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Deep Borehole Disposal of Nuclear Waste

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Deadline for manuscript submissions:
closed (17 May 2019)

Message from the Guest Editors

Long-lived intermediate-level waste (ILW), spent fuel (SF), high-level wastes from reprocessing of SF (HLW) and long-lived spent sealed sources (SSS) require a high degree of containment and isolation deep underground. Disposal in medium-depth (tens to hundreds of metres) boreholes in hard rock or sedimentary formations can provide adequate isolation and containment for cost-effective disposal of relatively small volumes of ILW and SSS. Deeper borehole disposal (hundreds to thousands of metres) has been considered for HLW, SF, separated plutonium wastes and some very high specific activity fission-product wastes. For this Special Issue, we invite papers that discuss aspects of identifying waste streams potentially suitable for borehole disposal, site suitability characteristics and site selection, subsurface characterisation of host rock and deep fluids, coupled thermal-hydraulic-mechanical-chemical modelling of borehole-host rock environments, borehole design and drilling and borehole management technologies, waste handling and emplacement technologies, borehole sealing, long-term engineered barrier behaviour, post-closure safety assessments, and cost and economic modelling.

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Message from the Editor-in-Chief

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