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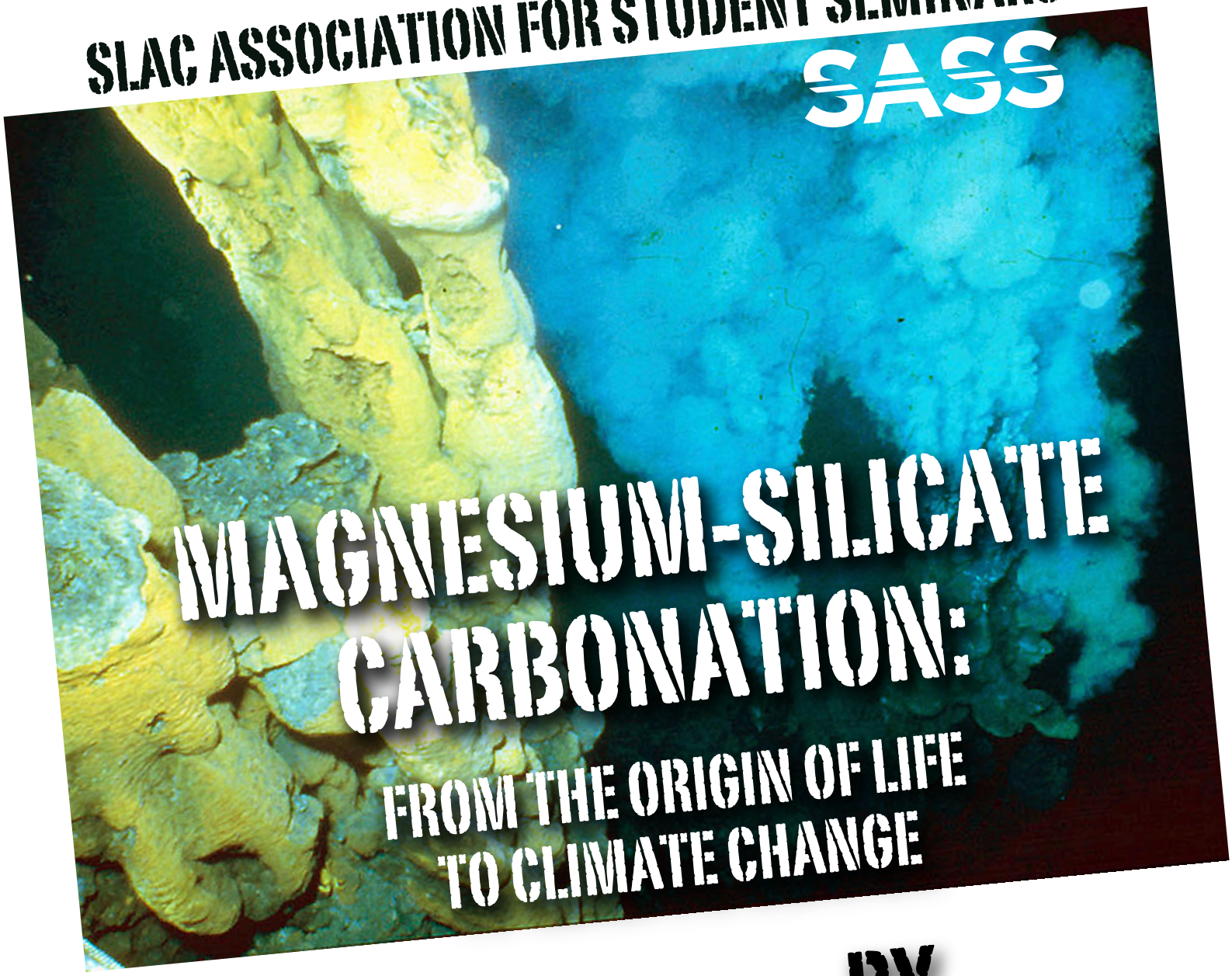

MAGNESIUM-SILICATE CARBONATION:

FROM THE ORIGIN OF LIFE TO CLIMATE CHANGE

OCT. 26TH AT 12:30
KAVLI 2ND FLOOR
CONFERENCE ROOM

BY
NATALIE JOHNSON

Mg-silicate carbonation, the reaction between dissolved CO_2 and minerals rich in magnesium, is an area of current study due to its potential to mitigate climate change by permanently storing carbon dioxide as carbonate minerals underground. This reaction occurs extensively in nature, both on land as well as thousands of meters below the ocean surface at hydrothermal vents. The products of the carbonation reaction create a very reducing environment that may have facilitated the formation of the first biological molecules, a hypothesis supported by studies of hydrothermal vents. This talk will touch on examples of Mg-silicate carbonation in nature, with the bulk of it dedicated to how we can engineer the reaction to safely sequester carbon dioxide underground in mineral form.