

# Ocean Mercier

*Ngāti Porou*

***“Māori and Pacific people have been experts in science for thousands of years. They navigated the earth using astronomy, grew food with biology and created medicines with botany.”***

**Physicist; Mātauranga Māori**  
***Studies the basic properties and laws about solids and liquids; uses traditional Māori knowledge to solve problems***

*Ocean at Te Herenga Waka marae, a storehouse of traditional knowledge at Victoria University of Wellington.  
Photo: New Zealand Geographic, used with permission.*



**NZASE**

New Zealand Association of Science Educators

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## **What Ocean studies**

### ***The flow of liquid in sea ice***

As part of Paul Callaghan's team, Ocean helped to develop a portable Magnetic Resonance Imaging (MRI) scanner that measures water flow in sea ice, which transfers heat between the sea and the air. "The portable scanner uses the earth's magnetic field instead of a huge man-made magnet."

### ***Communicating science***

Ocean presented 26 half-hour episodes in 2012 of [\*Project Mātauranga\*](#) on Māori Television, focusing on traditional and contemporary Māori science innovations. She also contributed to [\*Te Whata Kura Ahupungao\*](#), short films about physics concepts in te reo Māori and English.

### ***Understanding groundwater with mātauranga (Māori knowledge)***

Ocean studied iwi knowledge of historical and current groundwater flows, including near Havelock North, where contaminated groundwater caused an outbreak of campylobacter in 2016.

### ***Māori perceptions of new genetic controls for pests***

Ocean's BioHeritage research team found that Māori participants are interested in new biotechnologies for controlling pests, but have a broad range of risks and concerns, and want more say in adoption of new technologies.

*See her complete profile from February 2020 - Scroll down at <https://nzase.org.nz/resources/?resource=scientist-profiles>*