

Science Academies' Lecture Workshop on
Exploring the Universe
(St. Joseph's College, Lalbagh Road, Bangalore)

Oct. 25-30th, 2013

Report

Science Academies' Lecture Workshop on Exploring the Universe was organized jointly by the Department of Physics, St. Joseph's College and the Indian Academy of Sciences. This workshop took place in Xavier Hall, P.G. Block, St. Joseph's College, Bangalore from 25th-30th Oct. 2013.

Prof. G. Srinivasan, Indian Academy of Sciences, was the convenor and Dr. Rabbi Akkiba Angiras, Department of Physics, St. Joseph's College was the coordinator of this workshop.

Selected students and teachers from various colleges took part in this workshop. Majority participants were from the M.Sc. Physics classes, though few B.Sc. students also took part in this workshop. In total there were 64 participants in this workshop.

This workshop was unique in the concept and planning. This is the first Science Academies workshop that we organized that had an experimental component to it. Every morning we had three lectures devoted to various topics in Astrophysics. Afternoons were devoted to experimental work involving data analysis and instrument calibration.

The fifteen intensive lectures that were spread over five days were delivered by Prof. G. Srinivasan, Indian Academy of Sciences, Prof. Annapurni S. and Prof. Jayant Murthy of Indian Institute of Astrophysics, Prof. Biman Nath, Raman Research Institute, Dr. Anuj Nandi, ISRO Satellite Centre. These lectures were aimed at exposing the participants to Stellar Structure and Evolution, White Dwarf Stars, Neutron Stars and Pulsars. Galaxies in the Universe and Cosmology, X-ray Astronomy and UV-Astronomy. These lectures were planned such that a participant with basic knowledge about Physics could understand and appreciate the development of Astrophysics as well as the challenges faced by an experimental Astrophysicist.

The afternoon laboratory sessions were conducted by Dr. Shyama N., ISRO Satellite Centre, Dr. Jessy Jose, Indian Institute of Astrophysics and teachers from St. Joseph's College. On 25th October, the laboratory sessions began with lectures on Linux operating systems by Dr. Arun V. Tampan, St. Joseph's College and lectures on X-ray detectors by Dr. Shyama and Optical Spectroscopy by Dr. Jessy. During the remaining four days, participants were exposed to X-ray gun, PIN Detector, X-ray spectral analysis using XSPEC and Optical Long slit spectral data reduction using IRAF.

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The workshop concluded on 30th October 2013 with a question answer session, where the participants got ample opportunities to clarify their doubts.

Programme Schedule

Science Academies Lecture Workshop

Exploring The Universe

(Organized by the Dept. of Physics, St. Joseph's College (Autonomous), Bangalore 27)

(25th -30th October 2013)

Day 1: 25th October 2013 (Friday)

8.30-9.00 Registration & Coffee

9.00-9.15 Inaugural Function

Time	Lecture
09:15 – 10:30.	L1: Stars 1: Annapurni S.
10:30 – 10:50	Coffee Break
11:00 – 12:15	L2. Radiative Processes 1: G.Srinivasan (G.S)
12:15 – 13:30	L3. Stars 2: Annapurni
13:30 – 14:15	Lunch Break
14:15 – 17:00	Laboratory Sessions (SJC Teachers, Shyama & Jessy)

Day 2: 26th October 2013 (Saturday)

Time	Lecture
09:15 – 1030.	L1: Radiative Processes RP 2: GS
10:30 – 10:50	Coffee Break
11:00 – 12:15	L2: Stars 3: Annapurni
12:15 – 13:30	L3: X-ray Astronomy: Anuj Nandi
13:30 – 14:15	Lunch Break
14:15 – 17:00	Laboratory Sessions(Shyama & Jessy)

Day 3: 28th October 2013 (Monday)

Time	Lecture
09:15 – 10:30.	L1: Galaxies 1: Biman Nath
10:30 – 10:50	Coffee Break
11:00 – 12:15	L2. Between the Stars: GS
12:15 – 13:30	L3: Galaxies 2: Biman Nath
13:30 – 14:15	Lunch Break
14:15 – 17:00	Laboratory Sessions (Shyama & Jessy)

Day 4: 29th October 2013 (Tuesday)

Time	Lecture
09:15 – 10:30.	L1. White Dwarfs: GS
10:30 – 10:50	Coffee Break
11:00 – 12:15	L2: Ultraviolet Astronomy: Jayant Murthy
12:15 – 13:30	L3: Neutron Stars: GS
13:30 – 14:15	Lunch Break
14:15 – 17:00	Laboratory Sessions (Shyama & Jessy)

Day 5: 30th October 2013 (Wednesday)

Time	Lecture
09:15 – 10:30.	L1: Pulsars 1: GS
10:30 – 10:50	Coffee Break
11:00 – 12:15	L2: Pulsars 2 : GS
12:15 – 13:30	Feedback /Question Answer session (Prof. G. SRINIVASAN)
13:30 – 14:15	Lunch Break
14:15 – 17:00	Laboratory Sessions (Shyama & Jessy)