A A R H U S U N I V E R S I T E T



Center for the Topology and Quantization of Moduli Spaces



The Torelli Group

MASTERCLASS, 17 - 21 MARCH, 2008 by Andrew Putman (MIT)

Abstract

The Torelli group is the subgroup of the mapping class group consisting of mapping classes which act trivially on the first homology group of the surface. Following preliminary work by Birman and her collaborators, Dennis Johnson produced a series of papers in the late 70's and early 80's which demonstrated that the Torelli group supports a surprisingly rich theory with deep ties to both 3-manifold topology and algebraic geometry. In fact, the Torelli group is the first group in an infinite filtration of the mapping class group. The terms in this filtration are linked together by the Johnson homomorphisms, whose beautiful theory dominates the subject. The goal of this course is to cover in detail and from a modern prospective the foundations of the subject and to survey its later development.

Organizers: Jørgen Ellegaard Andersen and Robert C. Penner.



Finite Type Invariants, Fat Graphs and Torelli-Johnson-Morita Theory

Workshop, 25 March – 4 April, 2008

The speakers include:

Christine Lescop Dan Margalit Gregor Masbaum Gwénaël Massuyeau Jean-Baptiste Meilhan Shigeyuki Morita Hitoshi Murakami Jun Murakami Tomotada Ohtsuki Kent Orr Bernard Perron Andrew Putman Takuya Sakasai Masaaki Suzuki Tadayuki Watanabe

Organizers: Jørgen Ellegaard Andersen and Robert C. Penner.

Ricci Flow and Geometrization of Three-Manifolds

MASTERCLASS, 16 – 28 JUNE, 2008 by Zhu Xiping and Bing-Long Chen (Zhongshan University)

Abstract

This short course is concerned with the Hamilton-Perelman theory of the Ricci flow and its applications to the topology of three-manifolds. We will begin with the analytic properties of the Ricci flow. Then we will discuss the formation of singularities and the geometric surgeries. We will also study the long-time behaviors of the surgically modified solutions. In the end, one will be able to get a global picture on the proof of the geometrization conjecture.



Organizers: Jørgen Ellegaard Andersen and Robert C. Penner.

A limited amount of financial support will be available for PhD students and postdocs to attend the workshops. All participants should register online at http://www.ctqm.au.dk. The registration deadline is a month prior to the starting date of each workshop.

Center for the Topology and Quantization of Moduli Spaces

Department of Mathematical Sciences Faculty of Science, University of Aarhus Ny Munkegade, bldg. 1530, 8000 Aarhus C, Denmark

Web: http://www.ctqm.au.dk/

Director: Jørgen Ellegaard Andersen

Phone: + 45 8942 3432 Fax: + 45 8613 1769

Email: andersen@imf.au.dk