1139-22-97 **Peter Crooks*** (peter.crooks@math.uni-hannover.de), Institute of Differential Geometry, Gottfried Wilhelm Leibniz University Hannover, 30167 Hannover, Germany, and **Steven Rayan**, University of Saskatchewan. *Abstract integrable systems in a Lie-theoretic setting.*

A *completely integrable system* on a given $2n$-dimensional symplectic manifold X is usually defined to be the following data: a collection $f_1, \ldots, f_s$ of functions on X, such that $s = n$, the f_i Poisson-commute in pairs, and $df_1 \wedge \cdots \wedge df_s$ is non-vanishing on an open dense subset of X. A mild generalization is the notion of a *non-commutative integrable system* (NCI system), in which s is allowed to exceed n and only certain f_i are required to Poisson-commute with all functions in the collection. Some recent work of Fernandes, Laurent-Gengoux, and Vanhaecke proposes a foliation-theoretic version of an NCI system in the smooth category, called an *abstract non-commutative integrable system* (ANCI system).

I will discuss joint work with S. Rayan concerning ANCI systems in the holomorphic category. Particular attention will be paid to a canonical ANCI system on each hyperkähler manifold of the form $G \times S_{\text{reg}}$, where G is a connected complex semisimple Lie group and S_{reg} is a regular Slodowy slice in the Lie algebra of G. If time permits, I will describe recent work with H. Abe on a leaf-wise compactification of $G \times S_{\text{reg}}$. (Received February 03, 2018)