

## Guest Lecture: Protein and Computer



Two experts discussed different subjects in the [Department of Biology](#). In a guest lecture event held on 15 January 2019, two outstanding scholars from Nara Institute of Science and Technology (NAIST), Japan explained new insights on supramolecules and computer architecture.

Prof. Shun Hirota, the first speaker, pointed out that in recent years there is speculation on some molecular machines, such as protein, can be used in computing, nanomaterials, and energy storage.

"The polypeptide, protein, often exists in a supramolecule form and have a highly specific biological function", he explained. "Some researches are conducted to find out how we can create artificial supramolecular protein", he added. Then, he discussed his research related to the protein assembly and its relation to some diseases.

In addition to Prof Hirota, Prof. Yasuhiko Nakashima, the second speaker, described his project on supercomputers. He proposed that the main problem of today supercomputer is power consumption and performance.

"We proposed a multithreading mechanism, backed up with systolic arrays to solve that problem", he said. Moreover, he demonstrated his FPGA based prototype system.

"Biologists are needed to know what kind of recent technological development occurred. This kind of guest lecture will give a better understanding of biology - technology relationship for biologists, both of lecturers and students", said [Dr. Berry Juliandi S.Si., M.Si.](#), an executive secretary of the Department of Biology. "In addition, this event is a form of collaboration network between the Department of Biology-IPB and NAIST".