

**B101-012**

**Room: Function Room A**

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## **Importance of sulfur compounds as electron carriers in evolution of energy metabolism**

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It has been proposed that 'Hyperthermophilic Subsurface Lithoautotrophic Microbial Ecosystem' (Hyper-SLiME) is the first stable microbial ecosystem on the Earth. We know the next giant biological event on the planet as increase of oxygen gas by photosynthesis. However, it is unclear the path by which microorganisms have evolved from Hyper-SLiME to oxygenic photosynthesis. In this lecture, we review the importance of sulfur compounds as electron carriers in evolution of microbial energy metabolism. And we introduce an instance of metabolic pathway for sulfur utilization in a bacterium, which isolated from a deep-sea hydrothermal field.