

Division of Mechanical Science and Engineering	Research field	Carbon Recycling and Energy Processes	Lab. ID ME18
Laboratory web site	http://env-sci.w3.kanazawa-u.ac.jp/wp-env/		
Research subjects			
The energy-saving, the environmental clean-up and the energy production technologies for the construction of the sustainable society have been broadly developed in our laboratory based on the concept of "clarification and controlling of the heat and mass transport". For the energy saving technologies, the adsorptive desiccant cooling process which can drive using low grade waste heat and the technology based on the adsorption for the efficient use of the low-grade heat have been developed. For the environmental clean-up technologies, small size desulfurization filter for the clean-up of the effluent gas from the diesel engine and the gas enrichment/ purification process using adsorbent have been developed. For the energy production technology, the direct liquid fuel cell, which directly uses liquid fuel such as methanol and formic acid for the good handling and storage characteristics has been developed.			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
The staffs expect for the students to learn the abilities, which are the finding and the solving the problem, themselves. Therefore, the staffs recommend for the students to set the goal themselves and repeat the experiment themselves for the goal achievement after the staffs provide the research theme. In order to cultivate these abilities, the seminars reported the research progress of the student (once per three weeks) and summary of the research achievement in the semesters (once per each semester) have been conducted. Moreover, the student is required to read the paper reported the state of the art of the research field and introduce it for the laboratory member (once per each semesters). For the Doctor course students, the staffs expect to establish the research theme, goal and the solving method of the goal, by themselves with the advice from the staffs.			
Daily life in the laboratory, etc.			
We set the core time to avoid doing experiment alone from the viewpoint of the consideration of the security. Owing to the core time, the students can create good bonding with each other irrespective of the research field since all member meets at the same time in core time.(Staff) We can learn ourselves since the experiment is conducted after we constructed experimental set-up ourselves (M2) Not only the research work but also the sports (badminton etc.) is conducted in our lab. Moreover, the drinking-party is held once per month. Through these activities, we can cement our partnership.(M2)			
Message or comments by the laboratory faculty staffs			
Our research works closely relate with the field of "chemical" although the our laboratory belongs to the "mechanical division". So, you can be the engineer who can deal with not only the mechanical technology but also the chemical reaction through the research work in our lab. Of course, there is no problem if you have no knowledge on the chemistry as long as you have ambition. There is one student who enters in our laboratory from the other university per a year. After completion of the master course, the majority of students gain employment with the ordinary companies. For the doctor course, the students who complete the course get a job in university or the ordinary companies. Moreover, 1-2 students (average) including the students who enter from the company get a degree of doctor per year in our lab.			
Laboratory mail address	Akio Kodama <akodama *at* se.kanazawa-u.ac.jp>		