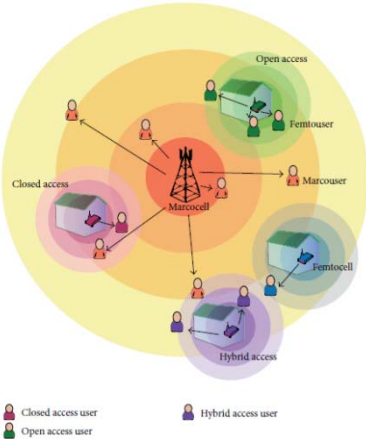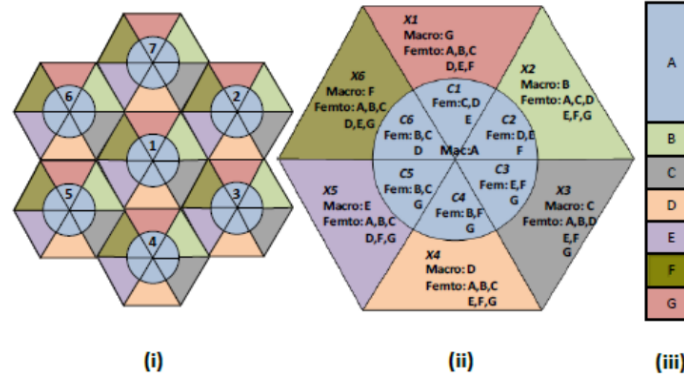# Associate Professor Robert Akl

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Bluetooth, Sensor Networks, VoIP, WiFi
Research Group: Federal and State Funding; 4 Ph.D. Students

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## LTE Femtocell Network

Frequency Reuse Deployment in LTE Femtocells

Simulation Parameters

Parameter	Value
System Bandwidth	10 MHz
Subcarriers	50
Subcarrier Bandwidth	180 KHz
Cell Radius	250 m
Inter eNodeB distance	1000 m
Noise Power Spectral Density	-174 dBm/Hz
Subcarrier spacing	15 KHz
Channel Model	Typical Urban
Carrier Frequency	2000 MHz
Number of macrocells	1
Number of sectors per macrocell	3
Macrocell Transmit Power	40 W
Macrocell Antenna Gain	15dB
Macrocell Antenna Pattern	TS36.942 standard
Number of femtocells per macrocell sector	1
Femtocell Transmit Power	20 mW
Femtocell Antenna Gain	0 dB
Femtocell Antenna Pattern	Omni Directional
Femtocell Access Mode	OSG,CSG,Hybrid

Uniform Deployment
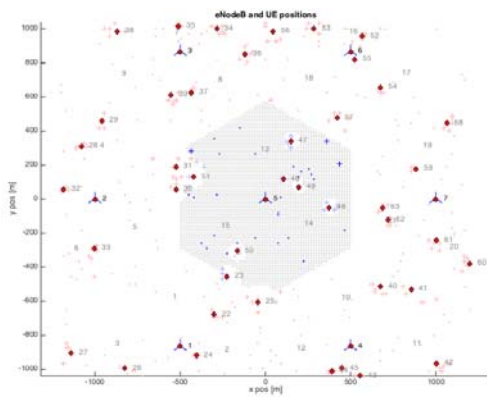
SINR Maps
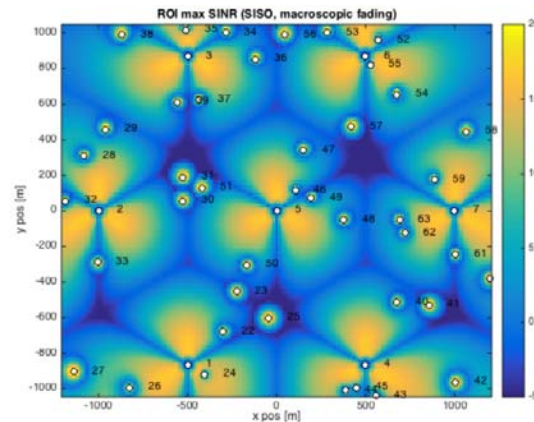
Femtocell Co-Channel Interference