The Chemical Research Group offers a collaborative course, as follows, in Graduate School of Materials Science, Nara Institute of Science and Technology (NAIST) to conduct education and research activities on Carbon Capture and Storage (CCS) and global warming problems.

[Laboratory]

(Collaborative chairs) Ecomaterial Science, Graduate School of Materials Science, Nara Institute of Science and Technology (NAIST)
(http://mswebs.naist.jp/LABs/rite/index.html)

[Faculty]

Guest Professor: Shingo Kazama and Katsunori Yogo
Guest Associate Professor: Teruhiko Kai
(as of September 2011)

[Keywords]

global warming prevention technology, carbon capture and storage (CCS), membrane separation, solid adsorption, solvent wet scrubbing, hydrogen production

[Education Purpose & Guiding Policy]

To further understand global environmental problems, especially for global warming, in terms of these social backgrounds, causes and countermeasures. In addition, to learn the material science contributing to the resolution of environmental issues through the development of separation/capture technologies of CO2 or H2 and biomaterial production technologies, which are being conducted in RITE.

In general, we provide OJT training through projects on global warming prevention technologies being carried out in RITE to allow students to obtain related knowledge and skills and to acquire backgrounds as a member of the society. Because of small-lecture system (i.e., small number of students), students can take man-to-man instructions from Ph.D. researchers responsible for each theme, e.g., daily experimental procedures, etc. and can make thorough discussions with their instructing faculties on the research.

[Lecture and Details]

Special Lecture on Advanced Material Science

We will provide further understanding on global environmental problems, especially for global warming, in terms of these social backgrounds, causes and countermeasures and describe the material science contributing to the resolution of global environmental issues. During the lecture, we will particularly explain the development of carbon capture technologies and introduce the latest development cases of novel materials for CO2 capture (absorption solvents, separation membranes and adsorbents), which are being developed in RITE.

[Seminar]

Journal reading/discussion meetings are held (once a week, about 2 hours each).

[Degree Requirements]

Master: Make one or more presentation in an academic meeting

Doctor: Be the lead author of one or more original paper and publish at least three papers in total.