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Miki MURA

PROFESSIONAL SUMMARY

Six and half years of experience in the Oil and Gas Industry. Her career includes.

- Field experiences at drilling rigs, well sites, gas processing plants, and an LNG terminal.
- Field development planning studies, including:
  - Reservoir simulation and pressure transient analysis,
  - Completion design (Sand production evaluation, acidizing effects evaluation),
  - 1D/3D mechanical earth modeling and Wellbore stability analysis

Her areas of interest as a Reservoir and Geomechanics Engineer are as follows:

- Fluid, Geomechanics, and Geochemistry Coupled Modeling and Simulation
- Reservoir Evaluation, including Mechanical Earth Modeling
- Borehole Stability Analysis and Completion Design (Acidizing, Hydraulic Fracturing)
- Carbon dioxide Capture Utilization and Storage (CCUS)
- Critical Minerals Mining

EDUCATION

- **Ph.D. student of Petroleum Engineering (in progress) (Aug.2021 – May 2025, GPA: 3.83)**
  Department of Petroleum and Geosystems Engineering, The University of Texas at Austin, US.
  The research subject is “Integration of a Geochemical Modeling Capabilities into the Flow and Mechanics Simulator.”
- **Master of Engineering (Awarded in March 2015, GPA: 3.65)**
  School of Creative Science and Engineering, Department of Earth Science, Resources and Environmental Engineering, Graduate School of Waseda University, Japan.
- **Bachelor of Engineering (Awarded in March 2013, GPA: N/A)**
  School of Creative Science and Engineering, Department of Resources and Environmental Engineering, Waseda University, Japan.

PROFESSIONAL EXPERIENCE

University of Texas at Austin **Aug. 2021 to present**

Graduate Research Assistant

Department of Petroleum and Geosystems Engineering, Texas, United States

- Development of a fully integrated geomechanics-hydraulics fracturing simulator.

ExxonMobil Technology and Engineering Company **May 2024 to Aug. 2024**

Geomechanics Research Intern

Well Development, ExxonMobil Technology and Engineering Company, Spring, Texas, United States

- Investigated the impact of thermal-induced stress in low-carbon solution projects.

INPEX Corporation **Apr. 2015 to Aug. 2021**

Jun. 2016 to Aug. 2021 / Reservoir Geomechanics Engineer

Technical Support Unit, Technical Division, Tokyo Head Office, Japan

- Performed Preliminary Concept Selection Study for deep water gas field.
  - Development planning based on the full field reservoir model simulation.
- Preliminary FEED Studies for a carbonate reservoir of an onshore oil field, including;
  - Supported planning and execution of a well-flowing-back test.
  - Pressure Transient Analysis, Nodal Analysis, and Reservoir Simulation.
  - Planned and supported the execution of the Extended Leak Off Test
  - Researched wellbore instability, including geomechanical model construction.
- Estimated maximum injected CO2 volume for aquifer reservoir of offshore CCS field.

    - Optimized well location and studied the feasibility of the development plan based on the reservoir simulation.
- Performed data acquisition and geomechanical study for an onshore tight gas field project.
    - Constructed 1D/3D Mechanical Earth Modeling for an appraisal well, including;
    - The design of the core analysis plan includes the Rock Mechanics Test, RCA (Routine Core Analysis), and SCAL (Special Core Analysis).
    - Core-based stress measurement techniques
    - Analyzed wellbore stability for production wells.
- Executed completion design study for an offshore gas field project.
    - Planned and executed hardness measurements of sandstone and shale core samples.
    - Conducted advanced computational analysis for rock strength prediction

Nov. 2017 to Aug. 2018 / Production Engineer, Wellsite Geologist
Well Planning Team, Geology, Geoscience, Perth, Australia

- Supported reservoir engineering and management study for offshore gas field project.
    - Planned and supervised well flowing-back test at an offshore drilling rig.
    - Pressure Transient Analysis, Nodal Analysis, and Reservoir Simulation.
- Implemented drilling geomechanics study for offshore gas field projects, including;
    - Borehole stability analysis and drilling mud weight optimization for development wells
    - Monitoring drilling operations as a well-site geologist on an offshore drilling rig

Selected Publications

- Mura, M., Zheng, S., & Sharma, M. (2024). Integration of geochemistry into a geomechanical subsurface flow simulator. InterPore Journal, 1(3), IPJ271124–4.
- Mura, M, 2023: Development of a Fully Integrated Multiphase Flow Mechanics and Geochemistry Simulator, CCUS 2023, Oral Presentation, Houston, Texas, US. (proceeding).
- Mura, M, 2023: Flow-Geomechanics-Geochemistry Simulation of CO2 Injection into Fractured Sandstones and Carbonates, SPE ATCE 2023, Oral Presentation, San Antonio, Texas, US, (proceeding).
- Mura, M, 2024: Mechanisms of Degradation of Cement in CO2 Injection Wells: Maintaining the Integrity of CO2 Seals, SPE International Formation Damage Control Conference 2024, Oral Presentation, Lafayette, Louisiana, US, (proceeding).
- Mura, M, 2024: Simulating Li-Ion Extraction: A Reservoir-Scale Feasibility Study, ARMA Golden 2024, Poster Presentation, Golden, Colorado, US, (proceeding).

KEY SKILLS & EXPERTISE

- **Geomechanics software:**
    - Abaqus, JewelSuite, GMI-SFIB, Geolog, Petrel Reservoir Geomechanics, and Sand3D
- **Reservoir Engineering software:**
    - Petrel RE, Eclipse, tNavigator, CMG Builder/GEM, Prosper, PVT-sim, and Ecrin Saphir
- **Reactive Transport Simulator:** PhreeQC
- **Programming language:** Fortran, C++, Python, and Julia
- **Language:** Japanese (Native), English (Professional working proficiency)