

Modern computer networks often consist of a vast number of nodes and facilitate fast and simple communication between its participants. The Internet, as the most prominent example, enables communication between hundreds of thousands of computers without having to bother about the underlying infrastructure. Whereas latency often only plays a minor role in such networks, each participant can typically only communicate a limited number of bits at a time. However, algorithms in the classical CONGEST model, for example, naturally depend on the network's diameter. On the other hand, if the network is arranged as a clique every node might send and receive a linear number of bits in each round.

We propose the Node-Congested Clique model that incorporates the characteristics of modern networks in the following sense: The nodes of a network are connected as a clique and can send messages to, in principal, any other node in synchronous rounds. In every round each node can send and receive  $O(\log n)$  messages of size  $O(\log n)$ . In this talk we compare the Node-Congested Clique with other network models and introduce some problems than can be investigated under this model. Furthermore, we give some first ideas on how to deal with the difficulties imposed by the model.