

# Michael Taylor

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## PERSONAL STATEMENT

I am an applied mathematician and machine learning software engineer in the field of climate data from Earth observation (EO) most recently affiliated to the Department of Meteorology at the University of Reading. I have 15 years of post-doctoral research experience in the UK and Europe, including a Marie-Curie experienced researcher fellowship and 5 years of higher education lecturing and supervision experience. My expertise is in problem solving and quantitative data analysis (with Python, R and Matlab) and the processing in high performance computing UNIX environments of large-volume data from satellite, in situ, ground monitoring stations and model simulations. I have published 40 peer-reviewed journal articles, 7 book chapters and 5 technical reports in the fields of satellite UV-Visible-IR remote sensing, EO metrology and climate data, atmospheric chemistry, space weather forecasting and solar energy. I thrive in the environment of multi-disciplinary collaborative projects and am both experienced and happy working to a tight schedule to ensure product delivery. I have co-founded two academic not-for-profit companies and helped see them through to fruition. I am a member of the European Geosciences Union and a fellow of the Royal Statistical Society and am currently a European Commission Expert. I love cycling, tournament chess and table tennis and am trying to set up my own home satellite weather station with a quadrifilar helix antenna and WRF running on a Raspberry Pi.

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## BIO

**Citizenship** | Born 01-11-1970, Liverpool (British)  
**Languages** | English (native), Greek (fluent, Γ1), Spanish (good)

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## EDUCATION

1992 – 1995 **Ph.D. (Applied Mathematics)** | University of Saint Andrews, Scotland  
1989 – 1992 **B.Sc. (1<sup>st</sup> Hons.) Pure & Applied Physics** | University of Manchester, UK  
1983 – 1989 **GCE 3 A-Levels and 8 O-Levels (grades A and B)** | Sha Tin College, Hong Kong

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## AWARDS

2012 – 2014 **Marie-Curie IEF award for the FP7 project AEROMAP** | EU  
2008 – 2009 **National Research Scholarship (IKY)** | Greece  
06/12/1997 **C.Phys awarded for 'Ion cyclotron waves'** | Institute of Physics, UK

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## PROFESSIONAL TRAINING

09-2019 **Climate Change: The Science & Global Impact** | edX (Michael Mann)  
03-2019 **Further Use of Git and Github** | Centre for Environmental Data Analysis (CEDA), UK  
06-2018 **Approximate Bayesian Computation & Data Assimilation** | University of Reading, UK  
10-2017 **National Centre for Atmospheric Science (NCAS) Data Tools** | University of Reading, UK  
09-2017 **Intermediate Uncertainty Analysis for Earth Observation** | NPL, UK  
09-2009 **Advanced Greek (Level Γ2)** | Hellenic-American Union, Athens, Greece  
11-2004 **Advanced Spanish (Level B)** | Universidad Autónoma de Madrid, Spain  
09-2001 **Techniques of University Lecturing 'Innovations in Learning' Course** | University of Bath, UK  
09-1999 **City & Guilds Plain English for Scientists** | Institute of Physics Publishing, Bristol, UK

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## RESEARCH POSITIONS

2017 – 2019 **PDRA** | Department of Meteorology, University of Reading, UK

- Project title: 'Climate Data from Earth Observation'  
Funding: **Horizon 2020 FIDUCEO** (G/A: 638822) & **ESA SST\_CCI**
- Project title: 'C3S 51 Lot 2 Quality Assurance for ECV Products Derived from Observations'
  - WP3 (Scientific assessment and gap analysis)
  - WP4 (Recommendations for CDS development)Funding: EU / Copernicus Procurement (**C3S EQCO**)

2016 – 2017 **Research Fellow** | Aristotle University of Thessaloniki (AUTH), Greece

- **SPARC/IO3C/GAW Report 9** on long-term Ozone trends and uncertainties in the stratosphere.
- Project title: 'Validation reports for MetOp-B products' (WP: 'OUV Validation Assessments')  
Funding: **EUMETSAT AC SAF / 2nd Continuous Development and Operations Phase**  
(C/N: 472089 & 472166)
- Project title: 'Construction of ozone datasets for the study of climate'

Funding: **ESA Ozone\_CCI Phase II** (C/N: 458668)

- 2008 – 2017 **Research Fellow | National Observatory of Athens (NOA), Greece**
- 2016 – 2017 Project title: WP4 (SENSE pilot): ‘Use of neural networks to develop solar energy potential’  
Funding: **Horizon 2020 GEO-CRADLE / SC5-18b-2015** (C/N: 690133)
- 2016 Project title: ‘Retrieval of atmospheric parameters using the satellite data receiving system X-/L-band of the BEYOND Center’  
Funding: **Horizon 2020 BEYOND** (C/N: 2054/21-10-2015)
- 2014 – 2015 Project title: ‘Design and development of a system to monitor the spatiotemporal evolution of gaseous and particulate air pollution using neural networks’.  
Funding: **THESPIA-KRIPIS**
- 2012 – 2014 **Marie-Curie Fellowship (IEF)**
- Project title: ‘AEROMAP: Global mapping of aerosol properties using neural network inversions of ground and satellite-based data’  
Funding: **EU REA** (C/N: PIEF-GA-2011-300515)
- 2008 – 2009 Project title: ‘Space weather prediction using nonlinear techniques’  
Funding: **National Scholarships Foundation (IKY)** research award
- 2007 – 2008 **PDRA | Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain**
- Project title: ‘3D inverse models and reconstruction of depth information’  
Funding: **ESA / Herschel Space Observatory** grant
- 2004 – 2007 **PDRA | Departamento de Física Teórica, Universidad Autónoma de Madrid, Spain**
- Project title: ‘3D radiative transfer modelling of astrophysical photoionization regions’  
Funding: **ESTALLIDOS** collaborative project (C/N: AYA2001-3939-C03-03) Spanish research grant & Comunidad de Madrid **ASTROCAM** project (S-0505/ESP/000237).
- 2002 – 2003 **PDRA | LHTEE, Aristotle University of Thessaloniki (AUTH), Greece**
- Project title: ‘A holistic approach to street canyon air flow modeling’  
Funding: **FP6 ATREUS** collaborative project (C/N: HPTN CT 2002 002079)
- 1996 – 1997 **Research Associate | Space & Atmos Phys Group, Blackett Laboratory, Imperial College, London, UK**
- Project title: ‘Magnetometer data analysis of ion cyclotron waves in the Jupiter aurorae’  
Funding: **NASA / JPL Galileo Mission** grant

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## LECTURING & TEACHING POSITIONS

- 2009 – 2011 **University Lecturer | Faculty of Engineering, American University of Athens, Greece**  
Undergraduate Courses: MA1123 Differential Calculus, MA2225 Multivariate Calculus, MA2226 Differential Equations, MA3243 Linear Algebra, QM2204 Advanced Statistics, CS1122 PASCAL II, CIS1238 Computer Concepts & Applications
- 2001 – 2002 **University Lecturer | Department of Physics, University of Bath, UK**  
Undergraduate Courses: Vibrations & Waves, Electrical Circuits I, Magnetism III, Matrices, Mathematics I & II  
M.Phys. dissertations (4 postgrads)
- 2000 – 2001 **UK National Curriculum Teacher (maternity cover) | Redland High School for Girls, Bristol, UK**  
AS and A2-Level: Pure Mathematics, Statistics, Mechanics, Discrete Mathematics & GCSE Mathematics
- 1999 – 2000 **Physics & Applied Mathematics Lecturer | Filton College of Further Education, Bristol, UK**  
B.Tech.: Physical Sciences, Biomechanics, Engineering Mathematics & Sport Technology

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## PROFESSIONAL ACTIVITIES

### Management roles

- 2019 – present **European Commission Expert | Candidature EX2019D365493**
- 2015 – present **Co-founder | Solar Energy Applications (SOLEA) project** [solea.gr](http://solea.gr)
- 2012 – present **Co-founder | Open Scholar CIC** [openscholar.org.uk](http://openscholar.org.uk)
- 2009 **Organiser | Athens Chess Festival 10-14 Oct 2009** <https://chessfest2009.wordpress.com/>

### Membership of professional bodies

2017 – 2019 **Fellow** | Royal Statistical Society (RSS)  
 2016 – present **Member** | EuroScience  
 2014 – present **Member** | Marie-Curie Alumni Association (MCAA)  
 2011 – present **Member** | European Geosciences Union (EGU)  
 1996 – 2001 **Member** | Institute of Physics (UK)

**Peer review**

2019 – present **Reviewer** | Neural Networks  
 2019 – present **Reviewer** | Sensors  
 2018 – present **Reviewer** | SoftwareX  
 2018 – present **Reviewer** | Nature Scientific Reports  
 2017 – present **Reviewer** | Quarterly Journal of the Royal Meteorological Society  
 2019 – present **Reviewer** | International Journal of Geo-Information  
 2017 – present **Reviewer** | Aerosol & Air Quality Research  
 2017 – present **Reviewer** | Solar Energy  
 2016 – present **Reviewer** | Geoscientific Model Development  
 2015 – present **Reviewer** | Annales Geophysicae  
 2015 – present **Editor** | Ethics in Science and Environmental Politics  
 2012 – present **Reviewer** | Atmospheric Chemistry and Physics  
 2012 – present **Reviewer** | Remote Sensing  
 2012 – present **Reviewer** | Atmospheric Environment  
 2012 – present **Reviewer** | Atmospheric Research

**SCIENTIFIC OUTREACH**

2018 – present **STEM Ambassador** | Central South England Hub [www.stem.org.uk](http://www.stem.org.uk) (DBS Certificate Number: 001625330480)  
 2015 **Research\*EU Magazine** | European Commission 'The climatic role of aerosols'  
 2005 **Live Webcast of the total solar eclipse** | Universidad Autónoma de Madrid, Spain  
 1998 – 2000 **Commissioning Editor** | Institute of Physics Publishing, Bristol, UK  
 1996 – 1997 **Scientific Consultant** | BBC Horizon and Channel 4 Equinox TV Series, London, UK

**SOFTWARE ENGINEERING**

**Climate FCDRs & CDRs**

Mittaz, J.; Merchant, C.J.; Taylor, M.; Bulgin, C.E. (2019): *FIDUCEO: Sea and Lake Surface Temperature Climate Data Record, V2.11, 2006 -2016*. **Centre for Environmental Data Analysis**, <http://catalogue.ceda.ac.uk/uuid/dd63f6f7239f4c1da830950c6e58cfdd>

Mittaz, J.; Mollard, J.; Taylor, M.; Bulgin, C.E. (2019): *FIDUCEO: Fundamental Climate Data Record of recalibrated brightness temperatures for the Advanced Very-High-Resolution Radiometer (AVHRR) with metrologically-traceable uncertainty estimates, 1998 - 2016, v1.0*. **Centre for Environmental Data Analysis**, <http://catalogue.ceda.ac.uk/uuid/67b206b17365444b8243182f04c8ba44>

Bulgin, C.E.; Mittaz, J.; Merchant, C.J.; Holl, G.; Taylor, M.; Mollard, J. (2019): *FIDUCEO: Fundamental Climate Data Record of recalibrated brightness temperatures for the Advanced Very-High-Resolution Radiometer (AVHRR) with ten member ensemble of perturbed level1 data, 2006 - 2016, v1.0*. **Centre for Environmental Data Analysis**, <http://catalogue.ceda.ac.uk/uuid/631e1f22d1754b78b5a64a3d66f4ce73>

**High performance parallel computing**

UNIX shell batch processing of satellite data on large data clusters & grid facilities including JASMIN at the Centre for Environmental Data Analysis (CEDA) deployed on behalf of NERC at the STFC Rutherford Appleton Laboratory (RAL) H2020 FIDUCEO ESA Ozone\_CCI

**Network management**

Elastic tape manager, GWS manager, XFC cache approver, beta-user GWS approver H2020 FIDUCEO

**Remote sensing UV/Visible/IR**

Satellite data manipulation and analysis of archives of sensor series data, in situ and global ground-based monitoring network data. H2020 FIDUCEO ESA SST\_CCI ESA Ozone\_CCI FP7 Marie-Curie IEF H2020 GEO-CRADLE

**Specification, design and coding of complex product processors:** vicarious calibration of Level-0 and validation of Level-1C satellite data products for the H2020 FIDUCEO project. A strong component of this work involves application of metrological techniques to calculate and propagate uncertainties and covariance information.

**Scripting languages:** Bash, Fortran-90, Python (v3.6+) including package management and the use of virtual environments with Anaconda 3.7 and pip, unit testing with pytest and document generation with Sphinx: H2020 FIDUCEO, ESA Ozone\_CCI, ESA/Herschel (CSIC) project & Spanish ESTALLIDOS project work.

**Statistical programming languages:** R (ESA Ozone\_CCI project), IDL (ESA Herschel Space Telescope team project) & Matlab (all projects post-2005) used for quantitative data analysis, machine learning (NN function approximation and classifiers), and visualisation.

**Testing and verification of data processing systems:** FP7-Marie-Curie IEF, H2020 GEO-CRADLE, ESA Ozone\_CCI, H2020 & FIDUCEO project work.

**Quality control of satellite data and products:** H2020 GEO-CRADLE, ESA Ozone\_CCI & C3S EQCO project work.

**Operational product processing environments:** near real-time (15-min) production of GHI and solar UVI maps for Greece and Egypt working for [www.solea.gr](http://www.solea.gr) as part of the H2020 GEO-CRADLE project (<http://geocradle.eu>).

**Software version control at Github:** e.g. active repositories for the H2020 FIDUCEO project: [https://github.com/FIDUCEO/FCDR\\_AVHRR/](https://github.com/FIDUCEO/FCDR_AVHRR/) (python, fortran) / <https://github.com/FIDUCEO/FCDRTools> (python, fortran) / <https://github.com/surftemp/gbcs> (fortran).

**File format documentation and compliance:** NetCDF Climate and Forecast (CF) Metadata Convention v1.6 and unit testing standards via pytest): H2020 FIDUCEO project work.

**Radiative transfer modeling libRadtran:** [www.libradtran.org](http://www.libradtran.org) for the H2020 GEO-CRADLE project / photoionisation modelling using 3D-MOCASSIN: <http://mocassin.nebulousresearch.org> for the ESA/Herschel project (CSIC) & Spanish ESTALLIDOS project.

**Chemical transport modeling:** CHIMERE: <http://www.lmd.polytechnique.fr/chimere> for ESA Ozone\_CCI project work.

**Writing timely project technical reports and deliverables (including contributing to project administration):** all FP7, H2020 and C3S projects.

**Production of camera ready copy (CRC) for journal article co-authorship:** via LaTeX-2e and Overleaf where possible and with WORD track changes otherwise: all FP7, H2020 and C3S projects.

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## BIBLIOMETRICS

Citations	710 (648 excl. self-citations)
h-index	13
i10-index	17
Journal articles	40 (1 <sup>st</sup> author = 10)
Book chapters	7 (1 <sup>st</sup> author = 1)
Scientific/Technical reports	5 (1 <sup>st</sup> author = 1)
Conference papers	22 (1 <sup>st</sup> author = 9)
Conference talks (live webcasts)	24 (1 webcast)
Postgraduates mentored	5 (4 M.Phys)

Open access versions of publications are available at:

**Research Gate** [researchgate.net/profile/Michael\\_Taylor4](https://researchgate.net/profile/Michael_Taylor4)

**Google Scholar** [scholar.google.co.uk/citations?hl=en&user=NvqMqs4AAAAJ](https://scholar.google.co.uk/citations?hl=en&user=NvqMqs4AAAAJ)

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## POTENTIAL REFEREES

1. **Prof. Christopher Merchant** | PI for ESA SST\_CCI University of Reading & NCEO, Professor of Ocean and Earth Observation, +44 (0)118-378-7335, [c.j.merchant@reading.ac.uk](mailto:c.j.merchant@reading.ac.uk)
2. **Dr. Jonathan Mittaz** | PI for H2020 FIDUCEO University of Reading & NPL, Senior Research Fellow ESA CCI SST, +44 (0)118-378-6732, [j.mittaz@reading.ac.uk](mailto:j.mittaz@reading.ac.uk)
3. **Dr. Ralph Kahn** | Co-author on global aerosol mixtures NASA/GSFC, Senior Research Scientist, +01 301-614-6193, [ralph.a.kahn@nasa.gov](mailto:ralph.a.kahn@nasa.gov)
4. **Prof. Emeritus. Christos Zerefos** | Co-author on SPARC/IO3C/GAW Report 9 Academy of Athens, +30(0)210-883-2048, [zerefos@geol.uoa.gr](mailto:zerefos@geol.uoa.gr), [zerefos@academyofathens.gr](mailto:zerefos@academyofathens.gr)
5. **Dr. Stelios Kazadzis** | PI for Marie-Curie IEF Physikalisch-Meteorologisches Observatorium Davos / World Radiation Center / Senior Scientist, +41(0)58-467-5137, [stelios.kazadzis@pmodwrc.ch](mailto:stelios.kazadzis@pmodwrc.ch)
6. **Prof. Angeles Diaz** | PI for ESTALLIDOS | Grupo de Astrofisica, Departamento de Fisica Teorica, Universidad Autonoma de Madrid, +34-914975560 / [angeles.diaz@uam.es](mailto:angeles.diaz@uam.es)
7. **Prof. José Manuel Vilchez** | Co-author IAA-CSIC, Granada, Spain / Director of Research, +34-958-121-311 / [jvm@iaa.es](mailto:jvm@iaa.es)
8. **Prof. Alan Cairns** | PhD Supervisor Mathematics Institute, University of St Andrews +44(0)1334-463707, [rac@st-andrews.ac.uk](mailto:rac@st-andrews.ac.uk)

## Journal Articles

1. Merchant, CJ, Embury, O, Bulgin, CE, Block, T, Corlett, G, Fiedler, E, Good, SA, Mittaz, JPD, Rayner, NA, Berry, D, Eastwood, S, **Taylor, M**, Tsushima, Y, Waterfall, A, Wilson, R, Donlon, C (2019) *Satellite-based time-series of sea-surface temperature since 1981 for climate applications*. **Nature Scientific Data**, 6, 223. <https://doi.org/10.1038/s41597-019-0236-x>.
2. Wang, W, Zhao, S, Jiao, L, **Taylor, M**, Zhang, B, Xu, G, Hou, H (2019) *Estimation of PM<sub>2.5</sub> concentrations in China using a spatial back propagation neural network*. **Nature Scientific Reports**, 9, 13788. [dx.doi.org/10.1038/s41598-019-50177-1](https://doi.org/10.1038/s41598-019-50177-1).
3. Nightingale, J, Mittaz, JPD, Douglas, S, Dee, D, Ryder, J, **Taylor, M**, Old, C, Dieval, C, Fouron, C, Duveau, G, Merchant CJ (2019) *Ten priority science gaps in assessing climate data record quality*. **Remote Sensing**, 11, 986. [dx.doi.org/10.3390/rs11080986](https://doi.org/10.3390/rs11080986).
4. Kosmopoulos, PG, Kazadzis, S, El-Askary, H, **Taylor, M**, Gkikas, A, Proestakis, E, Kontoes, C, El-Khayat MM (2018) *Earth observation-based estimation and forecasting of particulate matter impact on solar energy in Egypt*. **Remote Sensing** 10(12), 1870, 1-23. [dx.doi.org/10.3390/rs10121870](https://doi.org/10.3390/rs10121870).
5. Zempila, MM, Fountoulakis, I, **Taylor, M**, Kazadzis, S, Arola, A, Koukouli, ME, Bais, AF, Meleti, C, Balis, DS (2018) *Validation of OMI erythemal doses with multi-sensor ground-based measurements in Thessaloniki, Greece*. **Atmospheric Environment**, 183, 106-121. [dx.doi.org/10.1016/j.atmosenv.2018.04.012](https://doi.org/10.1016/j.atmosenv.2018.04.012).
6. Kosmopoulos, PG, Kazadzis, S, **Taylor, M**, Raptis, PI, Keramitsoglou, I, Kiranoudis, C, Bais, AF (2018) *Assessment of surface solar irradiance derived from real-time modelling techniques and verification with ground-based measurements*. **Atmospheric Measurement Techniques** 11, 907-924. [dx.doi.org/10.5194/amt-11-907-2018](https://doi.org/10.5194/amt-11-907-2018).
7. Kosmopoulos, PG, Kazadzis, S, **Taylor, M**, Athanasopoulou, E, Speyer, O, Raptis, PI, Marinou, E, Proestakis, E, Solomos, S, Gerasopoulos, E, Amiridis, V, Bais, AF, Kontoes, C (2017) *Dust impact on surface solar irradiance assessed with model simulations, satellite observations and ground-based measurements*. **Atmospheric Measurement Techniques** 10, 2435-2453. [dx.doi.org/10.5194/amt-10-2435-2017](https://doi.org/10.5194/amt-10-2435-2017).
8. Zempila, MM, van Geffen, JHGM, **Taylor, M**, Fountoulakis, I, Koukouli, ME, van Weele, M, van der A, RJ, Bais, AF, Meleti, C, Balis, DS, (2017) *TEMIS UV product validation using NILU-UV ground-based measurements in Thessaloniki, Greece*. **Atmospheric Chemistry and Physics** 17(11), 7157-7174. [dx.doi.org/10.5194/acp-17-7157-2017](https://doi.org/10.5194/acp-17-7157-2017).
9. Zempila, MM, **Taylor, M**, Koukouli, ME, Lerot, C, Fragkos, K, Fountoulakis, I, Bais, AF, Balis, DS, van Roozendael, M (2017) *NILU-UV multi-filter radiometer total ozone columns: comparison with satellite observations over Thessaloniki, Greece*. **Science of the Total Environment**, 590-591, 92-106. [dx.doi.org/10.1016/j.scitotenv.2017.02.174](https://doi.org/10.1016/j.scitotenv.2017.02.174).
10. Koukouli, ME, Balis, DS, van der A, RJ, Theys, N, Hedelt, P, Lichtenberg, G, Richter, A, Krotkov, N, Li, C, **Taylor, M** (2016). *Anthropogenic SO<sub>2</sub> load over China as observed from different satellite sensors*. **Atmospheric Environment**, 145, 45-59. <https://doi.org/10.1016/j.atmosenv.2016.09.007>.
11. Zempila, MM, **Taylor, M**, Bais, AF, Kazadzis, S (2016) *Modeling the relationship between photosynthetically active radiation and global horizontal irradiance using singular spectrum analysis*. **Journal of Quantitative Spectroscopy and Radiative Transfer**, 182, 240-263. [dx.doi.org/10.1016/j.jqsrt.2016.06.003](https://doi.org/10.1016/j.jqsrt.2016.06.003).
12. **Taylor, M**, Retalis, A, Flocas, HA (2016) *Particulate matter estimates from photochemistry: a modelling approach using neural networks and synoptic clustering*. **Aerosol & Air Quality Research**, 16(9), 2067-2084. [dx.doi.org/10.4209/aaqr.2015.07.0481](https://doi.org/10.4209/aaqr.2015.07.0481).
13. **Taylor, M**, Kosmopoulos, PG, Kazadzis, S, Keramitsoglou, I, Kiranoudis, CT (2016) *Neural network radiative transfer solvers for the generation of high resolution solar irradiance spectra parameterized by cloud and aerosol parameters*. **Journal of Quantitative Spectroscopy and Radiative Transfer**, 168, 176-192. [dx.doi.org/10.1016/j.jqsrt.2015.08.018](https://doi.org/10.1016/j.jqsrt.2015.08.018).
14. **Taylor, M**, Kazadzis, S, Amiridis, V, Kahn, RA (2015) *Global aerosol mixtures and their multiyear and seasonal characteristics*. **Atmospheric Environment**, 116, 112-129. [dx.doi.org/10.1016/j.atmosenv.2015.06.029](https://doi.org/10.1016/j.atmosenv.2015.06.029).
15. **Taylor, M**, Kazadzis, S, Tsekeri, A, Gkikas, A, Amiridis, V (2014) *Satellite retrieval of aerosol microphysical and optical parameters using neural networks: a new methodology applied to the Sahara desert dust peak*. **Atmospheric Measurement Techniques**, 7(9), 3151-3175. [dx.doi.org/10.5194/amt-7-3151-2014](https://doi.org/10.5194/amt-7-3151-2014).
16. Kazadzis, S, Veselovskii, I, Amiridis, V, Gröbner, J, Suvorina, A, Nyeki, S, Gerasopoulos, E, Kouremeti, N, **Taylor, M**, Tsekeri, A, Wehrl, C (2014) *Aerosol microphysical retrievals from Precision Filter Radiometer direct solar radiation measurements and comparison with AERONET*. **Atmospheric Measurement Techniques**, 7(7), 2013-2025. [dx.doi.org/10.5194/amt-7-2013-2014](https://doi.org/10.5194/amt-7-2013-2014).
17. **Taylor, M**, Kazadzis, S, Gerasopoulos, E (2014) *Multi-modal analysis of aerosol robotic network size distributions for remote sensing applications: dominant aerosol type cases*. **Atmospheric Measurement Techniques**, 7(3), 839-858. [dx.doi.org/10.5194/amt-7-839-2014](https://doi.org/10.5194/amt-7-839-2014).
18. Amiridis, V, Wandinger, U, Marinou, E, Giannakaki, E, Tsekeri, A, Basart, S, Kazadzis, S, Gkikas, A, **Taylor, M**, Baldasano, J, Ansmann, A (2013) *Optimizing CALIPSO Saharan dust retrievals*. **Atmospheric Chemistry and Physics**, 13(23), 12089-12106. [dx.doi.org/10.5194/acp-13-12089-2013](https://doi.org/10.5194/acp-13-12089-2013).
19. Perakakis, P, Joffily, M, **Taylor, M**, Guerra, P, Vila, J (2010) *KARDIA: A Matlab software for the analysis of cardiac inter-beat intervals*. **Computer Methods & Programs in Biomedicine**, 98(1), 83-89. [dx.doi.org/10.1016/j.cmpb.2009.10.002](https://doi.org/10.1016/j.cmpb.2009.10.002).

20. Perakakis, P, **Taylor, M**, Martinez-Nieto, E, Revithi, I, Vila, J (2009) *Breathing frequency bias in fractal analysis of heart rate variability*. **Biological Psychology**, 82(1), 82–88. [dx.doi.org/10.1016/j.biopsycho.2009.06.004](https://doi.org/10.1016/j.biopsycho.2009.06.004).
21. **Taylor, M**, Vilchez, JM (2009) *Exact solutions for the populations of the n-level ion*. **Publications of the Astronomical Society of the Pacific**, 121(885), 1257–1266. [dx.doi.org/10.1086/648121](https://doi.org/10.1086/648121).
22. **Taylor, M**, Diaz, AI, Jodar-Sanchez, LA, Villanueva-Mico, RF (2008) *A matrix generalisation of dimensional analysis: new similarity transforms to address the problem of uniqueness*. **Advanced Studies in Theoretical Physics**, 2(20), 979-995. [www.m-hikari.com/astp/astp2008/astp17-20-2008/taylorASTP17-20-2008.pdf](http://www.m-hikari.com/astp/astp2008/astp17-20-2008/taylorASTP17-20-2008.pdf).
23. Cairns, RA, Holt, H, McDonald, DC, **Taylor, M**, Lashmore-Davies, CN (1995) *Wave propagation through cyclotron resonance in the presence of large Larmor radius particles*. **Physics of Plasmas**, 2(10), 3702-3708. [dx.doi.org/10.1063/1.871070](https://doi.org/10.1063/1.871070).

#### Book Chapters

1. **Taylor, M**, Koukoulis, ME, Theys, N, Bai, J, Zempila, MM, Balis, DS, van Roozendaal, M, van der A, RJ (2016) *A robust seasonality detector for geophysical time series: application to satellite SO2 observations over China*. In: **Perspectives on Atmospheric Sciences**, (pp. 1035-1041). Springer International Publishing. [dx.doi.org/10.1007/978-3-319-35095-0\\_148](https://doi.org/10.1007/978-3-319-35095-0_148).
2. Zempila, MM, **Taylor, M**, Fountoulakis, I, Bais, AF, Kazadzis, S, Fragkos, K (2016) *Introducing a cloud screening detector using global horizontal irradiances in UV and PAR in Thessaloniki, Greece*. In: **Perspectives on Atmospheric Sciences**, (pp. 1187-1192). Springer International Publishing. [dx.doi.org/10.1007/978-3-319-35095-0\\_171](https://doi.org/10.1007/978-3-319-35095-0_171).
3. Kosmopoulos, PG, Kazadzis, S, **Taylor, M**, Bais, AF, Lagouvardos, K, Kotroni, V, Keramitsoglou, I, Kiranoudis, CT (2016) *Estimation of the solar energy potential in Greece using satellite and ground-based observations*. In: **Perspectives on Atmospheric Sciences**, (pp. 1149-1156). Springer International Publishing. [dx.doi.org/10.1007/978-3-319-35095-0\\_165](https://doi.org/10.1007/978-3-319-35095-0_165).
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#### Talks / Webcasts / Project Blog Articles & Poster Sessions

1. **Taylor, M.**, Agavanakis, K, Karpetas, G, Kilindris, T (2019) *The Citizen-UV Network: A cloud computing solution for UV radiation assessment powered by IoT, machine learning and blockchain*. ESA Earth Observation  $\Phi$ -Week, 9-13 September, 2019, <https://phiweek.esa.int/NikalWebsitePortal/esa-ao-phi-week-2019/phiweek> [POSTER].
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3. **Taylor, M.** (presenter), Merchant, CJ (2019) *L1C ensemble FCDR*. SurfTemp Meeting, 6 February 2019, Department of Meteorology, University of Reading, UK [TALK]
4. **Taylor, M.** (presenter), Merchant, C. J. (2019) *SST observation density*. SurfTemp Meeting, 6 February 2019, Department of Meteorology, University of Reading, UK [TALK]
5. **Taylor, M.** (presenter), Fragkos, K, Tourpali, K (2018) *Optimisation of piecewise linear trend fitting of porous ozone time series with LOESS sum of sines and Monte-Carlo SSA*. 2<sup>nd</sup> LOTUS Workshop, 17-19 September 2018, WMO, Geneva, Switzerland. <https://events.oma.be/indico/event/56/session/3/contribution/21> [TALK]
6. **Taylor, M.** (presenter), Mittaz, JPD, Merchant, CJ with EQCO contributions from Old, C, Dieval, C, Douglas, S, Ryder, J, Nightingale, J, Barbey, C, Fouron, C, Duveau, G (2018) *Metrological requirements for quality assurance of ozone datasets at the climate data store*. 2<sup>nd</sup> LOTUS Workshop, 17-19 September 2018, WMO, Geneva, Switzerland. <https://events.oma.be/indico/event/56/session/2/contribution/7> [TALK]
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9. **Taylor, M.** (presenter), Mittaz, JPD, Merchant, CJ (2018) *AVHRR FCDR (beta version)*. FIDUCEO General Assembly, 26-28 February 2018, EUMETSAT, Darmstadt, Germany. [TALK]
10. **Taylor, M.** (presenter), Mittaz, JPD (2018) *Long-term effects in the AVHRR*. FIDUCEO Science Meeting, 25-27 September 2017, Rayference, Brussels, Belgium. [TALK]
11. Fragkos, K, Petropavlovskikh, I, Dotsas, M, Bais, AF, **Taylor, M.**, Hurtmans, D, Fountoulakis, I, Koukouli, ME, Balis, DS, Stanek, M, (2018) *Umkehr ozone profiles in Thessaloniki and comparison with Satellite overpasses*. European Geosciences Union (EGU) General Assembly, 8-13 April, Vienna, Austria. <http://egumeeting.org/> [POSTER].
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## Book Chapters

1. Perakakis, P, **Taylor, M**, Trachana, V (2010) *Roads to open access*. In: **World Social Science Report**, (pp. 307-309), UNESCO. ISBN: 978-92-3-104131-0. <http://unesdoc.unesco.org/images/0018/001883/188333e.pdf>.

## Conference Talks & Papers

2. Gialis, S (presenter), Leontidou, L, **Taylor, M** (2014) *Composite indicators of flexibilization across EU regions: a critical re-appraisal and interpretation*. 54<sup>th</sup> European Regional Science Association (ERSA) Congress, Saint Petersburg, 29<sup>th</sup> of August 2014. [TALK].
3. **Taylor, M** (2014) *Open peer review to save the world*. OpenAIRE / COAR Joint Conference, Open Access: Movement to Reality - Putting the pieces together, 22<sup>nd</sup> of May 2014, Acropolis Museum, Athens, Greece. [TALK].
4. **Taylor, M**, Perakakis, P (2013) *Open, portable, decoupled – How should peer review change?* (Panel) Spot-On London 2013, British Library, 8<sup>th</sup> of November, 2013, London, UK. [TALK].
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