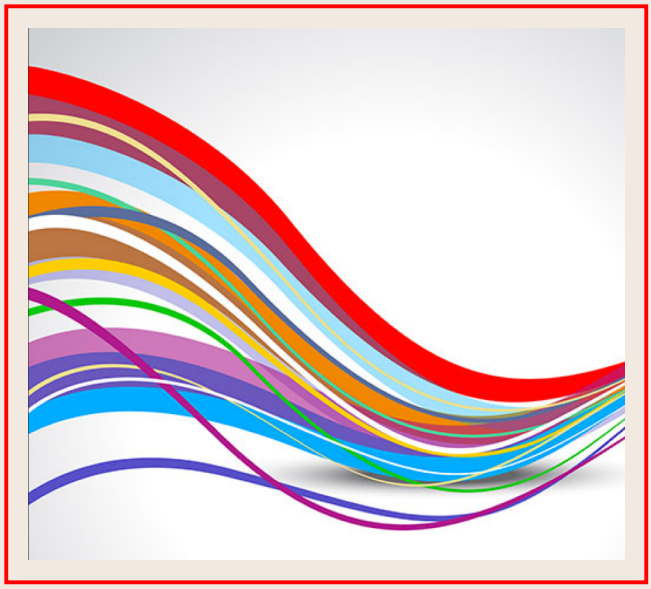
UCCS Department of Mathematics

Math Colloquium Series

DR. ROBERT CARLSON

UNIVERSITY OF COLORADO AT COLORADO SPRINGS



DATE:
SEPTEMBER 14, 2017

TIME:
12:30PM-1:30PM
(REFRESHMENTS AT 12:15PM)

LOCATION:
OSBORNE CENTER
ROOM# A327

Analytic problems of Sturm-Liouville type

Abstract: In the 1830's Sturm and Liouville launched the study of eigenvalue problems for differential equations.Using historical hindsight, this work looks like the initial application of ideas from (infinite dimensional) linear algebra to address problems of mathematical physics and engineering. This talk considers what happens when Sturm-Liouville type problems are nicer than usual. Specifically, the (matrix) coefficients are assumed to be analytic in a strip in the complex plane.

From the linear algebra viewpoint a basic question is whether our eigenvalue problems produce eigenfunctions which span the appropriate Hilbert space of analytic functions. Basic examples show that the answer is 'sometimes'. The main result gives simple sufficient conditions for eigenfunction completeness.

For More Information please contact the UCCS Math Department at
(719) 255-3311 or http://www.uccs.edu/math