

INVITED SEMINAR

DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

TUESDAY 8TH SEPTEMBER, 2:30PM

LSC ROOM 203 - 5

The bio-hydrodynamics of South African estuaries with reference to the Isimangaliso World Heritage site

by

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Abstract:

Estuarine systems have an important role in the functioning of coastal ecosystems. In South Africa about 75% of estuaries only have an intermittent link to the sea - variable river flows and an energetic wave climate lead to the formation of sand bars that close the channels between these estuaries and the sea. Climate change can have important impacts on the overall functioning of these systems mainly by changing the inlet dynamics. This will be driven by changes in the magnitude and temporal distribution of the river flows that feed estuaries. Sea level rise will also affect these systems through episodic coastal erosion and other changes to the beach systems. In this seminar I will explain some key aspects of the hydrodynamic functioning of these estuaries and discuss the implications of climate change in the context of other important anthropogenic impacts,

About the speaker: Prof Derek Stretch (currently visiting CSU on sabbatical)



Derek graduated with a PhD in Fluid Mechanics from University of Cambridge in 1986. His research focussed on the structure and mixing of turbulent environmental flows. He worked at the University of Washington and Stanford University/NASA Centre for Turbulence Research between 1987 – 1995. In 1996 he returned home to South Africa and joined the engineering academy at the University of KwaZulu-Natal. During the last ten years his research has focused on practical applications of fluid mechanics to solving environmental problems, including air/water quality issues, and the bio-physical dynamics of estuaries. Derek is a full Professor at UKZN and served as Head of the School of Civil Engineering from 2005 – 2009. He is the co-founder and Director of CRECHE – the Centre for Research in Environmental, Coastal & Hydrological Engineering – at UKZN.

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