

The following application was submitted to the MARGINS Office:

Name:

Jarg Pettinga

Category: Professor

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Geological Sciences
University of Canterbury
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New Zealand

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Statement of interest:

I have maintained a long-term research interest and involvement with respect to the active tectonics, geologic structure and landscape evolution of the east coast North Island. In addition I have been involved with offshore research projects addressing the ongoing development of the accretionary wedge and associated active sea-bed processes. A total of 22 publications relate to my work in this region, both onshore and offshore. In addition I have previously supervised 8 post-graduate research projects along east coast North Island.

I am currently supervising two MSc post-graduate student thesis research projects addressing aspects of catchment evolution. One of these projects is located in the Ngatapa area, and includes a subsidiary catchment to the Waipaoa system (Verne Pere), the other is looking at mass movement processes and catchment evolution of the Esk River, immediately north of Napier city. In addition I have a new BSc Honours research student commencing a project on the role of large landslides in the initiation of a small coastal catchment adjacent to the Esk system.

Short resume:

Full name: Dr Jarg Rein Pettinga

Present position:

Associate Professor in Geology
Department of Geological Sciences

Present employer: University of Canterbury
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Christchurch, New Zealand

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Academic Qualifications:

B.Sc. University of Auckland (geology and geophysics) 1975
Ph.D. University of Auckland (structural and engineering geology) 1981

Present Research/Professional Speciality/Responsibilities:

- * Structural geology and active tectonics, Tectonic geomorphology
- * Engineering geology (particularly paleoseismicity and earthquake hazard assessment), slope stability.
- * Research Leader of the Active Tectonics and Earthquake Hazard Research Programme (1988-present)
- * Research Leader of the Landscape Evolution Research Programme (2003-)

Membership of Professional Societies:

Geological Society of New Zealand (President 1998-99); Geological Society of America (Fellow); New Zealand Geotechnical Society; Int. Assoc. of Engineering Geology; Royal Society of New Zealand (Canterbury); N.Z. Society Earthquake Engineering.

Publications: (last 3 years only, from total list of 66)

PETTINGA, J.R. (in press): Mud Volcano Eruption within the Emergent Accretionary Hikurangi Margin, Southern Hawke's Bay, New Zealand. NEW ZEALAND JOURNAL OF GEOLOGY AND GEOPHYSICS.

PETTINGA, J.R. (2002): Active Tectonics and Landscape Evolution in the Australia-Pacific Plate Boundary Zone, Northern South Island. Proceedings 11th Gondwana Conference, Christchurch, August 2002. FT/4: 1-29.

KINGSBURY, P.A.; PETTINGA, J.R.; VAN DISSEN, R.J. (2001): Earthquake Hazard and Risk Assessment Study for the Canterbury Region, South Island, New Zealand: Outline of programme development. BULLETIN OF THE NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING: 34: 276-281.

PETTINGA, J.R.; YETTON, M.D.; VAN DISSEN, R.J.; DOWNES, G. (2001): Earthquake Source Identification and Characterisation for the Canterbury Region, South

Island, New Zealand. BULLETIN OF THE NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING: 34: 282-317.

STIRLING, M.; PETTINGA, J.R.; BERRYMAN, K. R.; YETTON, M.D. (2001): Probabilistic Seismic Hazard Assessment of the Canterbury Region, New Zealand. BULLETIN OF THE NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING: 34: 318-334.

BERRILL, J.B., CHRISTENSEN, S.A., KEENAN, R.P., OKADA, W.; PETTINGA, J.R., (2001): Lateral-Spreading Forces on a Piled Bridge Foundation. GEOTECHNIQUE; 51: 501-517.

PETTINGA, J.R. (2001): Rock Formation and Earth Building Processes. Chapter 2 in: Introduction to the Physical Environment - a New Zealand Perspective (Editors: Sturman, A. and Spronken-Smith, R.); 12-38; Oxford University Press.

EUSDEN, J.D.; PETTINGA, J.R.; CAMPBELL, J.K. (2000): Structural evolution and landscape development of a transpressive duplex on the Hope Fault, North Canterbury, New Zealand. N. Z. JOURNAL OF GEOLOGY AND GEOPHYSICS, 43: 391-404.

Some other previous relevant Publications:

LEWIS, K.B., PETTINGA, J.R. (1994): The emerging imbricate frontal wedge of the Hikurangi Margin. In: P.F. Ballance (Ed) SOUTH PACIFIC SEDIMENTARY BASINS (CHAPTER 13), SEDIMENTARY BASINS OF THE WORLD 2, Elsevier, Amsterdam: 225-250.

PETTINGA, J.R. (1992): The stability of Hillslopes (part of Chapter 3) in: LANDFORMS OF NEW ZEALAND (Eds. Soons, J.M. and Selby, M.J.) 2nd revised edition, Longman Paul.

PETTINGA, J.R., BELL, D.H. (1992): Engineering geological assessment of slope instability for rural land-use, Hawke's Bay, New Zealand. In: PROC. 6th INTERNATIONAL SYMPOSIUM ON LANDSLIDES, Christchurch, N.Z: 1467 -1480 Vol. 2; A.A. Balkema Publishers.

PETTINGA, J.R. (1990): Large Landslides and Catchment Evolution in Tertiary Weak Rock Flysch, Southern Hawke's Bay. GEOL. SOC. NZ. MISC. PUBLIC. 50B: 13 - 37.

BELL, D.H., PETTINGA, J.R. (1988): Bedding-controlled landslides in New Zealand soft rock terrain. In: PROC. 5th INTERNATIONAL SYMPOSIUM ON LANDSLIDES, Lausanne, Switzerland: 77 ? 83; A.A. Balkema Publishers.

PETTINGA, J.R. (1987): The Ponui Landslide: A deep-seated wedge failure in Tertiary-weak rock flysch, Southern Hawke's Bay, New Zealand. N.Z. JOURNAL OF GEOLOGY AND GEOPHYSICS 30: 415 430.

PETTINGA, J.R. (1987): The Waipoapoa Landslide: A deep-seated complex block slide in Tertiary-weak rock flysch, Southern Hawke's Bay, New Zealand. N.Z. JOURNAL OF GEOLOGY AND GEOPHYSICS 30: 401-414.

SPORLI, K.B., PETTINGA, J.R. (1980): Mount Kahuranaki, Hawke's Bay, New Zealand: A Klippe emplaced by gravity sliding from the crest of the nearby Elsthorpe Anticline. JOURNAL OF THE ROYAL SOCIETY OF NEW ZEALAND 10: 287-307.

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ABSTRACT

Title:

The impact of a large landslide dam on late Quaternary sediment yield and catchment evolution, Ngatapa area, Gisborne

Authors:

Verne Pere and Jarg Pettinga
Dept. of Geological Sciences, University of Canterbury, Christchurch, New Zealand

Abstract:

Included in the application by Verne Pere

Wish to include graphics:

Server protocol: HTTP/1.1

Remote host: cache.dmz.canterbury.ac.nz

Remote IP address: 132.181.3.189