

# Number Theory Conference in Honour of Alladi's 60th Birthday

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Professor Krishnaswami Alladi

An International Number Theory Conference in honour of Krishnaswami Alladi's 60th Birthday held at the University of Florida in Gainesville, Florida from March 17–21, 2016 was a virtual “who's who” of the World's top number theorists. Two hundred attendees gathered from twenty countries including Australia, Austria, Canada, China, England, France, Germany, Hong Kong, Hungary, India, Israel, Korea, the Netherlands, New Zealand, Norway, Serbia, Switzerland, Tunisia and Turkey and the United States.

The five-day conference was organised by George E Andrews (The Pennsylvania State University) and Frank Garvan (University of Florida). Dr Andrews himself is one of the 20th–21st century's most esteemed number theorists. The conference was funded by the National Science Foundation, the National Security Agency, the Number Theory Foundation, Penn State University, as well by the UF Office of Research, CLAS, and the Mathematics Department, and an Alachua County Tourism Development Grant.

The opening speaker of the conference was Dr Manjul Bhargava, 2014 Field's Medal Winner and professor at Princeton University. The Erdos

Colloquium Speaker was Dr Hugh Montgomery of the University of Michigan. Ramanujan Colloquium Speaker was Dr James Maynard of Magdalen College, Oxford England.

In all, there were some 94 conference speakers at the meeting. The conference featured talks on several aspects of number theory, but had a special emphasis on Ramanujan's work and problems relating to gaps between prime numbers, areas which in the last two years have witnessed dramatic progress. “Since Professor Alladi has worked both in analytic number theory and has contributed much to the world of Ramanujan, it is only natural that the conference had emphasis on these two areas of mathematics,” said Ramanujan expert Professor George Andrews of Pennsylvania State University, who was an organiser of the conference along with Professor Frank Garvan of the University of Florida.

After Professor Bhargava's opening lecture, Professor Dorian Goldfeld of Columbia University spoke about his recent improvement of a result on an additive arithmetic function that Professor Alladi had established in 1975 as an undergraduate student at

Vivekananda College in collaboration with the famous Professor Paul Erdős.

2014 SASTRA Ramanujan Prize Winner Professor James Maynard of Oxford University, gave the Ramanujan Colloquium and two more talks describing the latest advances on gaps between primes. 2005 SASTRA Ramanujan Prize Winner Kannan Soundararajan of Stanford University spoke of recent work with his post-doctoral colleague Dr Robert Lemke-Oliver — a startling result on a bias in the distribution of consecutive prime numbers.

Several aspects of Ramanujan's work were emphasised at the meeting. The movie *The Man Who Knew Infinity* starring Dev Patel as Ramanujan was screened at the conference prior to its opening in April in US theatres.

During the Saturday evening banquet honouring Dr Alladi, Dr Ron Graham spoke of the striking similarity between the 2016 International Number theory gathering and a historic group who had gathered together at Oxford University in August 1969 (47 years earlier) for a conference on "Computers in Number Theory".

Dr Krishnaswami Alladi is an Indian-American mathematician who specialises in number theory. He has been a professor of mathematics at the University of Florida for thirty years, and chair of the mathematics department there from 1998 to 2008. He is the Editor-in-Chief of *The Ramanujan Journal* (Springer), which he founded in 1997, Editor of *Developments in Mathematics* book series of Springer and Associate Editor of the Notices of the AMS (2009–2015).

Dr Alladi was born in Thiruvananthapuram, and did his undergraduate studies at the University of Madras, graduating in 1975. While still an undergraduate, he wrote to Paul Erdős concerning his research on the function that maps each integer to the sum of its prime factors (with repetition); Erdős came to Madras to meet him, and their collaboration on this subject became Alladi's first paper. He earned his PhD from the University of California, Los Angeles in 1978 under the supervision of Ernst G Straus. After visiting the University of Michigan, the Institute for Advanced Study, and the University of Hawaii, he became an associate professor in 1981 at the Institute of Mathematical Sciences, Chennai, which had been founded by his father Alladi Ramakrishnan. He moved to the University of Florida in 1986.

Professor Alladi served as Chair of the mathematics department from 1998 to 2008. It was during his term as Chair that the annual Erdős and Ramanujan Colloquia were launched. This year these two distinguished colloquia were made part of this conference in his honour. Alladi also helped launch the SASTRA Ramanujan Prize in 2005 — an annual \$10,000 prize for very young mathematicians for outstanding contributions in areas relating to Ramanujan's work. Alladi has been Chair of the SASTRA Ramanujan Prize Committee since 2005. This conference featured lectures by four of the SASTRA Ramanujan Prize winners including Professors Bhargava and Maynard.

