Mathematics Department Colloquium

Organizer: Nicolai Reshetikhin

Thursday, 4:10–5:00pm, 60 Evans

Nov. 15 **Yvon Maday**, Université Pierre et Marie
Tips for good lifting technique

The lifting or extension we are interested in during this talk deals with the definition of stable right inverse to the trace operator that consists in taking the restriction of a (regular enough) function defined over a (regular enough) domain onto the boundary of the domain.

The first result relates to polynomial extensions of polynomial traces, with applications to the numerical analysis of the approximation by spectral methods.

The second result is about constructive methods for extensions of traces with applications to the construction of regular maps between similar domains in two dimensions or three dimensions. The applications are to mesh design, methods for fluid structure interaction, or reduced basis element methods.