

International Conference on Fast Reactors and Related Fuel Cycles (FR09)  
December 7-11, 2009, Kyoto, Japan



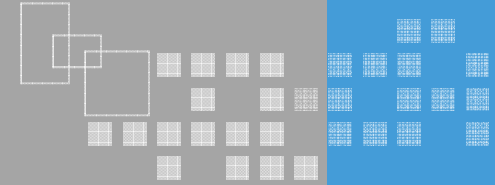
## FR09 Young Generation Event



**Won Joon Chang**

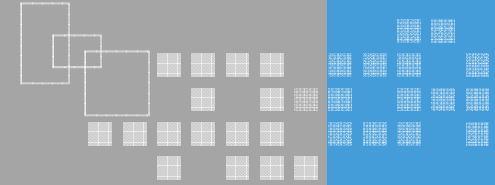
Korea Advanced Institute of Science and Technology

# Young generation event



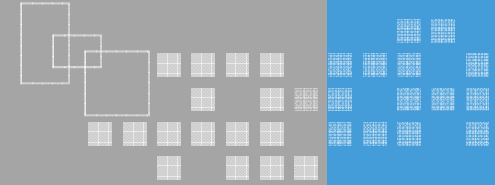
- ❖ What international cooperation is desirable with regard to fast reactor technology development and deployment to meet global nuclear energy sustainability requirements?
  - Evaluation of environment for nuclear fuel recycling
    - Availability of uranium resource
    - Reduce the high level waste
  - Economic evaluation
    - Estimation of the cost about construction, O&M, recycling, storage, etc.
    - Study on the commercial operation of Rokkasyo-mura
      - Construction cost & O&M cost ( 2340 billion ~ 30520 billion ¥ ?)
    - Analysis of economical benefit for the fuel recycling

# Young generation event



- ❖ What role do you expect for IAEA in the international cooperation with regard to fast reactor technology development and deployment?
  - Development of restriction standard & regulatory guidelines
    - Draw up a list of political problem
    - Draw up a list of technical problem
  - Development of safety evaluation method
    - Safety of fuel, evaluation method of accident, safety of sodium, structural material, structural health, Instrumentation and control system, onsite electrical system, human factor engineering, severe accident
  - Development of computer code organization
    - Performance and safety of fuel, structural Integrity, safety of system, PSA, severe accident, Radiation
  - Draw up a list of experimental verification

# Young generation event



- ❖ What international cooperation do you expect for the world's young generation?
  - The research purpose is to establish a sustainable nuclear energy for improving the availability of uranium resource by 2 orders of magnitude higher resource efficiency and for reducing the amount of high-level nuclear waste and the size of waste disposal site as well
    - international cooperation for the next generation reactors
    - To develop an innovative sodium/water reaction free energy conversion system for the Sodium-cooled Fast Reactor (SFR)
    - Innovative heat exchanger design for the next generation reactor (Recuperator, Precooler, and Intermediate Heat Exchanger, etc.)
    - Development of a new core design based on an appropriate objective
    - Improve the efficiency of fuel recycling



**Thank you for your attention**