

SHEET #2 – GUEST PRESENTER INFORMATION SHEET**SCSC 681 SEMINAR**fmutscher@tamu.edu

• Please SUBMIT approximately a week prior to presentation – INFORMATION is used to prepare SEMINAR flyer announcement – THANKS!

PRESENTER: Brad Sutter, Research Scientist, Jacobs/NASA Johnson Space Center

DATE of presentation: 2019 – Wednesday: January 30th, 2019

TITLE of presentation: Unraveling the aqueous alteration history and searching for extinct life in Gale Crater, Mars: Mineralogical and geochemical results from the Mars Science Laboratory, Curiosity Rover's Instrument Payload.

SEMINAR – Wednesday – 4:00 – 5:00 p.m. Room 103 – Heep Center

INTRODUCTION of presenter BY: (Who will introduce you to the audience? Kindly ASK someone – or, we can assist)

Dr. Youjun Deng

ADDITIONAL MEDIA NEEDS/REQUIREMENTS?

Other than projector/computer w/MS Power Point?)

ABSTRACT of RESEARCH: (150 word limit)

The goal of the Mars Science Laboratory (MSL), Curiosity Rover mission is to determine if Gale Crater, Mars ever had a habitable environment and to search for evidence of extinct microbial life. Gale Crater is ~155 km wide with a layered central mound (~5 km high). The Curiosity rover has traversed ~20 km from the crater floor up 350 m to the lower slopes of the central mound for over 2200 Martian solar days (sols). Curiosity's instruments have evaluated the geochemistry and mineralogy of regolith fines, eolian sediments, and sedimentary rocks to assess Gale Crater's aqueous alteration history. Results indicate that Gale Crater surface material have experienced a complex authigenetic/diagenetic history involving fluids with varying pH, redox, and salt composition. The inferred geochemical conditions were favorable for microbial habitability and if life ever existed, there was likely sufficient organic C to support a small microbial population.

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THANK YOU!