



life



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## Hydrothermal Vents or Hydrothermal Fields: Challenging Paradigms

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Deadline for manuscript  
submissions:

**closed (15 September 2017)**

### Message from the Guest Editors

Dear Colleagues,

Hydrothermal reaction systems, such as submarine hydrothermal vent systems, are considered as key environments, where different type of chemical evolution processes could have carried out to form primitive life-like systems. Here, we would like to refocus how such hydrothermal environments could have contributed the formation of life in order to deduce the feature of ancient life forms.

The accumulation of biomolecules was an essential step for chemical evolution under the extreme Earth environments. Several types of simulation experiments of hydrothermal environments on the primitive Earth, and kinetics and thermodynamic analyses on the behavior of biomolecules have been carried out in relation to the prebiotic formation and stability of biomolecules. Naturally, instrumentation for simulation of the hydrothermal environments is a key approach for the successful studies on the chemical evolution of biomolecules. Hydrothermal systems could be widely present in different planets other than the Earth and moons in the Solar system.



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Special Issue