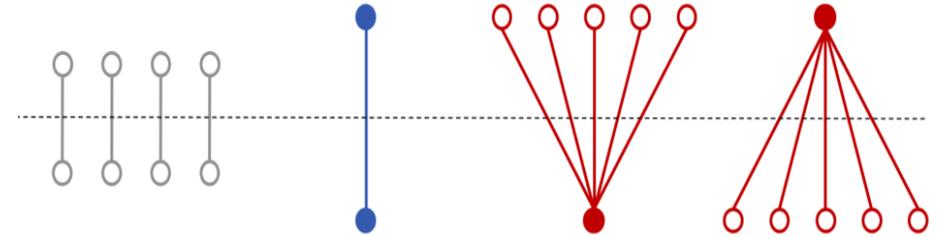# Hybrid Model: Underlying Network and Sampled Network

Three main components to the new model:
- Core: preferential attachment, highly connected core
- Unattached nodes: small connected star components
with few neighbors
- Leaves: degree 1 nodes adjacent to vertices in the core

Four parameters:
- λ average degree of the unattached nodes in underlying network
- C,L,U proportions of nodes in each of the core, the leaves, and the unattached nodes in the underlying network, conforming to the relationship

$$C + L + U(1 + \lambda - e^{-\lambda}) = 1$$

- α exponent of power-law decay of the degree distribution of the underlying core
- p proportion of underlying network being observed
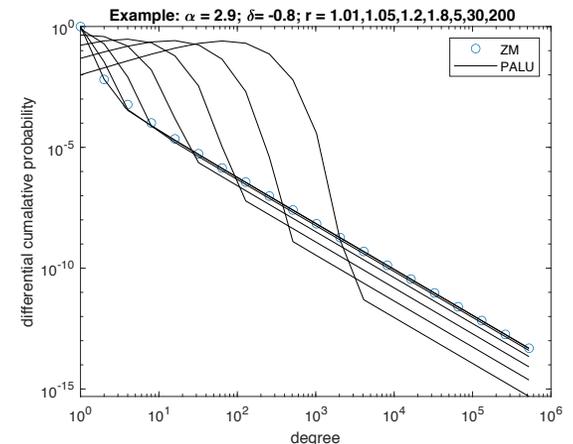
Model generation algorithm including probabilistic sampling to simulate data collection methods