

Institute for the Advancement of Vedic Mathematics

## 1st International Vedic Mathematics Conference

ICCR  
Rabindranath Tagore Centre  
Kolkata

28th - 30th December 2016

# Conference Report

Sponsors  
Indian Council for Cultural Relations

IAMM

This conference was organised by the Institute for the Advancement of Vedic Mathematics (IAVM) and fully sponsored by the Indian Council for Cultural Relations. It was back in March of last year that I met with the then Director General of ICCR, Mr C.Rajasekhar. His view was that it should be a large conference aimed at making Vedic Maths popular, and he agreed to sponsor international speakers as well as those from India. We spent the next seven months networking with our contacts and calling for suitable papers. There was an excellent response, and we received many very interesting and useful presentations.

The initial plan was to have Kurukshetra University as the hosting venue, but due to unforeseen circumstances, the ICCR were unable to secure this venue and had to switch to their regional site in Kolkata, which is on the other side of India. Unfortunately, these changes occurred only a month before the conference, and so there was very little promotion or press coverage of the three-day event.

The conference opened with a grand inaugural ceremony and speeches from VIPs. The chief guest speaker was Mr M.J. Akbar, Minister of State for External Affairs. The Director General of the ICCR, Amarendra Khatua, the West Bengal Minister, Bratya Basu, and Academic Director, James Glover, also gave introductory speeches. The ceremony, which ended with the lighting of the flame, was followed by refreshments. There were about 90 delegates in all. Mr Akbar's address can be seen at <https://www.youtube.com/watch?v=WDISo4BJ-fk>.

A total of 22 papers, together with 9 workshops and 6 "global practices" talks, were presented. Had there been a greater number of students and teachers present, more workshops would have been presented by the IAVM. However, the fact that fewer people were present than expected, did not detract from the sheer brilliance and strength of the research papers.

The papers covered a wide scope and were loosely themed according to the following categories: Vedic Mathematics, Vedic Maths in Education, and the History of Mathematics in India. In both papers and presentations, the experienced researchers and educators conducted themselves with professionalism and enthusiasm. We saw the results of considerable in-depth work in the field. In due course, the papers will be made available, either in hard or soft copy. The series of workshops for students and teachers - aimed at enriching and deepening knowledge and practice of Vedic Maths – were very enthusiastically received.

Those papers categorised under the general theme of Vedic Mathematics, described cutting-edge research into the system of Bharati Krishna Tirtha. Four key features were covered: Firstly, the papers demonstrated how Vedic methods can be extended to many areas of mathematics not specifically mentioned by Sri Tirthaji. Secondly, the speed and efficiency of the Vedic methods were highlighted. The Vedic Maths sutras were, furthermore, revealed to operate universally - not being confined to a particular "system". And lastly, the methods were shown to be highly effective in helping to develop strategic problem-solving skills. Two of the papers described the wide range of applications of Vedic Maths algorithms in computer architecture, rendering high-speed performance.

Papers within the general theme of Vedic Mathematics are listed below:

Algebraic Patterns associated with Vedic Mathematics to Shorten Integration of Quadratic Formulae	Vasanth Shastri, Alex Hankey
Bharati Krishna's Special Cases	Kenneth Williams
A Novel Algorithm for Multiplying Four Numbers Near Different Bases	Jatinder Kaur, Pavitdeep Singh
A Novel Approach of Multiplying Five Numbers Near a Base	Pavitdeep Singh, Jatinder Kaur
How the Binomial Theorem Underlies the Working of the Anurupyena and Yavadunam Sutras in the Calculation of Successive Powers of a Number; Application of power Triangles and Calculus	Marianne Fletcher, James Glover
A Survey on Implementation of Vedic Mathematics Sutras in Information Technology	A.R. Anil
A New Approach to the Teaching of Coordinate Geometry using Vedic Mathematics	James Glover
An Investigation into the Working of the Ekadhikena Purvena Sutra, and how it can be used to identify Prime Numbers	Marianne Fletcher
Impact of Vedic Mathematics in Education for Development of Sustainable Technologies	J. Samrudh, S.G.R. Prasad, S. Nithyashree

About a third of the papers dealt with various aspects of education, covering topics such as how Vedic Maths can assist with special educational needs, as well as how it can also be used to extend or stretch the understanding of gifted individuals. We heard how the system affects and promotes endorphins, which give a sense of personal wellbeing. Two papers demonstrated the results on the effectiveness of Vedic Maths in education. One of these papers was written by Dr. S. Smitha, a researcher from Kerala. She reported upon the results of a four-and-a-half-year project, which tested and compared mathematical ability between experimental and control groups of children – each group containing 25,000 students. The conclusions drawn from the statistically analysed data were truly remarkable. From this survey, it is suggested that the Government of India, through its various education departments, should conduct an overhaul of the curriculum and systematically adopt Vedic Maths techniques. My own belief is that the integration of Vedic Mathematics into school and college curricula will render India as the world leader in Mathematics education.

Papers within the theme of Education are listed below:

Deeper Reasons why Students find Vedic Mathematics so Enjoyable	Alex Hankey, Vasanth Shastri
Teaching Vedic Math to Non-Traditional Audiences	Richard Blum
Vedic Maths in Education	Jayanthi Saravanan
Vedic Mathematics: Its impact on Children with Special Needs	Pooja Rani, Sukhwinder Kaur
Aggrandizing Human Potential of Computation through Indian Intellectual Traditions of Vedic Algorithms	Dr. S. Smitha
Vedic Mathematics as an Education Fundamental	Gurunathan Sankaranarayanan, Anuradha Subramaniam
Vedic Mathematics as a Part of School Curriculum - a Controversy	Sumita Bansal

Several papers dealt with the rich heritage of Indian Mathematics. In particular, the work of classical mathematicians, such as Bhaskara II, was investigated and reported upon. The wealth of material lying - to a great extent - undisturbed in various libraries (particularly in Kerala) may, upon investigation, continue to reveal the findings of brilliant mathematicians from the past.

The Side of a Regular Polygon – Lilawati Method	Dr. Anant W. Vyawahare, Prof. Sanjay M. Deshpande
Relevance of Shulbasutras of the Yajurveda: Modern Context	Dr. Daya Shankar Tiwary
Calculus rendered in Verses and Prose: Contribution of the Kerala School	Dr. Vanishri Bhat
Bharati Krishna Tirthaji's Vedic Mathematics and Early Indian Mathematics: Comparison of the Fundamental Arithmetic Operations	Arvind Prasad
Vedic Mathematics, Lilavati and Nepal	Jayanta Acharya
Contributions of Kerala to Mathematics	P. Devaraj

Several delegates shared projects and work which they had done (via courses, workshops, and research) within their own countries. These presentations, called Global Practices, included the newly formed Magical Maths in South Africa, run by Nivedna Sirkissoo, and Vedic Maths Luxembourg, organised by Shruti Tulsian. More information can be found at <http://magicalmaths.co.za> and <http://www.healthylux.com/activity/vedic-maths-luxembourg/>.

The conference also featured a range of workshops for teachers and students. The workshops were hosted by experienced and expert teachers such as Marianne Fletcher, Rajeshwari Sharma, Purvi Lohana and Swati Dave. These were very well received, and we certainly hope to expand on this feature at the next conference.

For the purpose of sharing ideas and research, and for the meeting of like-minded people, there is nothing better than to hold a conference with a specific aim. This conference brought together some of the world's leading experts, authorities and enthusiasts from around the world.

Looking forward to the year 2017, the IAVM are planning to develop a Vedic Maths curriculum, which can be integrated into schools and colleges. We are already in touch with several schools who wish to have Vedic Maths included in their courses. We, furthermore, hope to share the results of some of the research with education departments, so that they can become aware of the benefits of using Vedic Mathematics. In addition, we are writing resource materials and assessments, awarding certificates, and providing teachers with guidance and consultation.

In order to carry forward this work, in its various aspects, and to make it more widely available, the IAVM would like to hold the 2<sup>nd</sup> International Vedic Mathematics Conference, either later this year or early in 2018. To facilitate this, we are looking for sponsorship.