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Beyond Flatland: A Star of Many Dimensions

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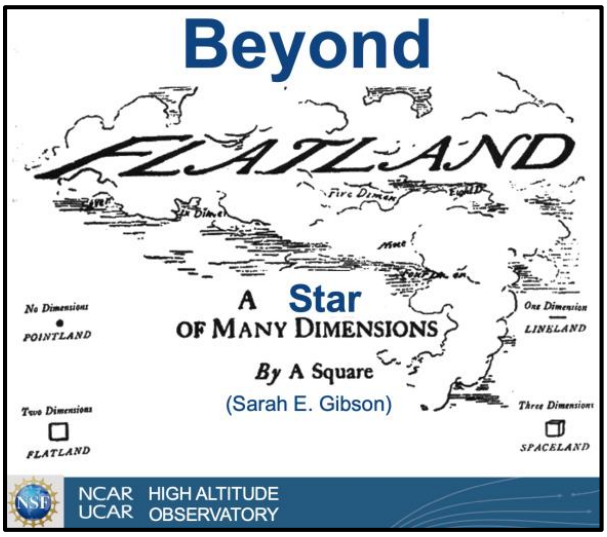

Thursday, February 27, 2025
11:10 am - 12:00 Noon
Building 33, Room 286
Pizza will be served!

Abstract: The more we learn about the Sun, the more we can appreciate its essential complexity. Multi-wavelength observations reveal its structured coronal atmosphere, and ever-higher temporal and spatial resolutions expose its spectacular dynamics. Helioseismology penetrates its depths, and spacecraft views from off the Sun-Earth line yield the beginnings of a three-dimensional perspective. Underlying this complexity is solar magnetism – the consequence of a cycling dynamo and the cause of solar eruptions that originate in stressed and twisted magnetic fields. In this talk, I will highlight critical areas of solar physics, presenting recent advances and open questions associated with the generation, storage and release of magnetic energy and resulting space weather at the Earth. I will then look to the future, considering how sustained observations from the Sun's poles and from a truly global view on solar and heliospheric magnetic fields could change the paradigm of Sun-Earth investigations.

Bio: Dr. Sarah Gibson is a Senior Scientist at the National Center for Atmospheric Research (NCAR). She received her B. S. in Physics from Stanford University and her M. S. and Ph.D. in Astrophysics from the University of Colorado, and she has served as Section Head, Deputy Director, and Interim Director of NCAR's High Altitude Observatory. She is a Fellow of the American Geophysical Union, the recipient of the American Astronomical Society Karen Harvey Prize, and was Vice President/President of IAU Division E (Sun and Heliosphere) from 2015-2021. Her research focuses on solar drivers of the terrestrial environment, from space weather to long-term solar cycle variation.