



# INFO SHEET

December 6, 2011

QUEEN'S UNIVERSITY AT KINGSTON  
Department of Mathematics and Statistics  
<http://www.mast.queensu.ca>

CALENDAR		
<b>Tuesday, December 6</b>	<b>Discrete Math Seminar</b>  <b>Time: 3:30 p.m. – 4:30 p.m.</b> <b>Place: Jeffery 319</b>	<b>Speaker:</b> Imed Zaguia <b>Title:</b> The 1/3-2/3 conjecture for N-free partially ordered sets.  <b>Abstract Attached</b>

Items for the Info Sheet should reach Anne (burnsa@mast.queensu.ca) by noon on Monday. The Info Sheet is published every Tuesday.

**To be included on the exam cover page:** PLEASE NOTE: “Proctors are unable to respond to queries about the interpretation of exam questions. Do your best to answer exam questions a written.”

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**Tuesday, December 6, 3:30 p.m. Jeffery 319**

**Discrete Math Seminar**

Speaker: Imed Zaguia

Title: The 1/3-2/3 conjecture for N-free partially ordered sets.

**Abstract:** In a finite partially ordered set,  $\text{Prob}(x > y)$  denotes the proportion of linear extensions in which element  $x$  appears above element  $y$ . In 1969, S. S. Kislitsyn conjectured that in every finite poset which is not a chain, there exists a pair  $(x, y)$  for which  $1/3 \leq \text{Prob}(x > y) \leq 2/3$ . In 1995, G. R. Brightwell, S. Felsner and W. T. Trotter showed that there exists a pair  $(x, y)$  with  $(5 - \sqrt{5})/10 \leq \text{Prob}(x > y) \leq (5 + \sqrt{5})/10$ , but the full 1/3-2/3 conjecture remains open and has been listed among ORDER’s featured unsolved problems for more than 25 years.

In this talk, we show that that the 1/3-2/3 conjecture is true for finite N-free posets, that is, posets with no N in their Hasse diagram.