition to hunt for 'missing' meteorites" – 10 Feb 2017
Sky at Night magazine – "UK mission to hunt for 'lost' meteorites" – 01 Feb 2017
BBC News – "Hunt for Antarctica's 'missing meteorites'" – 31 Jan 2017
BBC News – "Antarctica's missing iron meteorites: Mystery solved?" – 31 Jan 2017
BBC News – "Iron meteorites 'buried in Antarctica' by the Sun" – 17 Feb 2016
Smithsonian.com – "Iron Meteorites Play Hide-and-Seek Under Antarctic Ice" – 16 Feb 2016
BBC Radio 4: In Their Element – "Oxygen: The Breath of Life" – 08 May 2017
BBC The One Show – "Sunlight and UV on a Cloudy Day" – 05 Apr 2017
Mother Nature Network – "It's the color of light that matters for sleep" – 25 Jun 2015

Huffington Post – "Human Body May Be Sensitive To The Colour Of The Sky, Report Finds" – 21 Apr 2015

Gizmodo – "Color—Not Just Light—May Affect Our Body Clock" – 20 Apr 2015

CONFERENCE ORGANISATION

Key member of local organising committee *CIE 28th Conference Session 2015* 2013–2015
Including secretarial duties, oversight of student volunteers, local liaison between steering committee and conference providers, design of conference materials and logos, and organisation of conference dinner

Session chair: *CIE 27th Conference Session, Sun City, South Africa* 2011

FUNDING

Awarded UoM FSE Covid Relief Fund grant 2022

Awarded UoM International Conference Fund travel grant 2019

Researcher Co-I on successful NERC Standard Grant proposal
ICE-RF (NE/T00147X/1) 2019

Contribution to DEFRA-funded grants GA01089 and extensions
Baseline Measurements of Stratospheric Ozone and Ultraviolet (UV) 2010–2017

Contributed to science case to NHM Paneth summer student grant
Englacial Solar Penetration and the Depth of Meteorites 2016

Awarded Researcher Excellence Grant on EMRP EURAMET-funded project
ENV03-REG2 SolarUV 2012

REVIEWER

Reviewer for a range of journals:

Photochem. Photobiol., I. J. Clim., Atmos. Chem. Phys., Atmos. Env., IPCC SR15, Nature Clim. Change

Docent evaluator for the Arctic Centre, University of Lapland

Thesis Examiner for University of Aalto University

PROFESSIONAL AFFILIATIONS

Member of Royal Meteorological Society

Member of European Geosciences Union

Member of Institute of Physics

Member of UKFall 2022–date

Departmental PostDoctoral Representative 2020–2022

CIE Division 6 Secretariat 2008–2013

RESEARCH INTERESTS

Radiative transfer in a changing climate – radiative impacts and remote sensing of the cryosphere – radiative properties and remote sensing of clouds – scattering – cloud morphologies – spatial and temporal variability – atmospheric retrievals – solar radiative transfer measurements and modelling

RESEARCH METRICS

Total Citations: **851**
Total Altmetric: **2683**
H-Index: **17**

THESIS

Smedley ARD (2003) PhD Thesis: *Spectral scattering properties of cloud types*. University of Manchester, Institute of Science and Technology, September 2003.

PUBLICATIONS

McMullan S et al. (39 authors including Smedley ARD) (2023) The Winchcombe Fireball – that lucky survivor. *Meteoritics & Planetary Science*. doi: 10.1111/maps.13977

Petkov B, Vitale V, Di Carlo P, Drofa O, Mastrangelo D, Smedley ARD et al. (2023) An unprecedented Arctic ozone depletion event during spring 2020 and its impacts across Europe. *J. Geophys. Res. – Atmos.* **128**, e2022JD037581. doi: 10.1029/2022JD037581

King AJ, Daly L, Rowe J, Joy KH, Greenwood RC et al. (121 authors including Smedley ARD) (2022) The Winchcombe Meteorite, a Unique and Pristine Witness from the Outer Solar System. *Science Advances* **8**(46), eabq3925. doi: 10.1126/SCIADV.ABQ3925

Colas F, Zanda B, Bouley S, Jeanne S, Malgoyre A, Birlan M, Blanpain C, Gattacceca J et al. (394 authors including Smedley ARD) (2020) FRIPON: a worldwide network to track incoming meteoroids. *Astron. Astrophys.* **644**, A53. doi: 10.1051/0004-6361/202038649

Evatt GW, Smedley ARD, Joy KH, Hunter L, Tey WH, Abrahams ID and Gerrish L. (2020) The spatial flux of Earth's meteorite falls found via Antarctic data. *Geology* **48**(7), 683–687. doi: 10.1130/G46733.1

Smedley ARD, Evatt GW, Mallinson A and Harvey E. (2020) Solar radiative transfer in Antarctic blue ice: spectral considerations, subsurface enhancement, inclusions, and meteorites. *Cryosphere* **14**(3), 789–809. doi: 10.5194/tc-14-789-2020

Wilson JW, Marsh LA, van Verre W, Rose MC, Evatt GW, Smedley ARD and Peyton AJ. (2020) Design and construction of a bespoke system for the detection of buried, iron-rich meteorites in Antarctica. *Antarct. Sci.* **32**(1), 58–69. doi: 10.1017/S0954102019000531

Priestley M, le Breton M, Bannan TJ, Worrall SD, Bacak A, **Smedley ARD**, Reyes-Villegas E, Mehra A, Allan J, Webb AR, Shallcross DE, Coe H and Percival CJ. (2018) Observations of organic and inorganic chlorinated compounds and their contribution to chlorine radical concentrations in an urban environment in Northern Europe during the wintertime. *Atmos. Chem. Phys.* **18**, 13481–13493. doi: 10.5194/acp-18-13481-2018

Seckmeyer G, Mustert C, Schrempf M, McKenzie R, Liley B, Kotkamp M, Bais A, Gillotay D, Slaper H, Siani A-M, **Smedley ARD** and Webb AR. (2018) Why is it so hard to gain enough Vitamin D by solar exposure in the European winter? *Meteorol. Zeitschrift* **27**(3), 223–233. doi: 10.1127/metz/2018/0855

López-Solano J, Redondas A, Carlund T, Rodriguez-Franco JJ, Diémoz H, León-Luis SF, Hernández-Cruz B, Guirado-Fuentes C, Kouremeti N, Gröbner J, Kazadzis S, Carreño V, Berjón A, Santana-Díaz D, Rodríguez-Valido M, De Bock V, Moreta JR, Rimmer J, **Smedley ARD**, Boulkelia L, Jepsen N, Eriksen P, Bais AF, Shiroto V, Vilaplana JM, Wilson KM and Karppinen T. (2018) Aerosol optical depth in the European Brewer Network. *Atmos. Chem. Phys.* **18**, 3885-3902. doi: 10.5194/acp-18-3885-2018

Smedley ARD, Rimmer JS and Webb AR. (2017) A more representative “best representative value” for daily total column ozone reporting. *Atmos. Meas. Tech.* **10**, 4697–4704. doi: 10.5194/amt-10-4697-2017

Turner EC, Manners J, Morcrette CJ, O’Hagan JB and **Smedley ARD**. (2017) Towards a new UV Index diagnostic in the Met Office’s forecast model. *J. Adv. Model. Earth Sy.* **9**, 2654-2671. doi: 10.1002/2017MS001050

Zerefos C, Eleftheratos K, Kapsomenakis J, Solomos S, Inness A, Balis D, Redondas A, Eskes H, Amiridis V, Repapis C, Allaart M, Engelmann R, Dahlback A, De Bock V, Diémoz H, Eriksen P, Gröbner J, Heikkilä A, Jarosławski J, Josefsson W, Karppinen T, Köhler U, Meleti C, Rimmer J, Savinykh V, Shiroto V, Siani AM, **Smedley ARD**, Stanek M and Stübi R. (2017) Detecting volcanic sulfur dioxide plumes in the Northern Hemisphere using the Brewer spectrophotometers, other networks, and satellite observations. *Atmos. Chem. Phys.* **17**, 551-574. doi:10.5194/acp-17-551-2017

Egli L, Gröbner J, Hülsen G, Bachmann L, Blumthaler M, Dubard J, Kahazova M, Kift RC, Los A, Perez AS, **Smedley ARD** and Vilaplana J-M. (2016) Quality assessment of solar UV irradiance measured with array spectroradiometers. *Atmos. Meas. Tech.* **9**, 1553–1567. doi: 10.5194/amt-9-1553-2016

Evatt GW, Coughlan M, Joy KH, **Smedley ARD**, Connolly P and Abrahams I.D. (2016) A hidden layer of meteorites below the ice surface of Antarctica. *Nature Comms* **7**, 10679. doi:10.1038/ncomms10679

Carrasco-Hernandez R, **Smedley ARD** and Webb AR. (2016) Fast calculations of the spectral diffuse-to-global ratios for approximating spectral irradiance at the street canyon level. *Theor. Appl. Climatol.* **124**(3–4), 1065–1077. doi: 10.1007/s00704-015-1473-3

Smedley ARD, Kift RC and Webb AR. (2015) Assessment of a dual-channel array spectrometer for ground-based ozone retrievals. *J. Atmos. Ocean. Tech.* **32**(8), 1464–1477.

Kazantzidis A, Smedley ARD, Kift RC, Rimmer JS, Berry JL, Rhodes LE and Webb AR. (2015) A modeling approach to determine how much UV radiation is available across the UK and Ireland for health risk and benefit studies. *Photochem. Photobiol. Sci.* **14**, 1073–1081.

Walmsley L, Hanna L, Moulard J, Martial F, West A, Smedley ARD, Bechtold D, Webb AR, Lucas R and Brown T. (2015) Colour as a signal for entraining the mammalian circadian clock. *PLoS Biol.* **13**(4), e1002127. doi: 10.1371/journal.pbio.1002127

Smith HR, Connolly PJ, Baran AJ, Hesse E, Smedley ARD and Webb A.R. (2015) Cloud chamber laboratory investigations into the scattering properties of hollow ice particles. *J. Quant. Spectrosc. Radiat. Transf.* **157**, 106–118. doi: 10.1016/j.jqsrt. 2015.02.015

Carrasco-Hernandez R, Smedley ARD and Webb AR. (2015) Using urban canyon geometries obtained from Google Street View for atmospheric studies: Potential applications in the calculation of street level total shortwave irradiances. *Energy and Buildings* **86**, 340–348. doi: 10.1016/j.enbuild.2014.10.001

Russell A, Gohlan M, Smedley ARD and Densham M. (2014) The ultraviolet radiation environment during an expedition across the Drake Passage and on the Antarctic Peninsula. *Antarctic Science* **27**(03), 307-316. doi: 10.1017/S0954102014000790

McKenzie R, Blumthaler M, Diaz S, Fioletov VE, Herman JR, Seckmeyer G, Smedley ARD and Webb AR. (2014) *Rationalizing nomenclature for UV doses and effects on humans*. CIE 209:2014 and WMO-GAW Report No. 211 Joint Publication.

Petkov BH, Vitale V, Tomasi C, Siani AM, Seckmeyer G, Webb A, Smedley ARD, Casale GR, Werner R, Lanconelli C, Mazzola M, Lupi A, Busetto M, Diémoz H, Goutail F, Köhler U, Mendeva BT, Josefsson W, Moore D, Bartolomé ML, González JRM, Misaga O, Dahlback A, Tóth Z, Varghese S, De Backer H, Stübi R and Vaníček K. (2014) Response of the ozone column over Europe to the 2011 Arctic ozone depletion event according to ground-based observations and assessment of the consequent variations in surface UV irradiance. *Atmos. Env.* **85**, 169–178. doi: 10.1016/j.atmosenv. 2013.12.005

Kumharn W, Rimmer JS, Smedley ARD, Ying TY and Webb AR. (2012). Aerosol Optical Depth and the Global Brewer Network: A Study Using U.K.- and Malaysia-Based Brewer Spectrophotometers. *J. Atmos. Ocean. Tech.* **29**(6), 857–866. doi: 10.1175/JTECH-D-11-00029.1

Smedley ARD, Rimmer JS, Moore D, Toumi R and Webb AR. (2012) Total ozone and surface UV trends in the United Kingdom: 1979 to 2008. *I. J. Clim.* **32**(3), 338–346. doi: 10.1002/joc.2275

Arola A, Kazadzis S, Lindfors A, Krotkov N, Kujanpää J, Tamminen J, Bais A, Di Sarra A, Villaplana JM, Brogniez C, Siani AM, Janouch M, Weihs P, Webb A, Koskela T, Kouremeti N, Meloni D, Buchard V, Auriol F, Ialongo I, Staneck M, Simic S, Smedley ARD and Kinne S. (2009) A new approach to correct for absorbing aerosols in OMI UV. *Geophys. Res. Lett.* **36**(22), L22805. doi: 10.1029/2009GL041137

Lindfors A, Tanskanen A, Arola A, van der AR, Bais A, Feister U, Janouch M, Josefsson W, Koskela T, Lakkala K, den Outer PN, Smedley ARD, Slaper H and Webb AR. (2009) The PROMOTE UV record: toward a global satellite-based climatology of surface ultraviolet irradiance. *IEEE J. Earth Obs. Remote Sens.* **2**(3), 207–212.

Smedley ARD, Webb AR and Wilkins AJ. (2009) Potential of wind turbines to cause epilepsy under different meteorological conditions. *Epilepsia* **51**(7), 1146–1151. doi: 10.1111/j.1528-1167.2009.02402.x

Pissulla D, Seckmeyer G, Cordero RR, Blumthaler M, Schallhart B, Webb A, Kift R, Smedley ARD, Bais AF, Kouremeti N, Cede A, Herman J and Kowalewski M. (2009) Comparison of atmospheric spectral radiance measurements from five independently calibrated systems. *Photochem. Photobiol. Sci.* **8**, 516–527.

Smedley ARD, Webb AR and Saunders CPR. (2007) Application of a diode array spectroradiometer to measuring the spectral scattering properties of cloud types in a laboratory. *Atmos. Chem. Phys.* **7**, 5803–5813.

Johnsen B, Kjeldstad B, Aalerud TN, Nilsen LT, Schreder J, Blumthaler M, Bernhard G, Bagheri A, Bhattarai B, Topaloglou C, Zablocki G, Meinander O, Høiskar BA, Haugen R, Durham WS, Janson G, Marrero AR, Dahlback A, Bolsée D, Slusser JR, Stamnes J, Torres C, Smedley ARD, Paulsson L-E, Lakkala K, Webb AR, Ørbæk JB, Grimenes AA, Ringstad T, Lange T and Josefsson W. (2006) International intercomparison of multiband filter radiometers in Oslo 2005. *Proc. SPIE: Remote Sens. Clouds Atmos. XI* **6362**, 63620W. doi: 10.1117/12.688918

Ling TC, Richards HL, Janssens AS, Anastassopoulou L, Antoniou C, Aubin F, Diepgen TL, Fazakerley R, de Gruijl FR, Jansen CT, Pavel S, Smedley ARD, Stratigos AJ, Webb AR, Gibbs NK and Rhodes LE. (2006) Seasonal and latitudinal impact of polymorphic light eruption on quality of life. *J. Inv. Dermat.* **126**(7), 1648–1651. doi: 10.1038/sj.jid.5700306

Bais A, Blumthaler M, Webb A, Seckmeyer G, Thiel S, Kazadzis S, Redondas A, Kift R, Kouremeti N, Schallhart B, Schmitt R, Pisulla D, Diaz JP, Garcia O, Diaz Rodriguez AM and Smedley ARD. (2005) Intercomparison of solar UV direct irradiance spectral measurements at Izana in June 2005. *Proceedings of SPIE* **5886**, 588609. doi: 10.1117/12.619925

Smedley ARD, Saunders CPR and Webb AR. (2003) Small size particle determination by optical array probe oversampling. *J. Atmos. Ocean. Tech.* **20**(11), 1568–1575.

CONFERENCES, ABSTRACTS & PROCEEDINGS

O'Brien AC, King AJ, Bays CL, Daly L, Rowe J, Joy K, Gater W, Campbell-Burns P, Kacerek R, Christou A, Collins G, Horak J, McIntyre M, McMullan S, and Smedley ARD. (2022) The UK Fireball Alliance: Lessons learned from two meteorite field searches in the UK. *Meteoritics and Planetary Science*, 2022.

Smedley ARD, Webb AR, Connolly P, Celebi O, Hesse E, Ulanowski J, Baran A and Bodas-Salcedo A. (2022) ICE-RF: Improving Cirrus Estimates of Radiative Forcing: preliminary laboratory backscatter results. *International Radiation Symposium*, Thessaloniki, Greece.

Celebi O, Connolly P, Smedley ARD and Webb AR. (2022) Scattering by cirrus: investigating the microphysical properties to inform climate change modelling. *International Radiation Symposium*, Thessaloniki, Greece.

MacArthur JL, Joy KH, Harvey T, Jones RH, Smedley ARD, Evatt G, and Almeida NV. (2020) The Lost Meteorites of Antarctica: meteorites from the first field season. *2nd British Planetary Sciences Conference*, Oxford, UK.

Joy KH, Evatt GW, **Smedley ARD**, Harvey T, Peyton A, Davidson J, Abrahams ID, Rose M, and Gerrish L. (2019) The Lost Meteorites of Antarctica project: a new UK-led Antarctic meteorite recovery programme. *50th Lunar and Planetary Science Conference*, Houston, Texas. Abstract No.: 1018.

Smedley ARD, Evatt GW, Joy KH, Hunter L, Tey WH, Abrahams ID and Gerrish L. (2019) The spatial flux of Earth's meteorite falls found via Antarctic data: implications for future searches. *European Geosciences Union 2019*, Vienna, Austria. Abstract No.: EGU2019-1216.

Evatt GW, **Smedley ARD**, Joy KH, Marsh L, Wilson J, van Verre W, Davidson J, Peyton A, Abrahams ID, Rose M, Gerrish L, and Cox N. (2019) The lost meteorites of Antarctic (in Svalbard). *BAS Arctic Station Open Day 2019*, Cambridge, UK.

Evatt GW, **Smedley ARD**, Joy KH, Gerrish L and Abrahams ID. (2018) The spatial flux of Earth's meteorite falls found via Antarctic data. *Royal Astronomical Society, London, UK*. Specialist Discussion Meeting: Space dust and space debris in the vicinity of the Earth.

López-Solano J, Redondas A, Carlund T, Rodriguez-Franco JJ, Diémoz H, León-Luis F, Hernández-Cruz B, Guirado-Fuentes C, Kouremeti N, Gröbner J, Kazadzis S, Carreño V, Berjón A, Santana-Díaz D, Rodríguez-Valido M, De Bock V, Moreta JR, Rimmer J, **Smedley ARD**, Boulkelia L, Jepsen N, Eriksen P, Bais AF, Shirotov V, Vilaplana JM, Wilson KM, and Karppinen T. (2018) UV Aerosol Optical Depth in the European Brewer Network. *9th International Workshop on Sand/Dust storms and Associated Dustfall*, Tenerife, Spain.

Smedley ARD, Rimmer JS and Webb AR. (2017) Total Column Ozone: A More Representative "Best Representative Daily Value". *European Geosciences Union 2017*, Vienna, Austria. Abstract No.: EGU2017-7893.

Smedley ARD and Webb AR. (2017) Distribution Strategies for Solar and Wind Renewables in NW Europe. *European Geosciences Union 2017*, Vienna, Austria. Abstract No.: EGU2017-7838.

Webb AR, Kift RC, Farrar MD, **Smedley ARD**, Kazantzidis A and Rhodes LE. (2017) Sunlight exposure: do we get enough and should we care? *CIE Midterm Meeting 2017*, Jeju, Republic of Korea.

Evatt GW, Mallinson A, Joy KH, **Smedley ARD** and Abrahams ID. (2016) Sink or Swim: Meteorites and the Ice Sheets. *79th Annual Meeting of the Meteoritical Society*, LPI Contribution No. 1921

Kazantzidis A, **Smedley ARD**, Kift RC, Rimmer JS, Bais A, Koskela T and Webb AR (2016) Validation and application of a database of solar UV availability across Europe. *International Radiation Symposium 2016*, Auckland, New Zealand.

Fountoulakis I, Bais A, Redondas A, Lakkala K, Toth Z, Cede A, de Bock V, Diémoz H, Doppler L, Feister U, Fragkos K, Gröbner J, Karppinen T, Koskela T, Rodriguez JJ, San Attanasio JM, Sianni AM and **Smedley ARD**. (2016) Temperature dependence of the Brewer spectral UV and total ozone column measurements. *Quadrennial Ozone Symposium 2016*, Edinburgh, UK.

Kazantzidis A, **Smedley ARD**, Kift RC, Rimmer JS, Berry J, Fountoulakis I, Koskela T, Rhodes LE and Webb AR. (2015) A database of solar UV availability across Europe. *European Society for Photobiology Congress 2015*, Aveiro, Portugal. Abstract no.: OC117.

Kelly JMF, **Smedley ARD**, Carden D, Murray IJ and Webb AR. (2015). Explaining the high visibility of light emitting diodes in fog. In *Proceedings of 28th Session of CIE – Manchester*, UK (pp. 1669–1675). Vienna, Austria: CIE.

Kift RC, Smedley ARD and Webb AR. (2014) Use of an array spectroradiometer for monitoring solar radiation at a mid-latitude site. *12th International Conference on New Developments and Applications in Optical Radiometry (NEWRAD 2014)*, Aalto, Finland. Abstract no.: OT_PO_008.

Smedley ARD, Kift RC and Webb AR. (2014) Application of a dual-channel solid state spectrometer to measure spectral surface radiation and atmospheric constituents. *UVnet Workshop 2014*, Davos, Switzerland.

Kift RC, Smedley ARD and Webb AR. (2014) Overview of instrument observations made as part of the EMRP ENV03 Solar UV project. *UVnet Workshop 2014*, Davos, Switzerland.

Kazantzidis A, Smedley ARD, Kift RC, Farrar MD, Berry J, Rhodes LE and Webb AR. (2013) A modelling approach to determine how much UVB radiation is available across the UK for the cutaneous production of vitamin D. *European Society for Photobiology Congress 2013*, Liege, Belgium. Abstract No.: OC246.

Smedley ARD, Kift RC and Webb AR. (2013) Application of a dual-channel solid state spectrometer to measure spectral surface radiation and atmospheric constituents: some early results and practical considerations. *UVnet Workshop 2013*, Davos, Switzerland.

Kift RC, Smedley ARD and Webb AR. (2013) Initial laboratory instrument characterisation and solar simulator measurements of Manchester spectrometers involved in the EMRP project. *UVnet Workshop 2013*, Davos, Switzerland.

Smedley ARD, Kift RC and Webb AR. (2013) Monitoring spectral radiation and DOAS retrieval of atmospheric constituents with a dual-channel solid state spectrometer: preliminary results. *Davos Atmosphere and Cryosphere Assembly DACA-13*, Davos, Switzerland.

Smedley ARD, Kift RC and Webb AR. (2012) Calibration and deployment of solid state spectroradiometers for long-term solar UV monitoring. *International Radiation Symposium 2012*, Berlin, Germany.

Webb AR, Smedley ARD, Brown T, Rimmer JS and Lucas RJ. (2012) Evaluating Circadian Responses in a Solar Environment. *CIE 2012 Lighting Quality & Energy Efficiency*, Hangzhou, China.

Rimmer JS, Kumharn W, Smedley ARD and Webb AR. (2008) A comparison of Brewer ozone data calculated by the standard algorithm with the same data reprocessed using instrument specific weighting coefficients. *Quadrennial Ozone Symposium 2008*, Tromsø, Norway.

Smedley ARD and Webb AR. (2008) Modelling UVC radiative transfer in the troposphere. *International Radiation Symposium 2008*, Foz do Iguacu, Brazil.

Smedley ARD, Rimmer JS and Webb AR. (2007) Comparison of OMI-derived total column ozone with four ground sites in the U.K. and Ireland. *10th WMO-GAW Biennial Brewer Users Group Meeting*, Northwich, UK.

Kift RC, Webb AR, Rimmer JS and Smedley ARD. (2004) Measurement of Photolysis rates and Ozone in Manchester for the INSPECTRO campaign Spring/Summer 2003. *Quadrennial Ozone Symposium 2004*, Kos, Greece.