



INSTRUCTIONAL RESEARCH STAFF

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LANGUAGES
Korean
English

Weon Shik Han

EDUCATION –

- 1995 B.S. in Earth System Science, Yonsei University, Seoul, Korea
- 2003 M.S. in Hydrogeochemistry, Yonsei University, Seoul, Korea
- 2007 Ph.D. in Earth and Environmental Science, New Mexico Institute of Mining and Technology, Socorro, NM

RESEARCH SPECIALTIES –

- Physical and chemical processes associated with CO₂ sequestration
- Multiphase and multi-species reactive transport modeling
- Equations of state
- Compositional simulation
- Coupled process simulation associated with groundwater flow(heat, reaction, and flow)
- Single and two-phase upscaling

REGIONAL AND BASIN EXPERIENCE –

- SACROC reservoir in Western Texas, U.S.A.
- Great Aneth Field, Utah
- Farnham Dome, Utah

MEMBERSHIPS –

- American Geophysical Union (AGU)
- American Association of Petroleum Geologists (AAPG)
- American Institute of Chemical Engineers (AIChE)

HONORS AND AWARDS –

- 2007 Travel Grants from New Mexico Tech
- 2003 Graduate study abroad scholarship by the Korea Science and Engineering Foundation(KOSEF)
- Brain Korea 21, Yonsei University

PUBLICATIONS –

- **Han, Weon Shik**, McPherson, B.J., Raines, M. Principal Reservoir Description Associated with Geology and Oil Production History in SACROC, Site of 35 Years of CO₂ Injection. (Preparation to be submitted)
- **Han, Weon Shik**, McPherson, B.J. CO₂ Injection Into Brine Formation Below Oil Reservoir (preparation to be submitted)
- **Han, Weon Shik**, Lee, S-Y., Lu, C., Mcpherson, B.J. Correlation Structure of Heterogeneity Field Maximizing Residual Trapping and Minimizing Bouyancy Driven CO₂ Migration (preparation to be submitted)
- **Han, Weon Shik**, McPherson, B.J., Evaluation of CO₂ trapping mechanisms at the SACROC northern platform, Permian basin, Texas, site of 35 years of CO₂ injection: Model Development. (In review)
- **Han, Weon Shik**, McPherson, B.J., Wang, F.P., Evaluation of CO₂ trapping mechanisms at the SACROC northern platform, Permian basin, Texas, site of 35 years of CO₂ injection:Frame-Model Development Using Analyses of Massive Field Data.(In review)
- **Han, Weon Shik**, McPherson, B.J., On using numerical simulation to evaluate CO₂ storage capacity of the subsurface: Uncertainty due to choice of equations of state. B. McPherson, and E. Sundquist, Eds., American Geophysical Union, Washington, D.C., (Accepted).
- **Han, Weon Shik**, McPherson, B.J., 2008 Comparison of Two Different Equations of State for Application of Carbon Dioxide Sequestration. Advances in Water Resources. Vol 31, No. 6 877-890
- McPherson, B.J., **Weon Shik Han**, Cole, B., 2008 Two Equations-of-State assembled for basic analysis of multiphase CO₂ flow and in deep sedimentary basin conditions. Computers & Geosciences. Vol. 34, no. 5, 427-444
- **Han, Weon Shik**, Nam-Chil Woo, Kwang-Sik Lee, Ki-Chul Lee, 2003, Temporal and Spatial Variation of Stable Isotopic Compositions of Surface water and Ground Water in a Small Catchment, Muju, Korea. Econ. Environ. Geol., Vol.36, No.5, 329-338.
- **Han, Weon Shik**, Nam-Chil Woo, Ki-Chul Lee, Kwang-Sik Lee, 2002, Watershed Classification using Statistical Analysis of Water Quality Data in MuJu area., Korean Society of Soil and Groundwater Environment Vol.7, No.3, p.3-17.
- **Han, Weon Shik**, Byung-Sun Lee, Youn-Tae Kim, Sang-Ki Moon, 2002, NGWA Conference: Fractured-Rock Aquifer 2002 Report, Korean. Society of Soil and Groundwater Environment Vol.7, No.2, p.83-85