Topology Seminar

Michael Ching

of Amherst College will be speaking on

Operads, pro-operads and the calculus of functors

on December 4 at 4:30 in
MIT Room 2-131

It is a well-known heuristic that the Goodwillie derivatives of the identity functor on a (pointed compactly-generated) ∞-category should form an operad. In this talk I will give a simple construction of such an operad structure that provides new insight even in the familiar case of based spaces. It is easy to see too that the derivatives of an arbitrary functor form a bimodule over the relevant operads. Moreover, these models allow us to express the derivatives of the identity on an ∞-category C as the inverse limit of a "pro-operad" and we conjecture that the Taylor towers of functors from C to spectra are classified by "modules" over that pro-operad, generalizing results with Arone in the cases where C is based spaces or spectra.