



Journal of Chemistry

Special Issue on
Applied Geochemical Modeling

CALL FOR PAPERS

Geochemical modeling is a technique that enables understanding of complex geochemical phenomena based on fundamental principles of geochemistry coupled to physical observations and measurements. It can be used to predict the behavior of materials, fluids, and aqueous solutions, as well as explain observed natural and industrial phenomena. Geochemical modeling has traditionally been applied to systems in thermodynamic equilibrium, but current scientific knowledge and recent database developments have made kinetic modeling of complex systems increasingly common. Consequently, geochemical modelling has become a powerful tool in a number of fundamental research and engineering fields where geochemistry governs a natural process (e.g., weathering, corrosion, scaling, leaching, and sorption) or is applied to industrial processes (e.g., metals extraction or purification, nanoparticle synthesis, mineral carbonation, geopolymerization, geothermal energy production, and carbon dioxide storage).

This special issue will highlight current performance of geochemical modelling in diverse fields of the chemical, materials, geological, and environmental sciences. Authors will discuss their use of shared software packages (e.g., PHREEQC, MINTEQA2, GWB, MINEQL+, EQ3/6, WHAM, and TOUGHREACT), or their in-house geochemical models built from first principles and empirical data, to solve important fundamental questions and applied problems of their scientific and engineering fields. Works on kinetic geochemical modeling are particularly encouraged.

We invite authors to contribute with original research articles or review articles (state-of-the-art) on the application of geochemical modeling.

Potential topics include, but are not limited to:

- ▶ Environmental processes
 - ▶ Fate, transport, and uptake of contaminants in natural systems
 - ▶ Trace metal speciation and bioavailability in the environment
 - ▶ Mineral-water, mineral-microbe interactions
 - ▶ Composition of groundwater and geothermal systems
 - ▶ Natural and accelerated weathering of minerals and materials
- ▶ Environmental engineering applications
 - ▶ Waste treatment and disposal
 - ▶ Water and wastewater treatment
 - ▶ Remediation of contaminated sites (soil and groundwater)
 - ▶ Carbon capture and storage

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jchem/geochemistry/agcm/>.

Lead Guest Editor

Rafael M. Santos, Sheridan Institute of Technology, Brampton, Canada
rafael.santos@sheridancollege.ca

Guest Editors

Alessandra Poletti, University of Rome "La Sapienza", Rome, Italy
alessandra.poletti@uniroma1.it

Carmen M. Neculita, Université du Québec en Abitibi-Témiscamingue, Rouyn-Noranda, Canada
carmen-mihaela.neculita@uqat.ca

Valérie Cappuyens, KU Leuven, Brussels, Belgium
valerie.cappuyens@kuleuven.be

Frederic J. Doucet, Council for Geoscience, Pretoria, South Africa
fdoucet@geoscience.org.za

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