

Department of Mathematics

Report for the period April 2002 March 2003

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Introduction:

The Department of Mathematics comprises of 27 regular faculty members and two visitors with expertise in various areas of Mathematics, Statistics and Theoretical Computer Science. The faculty members strive to maintain quality teaching and research standards. Year after year, the faculty is winning awards for excellence in teaching and research contribution. This year, two of our faculty members helped to continue with this tradition by winning C.L. Chandna award and I.I.T. Bombay award, respectively. One member has won the award from ISI Calcutta for best research by a young scientist in the field of Applied Statistics. Three members have won fellowships of prestigious academies such that INSA, NASc (Allahabad) and National Task Force in Bioinformatics.

There is an active involvement of the department in developing partnership with industry in terms of providing solution strategies for industrial problems. Pfizer Ltd. has sponsored four Scholarships for M.Sc. students to promote this partnership.

There is a very fruitful collaboration between the department and various leading institutes in India and abroad. One such activity under DST Project entitled Web Enabled Optimization Tools and Model & Research Professional Training and Industrial Deployment has led to fruitful collaboration with Jadavpur University (Calcutta), Brunel University (U.K.) and University of Vienna (Austria).

Seminars in various areas have been held throughout the year. In addition, the faculty members were involved in organizing international workshops, CEP programs, national/international conferences, and in writing books. They also carried out honorary work like referee jobs for journals, reviewing projects, examining Ph.D. theses and serving on selection committees of other universities. Throughout the year, a steady stream of visitors from other institutes in India and abroad has contributed to the seminar and colloquia activities.

Academic Programmes

Besides the teaching of B. Tech. Courses, the department offers M.Sc. and Ph.D. programmes along with its research activity. It has two distinct M.Sc. programmes. M.Sc. in Mathematics (intended for those who wish to pursue research and/or teaching as their career) and M.Sc. in Applied Statistics and Informatics (ASI) (job oriented).

In addition, the Department has a research programme leading to Ph.D. degree. This programme has a broad based course work and specialization in Pure Mathematics, Applied Mathematics, Scientific Computing and Statistics.

Students Intake: Ph.D. (10) ; M.Sc. (Maths) (16); M.Sc. (ASI) (19)

Degrees Awarded: Ph.D. 1; M.Sc. (Maths.) 5 ; M.Sc. (ASI) 13.

R & D Activities

The current research interest in the department covers a wide range of fields: Algebra, Combinatorics, Topology, Geometry, and Discrete Mathematics, Real Analysis, Functional Analysis, Non-linear Analysis, Ordinary and Partial Differential Equations and Control Theory, Numerical Analysis and Scientific Computing, Fluid Mechanics, Tribology, Nonlinear Gasdynamics, Statistical Inference, Reliability Theory, Biomolecular Statistics and Bioinformatics, Mathematical Programming, Combinatorial Optimization, High Performance Computing, Computer Aided Geometric Designs.

More specifically, the faculty members are currently pursuing research in the following areas:

- v Approximate solutions of Integral and Differential Operators and of the associated eigenvalue problems
- v Approximate analytical and numerical solution of hyperbolic and parabolic system of PDEs
- v Development of sampling plans for monitoring dependent process
- v Estimation of the parameters of the selected population
- v Finite Element Methods for Partial Integro-Differential Equations (PIDE), Evolutionary Variational Equalities, Mathematical Model for Particle Size Distribution in Emulsion Polymerization
- v Group Actions on Posets, Plytopes in Combinatorial Optimization; Symmetric Functions
- v Heteroskedastic time series models, robust estimation of the parameters
- v Hilbert coefficients and depths of various form rings
- v Hilbert functions and multiplicities of special algebraic varieties
- v Topology of neighbourhood graphs
- v Harmonic Manifolds
- v Mixed multiplicities of ideals

- v Mathematical study of Finance aspects of Stochastic Calculus used in Option Pricing
- v Nonlinear Geometrical Optics. Formation and Interaction of Shock Waves
- v Construction of optimal reliability test plan
- v Properties of Generalized Riemann Integral
- v Parameter Estimation Problem in Neural Networks and Online Optimization, Optimization of Transportation Networks
- v Portfolio management problems from the perspective of differential Games. Non-zero sum game in the orthant
- v Stability and well-posedness in Optimization and Approximation
- v Varieties with seminormal hyperplane sections

The department had declared Jan 2002 to Dec. 2002 as the special year of Industrial Mathematics. Lectures on industrial mathematics, seminars and colloquia have been organised. This special year concluded with International conference and instructional workshop on industrial mathematics that was held during December 2-9, 2002. A special feature of this workshop was that the participants worked on 12 real life problems from Day 1 in a group of 4 to 5 for almost 16 hours a day and presented their workable solution on Day 5 - a seemingly different experience on problem solving but greatly appreciated by all.

Faculty and their specializations:

1. Singh Balwant (Professor - VF)
1. *Commutative Algebra and Algebraic Geometry*
2. Bagai Shobha (Asstistant Professor - VF)

Fluid Dynamics

3. Ghorpade Sudhir R. (Professor)

Algebraic Geometry, Combinatorics

4. Joshi K. D. (Professor)

4.

Topology, Discrete Mathematics

5. Joshi Mohan C. (Professor)

Nonlinear Analysis , Control Theory

6. Joshi R. R. (Professor)

Computational Biology and Biostatistics, Bioinformatics

7. Kulkarni Rekha P. (Professor)

Numerical Functional Analysis, Spline Theory

8. Limaye Balmohan V. (Professor)

Functional Analysis, Numerical Analysis, Spectral Approximation

9. Mitra Amit

Statistical Signal Processing

10. Pai Devidas V. (Professor)

Functional Analysis, Approximation Theory, Set-valued Analysis

11. Pani Amiya K. (Professor)

Numerical Analysis, Partial Differential Equations, Industrial Mathematics

12. Parihar K. S. (Professor)

Mechanics of Solids

13. Patkar Sachin B. (Associate Professor)

Combinatorial Optimization, Algorithms

14. Prakash J. (Professor)

Tribology

16. Rana Inder K. (Professor)

Harmonic Analysis, Mathematics Education

17. Ranjan Akhil (Professor)

Differential Geometry

18. Sabnis S. V. (Associate Professor)

Reliability Theory, Industrial Statistics

19. Sharma V.D. (Professor)

Quasilinear Systems of PDEs/ Nonlinear Waves

20. Shastri A. R. (Professor)

Algebraic Geometry, Algebraic Topology

21. Srinivasan Anitha (Lecturer)

Number Theory

22. Srinivasan G. K. (Assistant Professor)

Partial Differential Equations

23. Srinivasan M. K. (Associate Professor)

Combinatorics

24. Subramanyam A. (Associate Professor)

Statistical Inference, Geostatistics

25. Sureshkumar K. (Assistant Professor)

Applied Probability

26. Swaminathan V. (Assistant Professor)

Inference for Stochastic Processes

27. Vellaisamy P. (Professor)

Applied Probability, Statistical Inference, Industrial Statistics

28. Verma J. K. (Professor)

Commutative Algebra

AWARDS AND HONOURS:

Joshi R.R.

Member National Task Force on Bio-informatics (1999-2002).

Mitra Amit

M.N Murthy award from the Indian Statistical Institute for best research work done in India by a young scientist in the field of Applied Statistics, 2002.

Pani A.K.

1. CL Chandna 2002 Mathematics Award for Distinguished and Outstanding Contributions to Mathematics Research and Teaching.
2. Fellow of National Academy of Sciences, Nominated by the National Academy of Sciences, Allahabad.
3. ICTP Senior Associate, Nominated by The Abdus Salam International Centre for Theoretical Physics from January 2003 until 31st December 2008. This award carries a sum of Euro 6,800.00 to be spent over the above six year period towards a daily allowance while at the Centre and / or travel expenses. As the part of this associateship, the Associate has three opportunities to nominate promising Young collaborator (either a Ph.D. student of the Associate or have recently obtained his / her Ph.D.) to visit the Abdus Salam ICTP.

Sharma V.D.

Elected as fellow of a Indian National Science Academic (INSA), 2002.

Srinivasan G.K.

Award for Excellence in Teaching, Indian Institute of Technology, Bombay (Sept 5, 2002) .

Verma J.K.

Appointed as an Associate Member of the International Centre for Theoretical Physics, Trieste, Italy for the period 2002-2007.

WORKSHOP ORGANIZED:

1. An International Conference and Instructional Workshop on Industrial Mathematics was organized in the department of Mathematics from December 6th to 9th December 2002 , with participants from 17 countries and 17 States of India presenting 132 research papers. This was sponsored by National Board for Higher Mathematics, Reserve Bank of India and All India Council of Technical Education.

Organizing committee:

1. Mohan C. Joshi (Chair)
2. Amiya K. Pani (Mathematics)
3. Sanjeev V. Sabnis (Mathematics)
4. Sachin Patkar (Mathematics)
5. Ranjan K. Malik (Chemical Engineering)
6. Kannan M. Moudgalya (Chemical Engineering)
7. K Sudhakar (Aeronautical)

2. 8th Workshop in Mathematics

The DST Sponsored 8th Workshop in Mathematics was organized in our Institute by Prof. Rana Inder K. from October 19th to 25th, 2002. About 45 students from colleges in western region participated in the workshop.

CONSULTANCIES:

Patkar Sachin B.

Project Title: Issues in Database Engineering

Sponsoring Agency: Vistaar Technologies

Amount Generated: Rs. 2,00,000 /-

Beginning Year: 2001

End Year: 2003

Details: Ongoing consultancy project

SPONSORED PROJECTS:

Patkar Sachin B.

Project Title: Developing XML based applications

Sponsoring Agency: IRCC

Amount generated: Rs. 50,000 /-

Beginning Year: 2002

End Year: 2003

Sabnis S.V.

Project Title: Study of Optimal Reliability Test Plans

Sponsoring Agency: DST

Amount generated: 497472

Beginning Year: 2002

End Year: 2005

Project Code: 02DS009

Joshi M.C.

Co-Investigator: Sachin B. Patkar, Suresh Kumar

Project Title: WEBOPT (Web enabled optimization tools and models for research, professional training and industrial deployment)

Sponsoring Agency: European Commission - ASIA IT and C PROGRAMME

Amount generated: EUR 80,000/-

Beginning Year: May 1, 2003

End Year: May1, 2005

Project Code: ASI/B7-301/97/0126-73

Details: This project is in collaboration with Brunel University, UK; Vienna University, Austria and Jadavpur University, India. The overall coordination will be done by Brunel University.

Joshi R.R.

Project Title: Development of Neural Network based AI Software for Epitope/Paratop Designing.

Sponsoring Agency: Department of Biotechnology, New Delhi.

Amount generated: 12. 8 Lacs (Rs)

Beginning Year: 1999

End Year: 2002

Details: Successfully Completed. Software Copyright Approved by Govt. of India.

Sharma V.D.

Co-Investigator: Prof. G.K. Srinivasan

Project Title: Approximate analytical and numerical solutions of hyperbolic and parabolic systems of Partial Differential Equations.

Sponsoring Agency: CSIR

Amount generated: Rs 6,00,000

Beginning Year: 2002

End Year: 2005

PUBLICATIONS:

(A) Books/Chapters in Book:

Joshi Mohan. C.

Coauthors: Kannan M Moudgalya

Title: Optimization - Theory and Practice

Year: 2003

Publisher: Narosa Publishing House Private Ltd.

Details: This book deals with the standard topics in a first course on Optimization - One dimensional optimization, Unconstrained gradient based optimization methods, Linear Programming, Constrained optimization methods and Evolutionary algorithms. The emphasis is not only on application but also on the development of mathematical framework, so very needed for proper solution strategies. The hallmark of the book is a unified format for presentation of topics in each and every chapter in terms of Discussion of case study, Exposition of mathematical techniques, Sample problems and Description of solution analysis.

Rana Inder.K.

Title: An Introduction to Measure and Integration, Second Edition

Year: 2003

Publisher: American Mathematical Society

Details: Graduate series in Mathematics, volume-35.

(B) Papers in Proceedings:

(i) INTERNATIONAL

Ghorpade S.R.

1. Coauthors: G. Lachaud

Title: Number of solutions of equations over finite fields, and a conjecture of Lang and Weil

Year: 2002

Proceedings: Number Theory and Discrete Mathematics (Chandigarh, 2000), K. Agarwal, B. Berndt, C. Krattenthaler, G. L. Mullen, K Ramachandra and M. Waldschmidt Eds.

National/International: International

Details: Hindustan Book Agency, New Delhi (2002), pp. 269-291 [Co-published outside India as a volume in the Trends in Mathematics series by Birkhuser,

Basel (2002).]

2. Title: Teaching Calculus using Internet: Some Experiments and Experiences

Year: 2002

Proceedings: Science, Technology and Mathematics Education for Human Development, (Goa, Feb. 2001), Vol. 1, S. C. Agarkar and V. D. Lale Eds.

National/International: International

Details: Proceedings of the CASTME-UNESCO-HBCSE International Conference, Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research, Mumbai, 2002, pp. 219-223.

Pani A.K.

1. Coauthors: Pradeepa Nair

Title: Finite element approximation to an evolutionary variational inequality with a Volterra term

Year: 2002

Proceedings: Proceeding of the First International Conference on Industrial Mathematics in the Indian Sub-Continent, (Eds. A.H. Siddiqi and M. Kocvara), Kluwer Academic Press, London, pp. 317--338

National/International: International

2. Coauthors: Jyoti Agrawal and Kannan M. Moudgalya

Title: An efficient integration algorithm for a class of discontinuous dynamical systems in sliding motion

Year: 2002

Proceedings: Proceedings of the 2002 American Control Conference, Omni Press, pp.689-703.

National/International: International

3. Coauthors: Prashant Vora and Kannan M. Moudgalya

Title: Control of higher index DAE system through a linear control law

Year: 2002

Proceedings: Proceedings of the 2002 American Control Conference, Omni Press, pp. 465-470.
National/International: International

Patkar Sachin B.

1. Coauthors: H. Narayanan

Title: An Efficient Practical Heuristic For Good Ratio-Cut Partitioning

Year: 2003

Proceedings: Proceedings of International Conference on VLSI Design, Jan, 2003, Delhi, India.

National/International: International

2. Coauthors: Viraj Kumar, Hardeep Kaur and Bijit Hore

Title: A Graph Partitioning System For Natural Unbalanced Partitions

Year: 2002

Proceedings: Proceedings of WSEAS International Conference on Information and Automation, Dec, 2002, Tenerife, Spain.

National/International: International

3. Coauthors: Ravi S. Gautam, Vikas Goel and Prachi Srivastav

Title: BezierPkg: An Interactive Tool for Generation of Smooth Surfaces

Year: 2002

Proceedings: Proceedings of WSEAS International Conference on Information and Automation, Dec, 2002, Tenerife, Spain.

National/International: International

Rana Inder K.

Title: Three Experiments in Teaching Mathematics

Year: 2002

Proceedings of the 2nd international conference in Teaching of Mathematics,

CRETE, Greece, July 1st to 7th 2002
National/International: International

Verma J.K.

Coauthors: A. V. Jayanthan
Title: Local Cohomology of Bigraded Rees Algebras
Year: 2003
Proceedings: Proceedings of the Hyderabad Conference on Algebra and Geometry
National/International: International

PUBLICATION IN REFERRED JOURNALS:

(i) NATIONAL

Mitra Amit

1. Coauthors: A.K Nag
Title: Analysis of Performance Trajectory of public sector banks in India using self-organizing maps
Year: 2002
National/International: National
Journal: PRAJNAN-Journal of Social and Management Sciences
Issue: Vol. 31, No.3 October-December 2002

2. Coauthors: A.K Nag
Title: Identifying patterns of socio-economic development using self-organizing maps
Year: 2002
National/International: National
Journal: Journal of Social & Economic Development

Issue: Vol.4, No.1

Details: pp.55-80

(ii) INTERNATIONAL

Joshi R.R.

1. Coauthors: Bhuwaneswaran Natarajan

Title: Prediction and Analysis of Vaccination Possibilities in Autoimmune Diseases
-- An Application of Artificial Immune System.

Year: 2002

National/International: International

Journal: Journal of Biological Systems.

Issue: 10(2), pp. 107-126

2. Coauthors: S. Jyothi

Title: Ab-initio Structure of Human Seminal Plasma Prostatic Inhibin Gives
Significant Insight into its Biological Functions.

Year: 2002

National/International: International

Journal: Jnl. of Molecular Modeling

Issue: 8(2), pp. 50-57

Mitra Amit

1. Coauthors: Petre Stoica

Title: The asymptotic Cramer-Rao bound for the 2-D superimposed exponential
signals

Year: 2002

National/International: International

Journal: Multidimensional Systems and Signal Processing

Issue: Vol. 13

Details: page 317-331

2. Coauthors: Simon Sando and Petre Stoica

Title: On Cramer-Rao Bound of Spectral Density Estimation

Year: 2002

National/International: International

Journal: IEEE Signal Processing Letters

Issue: vol. 9(2)

Details: pp.68-71

3. Coauthors: A.K. Nag

Title: Forecasting daily foreign exchange rates using genetically engineered neural networks

Year: 2002

National/International: International

Journal: Journal of Forecasting

Issue: Vol 21(7),

Details: pp. 501-511

Pani A.K.

Coauthors: Graeme Fairweather Title: An H^1 -Galerkin mixed finite element method for an evolution equation with a positive type memory term

Year: 2002

National / International: International

Journal: SIAM J. Numer. Anal.

Issue: 40, pp. 1475-1490

Patkar Sachin B.

Coauthors: H. Narayanan

Title: Fast On-line/Off-line Algorithms for Optimal Reinforcement of a Network and its Connections with Principal Partition

Year: 2003

National/International: International

Journal: Journal Of Combinatorial Optimization, vol. 7, no. 1, 2003, pp. 45-68.

Issue: Volume 7, No. 1, 2003, pp. 45-68

Prakash J.

Coauthors: K. Gururajan

Title: Roughness effects in a narrow porous journal bearing with arbitrary porous wall thickness

Year: 2002

National/International: International

Journal: International Journal of Mechanical Sciences

Issue: Vol. 44, pp 1003-1016

Rana Inder K.

Coauthors: P. Devaraj

Title: Vector Valued Mean Periodic Function

Year: 2002

National/International: International

Journal: Journal of the Australian Mathematical Society

Issue: Vol. 72(2002) 363-388

Sabnis S.V.

Coauthors: M.V. Inamdar, P.P. Date

Title: On the Effects of Geometric Parameters on Springback in Sheets of Five Materials subjected to Air Vee Bending

Year: 2002

National/International: International

Journal: Journal of Materials Processing Technology

Issue: 3

Details: Vol123, 459-463.

Sharma V.D.

1. Coauthors: Ch. Radha and A. Jeffrey

Title: An Approximate Analytical Method for Describing the Kinematics of a Bore over a Sloping Beach

Year: 2002

National/International: International

Journal: Applicable Analysis (U.S.A)

Issue: Vol. 21, pp. 867-892

Details: An Approximate Analytical Method for Describing the Kinematics of a Bore over a Sloping Beach, (2002) Applicable Analysis(U.S.A), vol. 81, pp. 867-892

2. Coauthors: S.A.V. Manickam and Ch. Radha

Title: Far field behaviour of waves in a vibrationally relaxing gas

Year: 2003

National/International: International

Journal: Applied Numerical Mathematics (Elsevier, The Netherlands)

Issue: Vol. 45, pp. 293-307

Details: Far field behaviour of waves in a vibrationally relaxing gas, (2003) Applied Numerical Mathematics (Elsevier, The Netherlands), Vol. 45, pp. 293-307.

Srinivasan G.K.

1. Coauthors: V.D. Sharma

Title: Modulation Equations for Weakly Nonlinear Geometrical Optics in Media Exhibiting Mixed Nonlinearity

Year: 2003

National/International: International
Journal: Studies in Applied Mathematics
Issue: 110: 103-122

2. Coauthors: V.D. Sharma

Title: A Note on the Jump Conditions For Systems of Conservation Laws
Year: 2003

National/International: International
Journal: Studies in Applied Mathematics
Issue: 110: 391-396

Suresh Kumar K.

Coauthors: M. K. Ghosh

Title: A Stochastic Differential Game in the Orthant
Year: 2002

National/International: International
Journal: Journal of Mathematical Analysis and Applications
Issue: 265

Verma J.K.

1. Coauthors: A. V. Jayanthan

Title: Grothendieck-Serre Formula and Bigraded Cohen-Macaulay Rees Algebras
Year: 2002

National/International: International
Journal: Journal of Algebra
Issue: Volume 254, pages 1-20

2. Title: On a theorem of Macaulay on colons of ideals
Year: 2002

National/International: International
Journal: Contributions to Algebra and Geometry

Issue: Volume 43, pages 579-581.

3. Coauthors: C. D'Cruz

Title: Hilbert series of fiber cones with almost minimal mixed multiplicity

Year: 2002

National/International: International

Journal: Journal of Algebra

Issue: Volume 251, pages 98-109.

PRESENTATION / PARTICIPATION IN CONFERENCES / WORKSHOPS:

(i) NATIONAL

Ghorpade S.R.

1. Title: Workshop in Arithmetic Algebraic Geometry

Organizer: Harish-Chandra Research Institute, Allahabad

National/International: National

Duration: 23rd December 2002 1st January 2003

Details: Delivered five lectures on Basic Algebraic Geometry

Pani A.K.

1. Title of Conference: 30th Orissa Mathematical Society and National Conference on Role of Mathematics in Engineering and Technology (Orissa) during 22nd 23rd February' 03.

National/International: National

Lectured yes /no: Yes

Title of talk: Key Note Address on Role of Mathematics in Engineering and Technology

Number of Lectures: 1

Organizers: Orissa Mathematical Society and Institute of Advanced Computer and Research, Rayagada (Orissa)

From : 22nd February To: 23rd February, 2003.

2. Title of Conference: 30th Orissa Mathematical Society and National Conference on Role of Mathematics in Engineering and Technology

National/International: National

Lectured yes/no: Yes

Title of talk: Professor Rama Nath Mohanty Memorial Lecture entitled- Navier-Stokes Equations: A Million Dollar Open Problem

Number of Lectures: 1

Organizers: Orissa Mathematical Society and Institute of Advanced Computer and Research, Rayagada

From: February 22nd To: February 23rd 2003.

Sabnis S.V.

1. Organizer: Dept of Mathematics, IIT Bombay

Title: 8th Workshop in Mathematics

National/International: National

Duration: 19th 25th October, 2002

Details: Delivered four lectures on Nonparametric Statistical Techniques

2. Organizer: Reliability Engineering Group, IIT Bombay

Title: Certificate CEP Course on Basic Reliability Engineering

National/International: National

Duration: Spread over a period of about 6 months

Details: Conducted a two-day in-house workshop on Basic Reliability Theory at the premises of Satyam Computers, Hyderabad during 18-19 October, 2002. About 12 employees of the company participated in the workshop. The basic reliability theory techniques along with a large number of case studies were covered during two days.

Sharma V.D.

1. Title of Conference: National Seminar on Recent Advances in Fluid Mechanics

National/International: National

Lectured yes/no: yes

Title of talk: Nonlinear waves exhibiting mixed nonlinearity

Number of Lectures: 1

Organizers: Gulbarga University, Karnataka

Sponsors: UGC, DST and CSIR

From: September 12th , 2002

2. Title of Conference: National Seminar On Current Trends in Mathematics

National/International: National

Lectured yes/no: yes

Title of talk: Resonantly interacting waves and mixed nonlinearity ruled by hyperbolic systems of Partial Differential Equations.

Number of Lectures: 1

Organizers: University of Allahabad

Sponsors: DST

From: 10th November, 2002

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Shastri A.R.

Title of Conference: National Conference in Mathematics, Nagpur.

National/International: National

Lectured yes/no: yes

Title of talk: Topology of Neighborhood Complex of a Graph

Number of Lectures: 1

Organizers: Sindhu Mahavidyalaya, Nagpur and NUMTA

Sponsors: DST

From : 1st Feb 2003 To: 2nd Feb 2003

Verma J.K.

1. Organizer: Harish-Chandra Research Institute, Allahabad

Title: Workshop in Arithmetic Geometry

National/International: National

Duration: 23 Dec 2002-1 Jan 2003

Details: member of the organizing committee

2. Organizer: Department of Mathematics, IIT Bombay

Title: Workshop in Mathematics

National/International: national

Duration: one week

Details: Delivered 4 lectures on "Isometries of Euclidean Spaces"

3. Organizer: Department of Mathematics, Pune University

Title: Workshop on Computational Mathematics

National/International: national

Duration: one week

Details: 4 lectures delivered on "Groebner Bases and solving Polynomial Equations"

4. Organizer: Nehru Science Center, Mumbai

Title: Ganit Utsav

National/International: National

Duration: one day

Details: Delivered the lecture "Euclid's Last Proposition"

(ii) INTERNATIONAL

Ghorpade S.R.

1. Title of Conference: Conference on Zero dimensional Schemes and Related Topics, Acireale, Sicily, Italy, June 2002. National/International: International
Lectured yes/no: yes

Title of talk: Finite point-set configurations and torus actions on Grassmannians

Number of Lectures: 1

Organizers: Eddy Campbell (Queens Univ., Canada), Brian Harbourne (Univ. Nebraska, USA), Juan Migliore (Univ. Notre Dame, USA), Ferruccio Orecchia (Univ. Napoli, Italy), Alfio Ragusa (Univ. Catania, Italy), Lorenzo Robbiano (Univ. Genova, Italy).

Sponsors: GNSAGA-INDAM and NSF

From : 6th June 2002 To: 8th June 2002

2. Title of Conference: Special Session on Commutative Algebra: Hilbert Functions, Homological Methods and Combinatorial Aspects", First Joint International Meeting of the American Mathematical Society and the Unione Matematica Italiana, Pisa, Italy,

National/International: International

Lectured yes/no: yes

Title of talk: Multiplicities and Hilbert Functions of Ideals of Pfaffians and Symmetric Minors

Number of Lectures: 1

Organizers: Special Session Organizers: Aldo Conca (Univ. of Genova, Italy), Anna Guerrieri (Univ. of L'Aquila, Italy) Claudia Polini (Univ. of Oregon, USA) Berndt Ulrich (Purdue Univ., USA)

Sponsors: American Mathematical Society and the Unione Matematica Italiana,

From : 15th June 2002 To: 15th June 2002

3. Title of Conference: International Conference on Current trends in Commutative Algebra, Levico, Trento, Italy, June 2002.

National/International: International

Lectured yes/no: no

Organizers: G. Boffi (Univ. of Trento, Italy), J. Herzog (Univ. of Essen, Germany), M.E. Rossi Univ. of Genova, Italy).

Sponsors: Centro Internazionale di Ricerca Matematica (CIRM), Trento, Italy
Ministero Istruzione Università e Ricerca (MIUR), Italy, and Gruppo Nazionale Strutture Algebriche Geometriche e Applicazioni (GNSAGA), Italy.

From: 17th June 2002 To: 21st June 2002

4. Title of Conference: International Congress of Mathematicians (ICM-2002) Beijing, China, August 2002.

National/International: International

Lectured yes/no: yes

Title of talk: Classical Varieties and Error Correcting Codes

Number of Lectures: 1

Organizers: International Mathematical Union and the Chinese Mathematical Society

Sponsors: Chinese Mathematical Society and many others.

From: 20th August 2002 To: 28th August 2002

5. Organizer: Harish-Chandra Research Institute, Allahabad

Title: Computational Algebraic Geometry

National/International: International

Duration: January 6 10, 2003

Details: Participated in this workshop directed by Prof. W. Decker.

6. Organizer: Harish-Chandra Research Institute, Allahabad

Title: Computational Algebraic Geometry

National/International: International

Duration: 3rd Jan 10th Jan 2003

Details: Delivered 4 lectures on Invariants Of Finite Groups

Joshi Mohan C.

1. Title of Conference: International Conference on Industrial Mathematics

National/International: International

Lectured yes/no: No

Title of talk: Chairman of the Conference. Was responsible for the entire organization of the Conference. It was truly international in nature with participants from 17 countries and 17 States of India presenting 132 research papers.

Number of Lectures: Nil

Organizers: Department of Mathematics, IIT Bombay Sponsors: National Board for Higher Mathematics, Reserve Bank of India, All India Council of Technical Education.

From: December 6th , 2002 To: December 9th , 2002

2. Title of Conference: International Congress of Mathematicians

National/International: International

Lectured yes/no: Yes

Title of talk: Approximations to Exact Controllability Problem Involving Parabolic Differential Equations

Number of Lectures: 1

Organizers: International Mathematics Union

Sponsors: IMU

From: August 20th , 2002 To: August 28th , 2002

Kulkarni R.P.

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Title of Conference: Integral Methods in Science and Engineering-2002

National/International: International

Lectured yes/no: Yes

Title of talk: A new Superconvergent Projection Method.

Number of Lectures: 1

Organizers: University of Jean Monnet of Saint-Etienne, France

From: August 7th , 2002 To: August 10th , 2002

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Limaye B.V.

1. Title of Conference: Integral Methods in Science and Engineering-2002 (IMSE-2002)

National/International: International

Lectured yes/no: Yes

Title of talk: Spectral Approximation of Compact Integral Operators

Number of Lectures: 1

Organizers: University of Jean Monnet de Saint-Etienne, France

Sponsors: -

From : August 7th , 2002 To Date: August 10th , 2002

Mitra Amit

Organizer: Department of Mathematics, IIT Bombay

Title: International Conference and Instructional Workshop on Industrial Mathematics

National/International: International

Duration: 2-9 Dec, 2002

Details: I was one of the resource persons for the workshop with two real life problems

Pai D.V.

1. Title of Conference: ICADS International Conference on Analysis and Discrete Structures

National/International: International

Lectured yes/no: yes

Title of talk: On Well-posedness of some problems in approximation-a relook

Number of Lectures: 1

Organizers: Department of Mathematics, Indian Institute of Technology, Kharagpur

Sponsors: Indian Institute of Technology, Kharagpur

From: Dec. 22nd, 2002 To: Dec. 24th, 2002

Pani A.K.

1. Title of Conference: French Indian Cyber-Workshop on Applied Mathematics between IISC and Toulouse University, held in IISc., Bangalore.

National/International: International

Lectured yes/no: Yes

Title of talk: Oldroyd Model of Viscoelastic Fluids: Some Theoretical and Computational Issues

Number of Lectures: 1 (45 minutes duration)

Organizers: IISc, Bangalore and Toulouse University, France

From: February 3rd To: February 6th, 2003

3. Title of Conference: International Conference on Industrial Mathematics

National/International: International

Lectured yes/no: No

Title of talk: NA

Number of Lectures: NA

Organizers: Department of Mathematics, IIT. Bombay

Sponsors: AICTE, NBHM, RBI

From: December 7th 2002 To: December 9th 2002

Patkar Sachin

1. Title of Conference: International Conference on VLSI Design, Jan, 2003,

From: 6th January 2003 To: 9th January 2003

National/International: International

Lectured yes/no: Yes

Title of talk: An Efficient Practical Heuristic For Good Ratio-Cut Partitioning

Number of Lectures: 1

Organizers: VLSI Society of India, IEEE

2. Title of Conference: International Conference and Instructional Workshop in Industrial Mathematics

National/International: International

Lectured yes/no: No

Title of talk: A New Partitional Approach For Identifying Natural Clusters in Large Datasets

Number of Lectures: 1

Organizers: Department of Mathematics, IIT Bombay

Sponsors: AICTE, NBHM, RBI, UNESCO

From : 7th December 2002 To : 9th December 2002

Rana Inder.K.

Title of Conference: 2nd International Conference on Teaching of Mathematics

National/International: International

Organizers: University of CRETE, Greece

From: July 1st To July 7th, 2002

Sabnis S.V.

Title of Conference: International Conference & Instructional Workshop on Industrial Mathematics (ICIWIM)

National/International: International

Lectured yes/no: No

Title of talk: -

Number of Lectures:

Organizers: Department of Mathematics, IIT Bombay Sponsors: (i) UNESCO, (ii) NBHM, (iii) AICTE

From: 7th December To: 9th December, 2002

Shastri A.R.

1. Organizer: Bhaskaracharya Pratistana, Pune and HRI Allahabad,
Title: Computational Aspects in Algebra and Geometry
National/International: International
Duration: 2nd Jan to 11th Jan. 2003
Details: Attended this workshop from 6th Jan to 11th Jan. 2003, at HRI Allahabad.

2. Organizer: Institute of Mathematical Sciences, Chennai
Title: Topological Methods in Group Theory
National/International: International
Duration: 15th to 27th July 2002
Details: Delivered 6 lectures on Hyperbolic Groups in this work-shop.

Vellaisamy P.

Title of Conference: XIIth ISPS
National/International: International
Lectured yes/no: yes
Title of talk: Poisson Approximation for k_1 - k_2 events using Stein-Chen Method
From: August, 2002

Verma J.K.

1. Title of Conference: International congress of mathematicians, Beijing, China
Organizers: International Mathematical Union and Chinese Mathematical Society
Sponsors: National Board for Higher Mathematics
From: 20th August 2002 To: 28th August 2002

2. Title of Conference: Commutative Algebra: Local and Birational Theory, MSRI (Berkeley)

National/International: International

Lectured yes/no: No

Organizers: MSRI, Berkeley, USA.

Sponsors: NSF

From: 2nd Dec 2002 To: 6th Dec 2002

3. Organizer: Harish-Chandra Research Institute, Allahabad

Title: Computational Algebraic Geometry

National/International: International

Duration: 3rd Jan 10th Jan 2003

Details: Delivered 4 lectures on invariants of finite groups

SPECIAL LECTURES DELIVERED:

Balwant Singh.

1. Topic: Riemann-Roch Theorem

National/International: National Workshop on Arithmetic and Algebraic Geometry

Number of Lectures: 4

Venue: Harish-Chandra Research Institute, Allahabad

Date: Dec 30, 2002 to Jan 2, 2003

Ghorpade S.R.

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1. Topic: Degeneracy loci and Determinantal Ideals'

Seminar/Invited Lecture: Seminar

National/International: International

Number of Lectures: 1

Venue: Universit degli Studi di Genova, Genova

Date: May 2002

Details: A talk in the Algebra Seminar at Genova during my visit there.

2. Topic: Classical projective varieties and error correcting codes

Seminar/Invited Lecture: Seminar

National/International: International

Number of Lectures: 1

Venue: Universit degli Studi di Perugia, Perugia, Italy

Date: June, 2002

Details: A talk in the Finite Geometry Seminar at Perugia during my visit there.

3. Topic: Codes associated to Schubert varieties and flag varieties"

Seminar/Invited Lecture: Seminar

National/International: International

Number of Lectures: 1

Venue: Institut de Mathematiques de Luminy, Marseille, France Date: June, 2002

Details: A talk in the Sminaire Arithmetique et Thorie de l'Information at IML, Marseille during my visit there.

4. Topic: Varieties, codes and combinatorics

Seminar/Invited Lecture: Seminar

National/International: International

Number of Lectures: 1

Venue: Mathematischen Institut der Universitt Leipzig, Leipzig, Germany

Date: July, 2002

Details: A talk on Kommutativen Algebra und Algebraischen Geometrie during my visit there.

5. Topic: Newton's Theorem

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: Indian Statistical Institute, Kolkata

Date: December, 2002

Details: A Mathematical talk on Newtons theorem and its applications.

6. Topic: Fun with Mathematics

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: Nehru Science Centre, Mumbai

Date: December, 2002

Details: A talk in Marathi for school children, Nehru Science Centre, Mumbai

Joshi R.R.

1. Topic: (i) Artificial Neural Networks: Basics and Advanced Computational Aspects (ii) Applications of Neural Computing in Molecular Recognition, Neuroinformatics and Immuno Computing

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 3

Venue: National Brain Research Centre, Gurgaon

Date: November 2002

2. Topic: Neural Computing and Applications in Molecular Biology and Bioinformatics.

Seminar/Invited Lecture: Invited Lectures

National/International: National

Number of Lectures: 5

Venue: Bioinformatics Centre, Central University of Pondichery

Date: January, 2003

Kulkarni R.P.

1. Topic: Approximate Solution of Operator Equations.

Seminar/Invited Lecture: Lecture

National/International: National

Number of Lectures: 4

Venue: Department of Mathematics, Pune University.

Date: April 2002, Details: A refresher course for College Teachers.

2. Topic: Approximate Solution of Operator Equations.

Seminar/Invited Lecture: Lecture

National/International: National

Number of Lectures: 4

Venue: Department of Mathematics, Shivaji University, Kolhapur.

Date: June 2002, Details: A refresher course for College Teachers.

Limaye B.V.

Topic: Eigen-Approximation of Compact Integral Operators

Seminar/Invited Lecture: Invited Lecture

National/International: International

Number of Lectures: 1

Venue: University of Central Florida, Orlando

Date: December 6, 2002

Mitra Amit

Topic: Datamining using Statistical Regression Analysis Techniques

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 6

Venue: Reserve Bank Staff College, Chennai

Date: February 2003.

Pani A.K.

1. Topic: On Scientific Computing

Seminar/Invited Lecture: in the workshop held in the Department of Mathematics, IIT Kharagpur

National/International: National

Number of Lectures: 3

Venue: Department of Mathematics, IIT Kharagpur

Date: May'02

2. Topic: An alternate mixed finite element method for some evolution equations

Seminar/Invited Lecture: Colloquium

National/International: International

Number of Lectures: 1

Venue: Department of Mathematics, University of Texas Tech, Lubbock (Texas), USA

Date: July 1, 2002

3. Topic: Mathematical Theory of Finite Elements

Seminar/Invited Lecture: Invited Speaker in the UGC sponsored Refresher Course

National/International: National

Number of Lectures: 4 (six hours)

Venue: Department of Mathematics, Guru Nanak Dev University, Amritsar

Date: August'02

4. Topic: Mixed finite element methods for the evolution equations

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: Department of Mathematics, IIT Madras

Date: September'02

5. Topic: Navier-Stokes Equations: A Millennium Open Problem

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 1

Venue: School of Mathematics, Anna University, Chennai

Date: September '02

6. Topic: Millennium Open Problems

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 1

Venue: University of Pune, Pune

Date: October, 2002

7. Topic: The Mathematical Sciences at IITB: The Road Ahead

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: Department of Mathematics, IIT Madras

Date: September, 2002

8. Topic: Industrial Mathematics: Key to Key Industries

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: BJB College, Bhubaneswar (Orissa)

Date: February 28th, 2003

9. Topic: Industrial Mathematics : A New Avtar

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 1

Venue: Department of Mathematics, Ratnam College (Bhandup)

Date: August, 2002.

Rana Inder.K.

1. Topic: Theories of Integration

Seminar/Invited Lecture: Lecture

National/International: National

Number of Lectures: 1

Venue: Shivaji university, Kolhapur

2. Topic: Evolution of Integration

Seminar/Invited Lecture: Lecture

National/International: National

Number of Lectures: 1

Venue: Bhavanis college, Mumbai

Sabnis S.V.

1. Topic: Reliability Test Plans

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 1

Venue: Institute of Armament Technology, Pune

Date: 13th February, 2003

Details: It was a CEP course organized for the scientists of various DRDO labs.

2. Topic: Time Series Modeling

Seminar/Invited Lecture: Invited talks

National/International: National

Number of Lectures: 4 (each of one and half hour duration)

Venue: Dept of Statistics, Shivaji University, Kolhapur.

Date: October 2002

Details: This was during a refresher course for college teachers.

3. Topic: Confidence Intervals for Parameters of Weibull Distribution Based on Samples of Size 1 and n (greater than or equal to two)

Seminar/Invited Lecture: Seminar
National/International: National
Number of Lectures: 1
Venue: Dept of Statistics, University of Pune.
Date: 9th April, 2003

Sharma V.D.

Topic: Mathematical Modeling of Wave phenomena
Seminar/Invited Lecture: Invited Popular Lecture
National/International: National
Number of Lectures: 1
Venue: Department of Mathematics, IIT Bombay.
Date: October 25, 2002
Details: Sponsored by Bombay Mathematical Colloquium, and IIT Bombay
Mathematics Association

Shastri A.R.

1. Topic: On Basic Properties of Hyperbolic Groups
Seminar/ Invited Lecture: Invited lectures
National/International: National
Number of Lectures: 6
Venue: MStat-Math Division, Indian Statistical Institute, Kolkatta
Date: 11th March to 22nd March, 2002
Details: Special Invited Lectures, as a part of the year-long national activity on
Hyperbolic Groups.

2. Topic: Complex Numbers and Plane Geometry
Seminar/Invited Lecture: Invited Lecture
National/International: National

Number of Lectures: 1

Venue: Nehru Science Centre, Mumbai

Date: 26-01-2003

Details: This lecture was given under the aegis of BASE, to high school students for popularizing mathematics.

3. Topic: Nine Point Circle via Complex Numbers

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 1

Venue: Department of Mathematics, Karnatak University, Dharwar

Date: 19-02-2003

Details: Lecture given to M.Sc. / Ph.D. Students and Faculty

4. Topic: Invitation to Piecewise Linear Topology

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 2

Venue: Department of Mathematics, Karnatak University Dharwar.

Date: 20-03-2003

Details: A new way of introducing PL topology via paper folding was employed to get students excited about this subject.

5. Topic: Paper Folding and Piecewise Linear Topology

Seminar/Invited Lecture: Seminar

National/International: National

Number of Lectures: 2

Venue: Department of Mathematics, University of Pune

Date: 09-02-2003

Details: Paper models for surfaces of some lower genus were presented and a constructive proof for the general case was given. The audience consisted of M. Sc. students, research students and faculty

6. Topic: Topology of Neighborhood Complex of a Graph

Seminar/Invited Lecture: Invited Lecture

National/International: National

Number of Lectures: 1

Venue: National Conference in Mathematics, 1-2 February, 2003, at Sindhu Mahavidyalaya, Nagpur, Maharashtra, Sponsored by DST

Date: 02-02-2003

Details: The Conference was organised by Sindhu Mahavidyalaya and NUMTA.

Suresh Kumar K.

Topic: Application of stochastic calculus to option pricing modelling

Seminar/Invited Lecture: Invited lectures

National/International: National

Number of Lectures: 5

Venue: RBI, Bandra Kurla Complex Bombay

Date: 15th to 19th July, 2002

Details: An introductory level lectures on the mathematics of option pricing models.

Verma J.K.

1. Topic: Zariski's theory of complete ideals

Seminar/Invited Lecture: seminar

National/International: departmental seminar

Number of Lectures: 6

Venue: IIT Bombay

Date: Feb-April 2003

2. Topic: Groebner bases and solutions of polynomial equations

Seminar/Invited Lecture: invited lectures

National/International: National

Number of Lectures: 4

Venue: Pune University, Pune.

Date: 22-23 March 2003

Details: Part of Workshop in Computational Mathematics

3. Topic: Polynomial equations and eigenvalues

Seminar Invited Lecture: Colloquium

Number of Lectures: 1

Venue: Department of Mathematics, Pune University

Date: 8th Feb 2003

4. Topic: A geometric proof of the fundamental theorem of arithmetic

Seminar/Invited Lecture: Invited Lecture

Number of Lectures: 1

Venue: Nehru Science Science Center, Mumbai

Date: 25th June 2003

Details: A lecture in "Ganit Utsav" organized by "Bombay Association for Science Education" and Bombay Mathematical Colloquium.

5. Topic: Local cohomology of bigraded Rees algebras

Seminar /Invited Lecture: Invited Seminar

Number of Lectures: 1

Venue: School of Mathematics, TIFR, Bombay

Date: 20th November 2002

6. Topic: Depth of blow-up algebras and Hilbert coefficients

Seminar/Invited Lecture: Invited Lectures

Number of Lectures: 6

Venue: Institute of Mathematics, Hanoi, Vietnam

Date: July 20th -Aug 10th , 2002

Details: This visit was sponsored by the China-India-Vietnam of ICTP, Italy.

7. Topic: Anand-Dumir-Gupta Conjecture

Seminar /Invited Lecture: Invited Colloquium

Number of Lectures: 1

Venue: Institute of Mathematics, Hanoi, Vietnam

Date: 5th August 2002

8. Topic: Solving polynomial equations via eigenvalues

Seminar/Invited Lecture: Invited lectures

National/International: national

Number of Lectures: 4

Venue: Department of Mathematics, IIT Kanpur

Date: 8th July-10 July 2002

Details: Lectures delivered in the "Nurture Programme in Mathematics".

9. Topic: Gorenstein invariant rings of finite groups

Seminar/Invited Lecture: Colloquium

Number of Lectures: 1

Venue: Indian Statistical Institute, Bangalore

Date: 2 April 2002

Education Extension of Activities-(POPULAR LECTURE SERIES)

The faculty is actively involved in various programmes, popularizing / training of mathematics such as NBHM sponsored nurture programme, Ganit Utsav organized by Bombay Mathematical Colloquium, popular lectures at Nehru Science Centre etc.

Another important activity in this direction is the Popular Lecture Series in Mathematics - a joint activity of Mathematics Association of IIT, Bombay and Bombay Mathematical Colloquium.

This was started in 1997 by the Mathematics Association of IIT, Bombay. Thirty-one lectures have been held under this series so far on diverse topics in mathematics.

The lectures are aimed at a wide spectrum of audience. Besides mathematicians, we also invite scientists and engineers who apply mathematics in research and development in their area. The speakers are instructed to start from the basics and build their lecture so that beginners as well as experts can benefit. The series has become extremely popular among students and faculty at IIT and college teachers in Mumbai.

Speakers in 2002-2003

21 March, 2003

Prof. Dipendra Prasad

TATA institute of fundamental research, Bombay

Algebraic number theory

15 Nov, 2002

Prof. M. Brodmann

Department of Mathematics, University of Zuerich

Blowing up of surfaces and their visualization

25 Oct, 2002

Prof. V. D. Sharma

Department of Mathematics , IIT Bombay

Mathematical Modelling of Wave Phenomena

19 Sep, 2002

Prof. H. Walser

Basel University, Switzerland

The golden section and fractal geometry

HONORARY WORK:

Ghorpade S.R.

Editor of Resonance . Resonance is a Journal of Science Education, published by the Indian Academy of Sciences, Bangalore.

Joshi Mohan C.

Selection Committee Meetings, Review of Ph.D. Thesis, Research Papers and project proposals.

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Joshi R.R.

1. Referee for papers submitted to (i) Journal of Molecular Modelling (ii) Computers and O. R.
2. Referee/Reviewer for the projects submitted to (i) DST (ii) DBT.

Kulkarni R.P.

Refereed a Ph D thesis

Pai D.V.

1. Worked as a Member, PAC-MS (Programme Advisory Committee-Mathematical Sciences), Department of Science & Technology, Govt. of India
2. Worked as a Member, PAC-MS (Programme Advisory Committee-Mathematical Sciences), Department of Science and Technology, Govt. of India
3. Worked as a Coordinating Member, for the 28th Meeting of PAC-MS and the DST Group Monitoring Workshop held during September 27-28, 2002 at IIT Bombay, Powai, Mumbai-400 076.
4. Refereed papers for Soochow Journal of Mathematics, Taipei, Taiwan and Indian Journal of Pure and Applied Mathematics

Pani A.K.

1. Member of a Selection Committee for Faculty of one IIT and one NIT.
2. Refereed for the Journals: J. Computational and Applied Mathematics, SIAM J. Numer. Anal., IMA J. Numer. Anal., Advances in Computational Mathematics, ZAAM.
3. Co-ordinator, ICIWIM-2002
4. Member of the Editorial Board of Differential Equations and Dynamical Systems: An International Journal.
5. Evaluated Ph.D. theses from IIT Kanpur, IIT Madras, Goa University, University of Pune and University of Baroda.
6. Reviewed 2 project proposals for DST, one CSIR, and one for National Board for Naval Research.

Parihar K.S.

1. Attended as a member of board of examiners, the Ph.D. viva-voice examination which was held on 9/9/2002 at the Madurai Kamaraj University, Madurai
2. Attended a meeting of a selection committee on 16/1/2003 at the Maulana Azad National Institute of Technology, Bhopal

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Patkar Sachin B.

1. Refereed papers for Discrete Mathematics, Discrete Applied Mathematics
2. Member of the Organizing Committee for International Conference and Instructional Workshop on Industrial Mathematics, Dec 2002, Mumbai

Prakash J.

1. Referee: Tribology International

Journal of Tribology, Proceedings of the Institution of Mechanical Engineers

Indian Journal of Engineering and Material Sciences

Transactions American Society of Mechanical Engineers

2. Reviewer: Zentralblatt for Mathematik

Sabnis S.V.

(i) Evaluated M.Phil. Thesis (University of Pune). (ii) Evaluated Ph.D. Thesis (Banaras Hindu University). (iii) Refereed one article for Applied Stochastic Models in Business and Industry Journal of Wiley Interscience. (iv) Member of the Selection Committee of Mumbai University. (v) Member of Moderation Committee of the Dept. of Statistics, University of Pune for Spring 2003 semester.

Sharma V.D.

1. Referee for the Journals: Canadian Journal of Physics, Indian Journal of Pure and Applied Mathematics, Journal of Engineering and Material Science (CSIR)

2. Reviewed: six papers and one monograph for Zentralblatt fur Mathematik (Germany), and four papers for MATH Reviews (USA).

2. Member of the selection committee for faculty of an IIT and NEHU.

3. Evaluated Ph.D. theses from Banaras Hindu University and Agra University.

4. Member of the Expert committee for CSIR Senior Fellows and Research Associates.
5. Invited to participate in SET (Gujarat State) meetings at Vadodra University, and NET (CSIR) meetings at CSIR New Delhi. Nominated by the UGC as an observer for SET (Gujrat State) at Rajkot.
6. Nominated as a member of the advisory committee to monitor the UGC special assistance programme (UGC-CAS in Fluid Mechanics) at the Dept. of Mathematics, Bangalore University, and participated in the meeting at Bangalore on 2nd Oct. 2002

Shastri A.R.

1. Examined one Ph. D. Thesis from Chennai, and one M. Sc. thesis from Mumbai.
2. Wrote several reviews for Mathematical Reviews

Verma J.K.

1. Wrote several reviews for Mathematical Reviews
2. Member, Nurture Programme in Mathematics, National Board for Higher Mathematics
3. Member, Managing Committee of Bombay Mathematical Colloquium
4. Member, NBHM Interview Committee for Research Awards
5. Refereed papers for Journal of Algebra, Communications in Algebra, Cambridge Philosophical Society and Manuscripta Mathematica. Refereed a book for the TRIM Series for Hindustan Publishing Agency
6. Member of the Editorial Board, Resonance, A Journal of Science, Indian Academy of Sciences.

7. Refereed 3 research proposals for National Science Foundation, USA.

Vellaisamy P.

Reviewed a paper for a National Journal and a paper for an International Journal of Statistics.

FOREIGN VISITS:

Ghorpade S.R.

1. National / International: Universit degli Studi di Genova, Genova, Italy,

Duration: May (1 week), 2002

Details: A talk on algebraic mathematics.

2. National / International: Institut de Mathmatiques de Luminy, Marseille, France.

Duration: June 2002(2 weeks)

3. National / International: University of Keil

Duration: July 2002(1 month)

4.National / International: Indian Statistical Institute, Kolkata.

Duration: December 2002(1 week)

Joshi Mohan C.

National / International: International, City University of Hong Kong

Duration: September 1-4, 2002

Details: Lectured On Industrial Mathematics

Limaye B.V.

National / International: International

Duration: One Week

Details: Research Visit to California State University at Los Angeles in November-December, 2002

Pani A.K.

1. National / International: International

Duration: one week in July'02

Details: University of Texas Tech., Lubbock (Texas)

2. National/International: National

Duration: one week

Details: Guru Nanak Dev University, Amritsar

3. National/International: National

Duration: one week

Details: Institute of Mathematics and Applications, Bhubaneswar (Orissa)

4. National/International: National

Duration: One week in February'03

Details: IISc. Bangalore

5. National / International: International

Duration: June-July 2002

Details: Colorado School of Mines, Golden (USA)

Rana Inder K.

National / International: University of Mumbai

Duration: Feb 2003 to March 2003

Details: On Stochastic Differential Equations.

Verma J.K.

1. National / International: International

Duration: 20 Aug 2002-28 Aug 2002

Details: Participated in the International Congress of Mathematicians(ICM) held in Beijing, China.

2. National / International: International

Duration: 20 July-Aug 10, 2002

Details: Visited Institute of Mathematics, Hanoi (Vietnam).

3. National / International: International

Duration: 2 Dec 2002-6 Dec 2002

Details: Visited Mathematical Sciences Research Institute, Berkeley, CA (USA) to participate in a workshop.

4. National / International: International

Duration: 21 March - 3 April 2002

Details: Visited Department of Mathematics, Indian Institute of Science, Bangalore to deliver a series of lectures.

5. National / International: National

Duration: 8 July-10 July 2002

Details: Visited Department of Mathematics, IIT Kanpur to deliver a series of lectures in the NBHM Nurture Programme in Mathematics.

6. National / International: National

Duration: 3 Jan-10 Jan, 2003

Details: Visited Harish-Chandra Research Institute to deliver 4 lectures.

VISITORS:

8 March, 2003

Mr. Puthenpurackal.Tony.J, T.I.F.R, Mumbai

Rank, reduction and Rees algebra of a module

1 March, 2003

Mr. Puthenpurackal.Tony.J, T.I.F.R, Mumbai
Symmetric and Exterior Algebras.

26 February, 2003

Dr. KumarSomesh, Associate Professor, IIT, Kharagpur

1. Estimating Quantiles of exponential population
2. Estimating Quantiles of selected population

26 February, 2003

Prof Viennot Xavier.G, Labri, Bordeaux University, France
The Magic Of Young Tableaux

22 Feb, 2003

Mr. Puthenpurackal Tony.J, TIFR, Mumbai
Symmetric and Exterior algebras

15 Feb, 2003

Mr. Puthenpurakal Tony.J, TIFR, Mumbai
Buchsbaum-Rim functions

31 Jan, 2003

Prof. Dr.Ischebeck.F, University of Muenster, Germany
Vector Bundles and Projective Modules

31 December, 2002

Dr. Prakash. B.G., Chief Scientist and Director, India Science Laboratory General
Motors
Math Based tools for Design Automation in Engineering Applications

18 September, 2002

Prof. Waldschmidt Michel, University of Paris VI
Recent Diophantine Results

11 September, 2002

Professor Krattenthaler.C, University of Vienna, Austria.

Plane partitions and alternating sign matrices - a survey

19 July, 2002

Professor LeFloch Philipe, CNRS Director of Research Centre de Mathematiques
Appliquees Ecole Polytechnique, France

Well-Posedness Theory for Hyperbolic Systems of Conservation

24 May, 2002

Dr. Kumar Kaushal, University of Michigan (U.S.A.)

The Symmetry Principle in Several Complex Variables

12 April, 2002

Prof. Adhikari Sukumar D., Harish-Chandra Research Institute, Allahabad

Early Ramsey-Type Theorems in Combinatorial Number Theory