

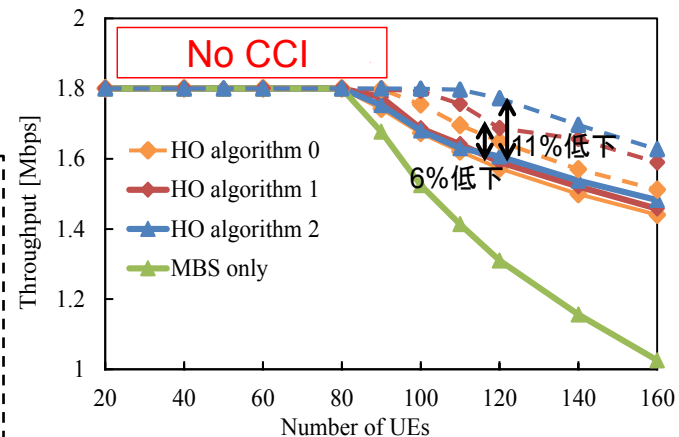
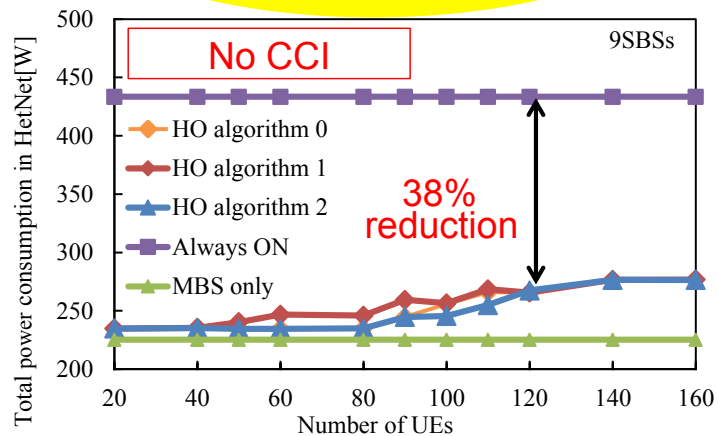
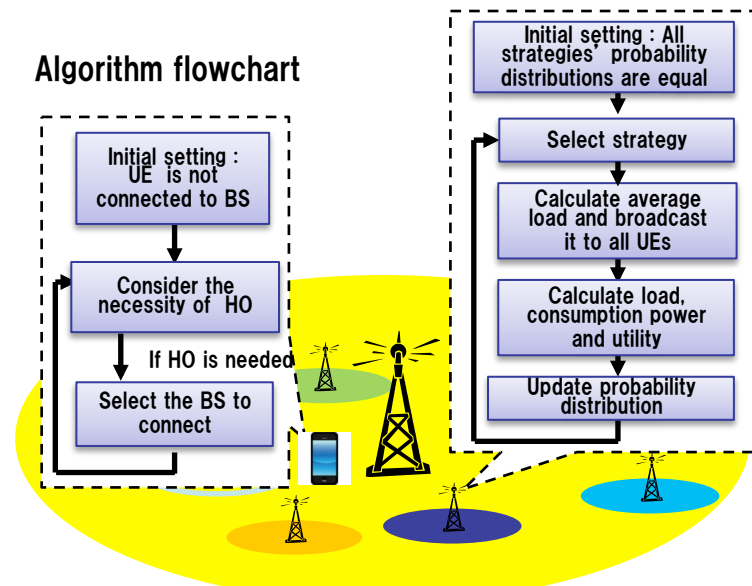
# Towards Energy-Efficient Hyper-Dense Wireless Networks with Trillions of Devices

We have been studying important issues to realize self-organizing hyper-dense heterogeneous networks (HDHNs). Specifically, we have been designing the cell-association and handover algorithms and the radio resource management (RRM) algorithms including SBS power management and dynamic channel assignment.

## Cell-Association and Handover Algorithms

HDHN: Hyper-dense heterogeneous network

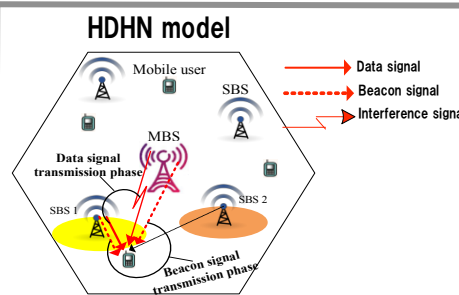
### Algorithm flowchart



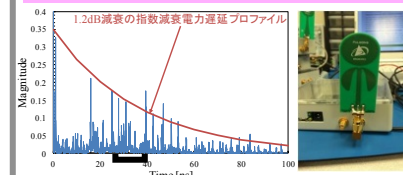
## Radio Resource Management

Game theory based SBS power on/off algorithm combined with interference aware channel segregation based dynamic channel assignment (IACS-DCA)

SBS: Small-cell base station



## Experimental Evaluation of Developed Algorithms using HDHN Testbed



Experiment at Virginia Tech

