TENCON WIE TUTORIAL 1: Vedic Mathematics: From Arithmetic to Astronomy

Invited Speaker: Mrs. Ramalatha Marimuthu
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Abstract

Mathematics is the basics of all arts, sciences and engineering. Vedic Mathematics offers a new holistic approach to mathematics and to mathematics education. Its range extends from the most concrete values of the numerical computation to the most abstract aspects of the dynamics of intelligence. The computational application of Vedic Mathematics has long been an interesting area for research. All areas of modern mathematics both pure and applied are within the scope of Vedic Mathematics. And it is particularly appealing to the binary system of computation which is predominant in processor applications. This has been proved by many researchers who have discussed and concluded on the speed of the computation processes. The author is researching in improving the speed of the processors and reducing their power consumption. Power consumption is one of the greatest areas of research in building up processors. So any technique which reduces the power consumption without compromising the performance is greatly acceptable. As such Vedic computational methods have proved to be an interesting technique since it actually improves performance while reducing power.

One amazing fact that has been established in the research is that some of the Sutras are more suitable for binary numbers than any other number system. It proves the suitability of Vedic Mathematics for Computer applications like Signal and Image processing, Testing and Verification, Control Systems and most interestingly musicology. As a tool for education, Vedic Mathematics offers a new and entirely different approach to the study of Mathematics based on pattern recognition. With its special features, it has the inbuilt potential to solve the psychological problem of Mathematics - anxiety. The tutorial deals with the roots of Vedic Mathematics, the Vedas, their different forms and applications, the different Sutras and their explanation, present research and possible future avenues of research and its potential in improving the Education system.

Speaker's Biography

Ramalatha Marimuthu is the professor and head of the department of ECE in Karpaga Vinayagar College of Engineering and Technology. She received her Bachelor's from Anna University in 1986 and Masters in Electronics and Control from Birla Institute of Technology in 1996. She is one of the leading pioneer women engineers in India. Her research area is "Improvement of Processor Architectures using Vedic Mathematics". She has served as the chair person in several academic boards. She is one of the leading authors in India and has published six technical books. She is serving as IEEE Region 10 WIE Coordinator, Member, IEEE R10 Educational Activity Committee, Member, IEEE R10 Humanitarian Technology Challenges Committee and Member, IEEE Global WIE committee (2008 & 2009). At the Section level, she is the Treasurer and WIE Chair for the Madras Section. Under her guidance the Affinity Group won the Honourable Mention for the Student Branch AG of the year Award for 2006 and the Student Branch Affinity Group of the year Award for 2007. won the Honourable Mention for the Affinity Group of the Year Award for 2007 and for 2008, Based on her work to improve the quality of life for the rural society, she has been awarded the MGA Achievement Award for the year 2008.