

- ▶ RICHARD BLUTE, *From Linear Logic To Differential Categories*.
Dept. of Mathematics and Statistics, University of Ottawa, 585 King Edward, Ottawa,
ON K1N 6N5.
E-mail: rblute@uottawa.ca.

The basic categorical structure underlying the proof theory of Girard's linear logic is a symmetric monoidal closed category equipped with a comonad. Categories of vector spaces, possibly equipped with extra structure, are fundamental examples.

The goal of differential linear logic, introduced by Ehrhard and Regnier, is to extend the usual syntax and semantics of linear logic to include a differential operator. The corresponding categories are called differential categories and were introduced by Blute, Cockett and Seely. Typical examples are categories of vector spaces with sufficient normed or topological structure to define a notion of smooth map and to allow for their differentiation.

In this talk, we introduce both the syntax and categorical semantics of this new logic, as well as discuss examples arising from functional analysis.