

## CoE-MaSS weekly seminar series

THE DST-NRF CENTRE OF EXCELLENCE IN MATHEMATICAL AND  
STATISTICAL SCIENCES (CoE-MaSS) WOULD LIKE TO PRESENT  
A SEMINAR BY

**Prof Charles Swartz**  
(*New Mexico State University*)

*"The Orlicz-Pettis Theorem for Multiplier Convergent Series"*

Friday, 26 May 2017  
10h30-11h30



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**Broadcast live from:**  
Videoconferencing Facility, 1st Floor  
Mathematical Sciences Building, Wits West Campus

**How to connect to this seminar remotely:**

You can connect remotely via Vidyo to this research seminar by clicking on this link:  
<http://wits-vc.tenet.ac.za/flex.html?roomdirect.html&key=y0SSOwFsvsidbzig4qFdWXvvQtyl>  
and downloading the Vidyo software before the seminar.

You must please join in the virtual venue (called "*CoE Seminar Room (Wits)*") on Vidyo  
strictly between **10h00-10h15**. No latecomers will be added.

**Important videoconferencing netiquette:**

Once the seminar commences, please mute your own microphone so that there is no feedback from your side into the virtual room. During the Q&A slot you can then unmute your microphone if you have a question to ask the speaker.

**Title:**

The Orlicz-Pettis Theorem for Multiplier Convergent Series

**Presenter:**

Charles Swartz

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**Abstract:**

An Orlicz-Pettis Theorem is a result which asserts that a series in a topological vector space which converges in a weak topology converges in a stronger topology. The original Orlicz-Pettis Theorem asserts that a series in a normed space which is subseries convergent in the weak topology is subseries convergent in the norm topology. We consider versions of the Orlicz-Pettis Theorem for multiplier convergent series.. If  $\lambda$  is a scalar sequence spaces and  $Z$  is a topological vector space a series  $\sum_{j} z_{j}$  in  $Z$  is  $\lambda$  multiplier convergent if the series  $\sum_{j=1}^{\infty} t_{j} z_{j}$  converges in  $Z$  for every  $t = \{t_{j}\} \in \lambda$ . For example, if  $\lambda = m_0$ , the space of sequences with finite range, a series is  $m_0$  multiplier convergent iff the series is subseries convergent. We consider conditions on the multiplier space  $\lambda$  which guarantee that a series which is  $\lambda$  multiplier convergent in the weak topology of a locally convex space is  $\lambda$  multiplier convergent in some stronger topology such as the Mackey topology.