1088-55-21 **Ismar Volic*** (ivolic@wellesley.edu), Department of Mathematics, 106 Central St., Wellesley College, Wellesley, MA 02481. *Configuration space integrals in the study of knot and link spaces.*

Inspired by the linking number, Bott and Taubes, following work of Bar-Natan, Kontsevich, and others, defined certain integrals over configuration spaces which produce invariants of classical knots and links as well as higher cohomology classes on spaces of knots and links in Euclidean space of dimension >3. The main goal of this talk will be to describe this construction and its many interesting and unexpected connections to Vassiliev and Milnor invariants, calculus of functors, and rational homotopy theory. (Received December 16, 2012)