BIO-PROFILE (199 words)

Dr Eriita Jones is a planetary and space scientist with a background in astrophysics. She is passionate about applications of satellite remote sensing and data fusion techniques to solve meaningful problems. She is presently a Research Fellow with the University of South Australia and Curtin University.

After obtaining her PhD in Astrophysics from the Australian National University, Dr Jones worked in academia in Canada and Australia, with the Canadian Space Agency, with industry in areas of viticulture, forestry, and environmental water quality, and with SmartSat CRC. Dr Jones's main research applications have been in surface and subsurface water analysis using space-based sensors, particularly the detection and characterization of subsurface water and potentially habitable environments on Mars, and the measurement of vegetation water use on Earth, using multispectral data. She also collaborates with international planetary research teams working in machine learning and Mars image analysis, as well as with CSIRO's Future Science Platform.

Dr Jones served as an Early- and Mid-Career Researcher (EMCR) member on the National Committee for Space and Radio Science, and past President of the Women in Space Chapter of the National Space Society of Australia. She is Review Editor for Frontiers Environmental Informatics and Remote Sensing.

ANSWERS TO SPECIFIC QUESTIONS

Where do you work, and what is your occupation / position?

I work at the University of South Australia and Curtin University. I am a Research Fellow working on applications of satellite data and machine learning data fusion to quantify tree water use and measure water quality. I also do research using Mars satellites to search for potentially habitable near-surface environments, and applications of machine learning for automated feature detection in Martian imagery.

What is the most exciting part of your job?

The most exciting part of my job is when different threads of evidence start to come together, and you can see a meaningful pattern emerging. Using satellite data, it is so exciting how through the acquisition and processing of the data, filtering the signal from the noise, combining it together with other signals from other satellites, you uncover meaningful information about the planets and their hidden subsurface. As you combine information from multiple sources and layers, it feels like you are weaving tapestry, and slowly a profound picture begins to emerge.

What do you enjoy most about your job?

I really enjoy coding and programmatically building tools to work with the satellite data. I also really love the mathematical statistical analysis side of working with the data. It is very fulfilling to write code, run it, and see something fascinating emerge.

How did you become…

I became a planetary scientist from a love of space, science fiction (Star Trek) and a desire to find life on other planets. I studied mathematics and theoretical physics, did a PhD in Astrophysics at the Australian National University, and then went on to postdocs in planetary science and Mars impact cratering, and terrestrial remote sensing for viticulture, forestry and water quality, in Canada and Australia.

Any other interest

Outside of space my interests are craft, music (play the recorder), gardening (organic permaculture), cooking (vegan), meditation, yoga, and being at the beach with my family and dogs.