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Hong Kong Postgraduate Research Seminar: **Advances in AI for Earth Sciences and Beyond**

Date: January 29–30, 2026 (Thursday–Friday)

VRock Laboratory
Department of Earth and Planetary Sciences
The University of Hong Kong

The seminar has been supported by the Postgraduate Students Conference /
Seminar Grants of the Research Grants Council, Hong Kong

Programme Rundown

Date: January 29, 2026 (Thursday)

Venue: James Lee Science Building, Room 314A, Main Campus, HKU

Time	Session
9:00 AM – 9:30 AM	Registration
9:30 AM – 9:40 AM	Welcome and Introduction
9:40 AM – 10:30 AM	Lecture 1: Machine Learning Foundations for Earth Scientists (40-minute lecture + 10-minute Q&A) Speaker: Prof. Maurizio Petrelli
10:30 AM – 10:40 AM	Break
10:40 AM – 11:30 AM	Lecture 2: Core Machine Learning Algorithms: Concepts and Use Cases (40-minute lecture + 10-minute Q&A) Speaker: Prof. Maurizio Petrelli
11:30 AM – 11:40 AM	Break (Group Photo)
11:40 AM – 12:30 PM	Lecture 3: Opportunities, Epistemological Considerations, and Risks of AI in Earth Sciences (40-minute lecture + 10-minute Q&A) Speaker: Prof. Maurizio Petrelli
12:30 PM – 2:00 PM	Lunch break
2:00 PM – 2:50 PM	Lecture 4: Orange-Volcanoes and Collaborative Platforms for Data-Driven Investigations in Geochemistry, Petrology, and Volcanology (40-minute lecture + 10-minute Q&A) Speaker: Prof. Maurizio Petrelli
2:50 PM – 3:05 PM	Break
3:05 PM – 5:30 PM	Hands-on training: Orange-Volcanoes Note: Participants are required to bring a laptop with Orange-Volcanoes installed in advance (<i>see Appendix for installation instructions</i>).

Date: January 30, 2026 (Friday)

Time	Time
9:30 AM – 12:00 PM (By Appointment)	Open Discussion with Prof. Maurizio Petrelli Format: one-on-one or small-group discussions Note: Interested participants are requested to book a discussion slot on January 29, either in person or via email. Venue: Hui Oi Chow Science Building, Room 332, Main Campus, HKU
2:00 PM – 5:00 PM	Research seminar: Challenges and Perspectives in Modern Igneous Petrology Speaker: Prof. Maurizio Petrelli C–H–O–N Supercritical Fluids in Earth’s Upper Mantle: From First Principles to Machine Learning Speaker: Prof. Ding Pan Time: 3.30 pm – 4.30 pm Venue: James Lee Science Building, RM314A, Main Campus, HKU

Appendix: Installing and Running Orange-Volcanoes

Detailed installation instructions are available in the official documentation:

<https://orange3-volcanoes.readthedocs.io/en/latest/installing.html#step-1-installing-anaconda-or-miniconda>

Orange-Volcanoes can be installed on both **macOS** and **Windows** systems.

Common Installation Issues and Solutions

1. Python version mismatch during Step 2 (“`conda install orange3`”)

- **Issue:** The installation fails with an error indicating an incompatible Python version.
- **Solution:** When creating the conda environment for Orange, specify **Python 3.13** instead. Other steps remain the same as described in the documentation.
`conda create python=3.13 --yes --name orange3`

2. Environment solving failure when running `conda install orange3`

- **Issue:** Conda fails to resolve the environment.
- **Solution:** If Orange has already been installed on your computer (e.g., via a standalone installer), please uninstall it first and then reinstall Orange following the official documentation.

3. Missing libraries when launching Orange

- **Issue:** Orange launches with errors indicating missing libraries.
- **Solution:** Ensure that **Orange is installed using conda**, not pip. Installation via pip may lead to missing dependencies.

4. Other unresolved issues

- If problems persist, please contact **Ms. Xiaoyu Liu** (liuxy23@connect.hku.hk).
- Alternatively, participants may seek assistance from the workshop staff **in advance on January 29**.