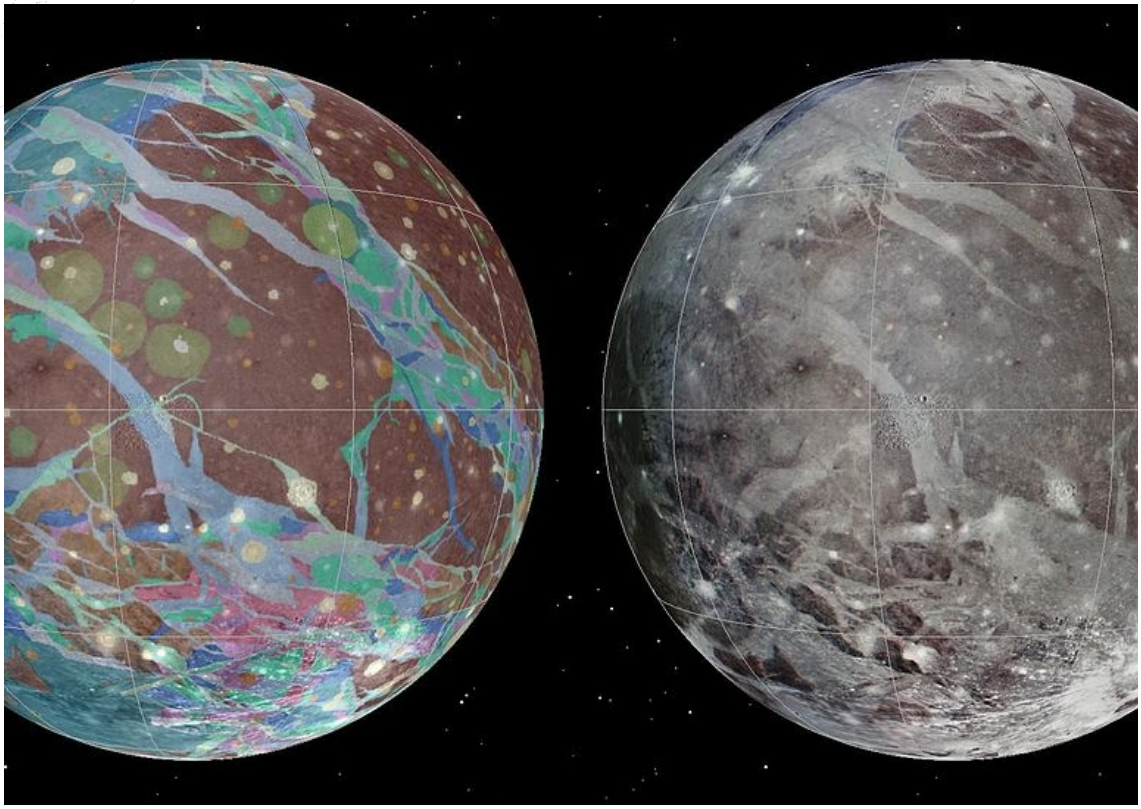
SPACE awareness

WHO IS AN ASTROGEOLOGIST?

Field Astrophysics, planetary science, geology
Type Research
Level of study Bachelor, Masters



What is the field about?

After studying the geologic record of the Earth during the last three centuries we now possess a reasonable idea of our planet's past and of the processes that are continuously shaping it. We must now start to look at our "rocky" companions in the solar system, seeking to understand and reconstruct the evolution of their interiors and surfaces. These are the main objectives of planetary geology or, as it is also called, astrogeology.

What would I do every day?

An astrogeologist uses a large variety of data sources and techniques to study the geological evolution of other terrestrial bodies.

Fieldwork is the basis of the work that geologists do on our planet. However, doing fieldwork on asteroids, Mars or Titan is, for the moment, not possible. Therefore, the study of the geologic evolution of these bodies is mainly performed by analyzing spacecraft observations (imagery, hyperspectral, radar or geophysical data) together with data gathered by robotic missions on the surface. Even so, to understand the geological processes that shaped other worlds, astrogeologists must also study the same type of processes on our planet. This effort of studying analogue geological structures implies intensive field work, sample collection and laboratory work. Computer simulations are also used to model different geological structures helping to establish the conditions and processes that lead to their formation.

How much and what do I need to study?

All basic science domains are necessary to study the composition, structure and evolution of the terrestrial bodies in our solar system. Therefore, a strong background on mathematics, chemistry and physics is necessary to complement the geological knowledge we have from the study of our own planet.

Where can I work?

Research and academic institutions are the main options.

This is the job for me, if...

...you are willing to help solving an ever-changing (geological) puzzle with 4.5 billion years without ever touching the pieces.

Learn more about astrogeology by:

- Implementing Rosetta outreach resources and "Exploring planets in the Classroom" resources

- Participating in Citizen Science project "Rock around the world" and analyzing rocks on Mars

- Watching USGS video about 50 years of astrogeological exploration

- Watching career profile video of Lynn Carter from NASA's Planetary Geodynamics Laboratory

Image: *Ganymede Global Geologic Map and Global Image Mosaic*
Credit: *Wikipedia*

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