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Connecting the Discrete-time and Continuous-time Quantum Walks ALBERT SCHMITZ, University of North Dakota — Much work has gone into connecting the discrete-time and continuous-time versions of the quantum walk. This talk will demonstrate a method for finding an appropriate coin operator to simulate the continuous-time dynamics generated by a graph Hamiltonian for any arbitrary bigraph. This method draws a connection between a continuous-time model on the standard 1D and 2D lattice and the Hadamard walk. Furthermore, some extensions will be discussed with applications to algorithm design.

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