US-KOREA NANO FORUM
SEOUL, SEPTEMBER 26, 2016

Brain Inspired Semiconductor Device Technology

Byoung Hun Lee

Center for emerging electronic devices and systems (CEEDS),
School of Material Science and Engineering,
Gwangju Institute of Science and Technology(GIST)
bhl@gist.ac.kr, *www.ceeds.or.kr* *www.gistexel.com*

Extreme low power consumption during the information processing in a brain inspired numerous approaches to enhance the efficiency of current computing technology. Various neuromorphic chips utilizing memristor like devices are the most popular examples in this direction. However, there is a huge gap between current computing architecture and neuromorphic architecture. Thus, neuromorphic systems tend to target the applications where current silicon devices are not efficient enough such as pattern recognition. However, what can be done to improve the semiconductor device technology if the principle of low power computing used in a brain. In this talk, implications of brain function to current semiconductor technology will be discussed. Also, some of missing links in this approach will be discussed as a proposal for future research.