

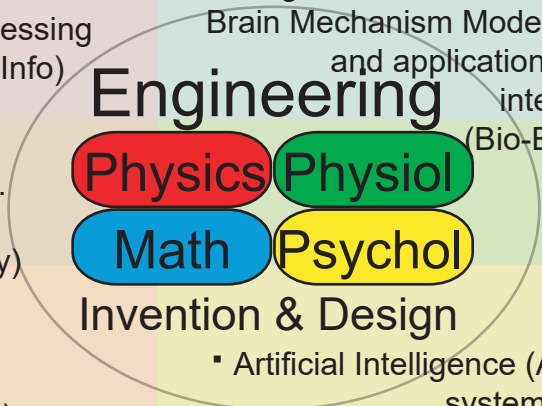
Things: Electromagnetics, Wave Physics

▪ Bio Engineering

▪ Intelligent Wireless Systems

- Intelligent Remote sensing and imaging □ □
 Satellite-borne / Airborne Synthetic Aperture Radar (SAR) Processing
 (Land & move observation, Vegetation & Ice & Land use, Geo Info)
 (Disaster Prevention & Reduction, Agricultural Evaluation,
 Global Warming Evaluation & Countermeasure
 Cooperation: JAXA ALOS-2 Satellite, NICT Airborne SAR, etc.
- Security Radar (Anti-Crime, Anti-Accident, Transportation Safety)
- Ground Penetrating Radar (GPR)
 (Humanitarian Landmine Visualization,
 Buried & Ruin Exploration, Concrete & Road Inspection)
- Intelligent Channel Prediction, Adaptive Signal Processing
 Mobile Communication Channel Estimation & Prediction
 Adaptive Interference Elimination in Electromagnetic Measurement
 Adaptive Ultrawideband (UWB) & Multi-Input Multi-Output (MIMO) Systems

▪ Medical Practice Applications of Wireless Electronics
 Biomedical Instrumentation
 Intelligent measurement
 Brain Mechanism Modeling
 and application to artificial intelligence (AI)
 (Bio-Engineering)



- Artificial Intelligence (AI)
 systems & devices
 Next Generation Brain-Inspired
 Information Processing Systems /
 Energy-Efficient Info. Proc. Sys.

Reservoir Computing & its devices

(Social Cooperative Program: Energy-Efficient Information Processing)

▪ Brain-Type Info Sys.

▪ Propagation

Electromagnetic (EM) Wave Theory
 Propagation Theory
 EM Environmental Measurement

▪ New-Scope Antennas

Adaptive Antenna
 Array Antennas for
 Imaging and Sensing