**School of Computer Science & Software Engineering**

**CITS4419 Mobile and Wireless Computing**

**Long Range LoRa  
Week 4 Tuesday 21 August 2018**

This lecture introduces LoRa (long range) radio technology

### Recommended Reading

* Martin Bor and Utz Roedig. 2017. LoRa Transmission Parameter Selection. In Proceedings of the 13th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), Ottawa, ON, Canada. 5–7
* Marco Cattani, Carlo Boano, and Kay Römer. 2017. An Experimental Evaluation of the Reliability of LoRa Long-Range Low-Power Wireless Communication. Journal of Sensor and Actuator Networks 6, 2 (jun 2017), 7. https://doi.org/10. 3390/jsan6020007
* P. J. Marcelis, V. Rao, and R. V. Prasad. 2017. DaRe: Data Recovery through Application Layer Coding for LoRaWAN. In Proceedings of the Second International Conference on Internet-of-Things Design and Implementation - IoTDI ’17. 97–108. https://doi.org/10.1145/3054977.3054978
* B. Dix-Matthews, R. Cardell-Oliver, C. Huebner, LoRa Parameter Choice for Minimal Energy Usage, Under review

### Questions (to guide your listening and reading)

1. What is the difference between short range wireless and low power wide area networks? Give an example of a technology for each.
2. Distinguish between the technologies called LoRa and LoRaWAN.
3. List some tradeoffs that can be made by different choices of LoRa parameters.
4. Marcellis argues that low energy settings with lost packets may be more better than higher energy, more reliable settings. Explain this idea.
5. Explain some of the choices LoRaWAN offers the network designer.