SPARC
Stratosphere-troposphere Processes And their Role in Climate

We are celebrating our 30th anniversary

Prof. Ted Shepherd

Understanding the role of atmospheric circulation in climate variability and change

Monday 13th June 2022 at 13.00 UTC

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SPARC's anniversary webinar series

30 Years

This year marks the **30th anniversary** of SPARC, a core project of the World Climate Research Programme. In this time, SPARC has evolved into a major international research coordination hub for atmospheric sciences, with the primary goal to facilitate research that improves our understanding of atmospheric processes and their role in climate. SPARC's initial focus was on stratospheric science linked to ozone depletion, but has expanded to cover the whole atmosphere including the coupled troposphere-stratosphere system and impacts on surface climate.

SPARC is particularly recognised for its lively scientific community. To celebrate SPARC's achievements over the last three decades, we invite you all to celebrate with us and join us for a series of three webinars leading up to the grand SPARC General Assembly in October 2022.

We are delighted to announce we will host the second SPARC 30th anniversary webinar on:

Monday 13th June 2022 at 13.00 UTC.

Prof. Ted Shepherd from the University of Reading will give a presentation on **"Understanding the role of atmospheric circulation in climate variability and change"**. Atmospheric circulation is an inherently fuzzy subject. The key explanatory concepts, such as storm tracks, polar vortices, and monsoon circulations, are emergent phenomena with no clear definitions, and the theories we teach in our university courses are not particularly predictive when it comes to the real atmosphere. All this leads to a scientific approach that can be both confusing and frustrating to colleagues in cognate disciplines, such as atmospheric radiation and chemistry. In this talk I reflect on the challenge of understanding the role of atmospheric circulation in climate variability and change, illuminated by my experience in SPARC, and leading to the development of storyline approaches to represent climate risk at the regional-to-local scale — where stratosphere-troposphere coupling plays a major role. I conclude by suggesting some future challenges and research directions, and how SPARC science can fit into this broader landscape.

Brief Resume of Prof. Ted Shepherd

Ted Shepherd received his PhD from M.I.T. in dynamical meteorology and was a postdoc at Cambridge University before taking up a faculty position in the Physics Department at the University of Toronto, where he worked from 1988-2012. During that time he led the Canadian collaborative effort on the development and use of the Canadian Middle Atmosphere Model (CMAM), and was strongly involved in both SPARC (joining the SSG in 1994, and serving as its co-chair from 2007-2012) and the WMO/UNEP Ozone Assessment. In 2012 he moved to the Meteorology Department at the University of Reading as the Grantham Professor of Climate Science. There he turned his attention to the role of atmospheric circulation in climate change, where he has been developing the storyline approach to the representation of uncertainty, and taking an increasingly interdisciplinary perspective. He continues to interact with SPARC in his new role as co-chair of the WCRP Lighthouse Activity 'My Climate Risk'. Ted is a Fellow of the Royal Society and of the American Geophysical Union, and since March 2022 holds a part-time appointment at the Jülich Supercomputing Centre, Forschungszentrum Jülich.

To register please click the link below. We look forward seeing you.

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