International Congress of Mathematicians

Hyderabad, India

August 19 - 27, 2010

Schedule of Invited Talks

(Sectionwise)

1 Logic and Foundations

Sunday, August 22, 2010   Room No. 1.06
Chair: **R. Ramanujam**

15:00 - 15:45
1.1 A. Nies, University of Auckland, New Zealand
Interactions of computability and randomness
16:00 - 16:45
1.2 Y. Peterzil, University of Haifa, Israel/ **S. Starchenko**, University of
Notre Dame, USA
Tame complex analysis and o-minimality

Friday, August 27, 2010   Room No. 1.06
Chair: **H. Woodin**

15:00 - 15:45
1.3 J. T. Moore, Cornell University, USA
The proper forcing axiom

2 Algebra

Saturday, August 21, 2010   Hall 4
Chair: **R. Parimala**

15:00 - 15:45
2.1 P. Balmer, University of California, Los Angeles, USA
Tensor triangular geometry
16:00 - 16:45
2.2 V. Suresh, University of Hyderabad, India
Quadratic forms,Galois cohomology and function fields of p-adic curves

Tuesday, August 24, 2010   Hall 4
Chair: **I. Reiten**

15:00 - 15:45
2.3 D. J. Benson, University of Aberdeen, UK
Modules for elementary abelian p-groups
16:00 - 16:45
2.4 S. Fomin, University of Michigan, USA
Total positivity and cluster algebras

Thursday, August 26, 2010   Hall 4
Chair: **I. B. S. Passi**

15:00 - 15:45
2.5 N. Karpenko, Université Pierre et Marie Curie, Paris, France
Canonical dimension
16:00 - 16:45
2.6 Z. Reichstein, University of British Columbia, Canada
Essential dimension

3   Number Theory

Chair: **Kumar Murty**

15:00 - 15:45
3.1 R. Heath-Brown, University of Oxford, UK
Artin's conjecture on zeros of p-adic forms
16:00 - 16:45
3.2 C. Breuil, IHES, France
The emerging p-adic Langlands programme
17:00 - 17:45
3.3 K. S. Kedlaya, MIT, USA
Relative p-adic Hodge Theory and Rapoport-Zink period domains

Sunday, August 22, 2010   Hall 4
Chair: **R. Balasubramanian**

15:00 - 15:45
3.4 M. Kisin, Harvard University, USA
The structure of potentially semi-stable deformation rings
16:00 - 16:45
3.5 K. Soundararajan, Stanford University, USA
Quantum unique ergodicity and number theory
17:00 - 17:45
3.6 R. Greenberg, University of Washington, USA
Selmer groups and congruences
18:00 - 18:45
3.7 C. B. Khare, University of California, Los Angeles, USA
Serre's modularity conjecture, I

Wednesday, August 25, 2010   Hall 4
Chair: **R. Heath-Brown**

16:00 - 16:45
3.8 J-P. Wintenberger, Université Louis Pasteur, Strasbourg, France
Serre's modularity conjecture, II

Chair: **M. Waldschmidt**

15:00 - 15:45
3.9 A. Venkatesh, Stanford University, USA
Statistics of number fields and function fields
16:00 - 16:45
3.10 T. Saito, University of Tokyo, Japan
Wild ramification of schemes and sheaves
17:00 - 17:45
3.11 S. Morel, Harvard University, USA
The intersection complex as a weight truncation and an application to Shimura varieties

4 Algebraic and Complex Geometry

Friday, August 20, 2010
Chair: **V. Lakshmibai**

15:00-15:45
4.1 R. Thomas, Imperial College, London, UK
An exercise in mirror symmetry
16:00-16:45
4.2 C. Hacon, University of Utah, USA
Boundedness results in birational geometry
17:00-17:45
4.3 S. Saito, University of Tokyo, Japan
Cohomological Hasse principle and motivic cohomology

Sunday, August 22, 2010
Chair: **V. Srinivas**

15:00-15:45
4.4 J. McKernan, MIT, USA
Flips and flops
16:00-16:45
4.5 M. Paun, Universté Henri Poincaré
Quantitative extensions of twisted pluricanonical forms and non-vanishing
17:00-17:45
4.6 D. Huybrechts, University of Bonn, Germany
Hyperkähler manifolds and sheaves
18:00-18:45
4.7 D. Kaledin, Independent University of Moscow, Russia
Motivic structures in non-commutative geometry

Wednesday, August 25, 2010
Chair: **R. Piene**

15:00-15:45
4.8 P. Belkale, University of North Carolina, Chapel Hill, USA
The tangent space to an enumerative problem
16:00-16:45
4.9 J-Y. Welschinger, Université Lyon 1, France
Integral invariants in real enumerative geometry

Friday, August 27
Chair: **C. Voisin**

15:00-15:45
4.10 F-O. Shreyer, Universität des Saarlandes, Saarbrücken, Germany
Betti numbers of syzygies and cohomologies of coherent sheaves
16:00-16:45
4.11 C-C. M. Liu, Columbia University, USA
Gromov-Witten theory of Calabi-Yau 3-folds
17:00-17:45
4.12 V. Srinivas, Tata Institute of Fundamental Research, India
Algebraic cycles on singular varieties

5 Geometry

Saturday, August 21, 2010   Room No. 2.03
Chair: **T. R. Ramadas**

15:00 - 15:45
5.1 F. C. Marques, IMPA, Brazil
Scalar curvature, conformal geometry and the Ricci flow with surgery
16:00 - 16:45
5.2 F. Pacard, Université de Paris-Est, Créteil, France
Constant scalar curvature and extremal Kähler metrics on blow-ups
17:00 - 17:45
5.3 J. Fu, Fudan University, P. R. of China
On non-Kähler Calabi-Yau three folds with balanced metrics

Tuesday, August 24, 2010   Room No. 2.03
Chair: **R. Kulkarni**

15:00 - 15:45
5.4 A. Erschler, Université de Paris-Sud, Orsay, France
(Talk delivered by **A. Eskin**)
Poisson-Furstenberg boundaries, large scale geometry and growth of groups
16:00 - 16:45
5.5 W. Goldman, University of Maryland, USA
Locally homogeneous geometric manifolds
17:00 - 17:45
5.6 L. Guth, University of Toronto, Canada
Metaphors in systolic geometry

Wednesday, August 25, 2010   Room No. 2.03
Chair: **W. Goldman**

17:00 - 17:45
5.7 I. Fernandez, University of Seville, Spain/**P. Mira**, Universidad Politécnica de Cartagena, Spain
Constant mean curvature surfaces in 3-dimensional Thurston geometries

Thursday, August 26, 2010   Room No. 2.03
Chair **R. Schoen**

15:00 - 15:45
15:00 - 15:45
5.8 X. Ma, Institut de Mathématiques de Jussieu, Paris, France
Geometric quantization on Kähler and symplectic manifolds
16:00 - 16:45
5.9 S. Ivanov, St. Petersburg Department of the Steklov Mathematical Institute, Russia
Volume comparison via boundary distances
17:00 - 17:45
5.10 A. Nabutovsky, University of Toronto, Canada
Morse landscapes of Riemannian functionals and related topics

Friday, August 27, 2010   Room No. 2.03
Chair: **S. Ivanov**

15:00 - 15:45
5.11 T. Januszkiewicz, Ohio State University, USA
Simplicial nonpositive curvature
16:00 - 16:45
5.12 T. Yamaguchi, University of Tsukuba, Japan
Reconstruction of collapsed manifolds

6 Topology

Saturday, August 21, 2010   Room No. 1.01
Chair: **R. Thomas**

15:00 - 15:45
6.1 D. Auroux, University of California, Berkeley, USA
Fukaya categories and bordered Heegard-Floer homology
16:00 - 16:45
6.2 D. Gabai, Princeton University, USA
Hyperbolic geometry in the 2000s
17:00 - 17:45
6.3 J. Lurie, Harvard University, USA
Moduli problems for ring spectra

Tuesday, August 24, 2010   Room No. 1.01
Chair: **M. Mirzakhani**

15:00 - 15:45
6.4 W. Lück, Westphälische Wilhelms Universität, Münster, Germany
K and L theory of group rings
16:00 - 16:45
6.5 J. Grodal, University of Copenhagen, Denmark
The classification of p-compact groups and homotopical group theory
17:00 - 17:45
6.6 U. Hamenstädt, University of Bonn, Germany
Actions of the mapping class group

Thursday, August 26, 2010   Room No. 1.01
Chair: **J-Y. Welschinger**

15:00 - 15:45
6.7 K. Costello, Northwestern University, USA
A geometric construction of the Witten genus I
16:00 - 16:45
6.8 M. Mirzakhani, Stanford University, USA
On Weil-Petersson volumes and geometry of random hyperbolic surfaces
17:00 - 17:45
6.9 M. Hutchings, University of California, Berkeley, USA
Embedded contact homology and its applications

Chair: **M. Hutchings**

15:00 - 15:45
6.10 M. Lackenby, Oxford University, UK
Finite covering spaces of 3-manifolds
16:00 - 16:45
6.11 J. Park, Seoul National University, Republic of Korea
A new family of complex surfaces of general type with $p_g = 0$
17:00 - 17:45
6.12 A. Stipsicz, Renyi Institute of Mathematics, Hungary
Ozsvath-Szabo invariants and 3-dimensional contact topology

7 Lie Theory and Generalizations

Saturday, August 21, 2010   Room No. G05
Chair: **R. Parthasarathy**

15:00 - 15:45
7.1 C. Stroppel, University of Bonn, Germany
Schur-Weyl dualities and link homologies
16:00 - 16:45
7.2 T. N. Venkataramana, Tata Institute of Fundamental Research, India
Cohomology of arithmetic groups and representations
17:00 - 17:45
7.3 H. Oh, Brown University, USA
Dynamics on geometrically finite hyperbolic manifolds with applications to Apollonian circle packings and beyond
18:00-18:45
7.4 A. Eskin, University of Chicago, USA
Quasi-isometric rigidity of solvable groups

Tuesday, August 24, 2010   Room No. G05
Chair: **T. N. Venkataramana**

15:00 - 15:45
7.5 I. Gordon, University of Edinburgh, UK
Rational Cherednik algebras
16:00 - 16:45
7.6 I. Losev, MIT, USA
Finite W-algebras
17:00 - 17:45
7.7 Shrawan Kumar, University of North Carolina, Chapel Hill, USA
Tensor product decomposition

Thursday, August 26, 2010   Room No. G05
Chair: **Shrawan Kumar**

15:00 - 15:45
7.8 N. A. Shah, Tata Institute of Fundamental Research, India
Equidistribution of translates of curves on homogeneous spaces and Dirichlet's approximation
16:00 - 16:45
7.9 E. Lapid, Hebrew University of Jerusalem, Israel
Some applications of the trace formula and the relative trace formula

8 Analysis

Saturday, August 21, 2010   Room No. 1.03
Chair: **G. Pisier**

15:00 - 15:45
8.1 M. Csornyei, University College, London, UK
Differentiability of Lipschitz functions, structure of null sets and other problems
16:00 - 16:45
8.2 A. Kuijlaars, Katholieke Universiteit, Leuven, Belgium
Multiple orthogonal polynomials in random matrix theory
17:00 - 17:45
8.3 A. R. Its, IUPUI, Indianapolis, USA
Asymptotic analysis of the Toeplitz and Hankel determinants via the Riemann-Hilbert method

Tuesday, August 24, 2010   Room No. 1.03
Chair: **A. Sitaram**

15:00 - 15:45
8.4 T. Toro, University of Washington, USA
Potential theory meets geometric measure theory
16:00 - 16:45
8.5 M. Sodin, Tel Aviv University, Israel
Nodal lines of random waves
17:00 - 17:45
8.6 F. Nazarov, University of Wisconsin, USA
Random complex zeroes

Wednesday, August 25, 2010   Room No. 1.03
Chair: **S. Bagchi**

15:00 - 15:45
8.7 P. Koskela, University of Jyvaskyla, Finland
Regularity of the inverse of a Sobolev homeomorphism
16:00 - 16:45
8.8 G. Martin, Massey University, New Zealand
Quasiregular mappings, curvature and dynamics

9 Functional Analysis and Applications

Friday, August 20, 2010   Room No. 1.05
Chair: **V. S. Sunder**

15:00 - 15:45
9.1 M. Izumi, Kyoto University, Japan
Group actions on operator algebras
16:00 - 16:45
9.2 S. Vaes, Katholieke Universiteit, Leuven, Belgium
Rigidity for von Neumann algebras and their invariants
17:00 - 17:45
9.3 D. Shlyakhtenko, University of California, Los Angeles, USA
Free probability, planar algebras, subfactors and random matrices

Sunday, August 22, 2010   Room No. 1.05
Chair: **R. Bhatia**

15:00 - 15:45
9.4 A. Naor, New York University, USA
L_1 embeddings of the Heisenberg group and fast estimation of graph isoperimetry
16:00 - 16:45
9.5 M. Rudelson, University of Missouri, USA/**R. Vershynin**, University of Michigan, USA
Non-asymptotic theory of random matrices: extreme singular values
17:00 - 17:45
9.6 D. Gaboriau, Ecole Normale Supérieure de Lyon, France
Orbit equivalence and measured group theory

10 Dynamical Systems and Ordinary Differential Equations

Chair: **M. Viana**

15:00 - 15:45
10.1 M-C. Arnaud, Université d' Avignon et des Pays de Vaucluse
Green bundles and related topics
16:00 - 16:45
10.2 G. Contreras, CIMAT, Mexico
Generic dynamics of geodesic flows
17:00 - 17:45
10.3 D. Turaev, Imperial College, London, UK
Richness of chaos in the absolute Newhouse domain

Sunday, August 22, 2010   Room No. G05
Chair: **S. G. Dani**

15:00 - 15:45
10.4 P. Bernard, Université de Paris-Dauphine, France
Arnold's diffusion: from the a priori unstable to the a priori stable case
16:00 - 16:45
10.5 M. L. Einsiedler, ETH, Zurich, Switzerland
Applications of measure rigidity of diagonal actions
17:00 - 17:45
10.6 A. Wilkinson, Northwestern University, USA
Conservative partially hyperbolic dynamics

Wednesday, August 25, 2010   Room No. G05
Chair: **V. Kannan**

15:00 - 15:45
10.7 X. Buff/ A. Cheritat, Université Paul Sabatier, Toulouse, France
Quadratic Julia sets with positive area
16:00 - 16:45
10.8 F. Rodriguez Hertz, IMERL, Uruguay
Measure theory and geometric topology in dynamics

Friday, August 27, 2010   Room No. G05
Chair: **W. de Melo**

15:00 - 15:45
10.9 C-Q. Cheng, Nanjing University, P. R. of China
Variational construction of diffusion orbits for positive definite Lagrangians
16:00 - 16:45
10.10 O. Sarig, Weizmann Institute of Science, Israel
Unique ergodicity for infinite measures

11 Partial Differential Equations

Friday, August 20, 2010 Room No. G03
Chair: **C. Kenig**

15:00 - 15:45
11.1 S. Chen, Fudan University, P. R. of China
Study of multidimensional systems of conservation laws: problems, difficulties and progress
16:00 - 16:45
11.2 N. Dencker, University of Lund, Sweden
The solvability of differential equations
17:00 - 17:45
11.3 N. Burq, Université de Paris-Sud, Orsay, France
Random data Cauchy theory for dispersive partial differential equations

Sunday, August 22, 2010 Room No. G03
Chair: **E. N. Dancer**

15:00 - 15:45
11.4 M. del Pino, University of Chile, Chile
New entire solutions to some classical semilinear elliptic problems
16:00 - 16:45
11.5 N. Nadirashvili, Université de Provence, France
Weak solutions of nonvariational elliptic equations
11.6
17:00 - 17:45 A. Schnirelman, Concordia University, Canada
Long-time behaviour of fluid flows

Wednesday, August 25, 2010 Room No. G03
Chair: **M. J. Esteban**

15:00 - 15:45
11.7 E. N. Dancer, University of Sydney, Australia
Finite Morse index and linearized stable solutions on bounded and unbounded domains
16:00 - 16:45
11.8 C. De Lellis, University of Zurich, Switzerland
Almgren's Q-valued functions revisited

Friday, August 27, 2010   Room No. G03
Chair: **M. Vanninathan**

16:00 - 16:45
11.9 N. Fusco, Università degli Studi di Napoli, Federico II, Italy
Equilibrium configurations of epitaxially strained elastic films: existence, regularity and qualitative properties of solutions

12 Mathematical Physics

Saturday, August 21, 2010   Room No. G03
Chair: **M. Marcolli**

15:00 - 15:45
12.1 A. Kupiainen, Helsinki University, Finland
Origins of diffusion
16:00 - 16:45
12.2 K. Wendland, Augsburg University, Germany
On the geometry of singularities in quantum field theory
17:00 - 17:45
12.3 H. Spohn, TU, Munich, Germany
Weakly nonlinear wave equations with random initial data

Tuesday, August 24, 2010   Room No. G03
Chair: **K. B. Sinha**

15:00 - 15:45
12.4 A. Kapustin, California Institute of Technology, USA
Topological field theory, higher categories and their applications
16:00 - 16:45
12.5 M. Marcolli, California Institute of Technology, USA
Noncommutative geometry and arithmetic

Thursday, August 26, 2010   Room No. G03
Chair: **N. Reshetikhin**

15:00 - 15:45
12.6 Y. Last, Hebrew University of Jerusalem, Israel
Stability of absolutely continuous spectrum under decaying perturbations: a review of recent developments
16:00 - 16:45
12.7 G. Seregin, Oxford University, UK
Weak solutions to the Navier-Stokes equations with bounded scale-invariant quantities
17:00 - 17:45
12.8 V. Mastropietro, Università degli Studi di Roma, Tor Vergata, Italy
Universality, phase transitions and extended scaling relations

13   Probability and Statistics

Friday, August 20, 2010   Room No. 1.03
Chair: **D. Aldous**

15:00 - 15:45
13.1 I. Benjamini, Weizmann Institute of Science, Israel
Random planar metrics
16:00 - 16:45
13.2 C. Neuhauser, University of Minnesota, USA
Coevolution in spatial habitats
17:00 - 17:45
13.3 Q-M. Shao, Hong Kong University of Science and Technology, Hong
Kong, China
Stein's method, self-normalized limit theory and applications

Sunday, August 22, 2010   Room No. 1.03
Chair: **S. Peng**

15:00 - 15:45
13.4 A. Borodin, California Institute of Technology, USA
Growth of random surfaces
16:00 - 16:45
13.5 F. den Hollander, University of Leiden, The Netherlands
A key large deviation principle for interacting stochastic systems
17:00 - 17:45
13.6 S. Van de Geer, ETH, Zurich, Switzerland
ℓ_1-*regularization in high dimensional statistical models*

Wednesday, August 25, 2010   Room No. 1.03
Chair: **B. L. S. Prakasa Rao**

17:00 - 17:45
13.7 A. Van der Vaart, Vrije Universiteit, Amsterdam, The Netherlands
Bayesian regularization

Thursday, August 26, 2010 Room No. 1.03
Chair: **S. N. Evans**

15:00 - 15:45
13.8 J. Quastel, University of Toronto, Canada
Weakly asymmetric exclusion and KPZ
16:00 - 16:45
13.9 P. Chaudhuri, Indian Statistical Institute, Kolkata, India
On quantiles in finite and infinite dimensional spaces
17:00 - 17:45
13.10 S. Sheffield, MIT, USA
How do you divide your (two-dimensional) time? SLE, CLE, the GFF and Liouville quantum gravity zippers/necklaces, and also congratulations to Stas

Friday, August 27, 2010 Room No. 1.03
Chair: **B. V. Rao**

15:00 - 15:45
13.11 S. N. Evans, University of California, Berkeley, USA
Time and chance happeneth to them all: mutation, selection and recombination
16:00 - 16:45
13.12 A. Bose, Indian Statistical Institute, Kolkata, India
Patterned random matrices and the method of moments

14 Combinatorics

Friday, August 20, 2010   Room No. G01
Chair: **C. Praeger**

15:00 - 15:45
14.1 L. J. Billera, Cornell University, USA
Flag enumeration in polytopes, Eulerian partially ordered sets and Coxeter groups
16:00 - 16:45
14.2 B. Leclerc, Université de Caen, France
Cluster algebras and representation theory
17:00 - 17:45
14.3 J. Nesetril, Charles University, Czech Republic
Sparse combinatorial structures: classification and applications

Sunday, August 22, 2010   Room No. G01
Chair: **B. Leclerc**

15:00 - 15:45
14.4 H. Cohn, Microsoft Research, New England, USA
Order and disorder in energy minimization
16:00 - 16:45
14.5 B. D. McKay, Australian National University, Australia
Subgraphs of random graphs with specified degrees
17:00 - 17:45
14.6 B. Sudakov, University of California, Los Angeles, USA
Recent developments in extremal combinatorics: Ramsey and Turlán type problems

Wednesday, August 25, 2010   Room No. G01
Chair: **N. M. Singhi**

15:00 - 15:45
14.7 S. Lando, State University Higher School of Economics, Russian Federation
Hurwitz numbers: on the edge between combinatorics and geometry
16:00 - 16:45
14.8 E. Rains, California Institute of Technology, USA
Elliptic analogues of the Macdonald and Koornwinder polynomials
17:00 - 17:45
14.9 O. Riordan, Oxford University, UK
Percolation on sequences of graphs

15 Mathematical Aspects of Computer Science

Saturday, August 21, 2010   Room No. G01
Chair: **I. Dinur**

15:00 - 15:45
15.1 V. Guruswami, Carnegie-Mellon University, USA
Bridging Shannon and Hamming: list error-correction with optimal rate
16:00 - 16:45
15.2 C. Dwork, Microsoft Research, USA
Privacy against many arbitrary low-sensitivity queries
17:00 - 17:45
15.3 D. A. Spielman, Yale University, USA
Algorithms, graph theory, and linear equations in Laplacian matrices

Tuesday, August 24, 2010   Room No. G01
Chair: **Satya Lokam**

15:00 - 15:45
15.4 P. Bürgisser, University of Paderborn, Germany
Smoothed analysis of condition numbers
16:00 - 16:45
15.5 D. Aharonov, Hebrew University of Jerusalem, Israel
Quantum computation and mathematics

Thursday, August 26, 2010   Room No. G01
Chair: **Jaikumar Radhakrishnan**

15:00 - 15:45
15.6 S. Khot, New York University, USA
Inapproximability of NP-complete problems, discrete Fourier analysis and geometry
16:00 - 16:45
15.7 S. Vadhan, Harvard University, USA
The unified theory of pseudorandomness

16 Numerical Analysis and Scientific Computing

Saturday, August 21, 2010   Room No. 1.05
Chair: **S. J. Osher**

15:00 - 15:45
16.1 B. Cockburn, University of Minnesota, USA
The hybridizable discontinuous Galerkin Methods
16:00 - 16:45
16.2 R. H. Nochetto, University of Maryland, USA
Why adaptive FEM outperform classical ones
17:00 - 17:45
16.3 Z. Shen, National University of Singapore, Singapore
Wavelet frames and image restorations

Tuesday, August 24, 2010   Room No. 1.05
Chair: **B. Cockburn**

15:00 - 15:45
16.4 M. F. Wheeler, University of Texas, Austin, USA
Role of computational science in protecting the environment: geological storage of CO_2
16:00 - 16:45
16.5 P. A. Markowich, University of Cambridge, UK and University of Vienna, Austria
Numerical analysis of Schrödinger equations in the highly oscillatory regime
17:00 - 17:45
16.6 J. Xu, Pennsylvania State University, USA
Fast Poisson based solvers for linear and nonlinear PDEs

17 Control Theory and Optimization

Friday, August 20, 2010   Room No. 1.06
Chair: **J-M. Coron**

15:00 - 15:45
17.1 H. Frankowska, Université Pierre et Marie Curie, Paris, France
Optimal control under state constraints
16:00 - 16:45
17.2 X. Zhang, Chinese Academy of Sciences, P. R. of China
A unified controllability/observability theory for some stochastic and deterministic partial differential equations
17:00 - 17:45
17.3 P. A. Parrilo, MIT, USA
Semidefinite programming and complex algebraic geometry

Tuesday, August 24, 2010   Room No. 1.06
Chair: **V. S. Borkar**

15:00 - 15:45
17.4 S. Iwata, Kyoto University, Japan
Submodular functions: optimization and approximation
16:00 - 16:45
17.5 A. Shapiro, Georgia Institute of Technology, USA
Computational complexity of stochastic programming: Monte Carlo sampling

Wednesday, August 25, 2010   Room No. 1.06
Chair: **M. Groetschel**

15:00 - 15:45
17.6 Y. Nesterov, Université Catholique de Louvain, Belgium
Recent advances in structural optimization
16:00 - 16:45
17.7 R. Weismantel, ETH, Zurich, Switzerland
A cutting plane theory for mixed integer optimization

18   Mathematics in Science and Technology

Friday, August 20, 2010   Room No. 1.01
Chair: **H. P. Dikshit**

15:00 - 15:45
18.1 P. K. Maini, Oxford University, UK
Modelling aspects of tumour metabolism
16:00 - 16:45
18.2 E. Baake, Bielefeld University, Germany
Deterministic and stochastic aspects of single-crossover recombination
17:00 - 17:45
18.3 K. Kunisch, University of Graz, Austria
Novel concepts for nonsmooth optimization and their impact on science and technology

Sunday, August 22, 2010   Room No. 1.01
Chair: **R. L. Karandikar**

15:00 - 15:45
18.4 F. Delbaen, ETH, Zurich, Switzerland
BSDE and risk measures
16:00 - 16:45
18.5 N. Touzi, Ecole Polytechnique, Paris, France
Second order backward SDEs, fully nonlinear PDEs and applications in finance
17:00 - 17:45
18.6 X. Zhou, Oxford University, UK
Mathematicalising behavioural finance

Wednesday, August 25, 2010   Room No. 1.01
Chair: **F. Delbaen**

15:00 - 15:45
18.7 C. Schuette, Frei Universität, Berlin, Germany
On Markov state models for metastable processes
16:00 - 16:45
18.8 Z. Xu, Xi'an Jiaotong University, P. R. of China
Data modelling: visual psychology approach and L1/2 regularization theory

19 Mathematics Education and Popularization of Mathematics

Friday, August 20, 2010 Hall 2

15:00 - 17:00 Panel Discussion
Relation between the discipline and school mathematics
Chair: **T. Gowers**, University of Cambridge, UK
Speakers: **C. Bosch**, Instituto Technologico Autonomo de Mexico, Mexico
W. McCallum, University of Arizona, USA
R. Ramanujam, Institute of Mathematical Sciences, Chennai, India
H. Steinbring, University of Duisburg-Essen, Germany
I. Yashchenko, Moscow Centre for Continuous Mathematical Education, Russia

Saturday, August 21, 2010 Room No. 1.06
Chair: **S. Shirali**

15:00 - 15:45
19.1 J. Adler, University of The Witwatersrand, South Africa, and King's College, London, UK
Professional knowledge matters in mathematics teaching

Sunday, August 22, 2010 Hall 2

15:00 - 17:00 Panel Discussion
Ethnomathematics, language and socio-cultural issues
Chair: **O. Skovsmose**, Aalborg University, Denmark
Speakers: **M. Salett**, Universidade Regional de Blumenau - FURB, Brazil
A. Halai, Aga Khan University, Dar-es-Salam, Tanzania

Wednesday, August 25, 2010 Hall 2

15:00 - 17:00 Panel Discussion
Communicating mathematics to society at large
Chair: **G. M. Ziegler**, Technische Universität, Berlin, Germany
Speakers: **M. Freiberger**, University of Cambridge, UK
I. Peterson, Mathematical Association of America, USA
R. Ramachandran, 'The Hindu', New Delhi, India
C. Rousseau, University of Montreal, Canada

20 History of Mathematics

Chair: **K. Plofker**

15:00 - 15:45
20.1 T. H. Kjeldsen, Roskilde University, Denmark
History of convexity and mathematical programming: connections and relationships in two episodes of research in pure and applied mathematics of the 20th Century
16:00 - 16:45
20.2 N. Schappacher, IRMA, France
Rewriting points
17:00 - 17:45
20.3 B. Van Dalen, Ludwig Maximilians University, Germany
Islamic astronomical handbooks and their transmission to India and China