

Division of Electrical, Information and Communication Engineering	Research field	Communication and Information Engineering	Lab. ID EI08
Laboratory web site	https://www-cie.is.t.kanazawa-u.ac.jp		
Research subjects			
We study intelligent data processing techniques for (1) high-speed signal processing generated from sensors, (2) scientific discoveries from enormous database, and (3) remote sensing by radio wave and inverse problem in wave propagation. The detailed description of these topics are as follows: (1) Our interests especially focus on plasma wave receiver implemented on spacecraft for solar-terrestrial plasma physics. Intelligent signal processing technique is necessary to send valuable information with low-data-rate communication line. (2) We study on the computational techniques for knowledge acquisition, pattern recognition, and similar data retrieval from enormous database. Integrated database system and interdisciplinary data integration on earth and space science are also our research topic. (3) Using radio waves such as radar and GPS system, we study solutions of ill-posed problem in shape reconstruction of objects, spatial structure of propagation media and estimation of size and location of wave source.			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
Master course: Students decide their practical subject for the Master thesis after consultation with staffs and belong to one of the research groups. They attend group meetings regularly held once a week and report progress of their own research projects. They are also expected to take several classes each week in the first grade. Doctor course: Doctor students work on their own research projects. They attend group meetings regularly held once a week. They are expected not only to report progress of their own research projects but also to discuss extensive research topics with the other members. They are encouraged to go for outer activities, participating research workshops/meetings and international conferences.			
Daily life in the laboratory, etc.			
Our laboratory is open for 24 hours and 7 days a week for research work. All relevant students of undergraduate, Master, Doctor and post Doc researchers share the laboratory rooms and discuss with each other there. Personal working desk with a personal computer is available for every student. We organize many activities, such as welcome party for new comers, beer party and sports tournaments in summer, excursion in autumn, and farewell party for graduates.			
Message or comments by the laboratory faculty staffs			
We are also in charge of the Advanced Research Center for Space Science and Technology (ARC-SAT), and are developing nano-satellites in Kanazawa University. We participate in several spacecraft projects conducted by Japan Aerospace Exploration Agency (JAXA), and other collaborative research projects with National Institute of Information and Communications Technology (NICT), National Institute of Informatics (NII) and many universities. It is a good opportunity for students to work under such big projects. The experience would be useful for any careers after graduation. Most of the Master graduates work for electronics industries and IT companies. A part of them go on to the Doctor course. After taking the doctoral degree, they work as research or educational staffs. We hope that students devote most of their time to their own research project.			
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