Special Issue

Bayesian Inference and Its Application to Geophysical Inversion

Message from the Guest Editor

Geophysical observations are generally collected in remote sensing-type experiments, which do not represent the Earth's interior directly. Geophysical inversion is, therefore, required to characterize properties of the Earth's interior from these measurements. Geophysical inverse problems are usually ill-conditioned and have nonunique solutions due to the nonlinearity of the physical relationships between the model parameters and data, to insufficient data sampling and to noise in the data. It is, therefore, necessary to quantify solution uncertainties in order to interpret the inversion results correctly. Bayesian inference provides a powerful theoretical framework for solving inverse problems and to quantify uncertainties, having become popular in geophysics in the past decades, and having shown great potential in solving various geophysical inverse problems. This Special Issue aims to collect all research developments related to Bayesian inference in geophysics, from method developments to various applications in order to provide a comprehensive update of the state of the art in this field.

Guest Editor

Dr. Xin Zhang

School of Geosciences, University of Edinburgh, Edinburgh, UK

Deadline for manuscript submissions

closed (28 February 2023)

Geosciences

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 5.1

mdpi.com/si/106839

Geosciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
geosciences@mdpi.com

mdpi.com/journal/geosciences

Geosciences

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 5.1

mdpi.com/journal/geosciences

About the Journal

Message from the Editor-in-Chief

Understanding the Earth's origin and its bio-geological evolution, the multiple implications of the geosciences (as a coherentset of interconnected disciplines), and the sociocultural and ethical interdisciplinary approaches, will be crucial for a better understanding of Nature, and also for undertaking scientificallybased political decisions.
We are committed to drive *Geosciences* to a position in which it is recognized for its high-quality, cutting-edge research and scientific influence, and strongly encourage and invite your participation and manuscripts.

Editor-in-Chief

Prof. Dr. John C. Eichelberger
Alaska Center for Energy and Power, University of Alaska Fairbanks, Fairbanks, AK, USA

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, ESCI (Web of Science), GeoRef, Astrophysics Data System, and other databases.

Journal Rank:

CiteScore - Q1 (General Earth and Planetary Sciences)