SUNITI KARUNATILLAKE (WALIMUNI DEVAGE) PAGE RESUME
Geology & Geophysics, Louisiana State University (LSU), Baton Rouge, LA; 225 366 7029 sunitiw@lsu.edu
Planetary Science Lab Website ResearcherID: **A-5934-2009** ORCID ID: **0000-0001-9891-1432**

Expertise in planetary critical zones, specialized in the synthesis of remote and in situ sensing data in the areas of statistical analyses, photoanalysis, soil sedimentology, regolith hydration, halogen cycle, and igneous processes. Interpreting chemical maps derived from the 2001 Mars Odyssey Gamma Ray and neutron spectrometer Suite (GRS). Mars mission concept development (2021 a, b, c), Mars Mission payload development [e.g., 2016] and planetary pedology [e.g., 2020].

A. Professional Preparation

College/University	Major	Degree & Year
Wabash College, IN	Physics	BA Summa Cum Laude, 2001
Cornell University, NY	Physics/Astronomy and Planetary Science	PhD, 2008
Stony Brook University, NY	Planetary/Geoscience (postdoctoral)	2008 - 2011

B. Academic/Professional Appointments in reverse chronology

2019-present: Associate Professor, Geology & Geophysics, LSU, Baton Rouge, LA
2013-2018: Assistant Professor, Geology & Geophysics, LSU, Baton Rouge, LA
2011-2012: Assistant Professor, Chemistry, Biochemistry, and Physics, Rider University, NJ
2008 – 2011: Postdoctoral Researcher in planetary science, Stony Brook University, NY
2002 – 2008: Graduate Research Assistant in Astronomy and Planetary Science, Cornell, NY
2002-2013: Mars Odyssey Mission GRS Science Team Member.
2004-2011: Mars Exploration Rover Mission Science Team Member.

C. 5 Publications in expertise areas (of total 41, Google Scholar)

~:Bsc; `:MSc; +:PhD; ^:postdoctoral mentees (current or former)

Life and prebiotic organics: +Williams, A. J., Sumner, D. Y., Alpers, C. N., **Karunatillake, S.**, & Hofmann, B. A. (2015). Preserved Filamentous Microbial Biosignatures in the Brick Flat Gossan, Iron Mountain, California. *Astrobiology*, 15(8), 637–667. DOI: 10.1089/ast.2014.1235

Habitability & water: +Hood, D. R., **Karunatillake, S.**, Gasnault, O., Williams, A. J., Dutrow, B. L., +Ojha, L., Kobs, S., Kim, K., Heldmann, J., et al. (2019). Contrasting Regional Soil Alteration across the Topographic Dichotomy of Mars. *Geophysical Research Letters*, 1–10. DOI: 10.1029/2019GL084483

Evolution of surface /geological evolution: **Karunatillake, S.,** McLennan, S. M., & Herkenhoff, K. E. (2010). Regional and grain size influences on the geochemistry of soil at Gusev crater, Mars. *Journal of Geophysical Research*, 115, E00F04. DOI: 10.1029/2010JE003637

Interior evolution and volcanism: `Susko, D., **Karunatillake, S.**, `Kodikara, G., ^Skok, J. R., Wray, J., Heldmann, J., … ~Judice, T. (2017). A record of igneous evolution in Elysium, a major martian volcanic province. *Scientific Reports*, 7, 43177. DOI: 10.1038/srep43177

+Ojha, L., **Karunatillake, S.**, & Lacovino, K. (2019). Atmospheric Injection of Sulfur from the Medusae Fossae Forming Events. Planetary and Space Science, 179 DOI: 10.1016/j.pss.2019.104734

D. Select Synergistic Activities

Professional leadership: Steering committee member, Africa Initiative for Space and Planetary Science (AFIPS); Steering lead, LSU-2025 College of Science Planetary Initiative to Explore Mars and Beyond
Teach and advise: (a) courses on introductory physical geology at LSU (GEOL1001, 150 – 300 enrollment); (b) graduate courses on planetary remote sensing (GEOL4002; GEOL7972); (c) chair dissertation and thesis committees for BSc, MSc, and PhD candidates.
Professional service: reviewer for Analytical and Bioanalytical Chemistry, Icarus, and Nature; NASA review panelist for mission payloads, data analysis, participating scientist, etc.
Invited authorship: (a) Boynton, W. V., Taylor, G. J., **Karunatillake, S.**, Reedy, R. C., and Keller, J. M. (2008), Elemental abundances determined via the Mars Odyssey GRS, in The Martian Surface: Composition, Mineralogy and Physical Properties, Jim Bell Ed., Cambridge University Press, pp. 105–124; (b) **Karunatillake, S.**, Carter, L. M., Franz, H. B., Hallis, L. J., Hurowitz J. A. (2019), Geochemical interpretations using multiple remote datasets, in Remote Compositional Analysis, Bishop, J.L., Bell III, J. F., and Moersch J. E. Eds., Cambridge University Press DOI 10.1017/9781316888872.
Grants since 2013: Over 10 MDAP, PSTAR, EPSCoR grants (e.g., "Clarifying regional scale regolith hydration processes on Mars" "Seeking Signs of Life in an Ancient Martian Hot Spring") total > $1.8M.