



Curriculum Vitae Professor Dr John Burrows

Name: John Burrows
Born: 16 August 1954

Research Priorities: Satellite remote sensing, satellite sensors, composition of terrestrial atmosphere

John Burrows is a British environmental physicist, who works in the field of developing and applying novel satellite sensors. He is concerned with atmospheric gases, develops new techniques for ground-based metering of atmospheric trace gases, and was pathbreaking in the area of passive remote sensing on the composition of the earth's atmosphere.

Academic and Professional Career

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| since 1992 | Professor, Institute for Environmental Physics and Remote Sensing (Institut für Umweltphysik und Fernerkundung), University of Bremen, Bremen, Germany |
| 1981 - 1992 | Max-Planck Institute for Chemistry, Mainz, Germany |
| 1979 - 1981 | Atomic Energy Research Establishment (AERE), Environmental and Medical Science Division, Didcot, UK |
| 1979 - 1982 | Guest Scientist, Physical Chemistry Laboratory, University of Oxford, Oxford, UK |
| 1978 - 1979 | Postdoctoral Fellow, Harvard-Smithsonian Center for Astrophysics, Harvard University, Cambridge, USA |
| 1975 - 1978 | Master's Degree, PhD, University of Cambridge, Cambridge, UK |
| 1972 - 1975 | Bachelor's Degree in Sciences, Trinity College, University of Cambridge, Cambridge, UK |

Functions in Scientific Societies and Committees (Selection)

- since 2013 Member, Editorial Board, Progress in Earth and Planetary Science (PEPS)
- since 2008 Associate Editor, Advances in Measurement Techniques
- 2008 - 2015 Associate Editor, Journal of Advances in Space Research
- 2006 - 2011 Member, Editorial Board, Atmospheric Environment
- 2003 Guest Editor, Journal of Photochemistry and Photobiology A – Chemistry
- 2001 - 2010 Associate Editor, Atmospheric Physics and Chemistry
- 1998 - 2008 Editor, Special Issues, Advances in Space Research
- 1998 - 2002 Associate Editor, Journal of Geophysical Research
- since 1992 Chairperson, Scientific Advisory Group, Project “Scanning Imaging Absorption Spectrometer for Atmospheric Chartography (SCIAMACHY)”, German Aerospace Center (DLR), Netherlands Agency for Aerospace Programmes (NIVR), Netherlands, National Aeronautics and Space Administration (NASA), USA, and European Space Agency (ESA)

Project Coordination, Membership in Collaborative Research Projects (Selection)

- since 2019 Co-Investigator, Subproject “Constraining the effects of volcanic eruptions on stratospheric aerosols and radiative forcing”, Research Unit (FOR) 2820, German Research Foundation (DFG), Germany
- 2016 - 2021 Applicant, Subproject “EMeRGe: Effects of Megacities on the Transport and Transformation of Pollutants on the Regional to Global Scales”, Infrastructure Priority Programme (SPP) 1294, DFG, Germany
- since 2016 Project Head, Subproject “Changes in top-of-atmosphere reflectance and cloud optical properties observed from space: Implications for Arctic climate change and feedback (B01)”, Transregios (TRR) 172, DFG, Germany
- since 2016 Project Head, Subproject “The impact of changes in aerosol loading and surface spectral reflectance observed from space and feedback on Arctic amplification (B02)”, TRR 172, DFG, Germany
- since 2016 Leiter, Subproject “Atmospheric composition and ocean colour feedback to Arctic amplification (C03)”, TRR 172, DFG, Germany
- 2014 - 2020 Applicant, Subproject “Antarctic phytoplankton in response to environmental change studied by a synergistic approach using multi- and hyper-spectral satellite data”, SPP 1158, DFG, Germany

- 2009 - 2016 Applicant, Subproject "How is the evolution of stratospheric ozone affected by climate change, and how strong is the feedback? (SHARP-OFC)", FOR 1095, DFG, Germany
- 2007 - 2018 Applicant, Subproject "PEroxy rAdicals measured by OF-Cavity Enhanced spectroscopy in the free troposphere with a focus on the upper troposphere / lower stratosphere (PEACE)", SPP 1294, DFG, Germany
- 2007 - 2013 Applicant, Subproject "Data assimilation and model calculations to study chemistry climate interactions and solar impact in the polar stratosphere - Phase 2 (DACCS)", SPP 1176, DFG, Germany
- 2005 - 2011 Applicant, Project "Laboratory and Field Measurements of Methanol Fluxes", DFG, Germany
- 2002 - 2012 Head, Project SCIAMACHY, DLR, Germany, NIVR, Netherlands, NASA, USA, and ESA

Honours and Awarde Memberships (Seletion)

- since 2020 Member, German National Academy of Science Leopoldina, Germany
- since 2016 Fellow, Royal Society, UK
- 2016 Alfred Wegener Medal, European Geosciences Union (EGU)
- 2015 IUGG Silver Medal, International Union of Geodesy and Geophysics (IUGG)
- 2013 Vilhelm Bjerknes Medal, EGU
- 2012 Haagen-Smit Prize, Elsevier Limited, Oxford, UK
- 2008 NASA Group Achievement Award (GAA), NASA, USA
- 2006 William Nordberg Medal, NASA, USA
- Member, American Chemical Society (ACS), USA
- Member, American Geophysical Union (AGU), USA
- Member, European Physical Society (EPS)
- Member, American Association for the Advancement of Science (AAAS), USA
- Member, German Physical Society (DPG), Germany

Research Priorities

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ground-based metering of atmospheric trace gases, and was pathbreaking in the area of passive remote sensing on the composition of the earth's atmosphere.

He is known for his research in the field of development and application of novel sensors for satellites. In remote sensing, they serve to deepen the understanding of earth's atmospheric composition, particularly its chemistry, its dynamics, and the reasons of air pollution. This led to a paradigm shift in the global understanding of the terrestrial atmosphere.

John Burrows started his career with studies of the kinetics and spectroscopy of atmospheric trace gases. He researched chemical reactions in the atmosphere of earth. At the university of Bremen, he focused his research on the development and application of remote sensing measurement techniques. He designed and tested new instruments for analysing the impact of air pollution of anthropogenic activities and natural phenomena.