

DIENO DIBA, PhD

Digital Geoscience Specialist | Subsurface Modeling

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Based in Dublin, Ireland (Relocation-ready)

PROFESSIONAL SUMMARY

Digital geoscience specialist with PhD-level expertise in electromagnetic geophysics, seismic data integration, numerical modeling, and scientific software development. Proven ability to translate complex subsurface physics into scalable computational workflows, uncertainty-aware modeling, and decision-ready subsurface insights across multidisciplinary teams.

TECHNICAL SKILLS

Subsurface

Magnetotellurics (MT), multi-physics inversion, petrophysical integration, uncertainty analysis

Numerical & Data Analysis

Inverse problems, optimization, model regularization, mesh generation, statistical model selection

Programming & Software

Julia, MATLAB, Bash/Linux, Git, HPC workflows, GMT visualization, data pipelines

PROFESSIONAL EXPERIENCE

Dublin Institute for Advanced Studies — Dublin, Ireland

Postdoctoral Researcher - GEMINI Geothermal Project | 2025–Present

- Led processing and inversion of **>250 MT stations**, integrating **borehole, petrophysical, gravity, and seismic** datasets to deliver reservoir-scale resistivity models supporting geothermal potential and heat capacity assessment.
- Built automated **end-to-end workflows** for data QC, inversion, and visualization, enabling scalable analysis of large model ensembles.
- Collaborated with multidisciplinary teams (geology, petrophysics, geophysics) to translate subsurface models into actionable interpretation and decision-ready deliverables for project stakeholders.

University of Tokyo — Tokyo, Japan

PhD Researcher, Geophysics | 2022–2025

- Developed a **novel structurally guided 3-D MT inversion algorithm** using **seismic velocity models as structural constraints**, improving model interpretability compared with conventional methods.
- Developed a **full 2-D MT inversion platform in Julia and MATLAB**, including forward modeling and optimization engines for reproducible large-scale modeling.
- Applied inversion workflows to image fluids and melts in a subduction zone environment, delivering peer-reviewed publications and international conference presentations.

EDUCATION

PhD in Geophysics — The University of Tokyo

MS in Geophysics — The University of Tokyo

BS in Physics – Bandung Institute of Technology

PUBLICATIONS (Selected)

- Diba et al., *Physics of the Earth and Planetary Interiors*, 2025 — Three-dimensional magnetotelluric inversion with structurally guided regularization constraint.
- Diba et al., *Earth, Planets and Space*, 2023 — On a large magmatic fluid reservoir oblique to the volcanic front in the southern part of NE Japan revealed by the magnetotelluric survey.

AWARDS & GRANTS (Selected)

- **Outstanding Student Presentation Award**, Japan Geoscience Union, 2024.
- **Fully Funded Doctoral Scholarship**, SPRING-GX Program, University of Tokyo, 2022–2025.