Name: Shingo ICHII
Research field: computer science
Key words: computer networks, Internet, Internet topology analysis, information security, network communication, network science

Present research:
My research interest has been in the practical investigation into problems in the design, implementation and operation/management of computer networks. Also, I have been involved in the study of various phases in communication via the computer networks.

I aim to organize systematically various technologies and techniques for the design and operation/ management issues of computer networks. Especially in the operation and management area, the knowledge retained by the engineers who work in the field is of the utmost importance. I have been involved in the construction and the operation of production networks in order to obtain such "know-hows." Recently, with the stimulus from the emerging complex network science, I am interested in the observation and modeling of network topologies as well as the interaction between the topology and the dynamics on the networks. The latter includes tempo-spatial behavior of routing protocols and network traffic patterns. My ultimate purpose (dream) in this field is to make the design and the operation of global computer networks a quantitative and robust Network (Internet) Science based upon a sound mathematical ground. I also spend much time and effort in the management issues in the information security, which is vitally important in the real-world network operation.

The Internet has special properties as a communication medium compared to traditional ones. I have been studying various phenomena on the Internet with the vantage point of the critical media literacy studies.

Notice for the students:
The research in this field is always with the daily operation of computers and network systems. Therefore, keen interest in the structure and workings of the computer and network equipment is required. Students should have at least user-level knowledge of computers (especially Unix/Linux) and some experience of programming (C, C++, Python, Java etc.). Working knowledge of statistics and probability is a must. I welcome highly motivated mathematics-based students who wish to tackle the reality of the Internet and/or who want to change field into the IT industry.