RESEARCH TALK

College of Agriculture, Engineering and Science
School Mathematics, Statistics and Computer Science

cordially invites you to attend a talk entitled

Some weighted inequalities and their application in numerical analysis

by

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DATE: 7 October 2015   **TIME:** 2.30 - 3.30 pm
VENUE: Science and Technology Education Centre, Building H1, Westville Campus

Abstract: In the talk we discuss some properties of weighted Bessel potential spaces in half line. For certain weights (namely for Ap weights of Muckenhoupt and for recently discovered Ap^{loc} weights of Rychkov) the theory is well established and is similar to the classical theory of Sobolev spaces (in particular, for $1<p<\infty$, all these spaces are interpolation spaces). Unfortunately, both weight classes are too narrow for certain type of practical applications. In the talk, we present a local version of one-sided $Ap,\pm$ weights of Sawyer. We briefly discuss the key properties of new weights and employ them to establish a Browder-Ehrling-Gagliardo-Nierenberg like interpolation inequality. As a particular application of the theory, we establish a spectrally small error estimate for Laguerre-type spectral projection operator.

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