

MIN CHAN KIM

Professor, Department of Chemical Engineering,

Jeju National University, Jejudaehak ro 102, Jeju, Republic of Korea

Tel) +82-64-754-3685, Fax)+82-64-755-3670, e-mail) mckim@jejunu.ac.kr

Education:

1990.3-1992.8 PhD, Seoul National University, Seoul, Korea

Thesis: “The Onset of Natural Convection and Heat Transfer Correlations in Systems
Experiencing Thermal Boundary Layer Characteristics”

1988.3-1990.2 MS, Seoul National University, Seoul, Korea

Thesis: “Analysis of Convective Instabilities in the Thermal Entrance Region of Plane
Couette Flow”

1984.3 – 1988.2 BS, Seoul National University, Seoul, Korea

Work Experience

1993.3-present Jeju National University

Professor, Department of Chemical Engineering

Research Field

Transport Phenomena in a CO₂ sequestration Process

Transport Phenomena in an Enhanced Oil Recovery (EOR) Process

Rayleigh-Taylor Instabilities

Viscous Fingering

Scientific Publication (last 3 years)

1. M.C. Kim and K.H. Song, Effect of cross-diffusion on the gravitational instability in a ternary mixture: Asymptotic and linear analyses, Chem. Eng. Sci. 191, 191-198 (2018).
2. I. Cherezov, S.S.S. Cardoso, M.C. Kim, Acceleration of convective dissolution by an instantaneous chemical reaction: a comparison of experimental and numerical results. Chem. Eng. Sci., 181, 298-310 (2018).
3. M.C. Kim and K.H. Song, Effect of impurities on the onset and growth of gravitational instabilities in geological CO₂ sequestration process: Linear and nonlinear analyses, Chem. Eng. Sci. 174, 426-444 (2017).

4. P. Ghoshal, M.C. Kim and S.S.S. Cardoso, Reactive-convective dissolution in a porous medium: the storage of carbon dioxide in saline aquifers, *Phys. Chem. Chem. Phys.* 19, 644-655 (2017).
5. M.C. Kim and C. Wylock, Linear and nonlinear analyses on the effect of chemical reaction on the onset of the buoyancy-driven instability in a gas absorption process, *Can. J. Chem. Eng.* 95, 589-604 (2017).
6. M.C. Kim and K.H. Song, Cross-diffusion-driven gravitational instability in a Hele-Shaw cell saturated with a ternary solution, *Phys. Fluids* 28, 084103 (2016).
7. M.C. Kim, Effect of swelling on the onset of buoyancy-driven convection during the CO₂ dissolution process in a porous medium, *Int. J. Heat Mass Transfer*, vol. 100, 779-789 (2016).
8. M.C. Kim, Numerical Simulation of the Rayleigh-Taylor instability of a miscible slice in a porous medium, *J. Eng. Math.* Vol. 100, 81-94 (2016).

Current Affiliation

Professor

Department of Chemical Engineering

Jeju National University