

## **WORKSHOP REPORT BY UG MATHEMATICS**

Title of the workshop: **“Mathematics and its Applications”**

Date : **March 11<sup>th</sup> 2020**

Speaker Details:

**(i) Prof. G. D. Veerappa Gowda, F.N.A.Sc., FNA., FASc**

**Dean, TIFR-Centre for applicable Mathematics**

**Topic: “Applications of Hamilton - Jacobi equations in shape from shading”**

**(ii) Prof. Pradeep G. Siddheshwar, F.N.A.Sc., F.I.M.A(UK)**

**Director, PMEB, Bangalore University**

**Topic: “Fourier series, Fourier transforms and wavelets”**

**(iii) Prof. B. Chaluvaram, M.Sc., Ph.D**

**Chairman, Bangalore University**

**Topic: “Graph models through some network analysis: A perspective”**

Brief write-up on the workshop:

### **Session 1:**

**Prof. G. D. Veerappa Gowda:**

**“Applications of Hamilton - Jacobi equations in shape from shading”**

He spoke about odd and even dimensions and explained the importance of odd dimensions in our lives. In case there were even dimension the signals would never die and told that nature has been very kind to us. The transformation of a physical object to a mathematical equation is called as modelling. He took an example of human photograph and explained how the 3D image can be got back by measuring the intensity of the photo at various points using various computer applications.

### **Session 2:**

**Prof. Pradeep G Siddheshwar:**

**“Fourier series, Fourier transforms and wavelets”**

He spoke about the famous French Mathematician Joseph Fourier. Fourier was praised for his fluency in the French language. As he came from a poor family he wasn't allowed to enter the army as a soldier. But that did not stop him from being a revolutionary and actively taking part in the French revolution. He developed a liking towards Mathematics at a very young age and was invited to give a memoir. He spoke about the significance of Fourier series and Fourier transform in terms of physics.

### **Session 3:**

**Prof. B. Chaluvaraju:**

#### **“Graph models through some network analysis: A perspective”**

He said that Discrete Mathematics is not a branch of Mathematics. It is a group of many branches in Mathematics which comprises of calculus, algebra etc. He said that queen is Mathematics, king is physics. He said that algebra is the mother of computer science, without algorithm it would be impossible to create languages in computer science. He said that philosophy is ultimately the mother of all subjects.

Number of Participants: **300**