

INTERNATIONAL CONFERENCE ON ANALYTIC NUMBER THEORY

October 05 - 09, 2009

A Homi Bhabha Birth Centenary Event

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH
Homi Bhabha Road, Mumbai 400 005**

Organizers

**A. Sankaranarayanan
N. Saradha
J. Sengupta**

Sponsors and Supporters

**Homi Bhabha Birth Centenary Committee
and
School of Mathematics, TIFR**

Speakers

S.D. Adhikari (HCRI, Allahabad)

J. Andersson (Uppsala University, Sweden)

S. Baier (Jacobs University of Bremen, Germany)

R. Balasubramanian (IMSc, Chennai)

S. Boecherer (University of Mannheim, Germany)

T.D. Browning (University of Bristol, UK)

Y. Bugeaud (Universite Louis Pasteur, France)

Y.J. Choie (POSTECH, Republic of Korea)

J.M. Deshouillers (Universites Bordeaux, France)

J. Hoffstein (Brown University, USA)

J. Kaczorowski (Adam Mickiewicz University, Poland)

Haseo Ki (Yonsei University, Republic of Korea)

W. Kohlen (Universitaet Heidelberg, Germany)

F. Luca (Instituto de Matematicas, UNAM, Mexico)

H. Maier (Universitaet Ulm, Germany)

A. Mukhopadhyay (IMSc, Chennai)

A. Perelli (Dipartimento di Matematica, Italy)

O. Ramare (Universite de Lille, France)

M. Ram Murty (Queen's University, Canada)

B. Ramakrishnan (HCRI, Allahabad)

Ravi Raghunathan (IIT, Mumbai)

A. Sankaranarayanan (TIFR, Mumbai)

R. Schulze-Pillot (Universitaet des Saarlandes, Germany)

T.N. Shorey (TIFR, Mumbai)

K. Srinivas (IMSc, Chennai)

J. Steuding (University of Wuerzburg, Germany)

B. Sury (ISI, Bangalore)

K.M. Tsang (University of Hong Kong, Hong Kong)

M.. Waldschmidt (Universite Paris, France)

G. Wuestholz (ETH-Zentrum, Switzerland)

Inauguration

By

**Professor Mustansir Barma
Director, TIFR**

Venue: Lecture Theatre (AG-66)

Time: 9.15 a.m. to 9.30 a.m.

Date : 05.10.2009

P R O G R A M
Venue : Lecture Theatre (AG-66)

Oct.05 (Monday)
Session I

Chair : M. Waldschmidt, Universite Paris

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|-------------|--|
| 9.30-10.10 | M. Ram Murty (Queen's University)
Special values of Artin L-series.
(Joint work with Kumar Murty). |
| 10.20-11.00 | H. Maier (Universitaet Ulm)
The behaviour in short intervals of exponential sums
over sifted integers (Joint work with A. Sankaranarayanan). |
| 11.00-11.30 | Tea Break |
| 11.30-12.10 | A. Sankaranarayanan (TIFR, Mumbai)
Exponential sums over primes in residue classes
(Joint work with H. Maier). |
| 12.20-13.00 | TBA |
| 13.00-14.00 | Lunch |

Session II

Chair: H. Maier, Universitaet Ulm

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| 14.20-15.00 | S.D. Adhikari (HCRI)
Visibility of Lattice points (Joint work with A. Granville). |
| 15.10-15.50 | G. Wuestholz (ETH-Zentrum)
Newton, Leibnitz and transcendence. |
| 15.50-16.20 | Tea Break |
| 16.20-17.00 | S. Boecherer (University of Mannheim)
On a formula of B.Heim (Joint work with B. Heim). |

Oct.06 (Tuesday)
Session I

Chair : J.M. Deshouillers, Universites Bordeaux

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| 9.30-10.10 | A. Perelli (Dipartimento di Matematica)
Non-linear twists of L-functions. I (Joint work with J. Kaczorowski). |
| 10.20-11.00 | J. Kaczorowski (Adam Mickiewicz University)
Non-linear twists of L-functions, II (Joint work with A. Perelli). |
| 11.00-11.30 | Tea Break |
| 11.30-12.10 | K. Srinivas (IMSc)
Hardy's theorem for General Dirichlet Series. |
| 12.20-13.00 | J. Andersson (Uppsala University)
On a problem of Ramachandra and the Riemann zeta function. |
| 13.00-14.00 | Lunch |

Session II

Chair: Y.J. Choie, POSTECH.

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| 14.20-15.00 | Haseo Ki (Yonsei University)
On the zeros of Weng's zeta functions. |
| 15.10-15.50 | K. Tsang (University of Hong Kong)
An Extension of the Brun-Titchmarsh Inequality
(Joint work with T.H. Chan and S.K.K. Choi). |
| 15.50-16.20 | Tea Break |
| 16.20-17.00 | R. Schulze-Pillot (Universitaet des Saarlandes)
Representations of quadratic forms by quadratic forms. |

Oct.07 (Wednesday)
Session I

Chair : M. Ram Murty, Queen's University

- 9.30-10.10 J.M. Deshouillers (Universites Bordeaux)
On the distribution modulo one of the mean values of some arithmetical function (Joint work with Henryk Iwaniec).
- 10.20-11.00 J. Steuding (University of Wuerzburg)
New results on the value-distribution of the Riemann zeta-function on the critical line.
- 11.00-11.30 Tea Break
- 11.30-12.10 Ravi Raghunathan (IIT, Mumbai)
On the algebraic independence of cuspidal automorphic L-functions
- 12.20-13.00 TBA
- 13.00-14.00 Lunch

Session II

Chair: W. Kohnen, Universitaet Heidelberg

- 14.20-15.00 J. Hoffstein (Brown University)
Multiple Dirichlet series and Shifted Convolutions.
- 15.10-15.50 B. Ramakrishnan (HCRI)
A canonical subspace of modular forms of half-integral weight (Joint work with Sanoli Gun and M. Manickam).
- 15.50-16.20 Tea Break
- 16.20-17.00 Y.J. Choie (POSTECH)
Quasimodular forms.

Oct.08 (Thursday)

Session I

Chair : T.N. Shorey, TIFR

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| 9.30-10.10 | M. Waldschmidt (Universite Paris)
Criteria for: irrationality, linear independence,
transcendence, algebraic independence. |
| 10.20-11.00 | T. D. Browning (University of Bristol)
Least zero of a cubic form
(Joint work with Rainer Dietmann and Peter Elliott). |
| 11.00-11.30 | Tea Break |
| 11.30-12.10 | Y. Bugeaud (Universite Louis Pasteur)
Diophantine approximation and Cantor sets. |
| 12.20-13.00 | TBA |
| 13.00-14.00 | Lunch |

No lectures in the afternoon

Oct.09 (Friday)
Session I

Chair : J. Hoffstein , Brown University

- 9.30-10.10 W. Kohlen (Universitaet Heidelberg)
Sign changes of Fourier coefficients of cusp
forms of half-integral weight.
- 10.20-11.00 A. Mukhopadhyay (IMSc.)
Class numbers with many prime factors
(Joint work with K. Chakraborty and F. Luca).
- 11.00-11.30 Tea Break
- 11.30-12.10 F. Luca (Instituto de Matematicas)
Counting dihedral and quaternionic extension
(Joint work with Fouvry, Pappalardi and Shparlinski).
- 12.20-13.00 TBA
- 13.00-14.00 Lunch

Session II

Chair: S.D. Adhikari, HCRI

- 14.20-15.00 B. Sury (ISI)
Density results for primes in progressions
dividing certain sequences (Joint work with Pieter Moree).
- 15.10-15.50 O. Ramare (Universite de Lille)
Towards a geometrical setting for the weighted sieve.
- 15.50-16.20 Tea Break
- 16.20-17.00 T.N. Shorey (TIFR)
Divisibility properties of Laguerre polynomials.