



## School and Conference on Analytic Number Theory

Organizer(s): Directors: R. Balasubramanian, J.-M. Deshouillers, E. Kowalski; ICTP Local Organizer: Le Dung Trang  
Trieste - Italy, 23 April 2007 - 11 May 2007  
MB (Main Lecture Hall)

**Venue: Main Building Lecture Hall**

### Final programme

**Monday, 23 April 2007 - morning**  
(Room: Main Building Lecture Hall)

**23 April 2007**

- 08:30 - 10:00** (Room: Main Building Lobby)  
--- REGISTRATION AND ADMINISTRATIVE FORMALITIES ---
- 10:00 - 10:15** **Le Dung Trang** / *ICTP, Trieste, Italy*  
**OPENING**
- 10:15 - 10:30** **E. Kowalski** / *Université de Bordeaux 1, Bordeaux, France*  
**Introductory remarks**
- 10:30 - 12:30** **J.-M. Deshouillers** / *Université de Bordeaux 1, Bordeaux, France*  
**Probabilistic methods I**
- 12:30 - 14:00** --- Lunch break ---
- 14:00 - 15:00** **R. Balasubramanian** / *The Institute of Mathematical Sciences, Chennai, India*  
**Additive number theory I**
- 15:00 - 15:05** --- Break ---
- 15:05 - 16:05** **R. Balasubramanian** / *The Institute of Mathematical Sciences, Chennai, India*  
**Additive number theory II**

**Tuesday, 24 April 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **K. Srinivas / *The Institute of Mathematical Sciences, Chennai, India***  
**Basic theory of the Riemann zeta and Dirichlet L-functions I**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 11:45**     **K. Srinivas / *The Institute of Mathematical Sciences, Chennai, India***  
**Basic theory of the Riemann zeta and Dirichlet L-functions II**
- 11:45 - 12:45**     **J-M. Deshouillers / *Université de Bordeaux I, Bordeaux, France***  
**Probabilistic methods II**
- 12:45 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **J-M. Deshouillers / *Université de Bordeaux I, Bordeaux, France***  
**Probabilistic methods III**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **E. Bombieri / *Institute for Advanced Study, Princeton, USA***  
**ICTP/SISSA Joint Colloquium in Mathematics "Kahane polynomials and their derandomization"**  
**Joint work with J. Bourgain**

**Wednesday, 25 April 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **K. Srinivas / *The Institute of Mathematical Sciences, Chennai, India***  
**Basic theory of the Riemann zeta and Dirichlet L-functions III**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **K. Srinivas / *The Institute of Mathematical Sciences, Chennai, India***  
**Basic theory of the Riemann zeta and Dirichlet L-functions IV**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **P. Michel / *Université de Montpellier II, Montpellier, France***  
**Modular forms and automorphic L-functions I**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **P. Michel / *Université de Montpellier II, Montpellier, France***  
**Modular forms and automorphic L-functions II**

**Thursday, 26 April 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **P. Michel / *Université de Montpellier II, Montpellier, France***  
**Modular forms and automorphic L-functions III**
- 10:30 - 10:45**     --- Coffee break ---

- 10:45 - 12:00**     **P. Michel** / *Université de Montpellier II, Montpellier, France*  
**Modular forms and automorphic L-functions IV**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **B. Green** / *University of Cambridge, Cambridge, UK*  
**Additive combinatorics I**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **B. Green** / *University of Cambridge, Cambridge, UK*  
**Additive combinatorics II**

**Friday, 27 April 2007** (Room:Main Building Lecture Hall)

- 09:30 - 10:30**     **R. Balasubramanian** / *The Institute of Mathematical Sciences, Chennai, India*  
**Additive number theory III**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **R. Balasubramanian** / *The Institute of Mathematical Sciences, Chennai, India*  
**Additive number theory IV**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **B. Green** / *University of Cambridge, Cambridge, UK*  
**Additive combinatorics III**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **B. Green** / *University of Cambridge, Cambridge, UK*  
**Additive combinatorics IV**

**Monday, 30 April 2007** (Room:Main Building Lecture Hall)

- 09:30 - 10:30**     **B. Green** / *University of Cambridge, Cambridge, UK*  
**Additive combinatorics V**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **K. Belabas** / *Université de Bordeaux I, Bordeaux, France*  
**Algorithmic aspects of analytic number theory I**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **K. Belabas** / *Université de Bordeaux I, Bordeaux, France*  
**Algorithmic aspects of analytic number theory II**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **K. Belabas** / *Université de Bordeaux I, Bordeaux, France*  
**Algorithmic aspects of analytic number theory III**

**Tuesday, 1 May 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **T. Browning** / *University of Bristol, Bristol, UK*  
**Counting rational points on algebraic varieties I**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **T. Browning** / *University of Bristol, Bristol, UK*  
**Counting rational points on algebraic varieties II**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **J. Friedlander** / *University of Toronto, Toronto, Canada*  
**Introduction to sieve methods I**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **J. Friedlander** / *University of Toronto, Toronto, Canada*  
**Introduction to sieve methods II**

**Wednesday, 2 May 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **J. Friedlander** / *University of Toronto, Toronto, Canada*  
**Introduction to sieve methods III**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **J. Friedlander** / *University of Toronto, Toronto, Canada*  
**Introduction to sieve methods IV**
- 12:00 - 14:00**     --- Lunch break ---
- 14:00 - 15:00**     **T. Browning** / *University of Bristol, Bristol, UK*  
**Counting rational points on algebraic varieties III**
- 15:00 - 15:05**     --- Break ---
- 15:05 - 16:05**     **T. Browning** / *University of Bristol, Bristol, UK*  
**Counting rational points on algebraic varieties IV**

**Thursday, 3 May 2007 (Room:Main Building Lecture Hall)**

- 09:30 - 10:30**     **H. Iwaniec** / *Rutgers University, Piscataway, USA*  
**Analytic number theory without borders I**
- 10:30 - 10:45**     --- Coffee break ---
- 10:45 - 12:00**     **H. Iwaniec** / *Rutgers University, Piscataway, USA*  
**Analytic number theory without borders II**
- 12:00 - 14:00**     --- Lunch break ---

14:00 - 15:00 **E. Kowalski** / *Université de Bordeaux I, Bordeaux, France*  
**Exponential sums over fields I**

15:00 - 15:05 --- Break ---

15:05 - 16:05 **E. Kowalski** / *Université de Bordeaux I, Bordeaux, France*  
**Exponential sums over fields II**

**Friday, 4 May 2007 (Room:Main Building Lecture Hall)**

09:30 - 10:30 **E. Kowalski** / *Université de Bordeaux I, Bordeaux, France*  
**Exponential sums over fields III**

10:30 - 10:45 --- Coffee break ---

10:45 - 12:30 **H. Iwaniec** / *Rutgers University, Piscataway, USA*  
**Analytic number theory without borders III**

12:30 - 14:00 --- Lunch break ---

14:00 - 14:00 **FREE AFTERNOON**

**Monday, 7 May 2007 - morning (Room:Main Building Lecture Hall)**

**Chairperson: J. Friedlander**

7 May 2007

09:30 - 10:30 **H. Iwaniec** / *Rutgers University, Piscataway, USA*  
**Counting rational points on some cubic surfaces**

10:30 - 11:00 --- Coffee break ---

11:00 - 12:00 **Z. Rudnick** / *Tel Aviv University, Tel Aviv, Israel*  
**Arithmetic problems arising in quantum chaos**

12:00 - 14:00 --- Lunch break ---

**Monday, 7 May 2007 - afternoon (Room:Main Building Lecture Hall)**

**Chairperson: J.Liu**

7 May 2007

14:00 - 15:00 **C.E. Friedman** / *Universidad de Chile, Santiago, Chile*  
**Finite products of regularized products**

15:00 - 16:00 **R. Holowinsky** / *Institute for Advanced Study*  
**Sieve method for shifted convolution sums of Hecke eigenvalues**

16:00 - 16:05 --- Break ---

16:05 - 17:05 **G. Ricotta** / *Université de Bordeaux I, Bordeaux, France*  
**Statistics for low-lying zeros of symmetric power L-functions in the level aspect**

**Tuesday, 8 May 2007 - morning** (Room:Main Building Lecture Hall)  
**Chairperson: Z. Rudnick**

**8 May 2007**

- 09:30 - 10:30**      **J. Marklof** / *University of Bristol, Bristol, UK*  
**The distribution of visible lattice points**
- 10:30 - 11:00**      --- Coffee break ---
- 11:00 - 12:00**      **B. Conrey** / *American Institute of Mathematics, Palo Alto, USA*  
**Recent progress and conjectures in Random Matrix Theory**
- 12:00 - 14:00**      --- Lunch break ---

**Tuesday, 8 May 2007 - afternoon**  
(Room:Main Building Lecture Hall)  
**Chairperson: H. Iwaniec**

**8 May 2007**

- 14:00 - 15:00**      **L. H. Montgomery** / *University of Michigan, Ann Arbor, USA*  
**The combinatorics of moment calculations**
- 15:00 - 16:00**      **J. Friedlander** / *University of Toronto, Toronto, Canada*  
**Distribution of small values of Euler's function**
- 16:00 - 16:05**      --- Break ---
- 16:05 - 17:05**      **A. Perelli** / *University of Genova, Genova, Italy*  
**L-functions: an axiomatic approach**

**Wednesday, 9 May 2007 - morning**  
(Room:Main Building Lecture Hall)  
**Chairperson: B. Conrey**

**9 May 2007**

- 09:30 - 10:30**      **U. Zannier** / *Scuola Normale Superiore, Pisa, Italy*  
**On the  $\gcd(1/u, 1/v)$  for  $S$ -units  $u, v$  and applications**
- 10:30 - 11:00**      --- Coffee break ---
- 11:00 - 12:00**      **E. Royer** / *Université Blaise Pascal, Aubière, France*  
**Square-tiled surfaces and quasimodular forms**
- 12:00 - 14:00**      --- Lunch break ---

**Wednesday, 9 May 2007 - afternoon** (Room:Main Building Lecture Hall)  
**Chairperson: A. Sárközy**

**9 May 2007**

- 14:00 - 15:00**     **R. de la Breteche** / *Université Paris 7 - Denis Diderot, Paris, France*  
**The distribution of integers with a fixed number of divisors in a given interval**
- 15:00 - 16:00**     **Jianya Liu** / *Shandong University, Shandong, China*  
**Distribution of primes on orbits**
- 16:00 - 16:05**     --- Break ---
- 16:05 - 17:05**     **G. Tenenbaum** / *Institut Elie Cartan, Nancy, France*  
**Recent progress on friable means of arithmetic functions**

**Thursday, 10 May 2007 - morning**

(Room:Main Building Lecture Hall)

**Chairperson: T. Browning**

**10 May 2007**

- 09:30 - 10:30**     **V. Blomer** / *University of Toronto, Toronto, Canada*  
**Spectral decomposition of shifted convolution sums**
- 10:30 - 11:00**     --- Coffee break ---
- 11:00 - 12:00**     **H. Helfgott** / *University of Bristol, Bristol, UK*  
 **$p^3+2$  is squarefree infinitely often**
- 12:00 - 14:00**     --- Lunch break ---

**Thursday, 10 May 2007 - afternoon** (Room:Main Building Lecture Hall)

**Chairperson: H. Montgomery**

**10 May 2007**

- 14:00 - 15:00**     **T. Browning** / *University of Bristol, Bristol, UK*  
**Integral and rational points on cubic hypersurfaces**
- 15:00 - 16:00**     **A. Sarkozy** / *Eotvos Lorand University, Budapest, Hungary*  
**Equations in finite fields with restricted solution sets**
- 16:00 - 16:05**     --- Break ---
- 16:05 - 16:50**     **E. Royer** / *Université Blaise Pascal, Aubière, France*  
**Square tiled surfaces and quasimodular forms**

**Friday, 11 May 2007** (Room:Main Building Lecture Hall)

- 09:30 - 10:30**     **R. Balasubramanian** / *The Institute of Mathematical Sciences, Chennai, India*  
**Sumfree sets**
- 10:30 - 11:00**     --- Coffee break ---
- 11:00 - 12:00**     **E. Kowalski** / *Université de Bordeaux 1, Bordeaux, France*  
**The principle of the large sieve**

**12:00 - 12:00** --- END OF THE ACTIVITY ---