



ASTRONOMICAL SOCIETY OF BOTSWANA (ASB)

Invites the public to an *online Presentation*

by

Prof Motsoptse Modisi

PRESENTATION TITLE: GEOLOGY OF MARS

Date: Thursday 24th September 2020

Time: 6pm - 7.30pm

Join us on Zoom by clicking here:

<https://us02web.zoom.us/j/83980860554>

or via Zoom Meeting ID:

839 8086 0554



Photomosaic of Mars showing the Valles Marineris in the middle and Tharsis Dome to the left.

Source: United States Geological Survey (USGS)

Abstract:

Mars can be identified in the night sky without the aid of an optical instrument. Mar's orange brightness will make it stand out throughout the spring and summer seasons into early 2021. The four inner terrestrial planets: Mercury, Venus, Earth and Mars have each a rocky outer composition and a metallic core. Knowledge of the Geology of Mars has been enriched by information and data gathered by Earth-based and space-based telescopes. More details have been added by flyby spacecraft. Orbiting satellites, landers, and landed robotic vehicles with observational and analytical paraphernalia have made break-through discoveries including more detailed geological information. Mars morphological features include many impact craters, domes, volcanic edifices, rift systems, sand dunes and drainage patterns. Many of its geological features are analogous to some on Earth. Plate tectonics is not currently operative on Mars and the gross global tectonic model is significantly different from that of Earth. Sedimentary processes on Mars are probably episodic and develop relatively meagre deposits compared to those of Earth. The physical principles governing geological processes are however quite similar

Professor Motsoptse Modisi's Biography

Professor Motsoptse Modisi is an Associate Professor of Geology at the University of Botswana (UB). He joined UB in 1985 as Lecturer, obtained a PhD in structural geology in 1994 from McMaster University and rose through the ranks. He instructed and researched in topics including tectonics, regional geology, field geology as well as structural geology. He has authored and co-authored over twenty publications including journal articles, chapters in books and monographs. He has held administrative positions of Department Head, Faculty Dean and Acting Director of Research and Development. Before joining UB, Prof Modisi began his career with the then Department of Geological Survey, now the Botswana Geoscience Institute (BGI) in 1976 as Assistant Geologist. He rose through the ranks to the position of Assistant Director. While at the Survey, he studied for, and graduated in 1982 with a Master's degree in Mineral Exploration. He now serves in the Board of Directors of BGI, a service rendered since August 2019. He is a member of the Botswana Geoscientists Association, the Botswana Academy of Science and the Astronomical Society of Botswana.