

Number theory, partitions,  $q$ -series and related research  
( $npqr^2$ )

SEMINAR

## Hypergeometric modular transformations and Ramanujan's series for $1/\pi$

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Date: 1st September 2016 (Thursday)

Time: 10.00 – 11.00 am

Venue: TR713, NIE Block 7, Level 1

<http://math.nie.edu.sg/pctoh/Gettinghere.jpg>

### Abstract:

We use the theory of theta functions to derive hypergeometric transformation formulas and show that a large number of functions are equal. We recover several identities of Goursat along with many that are new. We discuss applications to Ramanujan's series for  $1/\pi$  and show how to obtain iterations that converge rapidly to  $1/\pi$ .

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