



NZASE
scientist
profile

James Ataria

Born where and when

Ōtautahi / Christchurch, 1967;
Rongomaiwahine, Ngāti Kahungunu, Ngāti Raukawa.

Schools

Kaikōura High School
(Biology, Chemistry, Physics)

How he got into science

James loved collecting kaimoana along the coast and eeling in creeks when he was a boy. His concern about the impact of pollution on kaimoana led him to environmental science.

Training and jobs

Bachelor degrees in Māori performing arts and Zoology.

Masters degree in Molecular & Cellular Biology, both at Canterbury University.

PhD in Environmental Toxicology, Lincoln University.

Jamie, right, with the late Heitia Hiha at Te Whanganui-a-Orotu (Napier Estuary).

Jobs:

Landcare Research, Lincoln, researcher.

Lincoln University, Lincoln, lecturer.

Cawthron Institute, Nelson, researcher.

Field of science

Exotoxicology - where chemicals end up in the environment and what affect they have on livings things.

Environmental science and working with mātauranga Māori.

Examples of research projects

He Moemoeā mō Ahuriri/A health assessment of the Ahuriri estuary

This estuary was an important food resource, but mana whenua stopped collecting kai moana there because it was polluted. The research involved Napier Girls High School students who helped catch fish for the fish survey and assist with laboratory work to help find out how contaminated fish and shellfish were.

Pollution in the Mataura River

James involved polytech students who helped sample eels and test them for chemical pollutants. The study found that high rivers flows during rain was flushing all the contaminants into the estuary.

Protecting Māori environmental knowledge

Two university students and James are working with a Tuhoē-Tuawhenua Māori knowledge-holder to produce a poster for mana whenua that displays Tuhoē-Tuawhenua names for plants in their forests so that these names are never lost.



James with Lincoln University summer student Jodanne Aitken, left, and project administrator Kiri Hurunui.



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James helps other scientists to work with Māori on collaborative research, and also works for a Māori land trust that has businesses producing food and energy.

How he found things out

- **Testing** for the presence of contaminating chemicals in water and estuary mud.
- **Biomarkers:** Testing eels for different indicators of tissue damage from toxins.
- **Testing** fish embryos for early exposure to contaminants.
- **Testing** fish and shellfish for enzymes that process toxins.

What he learned

Science

- Many contaminants end up in our estuaries.
- Some contaminants also end up in kai species harvested from estuaries.
- Unlike other fish, eels were very tolerant to exposure to chemicals.
- Despite the mucky nature of estuaries, students love the mud!

Mātauranga Māori

- Māori have a huge amount of knowledge about their local environment, and that has been very helpful for his research.
- Māori knowledge provides a different perspective for thinking about problems and provides different solutions.

Ngā Kupu

Awa - River, stream

Mahinga kai - Food resource

Mana whenua - People of the local area

Matū - Chemical

Pātiki tōtara - Yellowbelly flounder

Pūhatanga - Estuary

Rāhui - Protection of a place or food source by forbidding harvest or access

Tuangi - Cockles

Tuna - Eels

Whakamate - Contaminated, polluted

From Te Aka Maori Dictionary



James with Napier Girls High School staff and students involved in the project investigating pollution in Te Whanganui-a-Orotu.

Most valuable results

- Extremely low levels of chemical contaminants can have a negative effect on organisms.
- Organisms in their very early life are very sensitive to being exposed to these contaminants.
- Māori knowledge should be used alongside science to improve our environment.

What he likes about his career

- Seeing Māori students being attracted to a science career.
- Using our data to help improve our environment.
- Meeting new people and other indigenous cultures who are using their knowledge alongside science.
- Travelling all over New Zealand and around the world doing science research.

Links

- 2015 *Connected* on [Learning from the Tangata Whenua](#)
- [Teachers' notes](#) on Learning from the Tangata Whenua
- A transcript of [James' talk about He Moemoeā mō Ahuriri](#) (40Mb PDF).
- Te Whanganui-a-Orotu research as part of [a NZ Herald article about Maori scientists](#).



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