

Division of Frontier Engineering	Research field	Systems and Control	Lab. ID FE16
Laboratory web site	http://moccos.w3.kanazawa-u.ac.jp/		
Research subjects			
Our research field is on systems and control from both of the theoretical and the practical points of view. Control is a key science and technology which mathematically consider universal principle by which we can achieve the purpose. The areas applied by the universal principle are on all issues related to "dynamics" which appear in various fields like electronics, mechanics, chemical, informatics, biology and so on. Particularly, control technology is utilized for industrial process, vehicles, planes, power plants, and on. Our research group focuses on modeling and control of complex dynamical systems. Main topics are the following: utilization of the data for the design of effective control systems and the realtime optimization, multi-agent systems, control of power generation, and so on. We try the establishment of control theory and technology for the establishment of comfortable and safe society.			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
Every student addresses independent research theme basically. At a laboratory seminar, each student has a talk on research topics for all members so as to make them to understand main features of her or his research and the research members have a fruitful discussion on the topic. In addition to such a regular seminar, some of the members often have a subject-specific seminar, a journal club (lecturing in turn the specific theme which they are interested in). Students are recommended to present a result of the research in academic conferences or symposiums to enhance the skill of the presentation. Moreover, the master course students are also recommended to write a paper for the submission to a scientific journal. The doctor course students have to write a paper to be accepted by a journal for her or his doctoral degree. In the case where the research topic is close to that of the other student, they often collaborate the research. In such a case, an elder student guides a younger student. Though the time in which the students should be in the laboratory is not fixed, the students are recommended to be in the laboratory in the day-time, for example, 10-17 o'clock. In the laboratory, the students get concentrated on the study and the research in that time. We do not have any experiment which takes a long time until midnight. Since we accept students from foreign country, Japanese students can polish their English skills.			
Daily life in the laboratory, etc.			
Basic environment for research is well arranged. For example, every student is allotted one personal computer so as to do research without any inconvenience (teacher). We can concentrate on our research on weekdays and I freely enjoy singing in my chorus club on a holiday (M1). Since there are many students in our research group, we can always have discussion with another students and ask any question to elder students (M1). The teacher accept questions on not only the research but also any other topic like a daily life. The environment for the research is well organized and arranged because every student can always use the allotted computer (M2). We can spend funny study life irrespective of age and nationality. Not only research but also we participate in campus events actively, such as a relay road race and softball tournament (M1).			
Message or comments by the laboratory faculty staffs			
We hope that the students are with communication skills, logical thinking and so on until their graduation. Control is, what is called, "cross-disciplinary science", which implies that control is available, useful, and required in the every engineering and science. The objective is firstly regarded as a system, then the substantial part in the problem is figured out, and the ideal controller is designed to achieve the purpose. Throughout such a process in the design of the controller, the students are expected to be with system aided thinking which is absolutely effective in the society. In addition, not only engineering but also biology and social science requires modeling and control. If you are interested in control, let us study it together. In addition, the employment of the alumni of our research group are the area of car, heavy industries, electronic systems, and so on, whose common feature is that they address the objective on the dynamics. If you are interested in such an employment, control would be appropriate choice as the research theme in the master or doctor course students.			
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