

Meeting: 1003, Atlanta, Georgia, SS 23A, AMS Special Session on Representations of Lie Algebras, I

1003-17-1355 **Bruce N Allison*** (ballison@ualberta.ca), Department of Math and Stats Sciences, University of Alberta, Edmonton, Alberta T6G 2G1, Canada. *Loop Algebra Construction of Graded-Simple Algebras*. Preliminary report.

In the theory of infinite dimensional Lie algebras, the loop algebra construction gives realizations of all affine Kac-Moody Lie algebras. In this talk, we will discuss a generalization of the loop algebra construction and show that it gives realizations of all \mathbf{Z}^n -graded-simple algebras. We will describe applications of this result in the theory of associative algebras and Lie algebras. The talk is based on joint work with Stephen Berman, John Faulkner and Arturo Pianzola. (Received October 05, 2004)