# **Science Academies Lecture Workshop**



DEPARTMENT OF MATHEMATICS

# SCIENCE ACADEMIES' LECTURE WORKSHOP ON ALGEBRA AND NUMBER THEORY

September 8-9, 2017

**FUNDED BY** 



INDIAN ACADEMY OF SCIENCES



THE NATIONA ACADEMY OF SCIENCES

#### ABOUT THE ACADEMIES



#### INDIAN ACADEMY OF SCIENCES

The Indian Academy of Sciences (IASc), Bangalore was founded in 1934 by C. V. Raman. Its objectives include promoting the progress of science in pure and applied branches. Major activities include organizing meetings for discussions on important topics, publication of scientific journals, recognizing scientific allent, improvement of science education and taking up other issues of concern to the scientific community.



#### INDIAN NATIONAL SCIENCE ACADEMY

The Indian National Science Academy (INSA), New Delhi founded in 1935 is a premier science academy in the country, INSA plays crucial role in promoting, recognizing and rewarding excellence.



#### THE NATIONAL ACADEMY OF SCIENCES

The National Academy of Sciences (NASI), Allahabad was founded in 1930. The main objective of the academy is to provide a national forum for the publication of research work carried out by Indian scientists.

#### CONVENER

#### PROF. KAPIL HARI PARANJAPE IISER, MOHALI

CO-ORDINATOR
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RESOURCE PERSONS

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# **ABOUT THE UNIVERSITY**



AV University, Jalandhar is promoted by DAV College Managing Committee which is India's largest non-government educational organization managing more than 800 institutions in

the country.

It has been providing students with an excellent education in modern academic environment. The University traces its roots to the legacy that has been reforming and redefining India's educational scenario for 130 years. The University has been established by a Legislative Act of the Punjab Government and empowered to confer degrees under Section 22 of the UGC Act 1956.

It is a multi-disciplinary institution home to

It is a multi-disciplinary institution, home to faculties of teaching excellence in subjects from engineering to languages to natural sciences including physical and life sciences. DAV University is spread across an area of about 72 exers and it provides an ideal ambience for pursuing professional courses and ensuring all-round development of students. The campus is well equipped with modern infrastructure, round-the-clock power backup, canteens and huge parking area.

# **ABOUT THE DEPARTMENT**

n keeping up with the heritage of imparting quality education, teaching and research are the prime areas of concern for the Department of Mathematics. The Department focuses on research and development; science and technology; and meritorious careers in academies and proficient industries. The Department has highly qualified, young and dynamic faculty members. Students gain deep insight into various new areas of research. They get the opportunities to attend seminars and invited/guest lectures delivered by eminent mathematicians.

To meet the latest demands of the industry, the

To meet the latest demands of the industry, the Department keeps on periodically updating and revising its teaching pedagogies, research schemes and introduces new courses. The syllabi of both the undergraduate and postgraduate courses are designed to equip students to qualify exams such as GATE, UGC NET etc. The Department has a well-equipped computer Lab with latest softwares like MATLAB, MATHEMATICA etc.



Srinivasa Ramanujan

# **ABOUT THE WORKSHOP**

The objective of the workshop is to introduce some of the basic facts of algebra and number theory that UG and PG Mathematics students should know. Algebra and number theory are two main branches of modern mathematics which are playing a significant role in the other areas of mathematics. The interaction between algebra and number theory is found to be beneficial in computing and communications as evident from the applications of these subjects in cryptography and coding theory. The main topics to be covered in this workshop are as

- Group Actions and their Applications
- Matrices and Quadratic Forms
- Prime Numbers, Congruences Reciprocity
- Diophantine Equation and Elliptic Curves

# TERMS OF PARTICIPATION

- There is NO registration fee for attending the workshop
- the workshop.
   Limited number of participants will be
- Tea and lunch will be served to the
- participants.

  No accommodation will be provided.
- Participation restricted to UG/PG students, research scholars and faculty members.

Please visit www.davuniversity.org for application form and details.





# Shanti Swarup BhatnagarPrize awardee motivates students at DAV University

September 09, 2017 03:12 PM



FACULTY and students at **DAV University** got a rare opportunity to interact with Professor Kapil Hari Paranjape - one of the pioneers of Algebraic Mathematics in the world. Professor Paraniape. who was the Convener of a two-day Academies' Lecture Workshop on Algebra and Number

Theory said that a teacher could only play his role as a motivator in the process of learning.

#### (MOREPIC1)

Prof Paranjape was interacting with students at the workshop organized by DAV University in collaboration with Indian Academy of Sciences, Indian National Science Academy and the National Academy of Science - three major scientific organizations in India. The workshop was inaugurated by Dr A K Paul, Vice-Chancellor while DrJasbir Rishi, Dean (Academics), DrRekhaKalia Bhardwaj (Registrar) and Dr Raj Kumar, organizing secretary of the workshop were also present.

# (MOREPIC2)

Professor Kapil Hari Paranjapewas awarded the Shanti Swarup Bhatnagar Prize for Science and Technology in 2005 - the highest science award in India - for outstanding contributions in the field of algebraic geometry. Professor Paranjape's achievements included about eight-year stint at different visiting positions at California Institute of Technology between 2001 and 2009. At present, he serves at Indian Institute of Science Education and Research (IISER), Mohali.

## (MOREPIC3)

Other highlights of the workshop included workshops and activity sessions on the advancement in mathematical research and its application in real life. The experts said that Mathematics had been influencing life of every individual and the world managed by https://news.davuniversity.org/article/print.aspx?ac=183

10/7/21, 9:39 AM news.davuniversity.org : News : Shanti Swarup BhatnagarPrize awardee motivates students at DAV University smart devices including personal computers could not function in the absence of mathematical calculations.

## (MOREPIC4)

Another noted algebraist Dr Dinesh Khurana from Panjab University said that Mathematics had always evoked curiosity and fascination among brilliant minds of the world. The modern world owes its existence to Mathematics to a large extent. Citing example of prime numbers, he said that they have mesmerized scientists and the experts across the world. They have been working relentlessly to discover biggest prime number. The biggest prime number discovered till date has 22338618 digits. A prime number is a number which cannot be divided by any other number. Great Internet Mersenne Prime Search (GIMPS) – a collaborative project of volunteers to search for prime numbers – has been in the process of finding even bigger prime numbers.

Professor Chanchal Kumar from Indian Institute of Science Education and Research (IISER), Mohali discussed complicated pure mathematical concepts like "Group Actions and Their Applications". Dr Amit Kulshrestha from IISER Mohali said spoke on Matrices and Quadratic Forms.