



Toward the innovative nuclear energy system

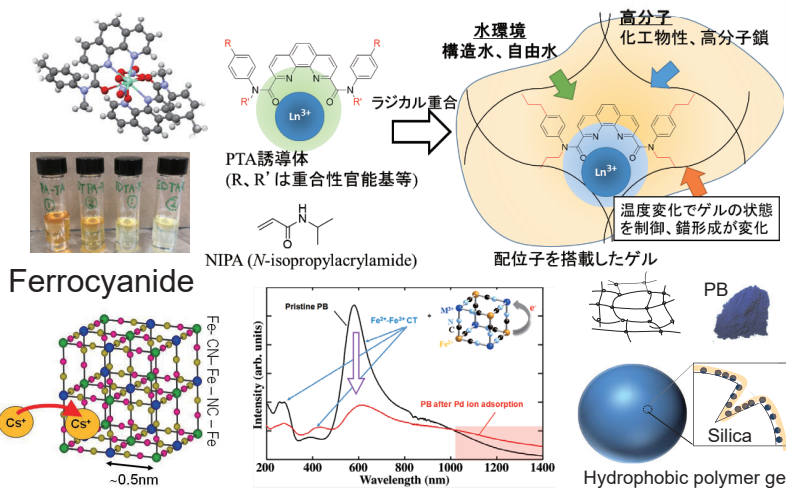
Laboratory for Advanced Nuclear Energy

<http://www.lane.iir.titech.ac.jp/~takeshita/>

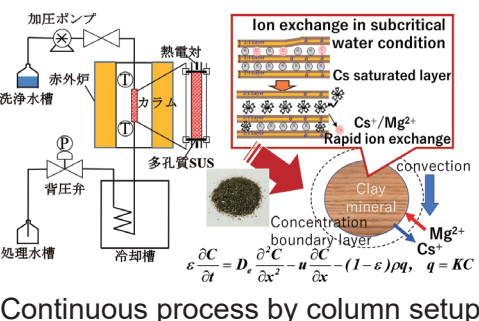
- Innovative Nuclear Fuel Cycle
- Recycle of reusable materials
- Recovery and conservation of environment

We are interested in solving issues related to energy and environment, which are important for all the human beings. Especially, remediation of Fukushima area, management of radioactive waste generated from NPP and separation science related to NFC are of our great interests. We are developing extractants and adsorbents for particular separation as well as investigating characterization and mechanism. Application study and system evaluation are also carried out. Our goal is to establish sophisticated and innovative nuclear energy system.

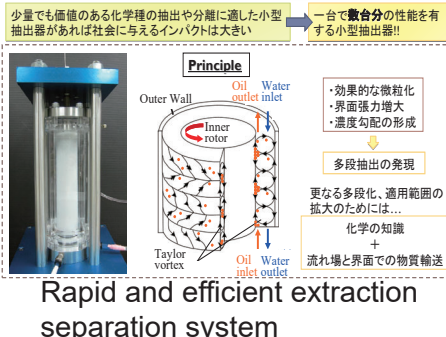
Development of extractants and adsorbents for particular separation



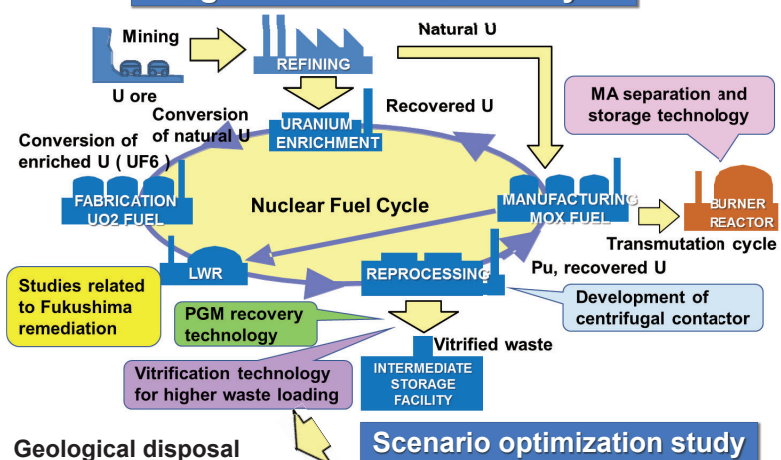
Cs removal from soils by rapid ion exchange with subcritical water



Development of centrifugal contactor and process study



Integration of nuclear fuel cycle



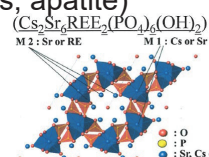
Geological disposal



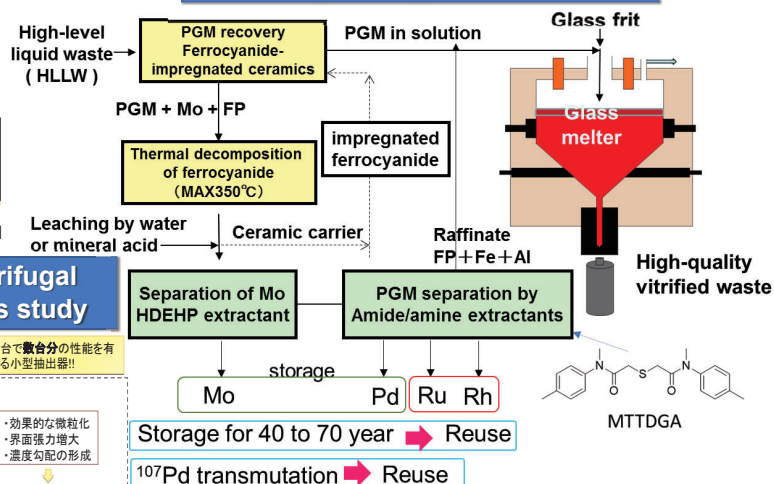
Development of new indicators to evaluate the entire NFC from the viewpoint of waste amount and disposal area

Vitrification technology

Synthesis and characterization of borosilicate glass, functionalized glass, apatite)



Recovery of PGMs from HLLW



- We are working with many collaborators in research institutes, universities and companies
- We have many students and stuffs to support students