



FUN

FIELDS UNDERGRADUATE NETWORK

CMS Studc Fields Trip
at
2011 Canadian Mathematical Society Winter Meeting

**Abraham de Moivre, de Moivre's Identity, and the
Origins of Complex Analysis**

James Room at Delta Chelsea Hotel • 33 Gerrard Street West • Toronto, Ontario

December 9, 2011 • 10 a.m. - 2 p.m.

Professor Craig G. Fraser, University of Toronto



The modern subject of complex analysis commences with the writings of Augustin-Louis Cauchy during the period from 1812 to 1845. The pre-history of this subject goes back to Italian work in the sixteenth century on solving polynomial equations. A key result in the mathematical resolution of the problem of the irreducible polynomial was the formula,

$$(\cos\theta + i\sin\theta)^n = \cos(n\theta) + i\sin(n\theta)$$

where $i^2 = -1$

The French-English mathematician Abraham de Moivre (1667-1754) in effect discovered and proved this identity, and it is known today as de Moivre's identity. (In the form given above it does not actually appear until slightly later with Leonhard Euler.)

The lecture looks at the background to de Moivre's researches, presents his proof of de Moivre's identity and examines thinking during the period about complex numbers.

Schedule:

10:00 a.m. - 10:30 a.m. - Meet and Greet with short FUN Presentation

10:30 a.m. - 11:30 a.m. - Lecture by Professor Craig G. Fraser

11:30 a.m. - 12:00 p.m. - Question Period

12:00 p.m. - 2:00 p.m. - Lunch at Richtree, 444 Yonge Street

For lunch, please RSVP to richard.cerezo@alumni.utoronto.ca before Thursday, December 8 at noon

For more information, please visit blog.fields.utoronto.ca/fun

