Jobin Francis

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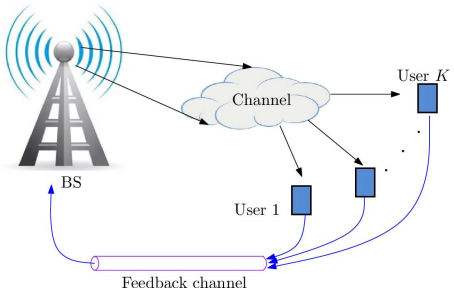
Research Interests

- System level modelling and optimization of wireless networks
- 5G cellular networks and emerging use cases
- Cooperative communications and radio resource management – coordinated beamforming; cooperative uplink training; joint design of access and transport networks
- Performance analysis – impact of channel aging and reduced uplink feedback; modelling latency in fronthaul;

Brief Summary of Research

My research focuses on the joint design, modelling, and optimization of next generation cellular networks in order to support the envisioned use cases with diverse and stringent requirements on throughput, latency, and reliability.

Network optimization in a massive MIMO-aided centralized radio access network to maximize spectral/energy efficiency.



Techniques are devised at BS to maximize throughput for an FDD cellular system with limited uplink feedback.

Projects

- No ongoing project.

Recent Publications

- J. Francis and G. Fettweis, “Energy Efficiency Maximization in Massive MIMO-aided, Fronthaul-constrained C-RAN”, in IEEE PIMRC 2019.
- J. K. Chaudhary, J. Francis, A. N. Barreto and G. Fettweis, “Latency in the Uplink of massive MIMO CRAN with Packetized Fronthaul: Modeling and Analysis” in IEEE WCNC, 2019.
- J. Francis and N. B. Mehta, “Throughput-Optimal Scheduling and Rate Adaptation for Reduced Feedback Best-M Scheme in OFDM Systems,” IEEE Transactions on Communications, vol. 65, no. 7, pp. 3053–3065, Jul. 2017.