ASTROPHYSICS SEMINAR SERIES

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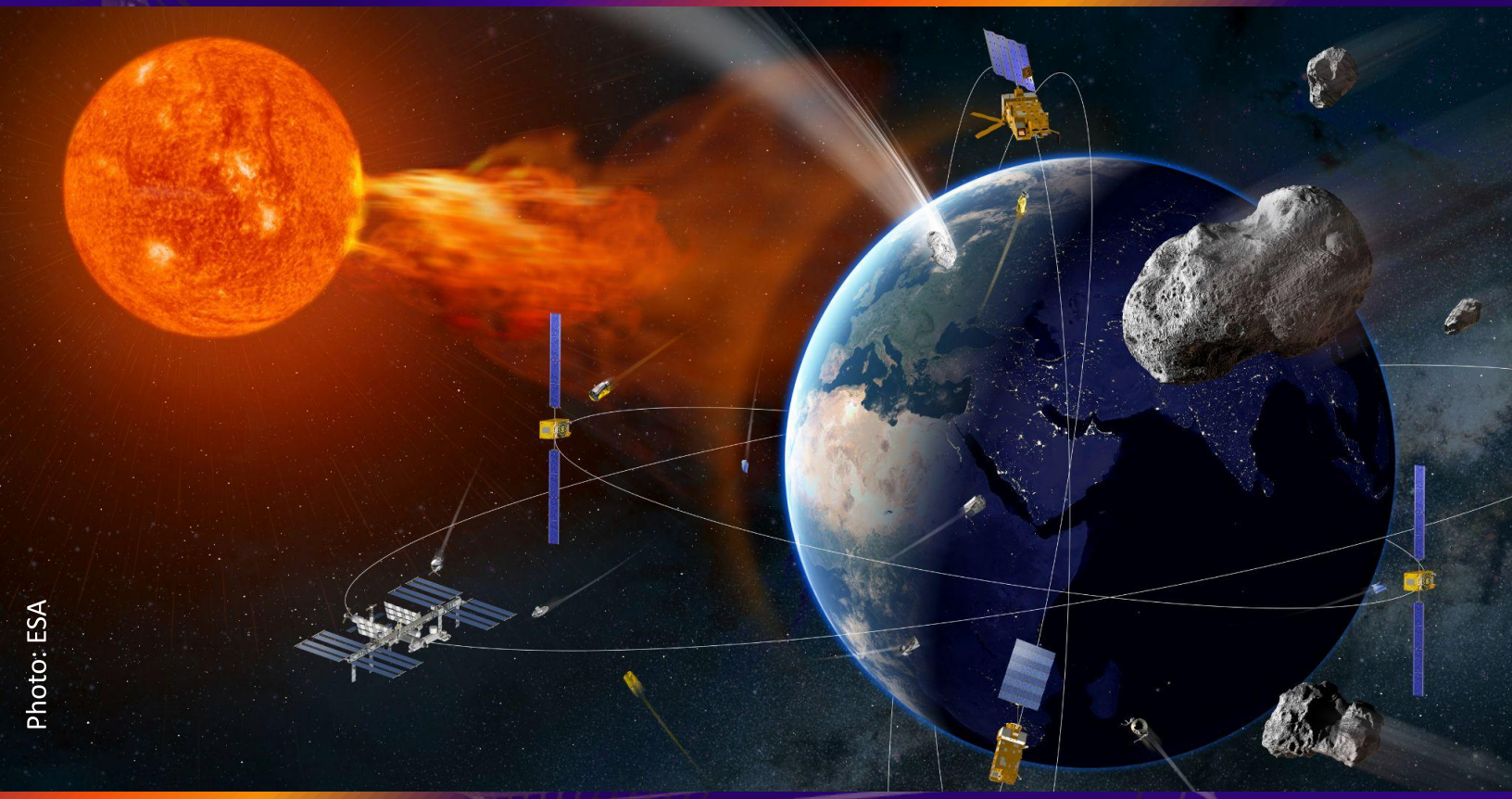

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Challenges to Space Sustainability: Space Weapons

Aaron Boley | *University of British Columbia*

Space plays a major role in society. Whether advancing science, communications, search and rescue, climate monitoring, weather tracking, resource management, navigation, or verification of international agreements, space-based infrastructure has become indispensable to our daily lives. Space has further facilitated international cooperation, even in the face of hostilities on Earth. Examples include the Apollo-Soyuz program, the International Space Station, COSPAS-SARSAT, and many international science-based missions. Yet, peace in space is not guaranteed. Indeed, as soon as nations began accessing space, they also began developing counterspace capabilities. Such capabilities include jamming or dazzling, which can temporarily deny users access to space-based assets. But they also include cyberattacks, disabling ground-based infrastructure, and the intentional destruction of satellites. In this talk, I will first provide a short overview of many challenges we face in the sustainable development of space. I will then focus on the growing concern of conflict in space, including past and present space weapon tests. We will also discuss how a security dilemma is emerging from new stages of space exploration, particularly with plans for sustained lunar programs. Fortunately, there are ongoing international processes working to establish norms of behaviour in space and avoid conflict, with the aim to keep the use of space for peaceful purposes only.

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