

**HILBERT MODULAR FORMS AND VARIETIES**  
**Program for ATM Workshop**  
**KERELA SCHOOL OF MATHEMATICS, KOZHIKODE**

**January 21-31, 2013**  
*Speakers and Topics*

## Monday, 21/1

| Speakers        | Topic  |
|-----------------|--|
| Ghate           | Overview on HMFs and HMVs                    |
| Kassaei         | Mini-course I: mod $p$ and $p$ -adic methods |
| Balasubramanyam | Freitag 1.1: $SL_2(\mathbf{R})$              |
| Schein          | Mini-course II: Galois representations       |

## Tuesday, 22/1

| Speakers        | Topic  |
|-----------------|--|
| Kassaei         | Mini-course I: mod $p$ and $p$ -adic methods |
| Balasubramanyam | Freitag 1.2: $SL_2(\mathbf{R})^n$            |
| Schein          | Mini-course II: Galois representations       |
| Sharma          | Freitag 1.3: Hilbert modular group           |
| Bhattacharya    | Freitag 1.4: Automorphic forms               |

## Wednesday, 23/1

| Speakers | Topic  |
|----------|--|
| Manickam | Freitag 1.5: Construction of Hilbert modular forms |
| Schein   | Mini-course II: Galois representations             |
| Kassaei  | Mini-course I: mod $p$ and $p$ -adic methods       |

\* Afternoon free

## Thursday, 24/1

| Speakers | Topic  |
|----------|--|
| Schein   | Mini-course II: Local Langlands              |
| Kassaei  | Mini-course I: mod $p$ and $p$ -adic methods |
| Ganguli  | Freitag 1.6: Finiteness of dimension         |
| Varma    | Freitag 2.1: Selberg Trace Formula           |

## Friday, 25/1

| Speakers | Topic  |
|----------|--|
| Varma    | Freitag 2.2: Dimension formula in the cocompact case |
| Kassaei  | Mini-course I: mod $p$ and $p$ -adic methods         |
| Schein   | Mini-course II: Local Langlands                      |
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## Saturday, 26/1

| Speakers        | Topic  |
|-----------------|--|
| Anandavardhanan | Mini-course IV: mod $p$ supercuspidal for $GL_n$         |
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| Sreekantan      | van der Geer Ch. 2: Resolution of cuspidal singularities |
| Rotger          | Mini-course III: Cycles and rational points              |

\* Sunday 27/1 free

## Monday, 28/1

| Speakers        | Topic   |
|-----------------|---|
| Rotger          | Mini-course III: Cycles and rational points             |
| Raghuram        | Mini-course V: Cohomology of HMVs                       |
| Anandavardhanan | Mini-course IV: mod $p$ supercuspidal for $GL_n$        |
| Raghunathan     | Freitag 2.3: Contribution of cusps to the trace formula |
| Muralitharan    | Freitag 2.4: An algebraic geometric method              |

## Tuesday, 29/1

| Speakers       | Topic   |
|----------------|---|
| Rotger         | Mini-course III: Cycles and rational points             |
| Sreekantan     | van der Geer Ch. 2: Resolution of cusp singularities    |
| Raghuram       | Mini-course V: Cohomology of HMFs                       |
| Krishnamoorthy | van der Geer Ch. 6.4: Doi-Naganuma lift and base change |

## Wednesday, 30/1

| Speakers | Topic   |
|----------|---|
| Raghuram | Mini-course V: Cohomology of HMFs             |
| Rotger   | Mini-course III: Cycles and rational points   |
| Ghate    | Mini-course VI: Congruences for HMFs          |
| Shekhar  | van der Geer Ch. 11: Tate conjecture for HMFs |

## Thursday, 31/1

| Speakers   | Topic                                |
|------------|--------------------------------------|
| Ghate      | Mini-course VI: Congruences for HMFs |
| Extra talk |                                      |

\* Departure after lunch