Calculations with Matrix Groups over the Integers
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Abstract: For matrix groups over the integers, reduction by a modulus $m$ is a fundamental algorithmic tool. I will investigate how it can be used to study such groups on the computer, to test finiteness or finite index. Particular emphasis is given to Arithmetic groups, that is subgroups of $SL_n(Z)$ or $Sp_n(Z)$ of finite index. For determining such an index the structure of classical groups over residue class rings $Z/mZ$, and the representation theory of classical groups become the major tools. This is joint work with A. Detinko and D. Flannery (both NUI Galway)

The 3-modular Character Table of the Fischer Group Fi23
Klaus Lux
University of Arizona

We will illustrate the state of the art methods in computational modular representation theory of finite groups. We will primarily focus on the example of the 3-modular character table of the sporadic simple Fischer group Fi23. This table was computed jointly with L. Goergen and G. Hiss, both at RWTH Aachen University. We will also give an overview of the recent progress on the Modular Atlas Volume 2 and which open problems might be expected to be solved in the near future by applying the methods described in the talk.

Weber 223
4–6 pm
Friday, April 15, 2016
(Refreshments in Weber 117, 3:30–4 pm)
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