Geothermal Reservoir Modeller

Reports to:	Geothermal Geology & Modelling Team Leader	**Position Status:**	Permanent
Business Unit:	GNS	**Location:**	Wairakei or Avalon
Department:	Earth Resources & Materials	**Date:**	August 2025
Direct Reports:	Nil	**Budget & Delegated Authority:**	NIL
Group:	Science & Commercial Operations	**Career Step:**	Senior Scientist
Job Family:	Science & Research	**Career Path:**	GNS Research

Purpose

To lead and develop numerical modelling of geothermal reservoirs for research and consultancy projects in New Zealand and abroad.

Position Priorities and Responsibilities

- Provide leadership and undertake research in developing computational modelling of geothermal reservoirs and geothermal well bore modelling in various geological settings and environments.
- Conduct computational and mathematical modelling to develop practical strategies and deliver effective solutions tailored to client needs and requirements.
- Work with other Earth Sciences New Zealand geophysicists, reservoir specialists, modellers, AI specialists, geologists and geochemists to assist with geothermal resource assessments, field development, and optimisation strategies for geothermal projects in New Zealand or abroad.
- Undertake research that advances geothermal reservoir modelling as a methodology for representing geothermal systems in natural states and during historical and future development.
- Contribute to the strategic planning and development of research directions, and proactively identify, write proposals and pursue new funding opportunities.
- Publish research results in peer-reviewed journals, and present findings at research conferences and to stakeholders.

Responsibilities of all Employees

- Comply with all relevant Business Unit policies, procedures and frameworks, and act in line with the relevant Business Unit values.
- Contribute to our healthy and safe workplace by following Health, Safety and Wellbeing (HSW) expectations outlined in and integrated into our operational practices and HSW Frameworks, including undertaking HSW training and participating in health monitoring programmes relevant to your work.

- Work effectively as a team member by fostering good relationships and supporting others by providing coverage of other functions as required and ensuring workloads are evenly spread.
- Have the flexibility to adapt and develop as the company and its environment evolves.

Key Working Relationships

Internal	External
• Earth Resources and Materials Department Management Team • Energy Future Theme Team • Geothermal and Energy Researchers • Commercial and Business Partnership Team	• Geothermal Developers in New Zealand and abroad • Energy researchers from Research Institutes and Universities in New Zealand and abroad • Regional Councils with interest in geothermal resources • Iwi and Māori Land Trusts with geothermal interests

Person Specification

Qualifications and Experience

Essential

- A PhD degree in applied mathematics, geophysics, physics or engineering or equivalent experience.
- 10+ years professional experience in the geothermal industry.
- Experience in reservoir modelling of heat and mass transport in geothermal developments.
- Ability to model fluid flow in complex geological systems.
- Practical experience in commercial/consulting environment.
- Experience in geothermal wellbore modelling.
- Proven publication/reporting history.

Desirable

- Understanding of geochemical processes and experience in reactive transport modelling.
- Understanding of geomechanical processes and modelling.
- Understanding of flow processes in surface infrastructure.
- Expertise in developing numerical modelling software.
- Experience in developing new modelling methods for simulation, including machine learning.
- Track record of developing proposals for research grants.

Skills, Knowledge and Attributes

- Expertise in the numerical modelling of physical systems including geothermal reservoirs.
- Understanding of the physical properties of geothermal fluids.
- Superior mathematical and computational skills.

- Capability for developing software that implements numerical algorithms to solve physical problems.
- Ability to manage, lead and deliver complex projects on time, within scope, and aligned with quality and cost expectations.
- Strong interpersonal and leadership skills, with a proven ability to motivate, mentor, and develop individuals and project teams to achieve shared goals.
- Apply critical thinking to analyse complex information and develop practical, effective solutions for stakeholder challenges.
- Excellent communication skills with the ability to clearly convey complex technical concepts to stakeholders.
- Build and maintain effective relationships with colleagues, clients, and external partners.
- Work in a culturally responsive and inclusive manner, consistently upholding high personal and professional standards.