



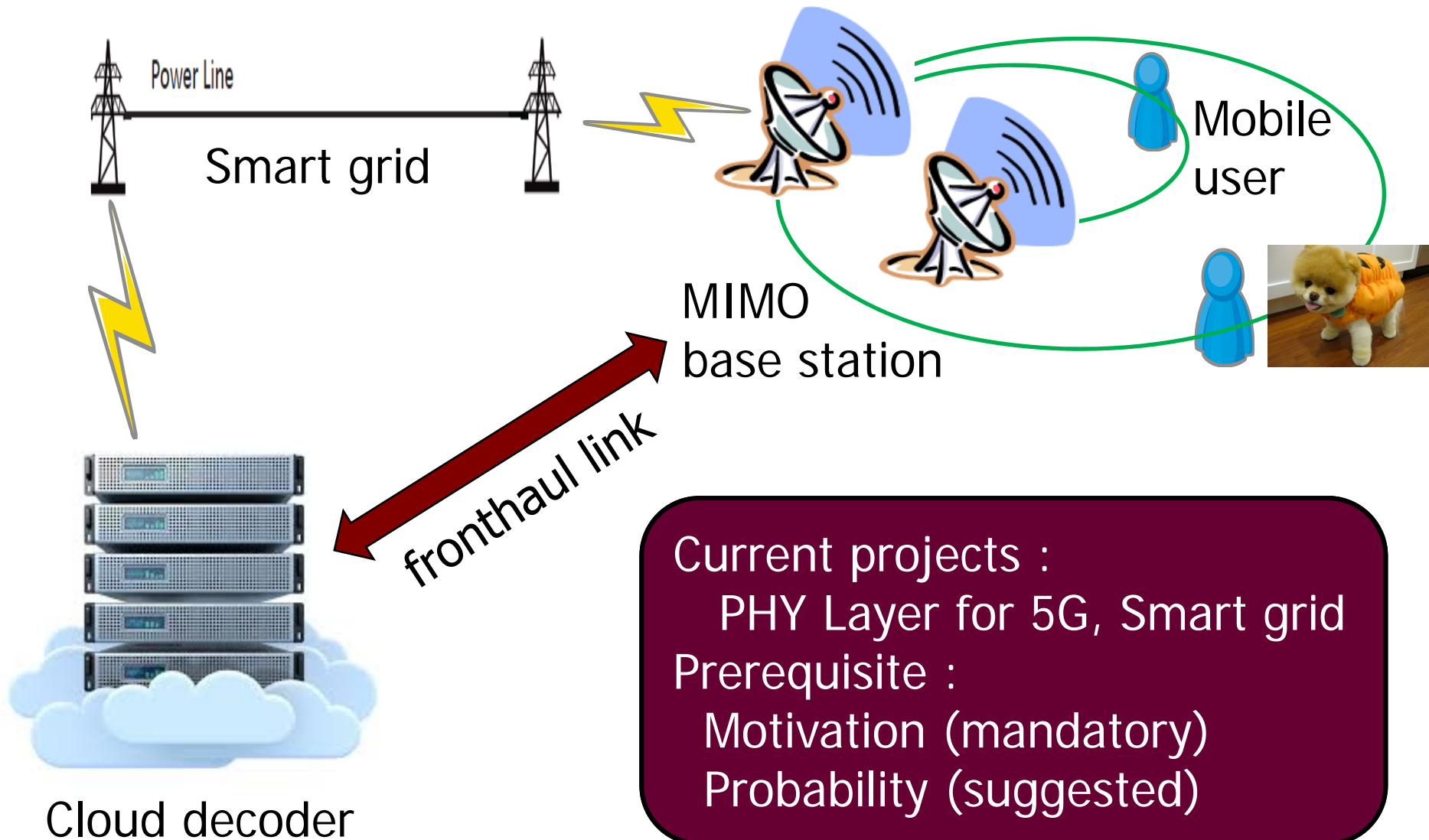
# 通訊信號與架構設計實驗室簡介

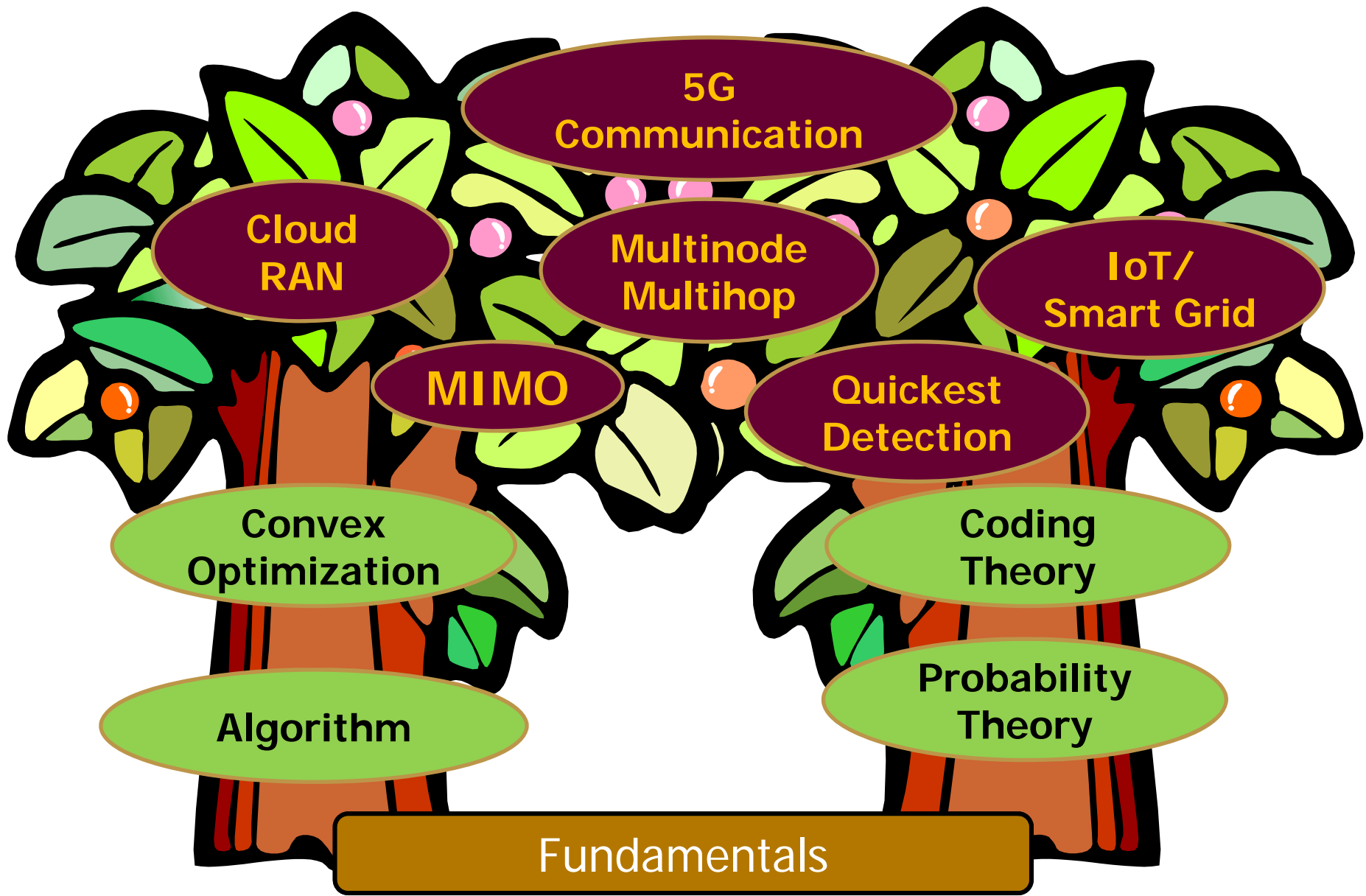
Introduction to Signal and algorithm  
design for Communications Lab  
(NTUST-SCL)

# Advisor : Shih-Chun Lin

- 研究興趣/Research interest :  
多用戶合作式通訊、5G、物聯網與智慧電網之訊號處理  
Wireless multi-node multi-hop communications for 5G,  
Signal Processing for IoT and smart grid
- 職稱/Position : 台灣科技大學電子系副教授  
Associate Professor of NTUST ECE
- 獎項/Awards:  
2016 Marquis Who's Who in the World  
2015 Project for Excellent Junior Research Investigators,  
MOST, Taiwan  
2015 Best paper award for young authors from the IEEE  
IT/COM Society Taipei/Tainan Chapter

# Research Scope of NTUST-SCL





Fundamentals

Cloud RAN

MIMO

5G Communication

Multinode Multihop

Quickest Detection

IoT/ Smart Grid

Convex Optimization

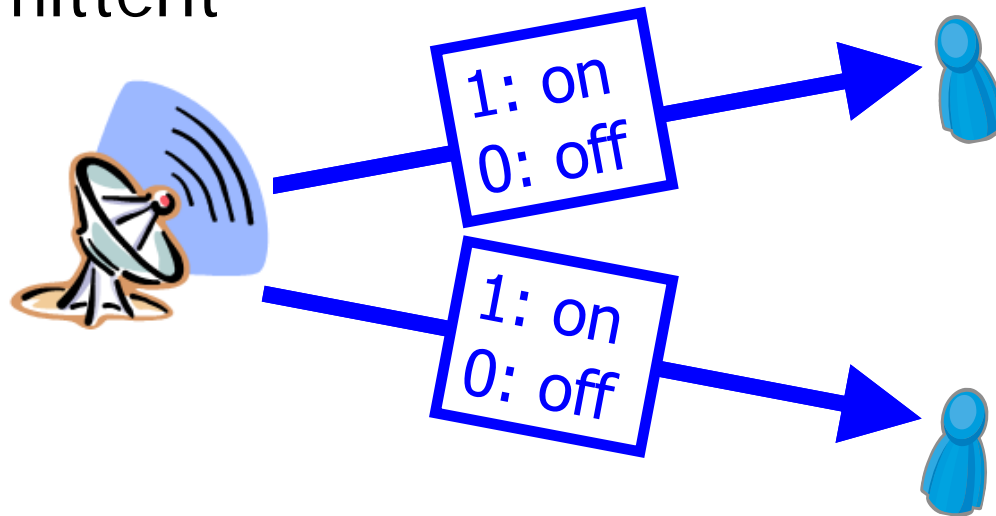
Coding Theory

Algorithm

Probability Theory

# Multiuser Communications with Intermittent Link Connectivity

- In future wireless system , the link connectivity may be intermittent

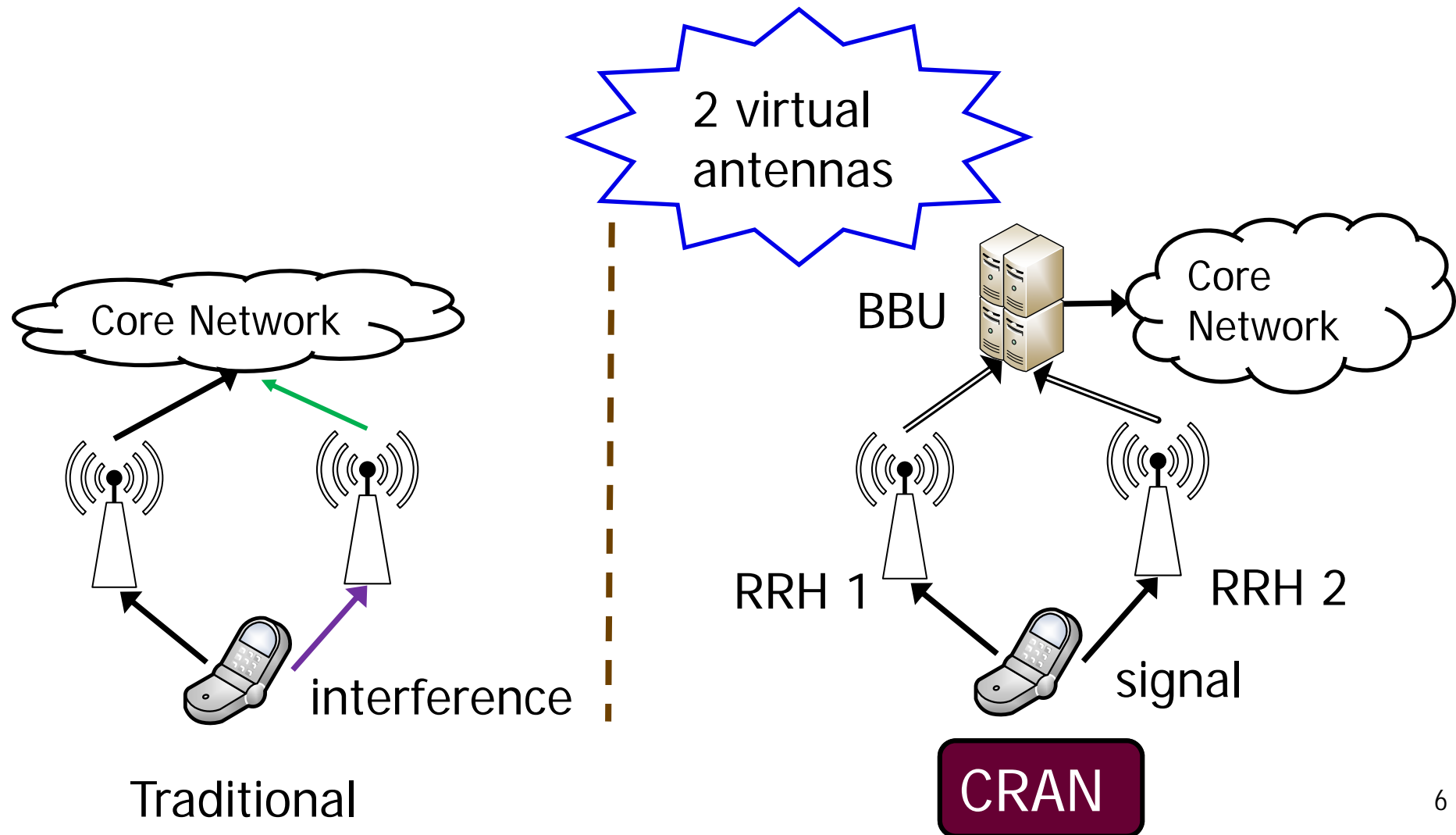


Examples : 5G Millimeter wave communications,  
energy harvesting, topological factors

Investigate the impact on multinode/multihop system

# Cloud Radio Access Network (CRAN)

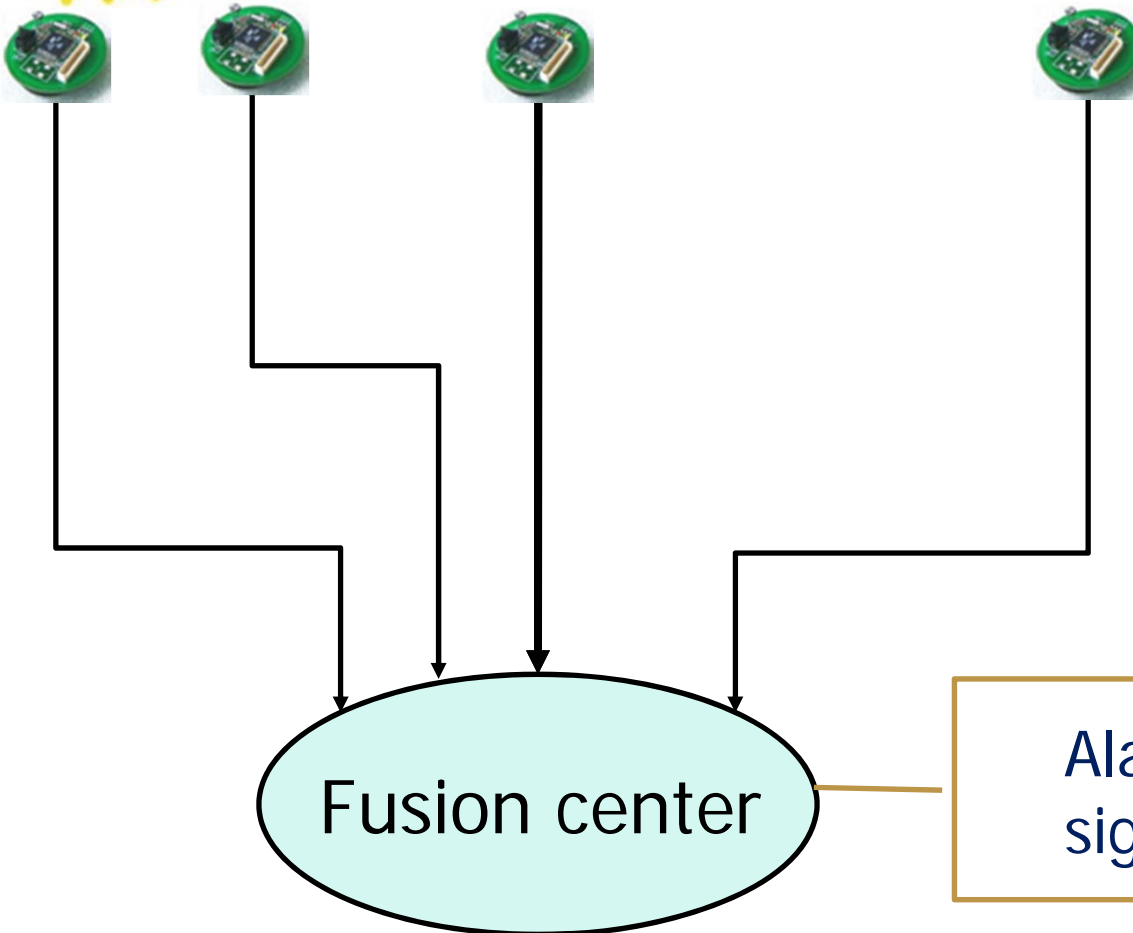
- Make virtual/network MIMO practical



# Signal Processing for Smart Grid / IoT



Multiple sensors monitor a time-varying event :  
temperature, CO<sub>2</sub> density, power quality....



Design quick  
and accurate  
alarm system

# 研究計畫/Research project

- 科技部計畫/MOST project
  - “Opportunistic interference managements of bursty relay-aided channels for 5G applications”, NTD 3,057,000, MOST Technology Project for Excellent Junior Research Investigators, Taiwan (2015/8/1-2018/7/31)
  - “Cooperative Networks in the Presence of Malicious Relays: A Game Theoretic Study”, NTD 2,814,000, NSC, Taiwan (2012/8/1-2015/7/31)
  - “Cognitive Radio with Clean Relaying via Secondary Transceivers”, NTD 610,000, NSC, Taiwan (2011/9/1-2012/11/30)



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