



## John Fairweather

**Research Area:** Space Science and Technology Centre

**Work Address:** 314, School of Earth and Planetary Sciences, Curtin University, Perth, WA, Australia.

**Email:** john.fairweather@student.curtin.edu.au



### Brief Summary

The Moon still has countless unanswered questions, and each consecutive year major discoveries are made. The ability to precisely date and find impact craters on the lunar surface will prove to be an invaluable tool – especially when future occupation becomes a priority. Lunar satellites such as the Lunar Reconnaissance Orbiter (LRO) has been collecting a wealth of high-resolution imagery, allowing us to continually find new features at finer scales. At these scales we can see smaller and smaller impact craters, which need to be recorded. Manually detecting these small craters (which logarithmically increase in abundance the smaller they get) is an impossible task to do in a lifetime, but a computer that has learned to find craters can automate the task in a matter of hours. Crater chronologies, which thrive on large samples sizes, can produce very precise ages for a small cratered surface. Giving us the ability to find and pinpoint specific event/surface/impact ages. All in all, there is still plenty left to do on the Moon.

**Education:** BSc. (Hons) Geology and Archaeology - University of Western Australia

**Research interests:** Crater counting, planetary surface chronologies, the Moon

**Thesis title:** Mapping planetary surface ages at ultimate resolutions with machine learning

**Supervisors:** Prof. Gretchen Benedix, Prof. Phil Bland

**LinkedIn:** <https://www.linkedin.com/in/john-fairweather-034550159/>