UNIVERSITÉ Concordia UNIVERSITY

FACULTY OF ARTS AND SCIENCE

Department of Mathematics and Statistics

Dwivedi Memorial Lecture

"Contribution of Early Indian Mathematicians"

A talk by

Dr. M.N.S. Swamy
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Like the crest of a peacock and the head jewel of the cobra,
So does mathematics stand on top of all Vedic Sciences

- From Vedanga Jyotisha

Date: **Wednesday, April 29, 2015**

Time: **3:30 p.m. – 4:30 p.m.**

Location: **1400 de Maisonneuve Blvd. West, Montreal**
J.W. McConnell Building/Library Bldg.
Room S-LB 646

The talk will be followed by a small reception in room S-LB 921.04

Please RSVP to g.ford@concordia.ca

Abstract: Early mathematicians of India have contributed immensely to the field of Mathematics starting from the Vedic period, which is at least around 1000 BC. The most fundamental contribution of ancient India to the progress of human civilization is the invention of the 'decimal' system of numeration and the invention of the number "zero". We will restrict our talk to some of the contributions to Arithmetic, Algebra and Geometry from the Vedic period to the 12th Century, even though there has been quite a contribution to the field of Astronomy. In particular, we will consider the main contributions of Arya Bhata, Mahavira, Brahmagupta and Bhaskara. It may be mentioned that the integer solutions for the "wrongly called" Pell's equation, $Nx^2 + 1 = y^2$, N being an integer, had been found by Brhamagupta and Bhaskara long before it was solved in the West.

M. N. S. Swamy received the B.Sc. (Hons.) degree in mathematics from the University of Mysore, India, the Diploma degree in electrical communication engineering from the Indian Institute of Science, Bangalore, and the M.Sc. and Ph.D. degrees in electrical engineering from the University of Saskatchewan, Saskatoon, SK, Canada. He was made an Honorary Professor with National Chiao Tong University, Taiwan, in 2009, which is equivalent to an Honorary Doctorate at that institution. He is currently a Research Professor and Concordia Chair in Signal processing, where he served as the Chair of the Department of Electrical Engineering from 1970 to 1977, and the Dean of Engineering and Computer Science from 1977 to 1993. He has also taught with the Department of Electrical Engineering, Technical University of Nova Scotia, Halifax, NS, Canada, the University of Calgary, Calgary, AB, Canada, and the Department of Mathematics, University of Saskatchewan. He has published extensively in circuits, systems, and signal processing, and holds five patents. He has co-authored six books and three book chapters. He is a fellow of a number of professional societies and has served the Institution of Electrical and Electronic Engineers (IEEE) in various capacities such as the President, Vice-President (publications), Associate Editor and Editor-in-Chief of the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS. He is a recipient of many IEEE Circuits and Systems Society awards, including the Education Award in 2000, the Golden Jubilee Medal in 2000, and three Best Paper Awards. Indian Institute of Science has established a Gold Medal and a Scholarship in his name. He has been the Editor-in-Chief of the journal *Circuits, Systems and Signal Processing (CSSP)* since1999. Recently, CSSP has instituted a Best Paper Award in his name in recognition of his contributions.