

## MME Mathematics Education Seminar Series

# FROM ARITHMETIC TO EMERGENT ALGEBRAIC THINKING: CASE STUDIES IN 3 AUSTRALIAN SCHOOLS

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It is well-established that moving successfully from arithmetic thinking to the more abstract field of algebra is problematic for early high school learners. While there may be many reasons behind this, a recent study found that the single largest factor inhibiting students' ability to move successfully from arithmetic thinking to algebraic thinking was explained by student's access to multiplicative thinking. This presentation will compare findings from three schools participating in the Reframing Mathematical Futures national project (RMFII). The targeted teaching approach used a coherent set of teaching materials designed to improve students' multiplicative thinking and scaffold their algebraic reasoning.

**16 OCT 2019 (WED) - MATH LAB 5 (NIE7-B1-10)  
3.30 PM TO 4.30 PM**



Dr Greg Oates holds a Master's degree in logic and a PhD in mathematics education from the University of Auckland and a Diploma in Secondary Mathematics Teaching from the Auckland College of Education, New Zealand. He began his career with ten years teaching secondary mathematics, latterly as Head of Department, before returning to Auckland University where he taught undergraduate mathematics and post-graduate mathematics education until 2016, at which time he moved to the University of Tasmania, Launceston, Australia. He is the Programme Director for the Bachelor of Education (Primary) and the Associate Degree Education courses, currently teaches mathematics education for pre-service teachers in primary and secondary school and is supervising 13 PhD and post-graduate research students. His research interests include the integration of technology into mathematics curricula, collaborative learning in mathematics, and professional development for teachers at all levels (primary to undergraduate), with a specific focus on pedagogical content knowledge (PCK).