Theme : Brain Inspired Computing & Neural Interface

- Sub Theme : Brain Inspired Computing & Neural Interface

Brain-inspired computing platform has been actively studied as a core processing unit with the booming artificial intelligence (AI). It is undoubted that such platform will find its practical applications in various fields such as smart phones, autonomous robots, IoT systems, wearable devices and sensors in the near future. However, brain-inspired computing is in the early stage of research, mainly putting all interests on investigating its feasibility on a silicon-based technology and thus there still are many technological challenges to be addressed.

Our goal is to find enabling technologies for 1) new computing architectures to improve throughput and efficiency of deep learning accelerators, 2) long-time durable and ultra-small sized implant device, and 3) circuits or architectures for Si-based multi-bit synapse or Si-compatible new memory including its system level validation.

- New computing architecture to overcome bandwidth bottleneck problem
- Ultra-small bio interface to sense particular bio signals/markers
- Bio compatible hermetic package with ultra-thin capsulation thickness
- Circuit or architecture innovation for SRAM-based synapse
- New memory concept and validation in a system level

※ Topics are not limited to the above examples and participants are encouraged to propose original idea.

※ Funding : Up to USD $150,000 per year