

IT'S ALL ABOUT MATH!

An ongoing series hosted by
The Department of Mathematics

THE HARMONIC SERIES

A CONCERT OF INDIAN CLASSICAL MUSIC

WITH

Dr. Purnaprajna Bangere

ACCOMPANIED BY

Toronto B. Gowrishanker and
Karthik Venkataraman

Friday March 10, 7PM
MacLeod Auditorium,
Medical Sciences Building
1 King's College Circle
University of Toronto



DR. PURNAPRAJNA BANGERE is a professor of Mathematics and Music at the University of Kansas in Lawrence. He comes from an important school of violin players in India and trained under the well known south Indian violinist HKN Murthy, who in turn was a student of the legendary Indian musician M. S. Gopalakrishnan. Dr. Purnaprajna is a representative of his school, and follows the style of music known as the Parur system, characterized by high technical virtuosity and musicianship. In the last few years, he performed solo recitals in prestigious music festivals such as Boston's Learnquest Music Festival, the Cleveland Music Festival, and the Toronto Music Festival. Dr. Purnaprajna recently discovered a geometric framework to explore integration of various genres and is currently collaborating with David Balakrishnan, the director of the Grammy award winning musical group Turtle Island String quartet. Dr. Purnaprajna's music website is purnaviolin.com



TORONTO B GOWRISHANKER is a senior disciple of Sri Tiruvarur Bhakthavatsalam. He is the director of the mridangam school Laya Madhura in Toronto that provides music pedagogy to many students. He has played mridangam for visiting artists from India, in concerts both in USA and Canada. He has regularly performed in some of the major music festivals such as Cleveland Music Festival, Toronto music festival and the Chennai Music Festival.



KARTHIK VENKATARAMAN is a popular kanjira artist in North America. He is a disciple of the famous mridanga vidwan Sri. Srimushnam V.Raja Rao. Karthik has travelled widely, playing for musicians in Canada, India and the USA. He has accompanied many senior music stalwarts from India and has been regularly featured in music festivals across the country.



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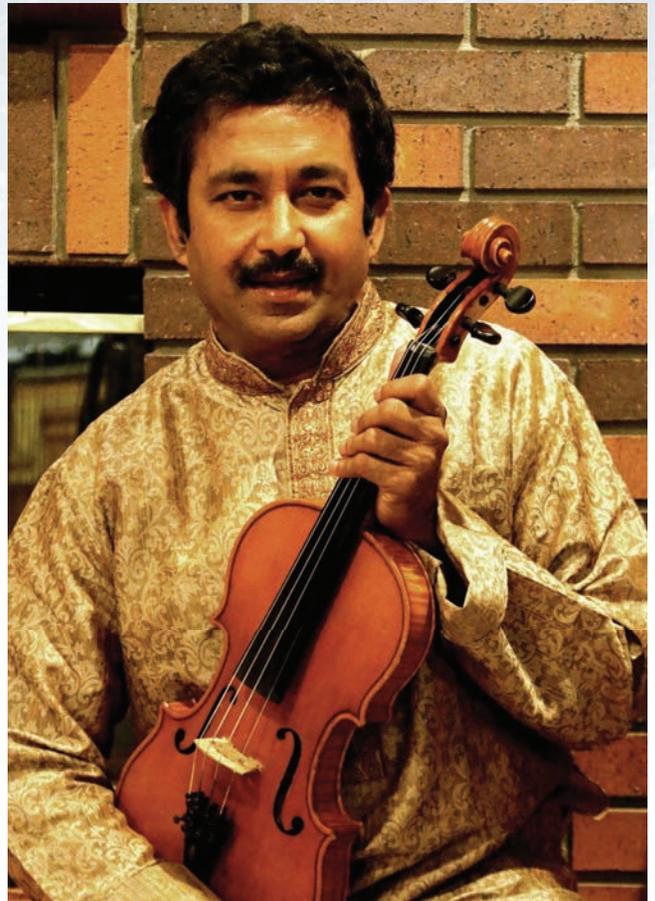
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GEOMETRY IN MUSIC

with
Dr. Purnaprajna Bangere

It has long been known that there is a deep connection between mathematics and music. In this talk, Purnaprajna shows how modern algebraic geometry sheds light on the connection between different genres of music. He develops a meta-geometric framework for a music that integrates elements of Indian and western classical music, jazz, and the blues.



**Thursday March 9
4pm**

**Bahen Centre for
Information
Technology,
Rm 1170**

**40 St. George St.
University of Toronto**

“The study of the overtone series is well known as a foundational point of origin among western musicians who are drawn to explore the cross-civilizational integration of Indian classical music. Based on the work of Herman Helmholtz in the 1850s and further elucidated for the modern era with specific application for musicians by W.A. Mathieu’s book, Harmonic Experience, this fundamental theoretical basis led to the creation of the Turtle Island String Quartet in 1985. When Prof. Purnaprajna approached me with the idea of working together on his Meta Raga system, I immediately realized its potential. I further perceived clear congruities in his theoretical framework to not only the approach taken in W.A. Mathieu’s book, but also the work of western music giants such as Arnold Schoenberg and John Coltrane. The collaboration has yielded a finished composition, as well as others in progress.”

-DAVID BALAKRISHNAN

Director of the Turtle Island String Quartet,
multi Grammy award winner



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