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## Storms from the Sun: The Science of Space Weather

*Tuesday, 9 July 2019 14:00 (1 hour)*

Space Weather is an emerging field of space science that studies how the Sun influences the Earth's space environment and the impacts of those interactions on technology and society. Some of the most intense interactions can damage our Earth-orbiting commercial and scientific satellites; threaten astronaut safety; introduce high levels of radiation for crews and passengers in flights crossing over the poles; disrupt electric power grids, oil pipelines and the reliability and accuracy of global communications and navigation systems, including Global Navigation Satellite Systems (GNSS). With society's ever-increasing dependence on space-based technology, it is important to enhance public awareness of Space Weather, its potential impacts and what governments are doing to enhance forecasting and mitigation of its most damaging effects. This presentation will introduce the basic physical concepts of the source of Space Weather. This includes information on the Sun, solar wind, eruptive solar phenomena, magnetosphere, ionosphere and geomagnetic induction. The presentation will continue with a view of the impacts of Space Weather on technological systems in space and on the ground. Finally, we will introduce plans to advance forecasting capabilities and mitigation of Space Weather.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

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