

Ancient Lakes and Seas on Mars



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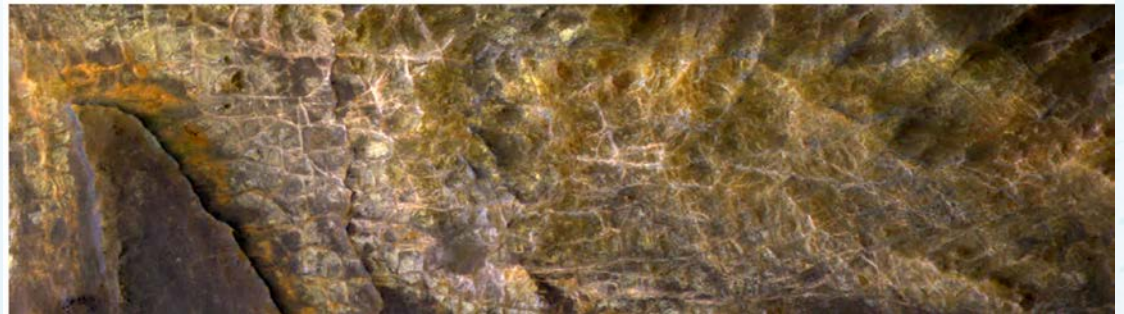
11:30 a.m.



**Conference Room, 3/F,
Mong Man Wai Building**



Today Mars is a frozen desert planet with surface temperatures around -100 C , surface pressure $<1\%$ of Earth's, and only a few precipitable microns of atmospheric water. In fact, Mars has had a similar climate with harsh surface conditions, bathed in high energy radiation for at least 3.5 billion years. Yet, at the time when life seemingly first emerged on Earth c.a. 3.8 Ga, potentially in hydrothermal-sedimentary systems in shallow seas, Mars contained some extremely interesting lakes and seas that might have been analogous to those of the early Earth. The main difference between our two worlds is that plate tectonics never occurred on Mars. As a result, the pages of our early geologic history that are overwritten, deformed or forever missing, are actually recorded in Mars' history. Ancient Mars might be a Rosetta Stone of sorts for our earliest geologic history.



False color image of hydrothermally altered crust from an ancient seafloor environment on Mars. Image is about 500 m across.



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