Engineering Geologist

To undertake scientific research in the field of Engineering Geology and Geomorphology, specialising in rock mechanics and laboratory-based testing with a particular focus on rock slope instability and landscape processes. The Engineering Geologist/Geomorphologist will apply research outcomes to commercial activities undertaken by GNS Science on behalf of its client base both within New Zealand and overseas.

Position priorities and responsibilities

Scientific Research

- Undertake research in the field of Engineering Geology/Geomorphology and its application to landscape and landslide processes
- Design and implementation of laboratory experiments to measure the strength properties of rocks and failure mechanisms in response to environmental changes in stress with a particular focus on landslides and rock slopes
- Upscale laboratory results to investigate and parametrise regional scale geomorphological landscape processes
- Publish research results in peer-reviewed journals, and presenting findings at research conferences and to stakeholders
- Plan research directions and the development of proposals for new research funding in the Engineering Geology/Geomorphology area
- Promote and progress Engineering Geology/Geomorphology research in active collaboration within geological, geotechnical and geophysical research sectors within New Zealand and, where applicable, overseas
- Assist with operational activities including: the management of Engineering Geology/Geomorphology datasets; and participate in teams responding to extreme events
- Communicating scientific research through authorship or co-authorship of scientific publications papers or reports
- Provide informal coaching and mentoring to technicians and/or other staff, as required

Reports to: Engineering Geology Team Leader
Department: Surface Geosciences
Group: Science
Tenure: Permanent
Location: Avalon
Direct reports: Nil
Budget: Nil
Date: August 2020

Location

Avalon

Direct reports

Nil

Date

August 2020
Commercial

- Provide professional advice and undertake consulting work for clients as required, completing reports to agreed scope, timeframe, and budget

Projects

- Undertake projects for your manager, as and when required

Responsibilities of all staff

- Comply with all GNS Science policies and procedures
- Contribute to making GNS Science a healthy and safe place to work by complying with the responsibilities and accountabilities outlined in the Health and Safety Management System Framework

The responsibilities of this position will change over time to respond to changing needs. The incumbent will need the flexibility to adapt and develop as the company and its environment evolves.

Key working relationships

Internal:
- Surface Geosciences Department, other GNS Science teams

External:
- Ministry of Business Innovation and Employment (MBIE), Earthquake Commission (EQC), Department of Conservation (DoC), infrastructure owners and operators, geotechnical consultants, regional councils and territorial local authorities.

Person specification

Skills, knowledge and attributes

- Excellent written and verbal communication skills, with experience in report writing
- Advanced IT skills in Windows and geo-spatial and statistical modelling packages for slopes and landslides
- Experience using GIS software packages (ArcGIS)
- A demonstrated ability to analyse data and write reports and papers on the results
- Problem solving skills
- Flexible and adaptable team player
- Good time management and organisational skills

Experience

Essential:
- At least 2-5 years’ (post PhD) work experience, in engineering geological/geomorphological research and/or consulting

Desirable:
- The design and implementation of laboratory experiments to measure the strength properties of rocks and failure mechanisms in response to environmental changes in stress with a particular focus on landslides and rock slopes.
- Upscaling of laboratory results to investigate and parametrise regional scale geomorphological landscape processes.
• The development and planning or future research directions and proposals for new research funding opportunities in rock mechanics.
• Field-based skills in field mapping, rock mass survey and assessment, geophysics and sampling.
• Statistical and geo-spatial modelling packages and applying statistical analytical techniques.
• Managing small and large scale multi-disciplinary teams to deliver research focused projects.
• Scoping, managing and delivering consultancy projects and providing expert advice on Engineering Geology, Engineering Geomorphology and Rock Mechanics issues to a variety of public and commercial sector clients.
• A willingness to work with Iwi/Maori groups and organisations to build relationships with the aim of facilitating Maori development.

Qualifications

Essential:
• PhD in Engineering Geology or Engineering Geomorphology
• At least 2-5 years’ experience in Engineering Geology or Engineering Geomorphology research and/or consulting

Other requirements

Desirable:
• Advanced IT skills in Windows and geo-spatial and statistical modelling packages for slopes and landslides
• Drivers licence

Competencies

The following competencies are expected of all staff:

► **Results Orientation**: The ability and commitment to achieve effective results, and work towards or exceed agreed goals.

► **Business Focus**: The ability and desire to apply appropriate principles and practices to maximise revenue, minimise cost, while meeting our obligations.

► **Relationship Management**: The ability and commitment to develop and maintain effective relationships with groups and individuals.

► **Communication**: The ability to express thoughts and ideas clearly and consistently (orally and in writing).

► **Innovation and Initiative**: The ability and commitment to seek and use better ways of doing things (to improve personal and GNS Science performance).

► **Teamwork**: The ability to establish and maintain effective and cooperative relationships.

► **Professional Integrity**: Act in a manner that conveys high personal and professional standards.

► **Technical Expertise**: The ability to maintain and develop technical expertise.

► **Leadership and Management Skills**: The ability to inspire others to achieve desired results and to develop and enable others to realise their full potential.