

**SEMINAR: TOPICS IN AUTOMORPHIC FORMS  
(MATH 620D)**

L. SILBERMAN (WITH W. CASSELMAN, J. GORDON)

Course Website	<a href="http://www.math.ubc.ca/~lior/teaching/Seminar_F08/">http://www.math.ubc.ca/~lior/teaching/Seminar_F08/</a>
My Website	<a href="http://www.math.ubc.ca/~lior/">http://www.math.ubc.ca/~lior/</a>
My Office	MAT 229B — 604-827-3031
E-mail	lior@math.ubc.ca
First meeting	Tuesday Sept. 2 <sup>nd</sup> , 3pm in MATX 1102
Regular time	3 hours weekly, TBD

The “number theory” reading seminar continues! Our topic will be the theory of real-analytic automorphic forms on the upper half-plane (“Maaß forms”) leading up to the analytic continuation of Eisenstein series. Most of the lectures be given by the students. The material is closely connected to the courses of Gordon and Vatsal which will take place in the Winter term and will mainly consist of harmonic analysis on the hyperbolic plane.

TOPICS WILL INCLUDE:

- Introduction: the space of lattices, doubly periodic functions and holomorphic forms.
- Geometry of the hyperbolic plane and the modular surface.  $SL_2(\mathbb{R})$ .
- Spectral theory on Hilbert spaces. The Laplace operator.
- Cusp forms.
- Eisenstein series.
- $L^2(SL_2(\mathbb{Z})\backslash SL_2(\mathbb{R}))$  and the representation-theoretic picture.

PLAN

We will meet once a week for three hours (with a break). The time will be chosen to suit the participants. The first two lectures are planned, after which we will divide the reading.

**Organizational meeting: Tuesday the 2<sup>nd</sup> in MATX 1102**