

*Department of Mathematics and Statistics
Colloquium Lecture Series*

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UAF*

**Riesz Bases in Control of Viscoelasticity and
Heat Equations With Memory**

We study the equation of linear viscoelasticity

$$\theta_t(x, t) = a\theta(x, t) + \int_0^t N(t-s)\theta_{xx}(x, s)ds$$
$$0 < x < l, t > 0$$

which is also closely related to the heat equation with memory. We prove that two sequences of functions, naturally associated with this equation, are Riesz sequences. These sequences appear when the observability/controllability problem is reformulated in terms of the interpolation/moment problem. We demonstrate the boundary observability/controllability of this system in the sharp time interval.

The talk is based on the joint paper with Luciano Pandolfi (Politecnico di Torino).

Thursday, October 22, 2009

Chapman 106

1:00–2:00

Refreshments after the talk in Chapman 101A