

1106-18-2477 **Derek K Wise*** (derek.wise@fau.de), Department Mathematik, FAU Erlangen-Nürnberg,
Cauerstr. 11, 91058 Erlangen, Germany. *Hopf algebra gauge theory*. Preliminary report.

An elegant approach to gauge theory uses the groupoid of connections and gauge transformations. A natural question is what happens to this groupoid when the gauge group is replaced by a Hopf algebra. I will explain recent joint work with Catherine Meusburger on Hopf algebra gauge theory and in particular how the connection groupoid becomes a Hopf algebroid. I will also discuss the relevance to contemporary models from physics. (Received September 16, 2014)