Sri Venkateswara University, Tirupati- 517 502
(REACCREDITED WITH "A" GRADE BY NAAC)

Report of

<u>*Science Academies' Lecture Workshop on*</u>

<u>*Mathematical Modelling in Science and Engineering*</u>

January 24-25, 2012

Sponsored by

Indian Academy of Sciences (IAS) Bangalore

Indian National Science Academy (INSA) New Delhi

The National Academy of Sciences (NASI) India, Allahabad

Report of the workshop

Science is a differential equation. Religion is its boundary conditions

-   *Alan Turing*

Mathematics is a versatile subject and it can handle problems as varied as those of space and motion, chance and probability, statistics and social sciences, art and literature, music and architecture, war and politics, food and medicine, human thinking and electronic brains. Mathematical Modelling plays a vital role in predicting little parts of perfect mechanism of the world. Hence a two days' science academies' lecture workshop on Mathematical modelling in Science and Engineering was organized in our University premises during 24 and 25 January 2012.

We have sent invitations to 100 colleges in and around Chittoor district and 30 university departments. From these colleges we received more than 150 applications out of which 25 participants from 26 colleges were shortlisted on the first come first serve basis. 90 students comprising of PG and Research scholars and 10 Faculty members of our college also attended the workshop.

Total number of beneficiaries

S.No.	Particulars	No. of Students	No. of Faculty	Total
1	Sri Venkateswara University	90	10	100
2	Other institutions	0	25	25
	Total			**125**

Total Number of Participating institutions : 26

The invited talks of the following resource persons were enjoyed by the participants over a period of two days.

1. Dr.P.V.Arunachalam, FNASc, Dravidian University
2. Dr T Amaranath, Hyderabad University
3. Dr.Nagaraj, TIFR, Bangalore
4. Dr. P. Kandaswamy, FNASc, Bharathiar University
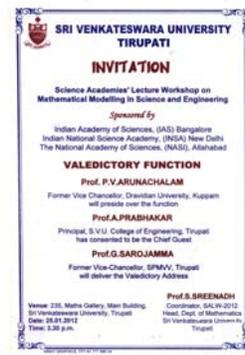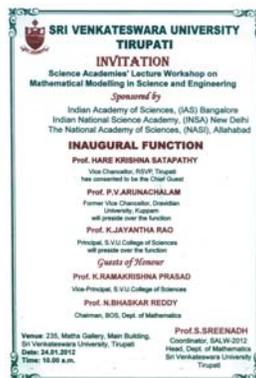
24.01.2012 (Tuesday)

The workshop started at 9.30 am on 24.01.2012 with prayer, followed by the welcome address by Dr. P. Kandaswamy, FNASc. The course outline and the importance of academy activities were explained briefly by Dr.P.V.Arunachalam, FNASc, Former Vice-Chancellor, Dravidian University. Dr.Nagaraj, TIFR, Bangalore who has graciously delivered the keynote address. His talk explained the need of learning both theoretical and practical aspects of mathematics with particular reference to mathematical modelling in science and engineering. Dr.K.Ramakrishna Prasad gave introductory concepts of mathematical modelling. After tea break Dr.P.V.Arunachalam, FNASc, Former Vice-Chacellor, Dravidian University explained some applications of Mathematical Modelling in science and engineering. His lecture was very precise and completely exhaustive. The afternoon session started with Dr. BR Nagaraj exposed the participants about the applications of mathematical modelling through partial differential equations. Dr. P. Kandaswamy, FNASc, Bharathiar University gave introductory concepts of Modelling in Human Immune System in technical session III.

25.01.2012. (Wednesday)

The morning session was started by Dr.T.Amarnath, Hyderabad University and he gave a talk on Differential Equation Model for Stokes Flow. After tea break Dr.P.V.Arunachalam FNASc, Former Vice-Chancellor, Dravidian University described various models applicable in biology and medicine. After lunch the last session of the workshop was started by Dr. BR Nagaraj, TIFR, Bangalore. He explained PDE models in viscous flow theory.

The Valedictory function held on 25.01.12. at 3.30 pm Dr. P.V.Arunachalam, Former Vice Chancellor, Dravidian University addressed the audience on the various applications of differential equation models.

The meeting was presided over by the Principal Dr. A.Prabhakar, College of Engineering, Sri Venkateswara University, Tirupati. The valedictory address was

delivered by Dr.G.Sarojamma, Former Vice-Chancellor, Sri Padmavathi Mahila Vishwavidyalayam, Tirupati. The highlights of the workshop were explained by Dr.P.V.Arunachalam and vote of thanks was proposed by Dr. S.Sreenadh, Head, Department of Mathematics, S.V.U. College of Sciences, Sri Venkateswara University, Tirupati.

Highlights

❖ Interactive sessions with the resource persons were arranged after the lectures. All the resource persons stayed at least one evening and spent their valuable time with the participants which resulted in fruitful discussions.

❖ Participants were informed about the publications of the academy through display of journals sent by the academy and good interest was evinced among the participants in knowing the activities of the academy.

****