

# INTERNATIONAL SEMINAR ON HISTORY OF MATHEMATICS (NEW DELHI: 2012) (A Brief Report)

A two-day **International Seminar on History of Mathematics** was organized by Ramjas College, University of Delhi recently. It was organized jointly with the Indian Society for History of Mathematics (ISHM) and Co-sponsored by the International Commission on the History of Mathematics (ICHM). The event focused on celebrating the National Mathematical Year to commemorate the 125<sup>th</sup> Birth Year of Genius Srinivasa Ramanujan. It covered all aspects of the history of mathematics, and in particular, the ancient Indian history of the subject. A large number of mathematicians participated in the deliberations, including leading experts from 16 countries including USA, U.K., France, Italy, Israel, Iran, Brazil Japan, China, Egypt, Denmark, South Africa and Nepal, apart from many eminent scholars from India. The venue of the conference was Ramjas College, University of Delhi.



The Venue of the Seminar

At the outset Principal Rajendra Prasad, Ramjas College (and Chairman, Local Organizing Committee) Welcomed the Delegates, followed by the opening remarks by Dr. Man Mohan (Seminar Convener). He gave a brief account of the Seminar and related organizational efforts over the past one year. He mentioned that the inputs from Professors G E Andrews and Bruce C Brendt provided the platform for this Seminar. A small video clipping on Ramanujan was also shown.



All watching a video clipping on Ramanujan

At this stage Professor June Barrow-Green (Open University, U.K.) read out the message of the President of the International Commission on the History of Mathematics.



Professor June Barrow-Green (Open University, UK) reading the message of the Chair of International Commission on the History of Mathematics

This was followed by the remarks highlighting the importance of the Seminar by Professor S G Dani (President, ISHM) and the remarks of Ambassador Balkrishna Shetty, the Guest of Honor.

The Seminar was inaugurated by Professor Dinesh Singh, Vice Chancellor, University of Delhi. He congratulated the Ramjas College for organizing this International seminar. He expressed that it is difficult to find examples that can parallel the story of Ramanujan in the annals of Mathematical lore.



Professor Dinesh Singh, Vice Chancellor, University of Delhi inaugurates the Seminar

The inaugural session ended with a vote of thanks by Dr. Ruchika Verma, the Co-Convener.

There were in all eleven lively sessions including the concurrent ones. The academic sessions began with the Talk by Professor S G Dani, President of the Indian Society for History of Mathematics. He explained the Role of Mathematical Societies in the early development of mathematics in India. Ambassador Balkrishna Shetty, IFS (Retd.), Diplomatic Mentor, Indian Council for World affairs, discussed about Connecting Dots: Meaning, Mathematical Development and Teaching.

**The following talks and papers were presented:**

A. H Siddiqi, *Gautam Buddha University, NOIDA*, "Functional Analysis in Historical Prospective and its Development in India"

A.K. Agarwal, *Panjab University, Chandigarh*, "Ramanujan's congruence properties of partition function"

Ajay Kumar, *Dept. of Mathematics, D.U.*, "The Uncertainty Principle: A Mathematical Survey"

Anjing QU, *North Western University, China*, "Genius in Mathematics: revisiting the history of Galois Theory"

Anuradha Rajkonwar Chetiya, *Ramjas College*, "Tracing the Origin of Probability"

Asim Kumar Majumdar, *Visva-Bharati, Sriniketan, Birbhum, W.B.*, "Contribution of Sri Radhanath Sikdar and Sir Ashutosh Mukherjee as mathematicians"

- Athanase Papadopoulos , *Strashurg Cedex, France*, "Spherical Geometry: Some Milestones"
- BhuDev Sharma, *JIIT University, NOIDA*, "Srinivasa Ramanujan - Some Remarkable Life Events"
- CHEN Yiwen, *Northwest University, Xi'an, China*, "Mathematical communication of Chinese Scientific and Technological Journals in the early 20th century"
- D. S. Hooda, *Jaypee University of Engg. and Technology, GUNA*, Raghogarh, "Vedic and Ancient Indian Mathematics"
- Dinesh Singh, *Vice Chancellor, University of Delhi*, "A History of Functional Analysis: The Role of Fourier, Lebesgue and Hilbert"
- Ekaratna Acharya, *Tribhuvan University, Saraswati Campus, Kathmandu, Nepal*, "Naya Raj Pant's Explanation of a formula of Ganita Kaumudi of Narayana Pandita"
- Geetha S Rao, *Ramanujan Inst. for Adv. Study in Maths, Chennai*, "Tracing the development of Approximation Theory"
- Govind Singh, *Kumaun University, Nainital*, "Varahamihira: A Versatile Intellectual"
- Gregg De Young, *The American University in Cairo, Egypt*, "The Unintended Textbook: Muhammad Barakat's Commentary on Book I of the Elements"
- Jayant Shah, *Northeastern University, Boston, MA, USA*, "Absence of Indian astronomy in Dayan li of Yixing"
- Jens Høyrup, *Philosophy and Sc. Studies, Roskilde University, Denmark*, "Sanskrit-Prakrit interaction in elementary mathematics as reflected in Arabic, Catalan and Italian formulations of the rule of three"
- June Barrow-Green, *Editor, Historia Mathematica, Executive Committee Member-ICHM, Open University, U.K.*, "Poincaré's Last Geometric Theorem and its Legacy"
- K Ramsubramanian, *IIT Bombay, Mumbai*, "The significance of asakṛt-karma in finding the manda-karṇa"
- K. Srinivasa Rao, *Director, Srinivasa Ramanujan Academy of Maths Talent, Chennai*, "Gauss, Ramanujan and hypergeometric series "
- Kim Plofker, *Union College, Schenectady NY, USA*, "Treatises and tables: evolution of Sanskrit mathematical astronomy in the early modern period"
- Madan Lal Ghai, *Mathematics, Punjabi University, Patiala*, "Ancient Indian Mathematics"
- Min Bahadur Shreshta, *Tribhuvan University, Kirtipur, Kathmandu, Nepal*, "Paradigm change in philosophy of mathematics"
- Mita Darbari, *St. Aloysius College, Jabalpur*, "Pythagoras: Who was he?"
- Niccolò Guicciardini, *Editor, Historia Mathematica & EC Member -ICHM, Italy*, "Open issues in the new historiography of European early modern mathematics"
- Oscar João Abdounur, *Rio Claro, Brazil*, "The late creation of the university system in Brazil"
- Pankaj Kumar, *Ramjas College*, "Mathematics before the Vedic Period"
- Praveen Kumar, *Ramjas College*, "Fire Altars in Ancient India and their Mathematical Relation"
- R S Kaushal, *Dept. of Physics, D.U.*, "Ermakov-lewis-ray-reid system of coupled nonlinear differential equations: historical perspective"
- Rudra Hari Gyawali, *Tribhuvan University, Sanathimi Campus, Bhaktapur, Nepal*, "Symbolic and Digital Logic"
- S L Singh, *21, Govind Nagar, Rishikesh*, "Resonance of Mathematics of Vedic Tradition"
- Swaminath Mishra, *Walter Sisulu Univ Mthatha, South Africa*, "Mathematics: Pure and Applied - Some Historical Perspectives"



TANG Quan, *Maths and Inf Sc, Xianyang Normal Univ., Xianyang, China*, "Time difference algorithm of solar eclipse theory in ancient China and India"

V. M. Mallayya, *Mohandas College of Eng.& Technology, Trivandrum*, "Geometrical Approach to Indeterminate Equations"

Wang Chang, *Northwest University, Xi'an, China*, "Fréchet's Doctoral Thesis and Some Ideas"

XU Chuansheng, *Linyi University, Shandong Province, China*, "A Research on The St. Petersburg Probability School's Probability Theorem"

Yukio-Ohashi, *Shibuya-ku Tokyo, Japan*, "Eccentric Model of the Solar Orbit in China"

ZHAO Jiwei, *Northwest University, Xi'an, Shaanxi Province, China*, "Finding the Area of Sphere's Surface: Bhaskara II and Archimedes"

Summaries of all talks and papers, along with the CV and photo of each author, were available in the 132 page 4-color Souvenir that was released on the occasion. It contained useful information about the host city of Delhi, articles on its history, culture and seats of learning besides some articles on the history of mathematics. It also contained the information about the organizing institutes and the names and addresses of the participants.



A Session in Progress

A special session on Srinivasa Ramanujan was also held with a Panel Discussion and Interaction with students. The theme was "Relevance of Ramanujan in Mathematical Education Today". The Panelists included Professor S. G. Dani, Ambassador Balkrishna Shetty, Professors Anjing Qu, K. Srinivasa Rao, A. K. Agarwal, Kim Plofker, June Barrow-Green, Min Bahadur Shreshta, and Athanase Papadopoulos.



The Panel Discussion Session

Other highlights of the Seminar included screening a documentary ***Enigma of Srinivasa Ramanujan*** shown by Prof. K Srinivasa Rao, Chennai

The delegates enjoyed a pre-dinner cultural programme by students and invited artists.. The



illuminated College Building

Appreciated by all, it was held in the College Lawns which was well illuminated and decorated in the classic tradition.





The illuminated Dinner Venue

The Valedictory function was chaired by Principal Rajendra Prasad. Participants freely expressed their comments and observations and gave fruitful suggestions for the future.

Foreign and Indian delegates lauded the untiring work done by Dr. Man Mohan and his colleagues. The Co-convenor, Dr. Ruchika Verma utilized this opportunity to present a vote of thanks and expressed gratitude to all those who helped in organizing this Seminar. She



Principal Raendra Prasad at the Valedictory Function

appreciated the support provided by the Principal, Dr. Rajendra Prasad and the Vice Chancellor, Professor Dinesh Singh, right from the beginning. She in particular thanked her colleagues Praveen, Pankaj and Jyotish for compiling the beautiful Souvenir, Munesh Chakravorty and M Ojit Kumar for excellent venue arrangements; Neelima, Virender and Shikha for managing registration; and Anuradha, Vishal and Bhuwan for organising the cultural program.

The expenses on organizing the Seminar were met by

- Collaboration amount given by the International Commission on the History of Mathematics (ICHM)
- Grants received from the National Board of Higher Mathematics (NBHM), the Council of Historical Research (ICHR), the Department of Science and technology (DST), the Council of Scientific & Industrial Research (CSIR), and the Indian National Science Academy (INSA).
- Advertisements in the Souvenir.
- Delegation Fees.

The Conference was well attended by about 150 persons and was a great success. In fact



Organizers deserve all praise for so successfully arranging such a large scale International Seminar on history of Mathematics in India at a time when things seemed difficult in view of the prevailing tense international scenario.

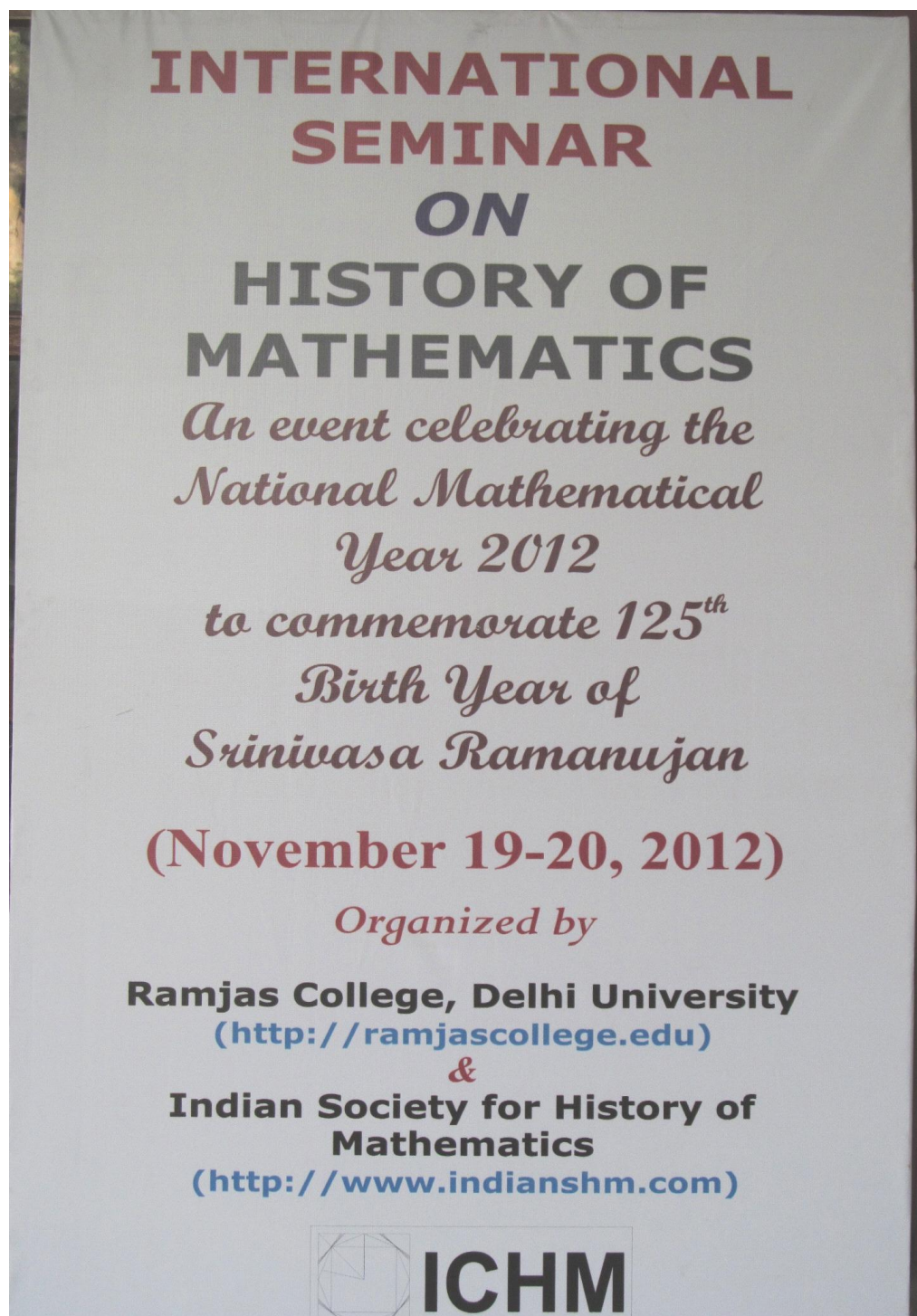


Delegates enjoying Lunch at the Tererace

### **Some more Photographs**



Lightening of Lamp



A poster of the Seminar