日韓集中講義

The Short Intensive Course Program between UTokyo and SNU

大学院 2 単位/ Graduate School 2 Credits

3799-391 国際連携特別講義 XVIII

International Collaborators' Special Lecture on Engineering XVIII

Lecturer

Assisitant Professor

Yongchae Cho

Department of Energy Systems Engineering,
College of Engineering,
Seoul National University
(SNU)

Theory and application of geophysical inversion: practical geo-modeling workflow for CCS storage unit identification

January 9~11, 16~18, 2024 (6days)

Course objectives

This course covers variety types of geophysical inversion method from linear to non-linear inversion and the course is fundamentally designed for graduate students. After studying the inversion theory, a practical application of stochastic inversion (Markov-chain Monte Carlo) will be examined during the hands-on training session.

Lecture time

10:25 ▸ 12:10, 13:00 ▸ 14:45 (2nd and 3rd period)

Lecture room

Eng. Bldg. No.3 #424

Language

English

Counterpart at UTokyo

Associate Professor Takashi Goda
Department of Systems Innovation
email: goda@frcer.t.u-tokyo.ac.jp

Lecture plan

1. Introduction
2. Data analysis
3. Linear inversion
   - Parameterization & covariance
   - Null space & regularization
4. Non-linear inversion
   - Deterministic method
   - Stochastic method
5. Hands-on training using Schlumberger Petrel (Sleipner CCS dataset)
   - Seismic interpretation
   - Well log interpretation and upscaling
   - Application of seismic inversion for property modeling
   - Volumetric analysis for CO2 storage

*Grade Evaluation: Written exam

工学系研究科国際工学教育推進機構

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Registration is now open!

Please use the QR code to register.

Application Form

https://global-eng.t.u-tokyo.ac.jp/course/ut-snu/index.html