Crowns and their uses in generation problems

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Week 8 - Term 2

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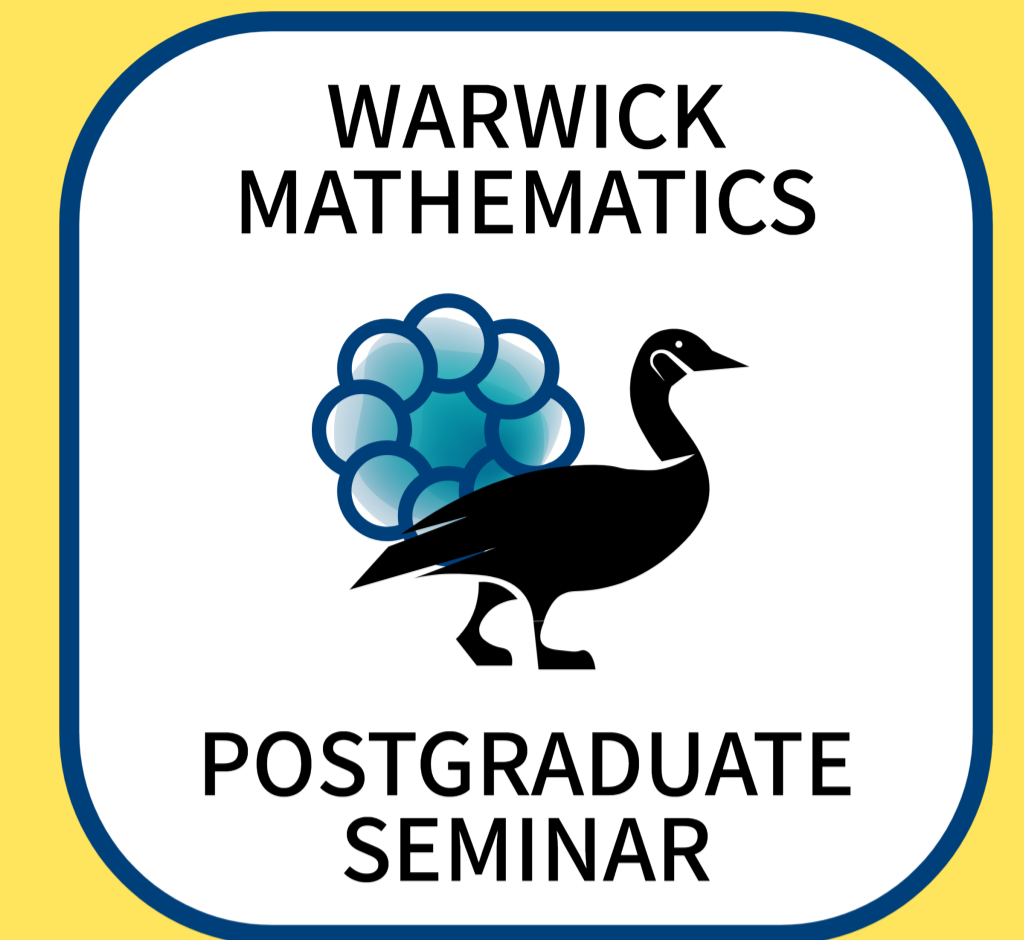
Abstract

The generation properties of a group reveal a lot of information about its structure. As such, these properties have been investigated very thoroughly in the last century. This has led to some very beautiful and surprising results being proven, such as the fact that all simple groups are generated by two elements. Relatively recently, Dalla Volta and Lucchini developed the theory of crowns in order to tackle such problems.

In this talk, we will introduce the set of crowns of a group, describe how it is utilised in generation problems, and showcase its strength via some examples. Time allowing, I will explain how this approach has been applied in recent research in order to bound the number of generators of the maximal subgroups of simple groups.

Time

12 pm, 1st March 2023

Location

Room B3.02

Organisers

Alvaro Gonzalez Hernandez
Katerina Santicola