



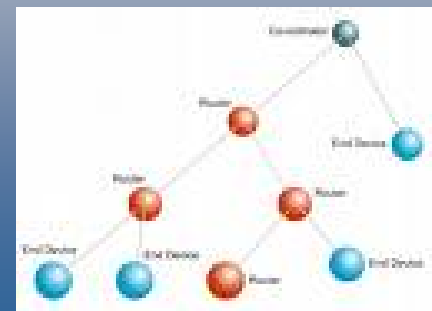
# CU Physics Department Colloquium

Monday, September 22, 2008 4:10 PM 428 Pupin Hall

**Steven H. Simon, Alcatel-Lucent, Bell Labs**

## Topological Phases of Matter and Why You Should be Interested

In two dimensional topological phases of matter, processes depend on gross topology rather than detailed geometry. Thinking in 2+1 dimensions, particle world lines can be interpreted as knots or links, and the amplitude for certain processes becomes a topological invariant of that link. While sounding rather exotic, we believe that such phases of matter not only exist, but have actually been observed in quantum Hall experiments, and could provide a uniquely practical route to building a quantum computer.



Hosted by Aron Pinczuk

