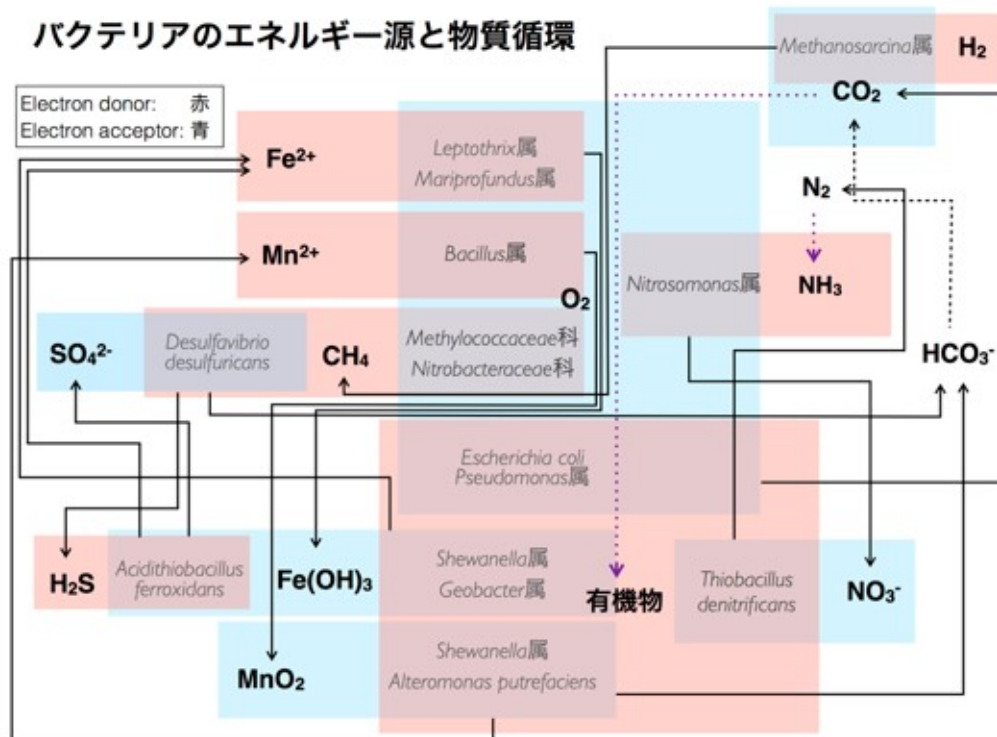


1. Geochemical and ecological roles of chemotrophic bacteria

2. Human health and ecosystem risk assessment and cost-benefit analysis

Mayumi SETO [Environmental Sciences Course]



Material cycles driven by chemotrophic bacteria.

Chemotrophic bacteria are the engine of biogeochemical cycles from major elements to heavy metals. They affect methane production which contributes to greenhouse effect, release of toxic arsenic and mercury to environments, and nitrate production which is partly responsible for lake eutrophication. Better understanding of bacterial population dynamics and community structures allow us to understand their effects on material flows and ecosystem functioning. Increasing anthropogenic impacts on environment threaten not only humans but also ecosystems and all living things. There is an urgent need to foresee and quantitatively estimate environmental risks that we will face, meanwhile it is also important to analyze economic costs which we will pay to avoid environmental risks.

Keywords : geomicrobiology, ecosystem ecology, environmental risk