

CLAY MATHEMATICS INSTITUTE

ON

HARMONIC ANALYSIS, THE TRACE FORMULA AND SHIMURA VARIETIES

JUNE 2 - 27, 2003

AT THE

THE FIELDS INSTITUTE FOR RESEARCH
IN MATHEMATICAL SCIENCES

222 COLLEGE STREET, TORONTO, CANADA



SUMMER SCHOOL



THE FIELDS INSTITUTE

FOR RESEARCH IN MATHEMATICAL SCIENCES

SUMMER SCHOOL OVERVIEW

The Clay Mathematics Institute is organizing a summer school in automorphic forms in June, 2003. The school will be held at the Fields Institute in Toronto and will be aimed at graduate students and mathematicians within five years of their Ph.D.

The school will begin with three weeks of foundational courses centered around the trace formula: one course on the statement and proof of the trace formula, two courses providing background material on reductive groups and harmonic analysis on those groups, and a fourth course on Shimura varieties, which provide an illuminating application of the trace formula. The fourth week will consist of five advanced short courses on more specialized topics related to the main themes of the school. While there are no formal prerequisites, preference will be given to applicants with some prior knowledge of algebraic groups or number theory.

ORGANIZING COMMITTEE

James Arthur (Toronto)
David Ellwood (Boston & CMI)
Robert Kottwitz (Chicago)

APPLYING TO ATTEND

Interested participants can apply to attend the summer school by mailing the application form available on the web page to the address below.

We anticipate that funding will be available for 90 graduate students and young mathematicians. Interested candidates must forward with the summer school application available on the web site, a letter of recommendation from their mathematical advisor or a senior mathematician.

Application deadline is February 15, 2003.

Clay Math Institute Summer School
The Fields Institute
222 College Street,
Toronto, M5T 3J1 Canada
Fax: (416) 348-9759

SUMMER SCHOOL LECTURE COURSES

June 2 - 20, 2003

Introduction to the Trace Formula
Instructor: **James Arthur**

June 2 - 20, 2003

Introduction to Shimura Varieties
Instructor: **James Milne**

June 2 - 6, 2003

Background from Algebraic Groups
Instructor: **Fiona Murnaghan**

June 9 - 20, 2003

Harmonic Analysis on Reductive Groups
and Lie Algebras
Instructor: **Robert Kottwitz**

ADVANCED SHORT COURSES

JUNE 23- 27, 2003

An Introduction to Homogeneity
Stephen DeBacker

Geometry and Topology of
Compactifications of Modular Varieties
Mark Goresky

Bad Reduction of Shimura Varieties
Thomas Haines

An Introduction to the Fundamental Lemma
Tom Hales

Analytic Aspects of Automorphic Forms
Peter Sarnak

PROGRAM AND APPLICATION INFORMATION

www.fields.utoronto.ca/programs/scientific/02-03/automorphic_forms/CMI_summer_school/
www.claymath.org/schools/