

Tuesday,  
April 23, 2013  
5:00-6:00 PM

General  
Academic  
Building,  
Room 105

A pre-lecture reception with cookies, coffee and tea will be held at 4:30 PM in the General Academic Building, Room 472.

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The *RTG in Logic & Dynamics* is a research training group supported by the National Science Foundation and the University of North Texas.

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Department of Mathematics  
University of North Texas  
1155 Union Circle #311430  
Denton, TX 76203  
(940) 565-2155

rtg@unt.edu  
[www.math.unt.edu/rtg](http://www.math.unt.edu/rtg)

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For UNT campus parking information visit:  
<http://www.unt.edu/transit/>

## JAMES CUMMINGS

CARNEGIE MELLON UNIVERSITY



### FROM THE INFINITE TO THE FINITE

It is a surprising fact that ideas and tools from infinitary mathematics can be used to resolve problems about finite sets. I will discuss one result of this kind; a theorem about colourings of finite graphs whose proof involves algebra, analysis and nonlinear programming.

*James Cummings is a Professor of Mathematical Sciences at Carnegie Mellon University. He received his Ph.D. from Cambridge University in 1989, under the joint direction of Adrian Mathias and Hugh Woodin. He works mainly in set theory, in particular large cardinals and forcing. He has recently become interested in applications of infinitary mathematics to problems about finite structures.*