

Title: Reasoning about Mathematical 'If-Then' Statements**Prof Lara Alcock****Abstract:**

Mathematics routinely uses 'if-then' statements to express theorems and conjectures. Everyday language routinely uses 'if-then' statements too, but their interpretations depend upon content and context. What does this mean for mathematics students? How do they interpret and reason with the conditionals they meet in undergraduate mathematics? This talk will shed light on this question, presenting empirical data from studies involving mathematical versions of conditional reasoning tasks used in cognitive psychology. It will also provide attendees with an opportunity to reflect upon whether professional mathematicians' reasoning is always as 'logical' as we might think, and on how logical reasoning develops with mathematical expertise.