

Javier Eduardo Suárez Valencia

Curriculum Vitae

Summary

I am a Colombian geologist actively working in the fields of planetary sciences and education, my main interest is to keep developing myself as an academic investigator, using computational tools to address the geological problems encountered in Earth and other solar system bodies surfaces. I also have a strong affinity towards higher level education, since I believe in the importance of spreading knowledge in geosciences for the development of society.

Education

- 2021–Present **PhD. in Geosciences**, *Constructor University*, Bremen, Germany.
Working on the analysis and mapping of intrusive igneous rocks in the Moon and Mars.
- 2015–2017 **Master in science - Geology**, *National University of Colombia*, Bogota D.C., Score – 4.7/5.0.
Planetary science line.
- 2010–2015 **Geologist**, *National University of Colombia*, Bogota D.C., Score – 4.1/5.0.
Final project: "Albedos and spectral signatures determination and its connection to geological processes: Simile between Earth and other solar system bodies", Score - 4.5/5.0.

Experience

Professional

- Nov 2021–
Present **Researcher**, NATIONAL UNIVERSITY OF COLOMBIA, Bogota D.C.
Researcher at the EXPLORE project, which focus on the development of software to exploit planetary data, specifically on the creation of a interactive browser to explore the surface of the Moon.
- Jan 2020–
June 2021 **Occasional Professor**, NATIONAL UNIVERSITY OF COLOMBIA, Bogota D.C.
Basic geology professor in the special admission program PEAMA of the National University of Colombia. Teached the subjects "Earth Sciences for Biology", "Earth Science I for Geology" and "Basic Geometry" in a project-based learning initiative.
- Dec 2017–
Dec 2018 **GIS Professional**, CORPORACIÓN GEO-AMBIENTAL TERRAE, Bogota D.C.
Focused in the processing of geographic and geologic information: Image analysis, geologic interpretation of LiDAR data, generation of morphometrical and hidrological parameters, DTM treatment and analysis, and maps diagramming.

Academic

2023–Present **Teaching**, BOGOTA D.C..

In 2023 I was an instructor in "The 1st Latin American Workshop on Planetary Science" in Buenos Aires, Argentina. In "Remote sensing for planetary surfaces" in La Paz, Bolivia. And, in "COSPAR Capacity building in Planetary Sciences 2023" in Antofagasta, Chile.

2019–I– **Academic Advisor**, BOGOTA D.C..

Present In 2019 I advised two undergraduate students with their thesis works, one in Mars volcanic calderas and the other in Mercury mapping and geomorphological analysis. In 2021 one in the use of lunar regolith as soil. In 2023 I advised an undergraduate thesis on planetary analogues.

2016–I–2017– **Assistant Professor Scholarship**, NATIONAL UNIVERSITY OF COLOMBIA, Bogota D.C..

II During my master I did different activities in geology aspects, from paleontology and mineralogy laboratory support to teaching in classes of basic geology and optic mineralogy.

2015–I–2020 – **Planetary Science researcher**, NATIONAL UNIVERSITY OF COLOMBIA.

I Part of the "Planetary science and astrobiology group" GCPA. I participated in diverse projects, including: description of a meteorite landing site, geologic characterization of potential analogue environments, events talks and organization, various programs of scientific divulgation and many more.

2015–II–2015– **Auxiliary Student**, NATIONAL UNIVERSITY OF COLOMBIA, Bogota D.C..

II Assistant in the mineralogy laboratory of the university, organizing and classifying the collection and giving support in practice sessions.

Events and talks

2023 Poster: "Reviewing the morphometric parameters of lunar intrusive domes using LROC and Kaguya data". ELS 2023. Padova, Italy.

2022 Poster: "Geomorphologic mapping of the Valentine Domes in the Moon, intrusive domes, and their mineral resource potential". EPSC 2022. Granada, Spain.

2021 Oral presentation: "Formulación de una metodología para la caracterización de entornos análogos aplicada a Colombia". 11 Congreso Argentino de Tecnología Espacial CATE, 2021.

2018 Oral presentation and course support in: "II Congreso Latinoamericano de Astrobiología". Bogota, Colombia.

2016 Poster presentation in: "Latin American Regional IAU Meeting (LARIM)". Cartagena, Colombia.

Publications

2023 Journal article (under review): "MoonIndex, an Open-Source Tool to Generate Spectral Indexes for the Moon from M3 Data". Earth and Space Science, AGU.

2022 Journal Article: "Geomorphological evidence of the internal geological activity of Sputnik Planitia, and its relationship with the surrounding terrains". Planetary and Space Sciences, Elsevier. DOI: <https://doi.org/10.1016/j.pss.2022.105433>.

2021 Conference article: "Hydric evolution of two deltas in the Ismenius Cavus system, Mars". 52nd Lunar and Planetary Science Conference (LPSC), 2021. Link: <https://www.hou.usra.edu/meetings/lpsc2021/pdf/1177.pdf>.

2017 Conference article: "Albedos and spectral signatures determination and its connection to geological processes". Revista Mexicana de Astronomía y Astrofísica RMxAA (SC), Vol 49, 2017. ISSN: 0185-1101.

Awards

2016 Assistant Professor Scholarship of the National University of Colombia.

2015 First place in the final exam of science - geology "Efi-Ciencias 2015" of the National University of Colombia.

2010 First place in the national exam of middle education of Colombia "ICFES-SABERPRO".

Computer skills

Intermediate PYTHON, Scientific language software.

Intermediate SURFER, OASIS, Geology and geophysics software.

Intermediate DS9, IRAF, JMARS, Astronomy and planetary science software.

Advanced ARCGIS, QGIS, GRASS, GIS, Geology and cartography uses.

Language

Spanish **Natal language**

English **Advance**

98 score in IBT TOELF.

Interest

- Astronomy

- Hazard control

- Geomorphology

- Literature: Science fiction, classic novel, philosophical lectures

- Planetary sciences: Icy bodies, planetary surfaces, volcanism

- Hiking

REFERENCES

Advisor PhD. Angelo Pio Rossi, Planetary Geologist, Constructor University - an-rossi@constructor.university.

Thesis director PhD. Luis Hernán Ochoa Gutiérrez, Associate professor, National University of Colombia - lhochoag@unal.edu.co - Tel: +57 317 5164738.

Thesis assessor PhD. Camilo Delgado-Correal, Physics Lecturer, Francisco José de Caldas District University - mcdelgadoc@udistrital.edu.co - Tel: +57 319 6921460.