

# 2019 Nagaoka Summer School for Young Engineers (NASSYE)

## List of Research Topics

### Electrical, Electronics and Information Engineering

Department website: <http://denki.nagaokaut.ac.jp/e/>

<b>Research Topic</b>	The Learning about Current Network Technology through Network Simulations
<b>Instructor</b>	NAKAGAWA, Kenji
<b>Assistant Instructor</b>	WATABE, Kohei
<b>Contents</b>	This program introduces basic techniques of network technologies through network performance evaluations by a network simulator. Students simulate packet behaviors, such as traffic generation, packet forwarding, and queueing, on the network simulator. Network performances are investigated by evaluating various metrics, such as amount of traffic, throughput, packet delay, packet loss rate, and jitter, on the simulation. The aim of the program is to help students acquire the modeling and evaluating skills through the simulations.
<b>Required skills/ Remarks</b>	Required skills: a basic programming skill (in any programming languages)

<b>Research Topic</b>	Basic image processing techniques for visual communication
<b>Instructor</b>	IWAHASHI, Masahiro
<b>Assistant Instructor</b>	
<b>Contents</b>	In this course, you will learn basic image processing techniques such as image filtering, enhancement, compression, segmentation, contrast adjustment, de-blurring, etc. Those are commonly used in a retouch software such as photoshop or paintshop. You will learn those techniques in relation to the linear algebra so that you can start your academic research in the image processing and visual communication area. Matlab image processing toolbox will help you a lot to build your unique software.
<b>Required skills/ Remarks</b>	Image Processing Toolbox — Examples <a href="https://ch.mathworks.com/help/images/examples.html">https://ch.mathworks.com/help/images/examples.html</a>