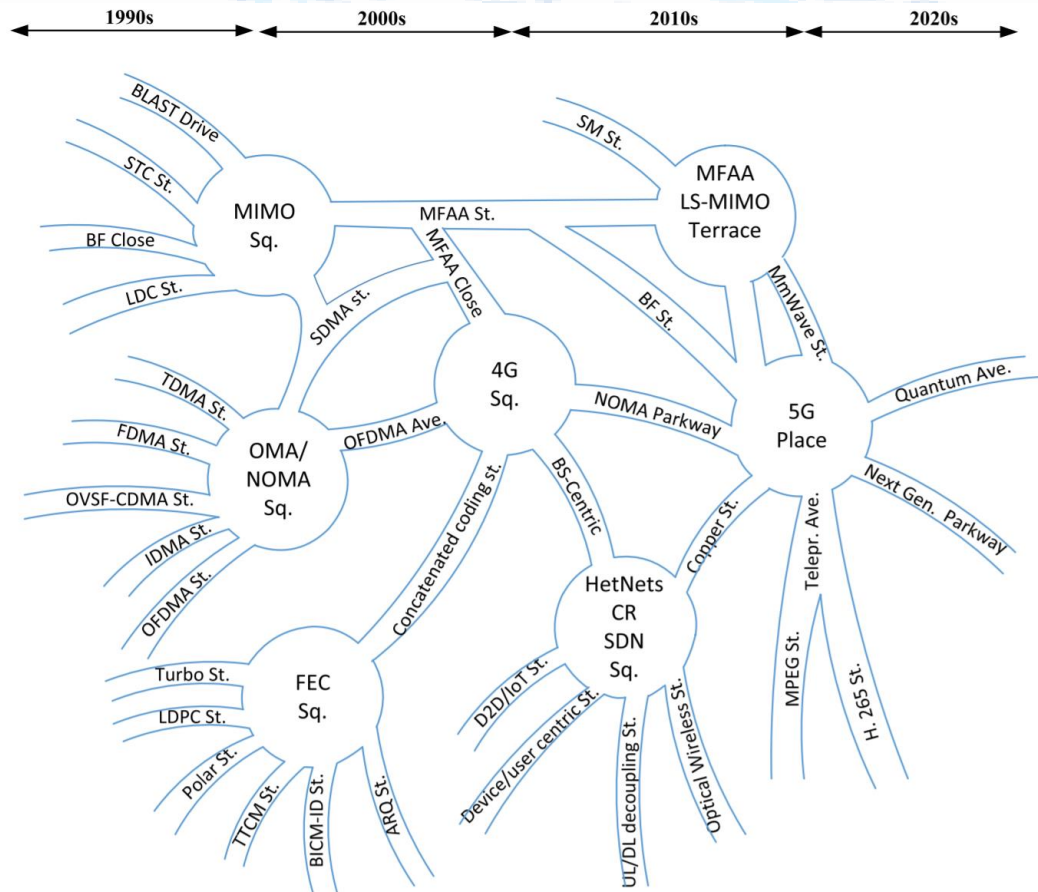


# Non-orthogonal Multiple Access in Heterogeneous Networks

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## On the Road to the Next Generation Wireless Networks



## NOMA Enabled HetNets: A Stochastic Geometry Approach

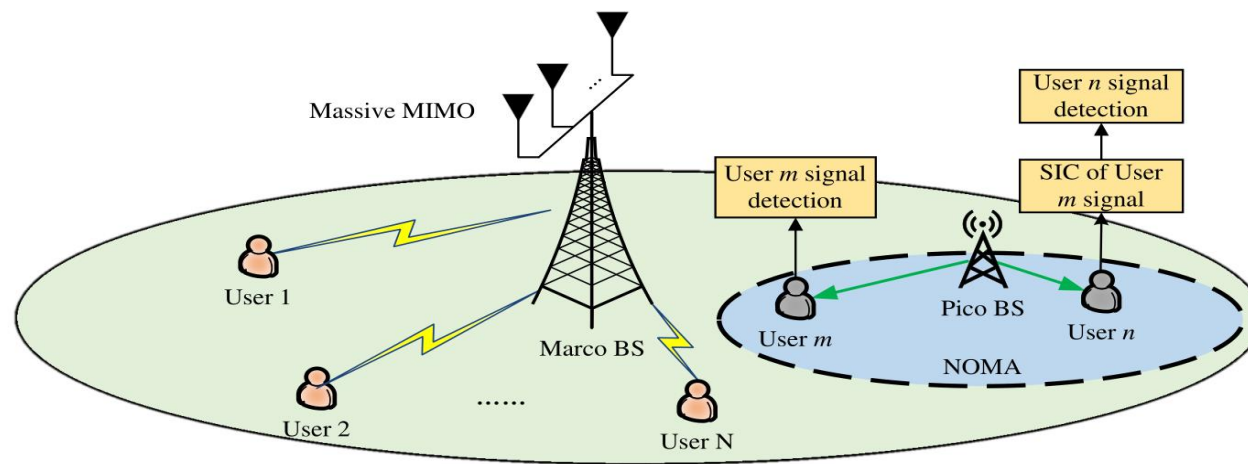


Fig. 1. Illustration of NOMA and massive MIMO based hybrid HetNets.

### Motivation of the Proposed Framework [1]

- **High spectrum efficiency:** NOMA improves the spectrum efficiency with multiplexing users in power domain and invoking successive interference cancellation (SIC) technique for canceling interference.
- **Good compatibility:** NOMA is regarded as a promising "add-on" technology for the existing multiple access systems.
- **Low complexity:** The complex precoding/cluster design for MIMO-NOMA systems can be avoided.

The roadmap for illustrating the brief history of wireless standardization.

[1] Y. Liu, Z. Qin, M. Elkashlan, A. Nallanathan and J. A. McCann, "Non-orthogonal Multiple Access in Large-Scale Heterogeneous Networks", IEEE Journal on Selected Areas in Communications; vol. 35, no. 12, pp. 2667-2680, Dec. 2017.