Curriculum Vitae for Ursula Cochran

[Ministry of Business, Innovation, and Employment's narrative CV format]

PART 1

Personal details				
Title (optional)	Dr			
First Name	Ursula			
Second Name	Alyson			
Family Name	Cochran			
Iwi Affiliation, Pacific identity and/or any other as applicable	N/A			
Present position	Science Writer			
Organisation/Employer	Ursula Cochran Science Writing			
Contact Address				
	Wellington			
	New Zealand		**Post code**	6021
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Research identifier (if applicable)	*https://orcid.org/my-orcid?orcid=0000-0001-8002-4958* *https://www.researchgate.net/profile/Ursula-Cochran-2* *https://www.linkedin.com/in/ursula-cochran-35789784/*			

Most recent/relevant significant qualifications, and/or recognition or merit-based roles, awards, and memberships	
1.	2020, Grammar for Writers Course (with Distinction), NZ Writers College
2.	2015, Malahoff Medal for Excellence in Science Communication, Te Pū Ao GNS Science
3.	2004, Zonta Science Award, Earthquake Geology, Zonta Club of Wellington
4.	2002, PhD, Geology, Te Herenga Waka Victoria University of Wellington
5.	1996, Senior Prize in English, Waipapa Taumata Rau University of Auckand
6.	1996, BA, English, Waipapa Taumata Rau University of Auckland
7.	1995, BSc, Geology (with First Class Honours), Te Herenga Waka Victoria University of Wellington

Most recent/relevant professional positions and/or community roles held	
1.	2020-present, Science Writer, Ursula Cochran Science Writing
2.	2017-2020, Senior Scientist, Te Pū Ao GNS Science
3.	2002-2017, Paleoecologist / Earthquake Geologist, Te Pū Ao GNS Science
4.	1995-2000, Laboratory and Field Demonstrator, Te Herenga Waka Victoria University of Wellington

5.	1994-1995, Vacation Worker, Te Pū Ao GNS Science

Most recent/relevant areas of expertise (up to five)	
1.	Writing
2.	Science Communication
3.	Earthquake Geology
4.	Scientific Research
5.	Editing

Most recent/relevant publications to the proposal (up to five)	
1.	Orchiston, C., **Cochran, U.,** and Vause, A. A review of tsunami hazard for southern Aotearoa New Zealand with implications for future research. *New Zealand Journal of Geology and Geophysics*, 1–23 (2024).
2.	Howarth, J.D., Barth, N.C., Fitzsimons, S.J., Richards-Dinger, K., Clark, K., Biasi, G.P., **Cochran, U.A.,** Langridge, R.M., Berryman, K.R., Sutherland, R. Spatiotemporal clustering of great earthquakes on a transform fault controlled by geometry. *Nature Geoscience.* **14**, 314–320 (2021).
3.	Clark, K., Howarth, J., Litchfield, N., **Cochran, U.,** Turnbull, J., Dowling, L., Howell, A., Berryman, K., Wolfe, F. Geological evidence for past large earthquakes and tsunamis along the Hikurangi subduction margin, New Zealand. *Marine Geology.* **412,** 139-172 (2019).
4.	**Cochran, U.A.,** Clark, K.J., Howarth, J.D., Biasi, G.P., Langridge, R.M., Villamor, P., Berryman, K.R., Vandergoes, M.J. A plate boundary earthquake record from a wetland adjacent to the Alpine fault in New Zealand refines hazard estimates. *Earth and Planetary Science Letters.* **464,** 175-188 (2017).
5.	Berryman, K.R., **Cochran, U.A.,** Clark, K.J., Biasi, G.P., Langridge, R.M., Villamor, P. Major earthquakes occur regularly on an isolated plate boundary fault. *Science.* **336,** 1690-1693 (2012).

Total years of relevant experience	Total years
	25 years

Your role as part of the project you are applying to (mandatory)
My role varies according to the needs of each project. I have experience working as a scientist, task leader, key researcher, communicator, science writer, editor, and project manager. I work effectively as a team member, a coordinator between teams, as well as being self-motivated for independent work.

Career break events
Parental leave: • I took 12 months off work for my first child in 2008 and second child in 2010. • I have worked part-time since then.

PART 2

How have you contributed to broader societal engagement and/or knowledge exchange?

For the last four years I have been working with scientists and research institutions to help them engage with the broader public via written communications for the media, social media, websites and publications. For example:

- I interviewed researchers from the Ageing Well National Science Challenge and wrote project stories for their 10-year celebration book "Ka Mua Ka Muri". Feedback from Challenge Manager, Andrew Lonie included this comment: "Ursula did a wonderful job researching and writing the 18 science stories contained in the waka huia of our Ageing Well National Science Challenge Book, summating five years of diverse work by hundreds of researchers. Ursula's aroha for the project, and technical and relationship skills, resulted in her casting a unified and vivid representation of the Challenge research that moved and enlightened all — including those most deeply familiar with the Challenge. Ursula worked both collegially and with self-direction, meaning we could relax completely, knowing that something special would be delivered in a very calm and controlled way."
- I work with researchers at Te Hiranga Ru QuakeCoRE to produce science stories for their annual reports (2020, 2022, 2023) and for their website and social media channels. Operations Manager Ruth Hartshorn has commented: "Having you working on stories for our Annual Report has made the process so easy this year, so thank you Ursula. It makes preparation of the report enjoyable when we know that we will have high-quality, engaging stories delivered perfectly on schedule."
- I have helped translate scientific papers into useful content for a general audience for the AF8 [Alpine Fault magnitude 8] website. Dr Caroline Orchiston (previous science-lead for AF8) provided this feedback, "With her years of experience as a scientist, and her outstanding ability to translate complex science into clear and accessible language, Ursula is one of those rare people who has the ability to sit at the interface of science, policy and practice. She is organised, thorough, professional and always delivers on time."
- I am committed to being a good treaty partner and I have a positive reputation for working with Māori researchers to contribute to communicating their work appropriately. For example, co-creation researcher Charles Waldegrave wrote to me, "Overall the sense the research was very well preserved. Thank you. We normally have to rewrite large chunks, but you have understood what we are doing very well."
- I work with individual scientists to make complex topics comprehendible. Dr Jesse Kerse wrote to me, "Thank you for your excellent work Ursula. Seeing the 'science speak' transformed into something easily understandable was super informative for me. I had many people reach out to me who read the article and who understood it! Really cool!"
- I also write opinion pieces on scientific topics for mainstream media. I have published articles in The Spinoff, Newsroom, and Forest and Bird Magazine.
- See my website for further examples of science stories and feedback.

How have you contributed to the generation, revitalisation, preservation, and dissemination of knowledge?

For 21 years I worked as a research scientist **generating knowledge** in the field of earthquake geology. For example:

- I co-led a Marsden-funded project that created one of the longest earthquake records in the world for the Alpine Fault and was published in the journal *Science* (as well as in numerous supporting papers, reports and presentations). This earthquake record has global recognition and has been the fuel required to drive improved preparedness initiatives across Te Waipounamu the South Island.
- I applied international techniques to Aotearoa New Zealand coastlines and found evidence for past large earthquakes and tsunamis on the Hikurangi Subduction Zone. For a couple of years, I led the mātauranga, education, and outreach component of an Endeavour Programme on this topic with the aim of improving public understanding of New Zealand's largest fault. This programme won a Team Award at the Science NZ Awards in 2021.
- I participated in science responses to the 2003 Fiordland earthquake, 2011 Christchurch earthquake and the 2016 Kaikōura earthquake and contributed to publications resulting from this reconnaissance work. Science stemming from these events has informed Aotearoa New Zealand's National Seismic Hazard Model as well as seismic hazard initiatives globally.
- I worked to better quantify Aotearoa New Zealand's tsunami hazard by searching for evidence of past large tsunamis and helping to get NZ's historical tsunami database published for general use. Learning about past tsunamis is helping to improve mitigation measures around the country.

During my scientific career, I prioritised the **dissemination of knowledge** (often beyond the typical channels) because I believe it to be a crucial part of scientific endeavour. For example:

- I contributed to 47 papers in peer-reviewed scientific journals, and I have an h-index of 25.
- I worked to integrate science communication into research plans at the start of a project. I was a contributing scientist in the early days of AF8 [Alpine Fault magnitude 8] and East Coast LAB [Hikurangi Subduction Zone M9] – initiatives that have improved the readiness of their communities for natural hazards.
- For a general audience and students, I have presented numerous talks, helped organise conferences, led fieldtrips, visited schools, featured in YouTube videos and news media, and contributed to educational activities. Here are a few of the most memorable ones:
  - Appearances on Campbell Live in 2012 and 2015 to talk about Alpine Fault and Hikurangi Subduction Zone earthquake records.
  - Scientist presenter for documentary "Beneath New Zealand" by Making Movies 2016.
  - Scientist presenter for LEARNZ fieldtrip "Life at the Boundary" 2017.
  - Fieldtrip leader on "Action Planet", a Curious Minds project for students with learning disabilities, 2016.
  - Participant in "Te Kura Whenua", an initiative to share geoscience knowledge between Māori communities and GNS Scientists, noho marae, Porangahau, 2016.
  - Scientist presenter in Southland on the AF8 Roadshow, 2025.

How have you contributed to the development of individuals, collectives, iwi/hapū?

Throughout my work as a research scientist, I worked effectively and collaboratively as a team member and often put effort into the advancement of colleagues for example via:

- Contributing to papers to help others get their research published.
- Mentoring others to help them learn specialist techniques.
- Supervising students and visiting Royal Society teacher fellows.
- Examining postgraduate theses and reviewing documents.
- Nominating colleagues for awards and research proposals.

In my field of expertise, I represented my organisation proudly and professionally. I established long-term collaborative networks with national and international colleagues. I have presented over 22 first-author presentations – 7 at international meetings and 2 as a keynote speaker.

I am a member of the Geoscience Society of New Zealand and have previously contributed to this society through various roles including Wellington branch chair, national committee member, and publications officer.

In my work as a science writer, I work with scientists, research institutions, mana whenua, community members, stakeholders and end-users to share information with audiences outside their immediate networks, thereby promoting their work to wider audiences.

I am an active member of SCANZ (the Science Communicators Association of New Zealand) and enjoy sharing professional knowledge and experiences with other communicators, designers and editors, as well as with people wanting to start out in this field.

Personal statement

I am currently working as a science writer because of my commitment to maximising scientific discoveries for use by society.

During my time as an earthquake geologist, I witnessed the profound environmental and societal impacts of natural hazard events, so I have a strong belief in the importance of better quantifying, communicating and mitigating hazards in Aotearoa New Zealand.

I also have a strong interest in health and the need for better dissemination of health research and recommended behaviours so that people can be empowered to look after their wellbeing.

I bring skills in scientific investigation, research techniques, and communication to a variety of projects, as well as a drive to ensure useful outcomes for individuals, communities and stakeholders.