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**Anna Vershynina\*** ([annavershynina@gmail.com](mailto:annavershynina@gmail.com)), Zentrum Mathematik, M5, Technische Universität München, Boltzmannstrasse 3, 85748 Garching, Germany. *Entanglement rates for bipartite open systems.*

The problem addressed in this talk is, given some Hamiltonian and dissipative interactions between two subsystems, what is the maximal rate at which an entanglement can be generated in time? We provide an upper bound on the maximal rate at which this irreversible quantum dynamics can generate entanglement in a bipartite system. The relative entropy of entanglement is chosen as a measure of entanglement in an ancilla-free system. We provide an upper bound on the entangling rate which has a logarithmic dependence on a dimension of a smaller system in a bipartite cut. We also investigate the rate of change of quantum mutual information in an ancilla-assisted system and provide an upper bound independent of dimension of ancillas. (Received September 11, 2015)