Division of Electrical Engineering and Computer Science	Research field	Discrete Dynamical Systems	Lab. ID EC29
Laboratory web site	http://www.asahi-net.or.jp/~in2h-fjsk/		

Research subjects

Pseudo-random sequences have found extensive applications in cryptography and digital communication systems. For random numbers, next-bit unpredictability, uniform distributions, and good correlational properties are required. In discrete dynamical system laboratory, the focus is on correlational properties of pseudo-random sequences, which are required in various systems as stated above. The purposes of our research are to design pseudo-random sequences based on discrete dynamical systems so that the reliability of the system, in which the sequences are used, is to be optimum, to evaluate correlational properties of pseudo-random sequences based on symbolic dynamics, to generate huge amount of pseudo-random sequences, and to apply the generated seudo-random sequences to especially communication systems.

Master/Doctor course: Education policy, curriculum, typical activity in the laboratory

The theme of research is determined after consulting with the professor. Basically you choose your theme by yourself. It is preferable to carry out your research by using not only theoretical but also experimental approach. Unless you are good at mathematics, you can take mostly experimental approach. On the other hand, unless you are good at numerical simulations, you can take mostly theoretical approach. Questions and discussions are welcome anytime.

Daily life in the laboratory, etc.

The web site below of discrete dynamical system laboratory was constructed by an OB. The themes of research with which OB/OG worked and their daily lives in the laboratory are written by their words in Japanese.

Message or comments by the laboratory faculty staffs

It is preferable you are good at mathematics but it is not mandotory. If you are interested in randomness, you can enjoiy your research in discrete dynamical system laboratory.

Recent Master theses in these 3 years (+ more if appropriate)

year.month	Thesis title (including English translation of Japanese thesis title)
2015.3	Oputimum spreading code of asynchronous DS-CDMA systems based on maximal length sequences

Recent Doctoral theses in these 3 years (+ more if appropriate)

year.month	Thesis title (including English translation of Japanese thesis title)

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