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Operational algebraic cobordism

Bivariant theories of Fulton and MacPherson generalize covariant homology and contravariant cohomology theories. Fulton and MacPherson also showed how to associate an "operational" bivariant theory to a given homology theory. The operational cohomology theory constructed this way is ring-valued and hence suitable for intersection theory.

In this talk I will explain these constructions applied to the theory of algebraic cobordism of Levine and Morel. I will discuss equivariant versions of these theories and describe the operational cobordism rings of toric varieties.

This talk is based on joint work with Jose Gonzalez.