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National SCIENCE DAY Celebrations

The National Science Day - 2013 was celebrated with great enthusiasm and efficiency by IUCAA members and visitors. The occasion saw a great response, and around ten thousand people were estimated to have been to IUCAA during the celebrations on three different days.

On February 10, IUCAA conducted a Science quiz along with Essay writing, Story writing and Drawing competitions for the rural students of the Ambegaon Taluka. It was organised by the Public Outreach personnel with generous help from Vikram Khaire and IUCAA Girawali Observatory staff, Nilesh Pokharkar along with others. Twenty one schools participated in the programme, hosted at the venue generously provided by the New English School, Landewadi.

On February 16, about 400 students from 66 schools in Pune city responded to IUCAA's invitation and participated in another set of inter-school competitions. These students from classes VIII and IX took part in the Drawing, Essay, Poetry and Science quiz competitions. The coordinators made sure of the good quality in the content and choice of the winners. Ranjan Gupta gave a talk on Large Telescopes to the teachers, while the students were participating in the competitions. After the finals of the Quiz, the winning students from Pune schools along with the winner from among rural students of Ambegaon, received their prizes from Ranjeev Misra.

On the National Science Day, February 28, IUCAA, Pune campus was opened to the general public and various programmes were arranged for them. Volunteers from IUCAA staff and family made sure that they were welcomed and guided through the various displays, while they discovered the wonders of the Universe.

Continuous demonstrations of the World Wide Telescope software were conducted in Bhaskara 1 lecture hall by IUCAA students and the VO team. In Bhaskara 2 lecture hall, R. Srianand with his team and the Instrumentation Laboratory group, displayed live spectra to explain the importance of Spectroscopy and its related instruments in Optical Astronomy. Similarly, the members of the Radio Physics Laboratory illustrated the scientific concepts on Radio Astronomy at the foyer outside Bhaskara 2. Spectacular posters, introducing general Astronomy and the related work done at IUCAA, were put up by the Research Scholars and

Post-doctoral Fellows of IUCAA. These drew a big crowd. A series of five public lectures were given by Sibasish Laha, Luke Chamandy, Srividya Subramanian, Vikram Khaire, and Sudhanshu Barway in Bhaskara 3. The last two talks were in Marathi and Hindi respectively.

Three special exhibits, including a hydrogen fuel cell and a cloud chamber, were obtained from the University of Göttingen. A group of enthusiastic student volunteers from Fergusson College explained the working of these to the public, while some others showcased the scientific contributions of the four great scientists, whose statues are part of the IUCAA Kund. They also explained the principles behind the Foucault pendulum. Kadambari Bhujbal from IUCAA also actively participated in the latter. All 70 odd volunteers were trained a week before the event by the Public Outreach staff and they showed a wonderfully patient outlook in facing the large number of inquisitive visitors of all ages.

Details of the large projects that IUCAA is involved in were showcased in a poster display in the Chandrasekhar Auditorium foyer. Thousands of people also enjoyed the series of films on Astronomical topics in the auditorium. These were coordinated by Santanu Das. Later, in a live interaction, Jayant Narlikar, Ajit Kembhavi and Patricia Whitelock, visiting astronomer from SAAO, answered various Astronomy related questions from the public. This session was coordinated by Samir Dhurde. The day also included a public lecture by Umakant Rapol, IISER, Pune, based on the Nobel Prize in Physics 2012, and an exciting talk about Great Optical Telescopes by Ajit Kembhavi. The use of multiple projectors was the special attraction of the latter event. All the live sessions in the auditorium were webcast for those who could not attend in person.

This year, special pandals were set up in the Science Park. The Science toys group was responsible for explaining the various wonderful science experiments developed at the Muktangan Vidnyan Shodhika (MVS), IUCAA, to large crowds. Amateur Astronomers groups also catered a lot to the public curiosity with a beautifully executed exhibition about Mars missions by volunteers of Jyotirvidya Parisanstha, and a telescope information booth by the Akashmitra group. Some NGOs put up stalls to introduce people to various Science books and educational resources. The many science models located in the Science Park were renovated and explained by Maharudra Mate. The amateurs groups helped successfully to conduct the evening sky-show, which was attended by over 1600 people. This event ended at 11:00 p.m., wrapping up the National Science Day celebrations of 2013, that saw a record attendance this year.

Congratulations to...

- **Ajit Kembhavi** on being elected as President, Astronomical Society of India, in January 2013.
- **Tarun Souradeep** on being elected as a Fellow, International Society on General Relativity and Gravitation.

The list of prize winners of Rural School Competitions held on February 10, 2013.

Science Quiz :

1st prize : Parimal Bala Shinalkar, Prashant Pradeep Parekh, Reshma Ramdas Dhumal, from Vidya Vikas Mandir, Awsari Budruk.

2nd prize : Geetanjli Mahadeo Vharkute, Akshay Shankar Kengale, Prasad Bharat Anant, from Bhimashankar Vidyamandir, Shinoli.

3rd prize : Prasanna Rohidas Said, Saniya Purushottam Kale, Vishal Dnyaneshwar Wavhale, from New English School, Ghodegaon.

Essay Writing : (Marathi)

1st prize : Pranjal Ankush Borhade, from Bhimashankar Vidyamandir, Shinoli.

2nd prize : Pallavi Ramdas Gholap, from New English School, Ghodegaon.

3rd prize : Prachi Deepak Bheke, from New English School, Ghodegaon.

Drawing :

1st prize : Hrushikesh Vishwas Dherange, from Bhimashankar Vidyamandir, Shinoli.

2nd prize : Vivek Ram Gurav, from Vidya Vikas Mandir, Awsari Budruk.

3rd prize : Harshali Dattatraya Kale, from Shri Wakeshwar Vidyalaya, Peth.

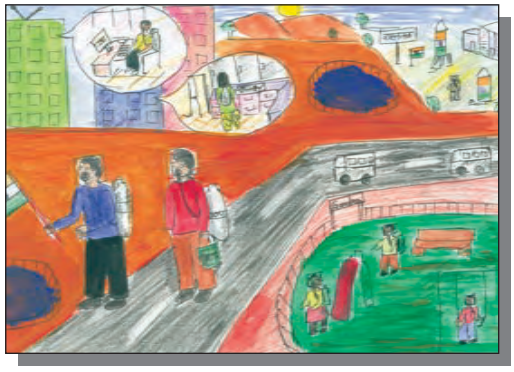
Story Writing : (Marathi)

1st prize : Pooja Dilip Pardhi, from New English School, Ghodegaon.

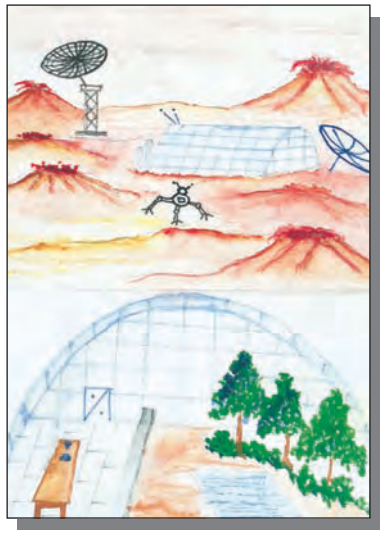
2nd prize : Sayali Vishnu Borhade, from Shri Muktai Prashala, Pimpalgaon, Khude.

Trophy for best school performance went to Vidya Vikas Mandir, Awsari Budruk.

Drawing 3rd prize:
The theme: `Life on Mars'.



Drawing 2nd prize :
The theme: `Use of Solar Energy'.



Drawing 1st prize :
The theme: `Life on Mars'.

Results of various Competitions held on the occasion of the National Science Day at IUCAA on February 16, 2013.

Science Quiz :

1st prize : Advait Amit Godbole, Sughosh Digambar Joshi, Rohan Milind Shirgopikar, from Abhinav Vidyalaya English Medium High School, Pune.

2nd prize : Parth Shettiwar, Aditya Chuttar, Kartik Mahesh, from D.A.V. Public School, Pune.

3rd prize : Venkatesh Vishwas Yelnoorkar, Prathamesh Anandrao Patil, Kunal Deshmukh, from Sinhagad Spring Dale High School, Pune.

Essay : Marathi

1st prize : Nupoor Manoj Ingolikar, from Abhinav Vidyalaya High School, Pune.

2nd prize : Pooja Manoj Bhandari, from Agarkar Girls' High School, Pune.

3rd prize : Soham Ramesh Sagade, from Late P. B. Jog Marathi Madhyamik Vidyalay, Pune.

Essay : English

1st prize : Navya Nagendra Bhat, from Vidya Pratishthan's English Medium School, Pune

2nd prize : Tripti Shantanu Chanda, from V. P. Magarpatta City Public School, Pune.

Drawing :

1st prize : Dhruvil Paresh Shah, from S. M. Choksi High School and Jr. College, Pune.

2nd prize : Kalyani Sanjay Nangade, from Symbiosis Secondary School, Pune.

Poetry : English

1st prize : Rohanjeet Prashanth Das, from Army Public School, Pune.

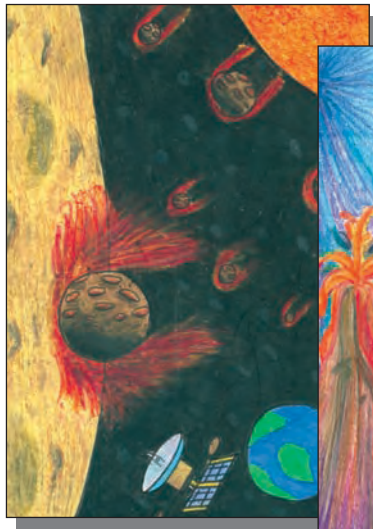
2nd prize : Kiran Shrihari Hasabnis, from D.S.K. School, Pune.

Poetry : Marathi

1st prize : Prajakta Shivaji Bhanawase, from Kai. Sau. Sundarbai Rathi High School, Pune.

2nd prize : Shruti Suhas Varode, from Ahilyadevi High School for Girls, Pune.

3rd prize : Alisha Santosh Gavhane, Mahilashram High School, Pune.



Drawing 1st prize:
The theme: `**The Violent Universe'.**

Drawing 2nd prize:
The theme : `**The Violent Universe'.**

Workshop on Mathematical Methods and Astronomy (WMMA 2013)

The Workshop on Mathematical Methods and Astronomy (WMMA 2013) was organized by the Department of Applied Mathematics, Indian School of Mines (ISM), Dhanbad, and sponsored by Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune. The workshop was inaugurated by D.C. Panigrahi. Aim of the workshop was to motivate young minds towards the mathematical methods in Astronomy and related areas. First two days of the workshop have been devoted on Astronomy, and the emphasis was given on Astronomical Instrumentation. The last day has been devoted to the lectures on mathematical methods. In the workshop, there were 15 lectures. The number of participants and resource persons were 35 and 9 respectively. Some of the main topics covered were Astronomical Photometry, Astronomical instrumentation, Astronomical spectroscopy, TMT and its upcoming opportunities, Interstellar dust, Astrophysical dust and molecules, Stellar Evolution and nucleosynthesis, Astronomical polarimetry, Homotopy and its applications, and Unsolved restricted three body problem.

Ranjan Gupta discussed the historical background about Galileo's most memorable achievements, which was his adaptation of a novel instrument, the telescope, with which he observed the Moon, discovered four satellites of Jupiter, resolved nebular patches into stars, and observed the phases of Venus. Sandeep Sahijpal delivered a popular talk, which covered the topics : The solar system-an exploration and its genesis, the Stellar structure –The Sun, Hydrostatic equilibrium, The nuclear fusion, Convection heat transfer, Radiative heat transfer, The stellar origin, Evolution of the stars, Stellar nucleosynthesis, End of the stars, and Galactic chemical evolution.

The different observational techniques used in polarimetry and astrophysical processes, which are responsible for producing such polarization, were discussed by Asoke K. Sen.

D. K. Bhattacharya has presented the talk on mathematical approaches towards understanding fractals and multi-fractals and Deepak Singh delivered his talk on fixed point theorems and its applications to abstract spaces. Whereas M. R. Adhikari, has talked about application of Brouwer fixed point theorem in Economics and said: General equilibrium theory states that there always exists a set of prices at which supply equals demand for all goods. In 1932, John von Neumann proved this result by using the Brouwer Fixed-Point Theorem.

Ranjan Gupta chaired the valedictory function, and in his address he stressed on the importance of ISM procuring a telescope in the future to cater the students, researchers and observational astronomers. IUCAA would provide technical training to the users, if required.

B. Ishwar, has proposed an international workshop and G. S. Seth, Head of the Department of Applied Mathematics and Convenor of WMMA 2013, has accepted these proposals and said he would do the needful to procure the telescope and to organize the international workshop in coming years. This workshop was coordinated by Ranjan Gupta and Badam Singh Kushvah.

2nd X-ray Astronomy School

IUCAA conducted a well focused four-week long X-ray Astronomy school during February 4 - March 2, 2013. This school was similar to the first X-ray astronomy school organised at IUCAA during February - March 2009. The main purpose of the school was to enable Ph. D. students from Indian universities and institutes to gain a good understanding of the X-ray data analysis techniques, and the interpretation of the data. Throughout the school, there were two lectures in the morning sessions and hands-on data analysis sessions or research projects in afternoon sessions. There were a total of 40 lectures on X-ray telescopes and detectors, ASTROSAT, X-ray spectroscopy and time series analysis, statistics, radiation and accretion processes, neutron star and black hole X-ray binaries, active galactic nuclei and other topics. The emphasis was on foundations of X-ray astronomy and astrophysics. The afternoon sessions of the four days were devoted to hands-on sessions on the analysis of X-ray data from international X-ray observatories such as Chandra, Xmm-Newton, and RXTE.

After the hands-on session, all the participants had the opportunity of working on serious research projects. A small group of participants and experienced scientists worked together on well chosen research projects. The main emphasis of the school was on teaching and learning by interaction, either one-to-one or in a small group. Most of the participants completed a substantial part of the project, and will continue working at their universities/institutes in collaboration with project advisers.

Twenty participants, consisting of three young faculty members in colleges and universities, one post-doctoral fellow, and sixteen Ph.D. students worked on research projects. Thirteen scientists from India and abroad delivered the lectures and an additional 10 experienced students and post-doctoral associates helped in conducting the hands-on sessions and closely interacted with the participants on their projects. There were a total of 13 projects, many of them were provided by the young scientists, who also supervised the projects. Three participants brought their own projects and worked on them during the school.

Workshop on Cosmology

A workshop on Cosmology titled "Present Observational Constraints on Cosmological Parameters" was held at IUCAA Resource Centre, University of Delhi during January 28 - February 1, 2013. There were about 15 talks by 6 speakers. The talks were focused on the areas of Cosmic reioinization, Large-scale structures, Cosmic microwave background radiation, and Late time acceleration of the universe. The talks were followed by extensive discussions.

There were about 60 participants and more than half of them were from outside Delhi. Most of the participants were students and some postdoctoral fellows.

The coordinators were T. R. Seshadri (University of Delhi), Anjan A. Sen (Jamia Millia Islamia), and K. Subramanian (IUCAA).

International Meeting on Transients and Timing : A Multi-wavelength Approach

There was an international meeting at IUCAA during March 4-8, 2013 titled "Transients and Timing: A Multi-wavelength Approach".

At present, there are several international facilities such as the Palomar Transient Factory (PTF), CRTS, etc., which are providing unprecedented data on transient and time varying astronomical sources. Over the next several years, there are plans for great development in this field with the enhancement and setting up of new facilities covering a wide range of wavelengths from radio (SKA, LOFAR) and optical (PTF -II, LSST, PanSTARRS). This will be augmented by data from X-ray/Gamma-ray observatories like FERMI, MAXI and more importantly by the Indian Astronomy satellite ASTROSAT. Astronomers at IUCAA, and in other centres in the country, have substantial interests in these topics, because of their engagement with various current and forthcoming projects covering the themes of the meeting.

The meeting had invited review talks and some shorter presentations, covering various aspects of transients discovered across different wavelengths, their follow-up observations and theoretical studies, detection techniques, quick data dissemination, use of machine learning techniques for their identification and present and forthcoming surveys for the detection of transients. The meeting covered variable sources over a range of wavelengths. Overview of Indian astronomy with updates on present and future international surveys were presented. There were sessions on the multi-wavelength transient nature of X-ray sources, CVs, Stars, Supernovae and radio sources. The possibility of following up future Gravitational Wave sources in electro-magnetic wavebands were discussed, as well as the techniques for handling the large amount of data that future surveys are expected to produce.

The meeting was attended by about 30 eminent scientists from U.S.A, U.K., Germany, The Netherlands, South Africa, Italy and Japan, as well as about 70 scientists from India covering a wide range of expertise. Ph.D. students from Indian universities and institutes showcased their research through posters. The meeting was a unique forum, where specialists in different wavebands such as radio, X-ray, optical and IR could discuss common issues regarding data handling and multi-wavelength science.

Ed. van den Heuvel (University of Amsterdam) summarized the success of the meeting in the last talk and emphasized the need for more such get-togethers in the light of Indian participation in large international projects.

Introductory Workshop on Solar Physics

Ramakrishna Mission Vivekanda University (RKMVU), Belur Math, West Bengal and IUCAA, Pune, jointly organized an Introductory Workshop on Solar Physics during February 5 - 7, 2013.

The workshop was hosted at RKMVU, Belur Math Campus and was funded by IUCAA. The aim of the workshop was to motivate B.Sc. / B.Tech. / M.Sc. / Ph.D. students to pursue studies / research in the field of solar physics. The participants were introduced to the physics of the Sun, its internal structure, atmosphere and dynamics in addition to energy transport within different layers of Sun's atmosphere, Instruments and Sun-Earth connection. The programme of the workshop consisted of 12 lectures by six speakers, who are experts in the field. A total number of 42 students participated in the workshop from different universities, colleges, and institutes all over the country. The workshop was coordinated by Abhijit Bandyopadhyay (RKMVU), Partha Chowdhuri (Calcutta University) and Durgesh Tripathi (IUCAA).

IUCAA Preprints

Listed below are the IUCAA preprints released during January - March 2013. These can be obtained from the IUCAA library (library@iucaa.ernet.in). The preprints can also be freely downloaded from http://www.iucaa.ernet.in/~library/main.html.

M. B. Pandge, N. D. Vagshette, S. S. Sonkamble, and M. K. Patil, ***Investigation of X-ray cavities in the cooling flow system Abell 1991,*** IUCAA-1/2013.

N. D. Vagshette, M. B. Pandge, and M. K. Patil, ***Spectral properties of XRBs in dusty early-type galaxies,*** IUCAA-2/2013.

N. D. R. Bhat, J. N. Chengalur, P. J. Cox, Y. Gupta, J. Prasad, J. Roy, M. Bailes, S. Burke-Spolaor, S. S. Kudale, and W. van Straten, ***Detection of fast transients with radio interferometric arrays,*** IUCAA-3/2013.

T. Dal Canton, S. Bhagwat, S.V. Dhurandhar, and A. Lundgren, ***Effect of sine-Gaussian glitches on searches for binary coalescence,*** IUCAA-4/2013.

N. V. Voshchinnikov, H. K. Das, I. S. Yakovlev, and V. B. Il'in, ***Systematic variations of interstellar linear polarization and growth of dust grains,*** IUCAA-5/2013.

Amir Aghamousa, Mihir Arjunwadkar, and Tarun Souradeep, ***From nonparametric power spectra to inference about cosmological parameters: A random walk in the cosmological parameter space,*** IUCAA-6/2013.

Dhiraj Kumar Hazra, Arman Shafieloo, and Tarun Souradeep, ***Primordial power spectrum: A complete analysis with the WMAP nine-year data,*** IUCAA-7/2013.

Aditya Rotti, Sanjit Mitra, and Tarun Souradeep, ***Planck 2013 results: XXIII isotropy and statistics of the CMB,*** IUCAA-8/2013.

Amir Aghamousa, Mihir Arjunwadkar, and Tarun Souradeep : ***Nonparametric forecasts of the CMB angular power spectra for the Planck mission,*** IUCAA-9/2013.

Dhiraj Kumar Hazra, Arman Shafieloo, and Tarun Souradeep, ***Cosmological parameter estimation with free-form primordial power spectrum,*** IUCAA-10/2013.

S. P. Deshmukh, B. T. Tate, N. D. Vagshette, S. K. Pandey and M. K. Patil, ***A multiwavelength view of the ISM in the merger remnant fornax a galaxy,*** IUCAA-11/2013

Sudhanshu Barway, Yogesh Wadadekar, Kaustubh Vaghmare, and Ajit K. Kembhavi, ***Luminosity dependent star-formation history of S0 galaxies: Evidence from GALEX-SDSS-2MASS-WISE colours,*** IUCAA-12/2013.

Kaustubh Vaghmare, Sudhanshu Barway, and Ajit K. Kembhavi, ***A Spitzer study of pseudobulges in S0 galaxies - Secular evolution of disks,*** IUCAA-13/2013.

Welcome to ...

Sukanta Bose, who has joined the IUCAA Faculty.

Before joining IUCAA, Sukanta Bose was Professor and Interim Chair of the Department of Physics and Astronomy at the Washington State University, USA.

His main interest is in Gravitational Wave (GW) Astronomy, especially, in contributing to the science harnessed by the upcoming network of advanced earth-based detectors and in formulating the science case for the proposed Einstein Telescope.

He has co-pioneered the formalisms of GW interferometry with multiple baselines for signals from both (a) deterministic sources, e.g., in the form of compact binary coalescences, and (b) stochastic sources, such as from a clutch of unresolved astrophysical objects. These interferometry techniques allow a network of GW detectors, working in tandem, to be more sensitive than what is achievable by merely requiring coincidence of a signal in those detectors without checking its phase consistency across them.

He plans to design methods for better understanding short duration gamma ray bursts and carrying out more stringent tests of GR with multi-messenger astronomy, by supplementing GW observations with electromagnetic ones.

Colloquium

07.02.2013 Rajendra Prasad on ***Healthcare : Where will we be in 2050?***

Farewell to ...

Balaji Dodda

the Research Scholar, who left because of personal reasons.

Bhaswati Bhattacharyya

who completed her tenure as a Post-doctoral Fellow and moved to NCRA.

Seminars

Listed below are the seminars given at IUCAA during January - March 2013 :

02.01.2013	Maria Anna Czekaj on ***Besançon galaxy model renewed I. Constraints on the galactic thin disc evolution from Tycho data***
03.01.2013	Kanak Saha on ***Secular evolution in disk galaxies***
04.01.2013	Girjesh R. Gupta on ***Propagating MHD waves in the solar coronal hole***
04.01.2013	Tejaswi Venumadhav on ***The stability of isothermal fluctuations during recombination***
09.01.2013	Sudeep Das on ***New results from the Atacama Cosmology Telescope;***
10.01.2013	Charley Lineweaver on ***Entropy, aliens and the multiverse***
11.01.2013	S.R. Rajesh on ***Nonlinear perturbation on differentially rotating discs***
14.01.2013	Ari Maller on ***Angular momentum acquisition and cold flow disks in galaxies***
17.01.2013	Jin Lin Han on ***Magnetic fields in our Milky Way galaxy and nearby galaxies***
22.01.2013	Atish Kamble on ***The puzzle of isolated neutron stars***
04.02.2013	Rodrigo Olea on ***Kounterterms in anti-De Sitter gravity***
05.02.2013	Shriharsh Tendulkar on ***Robo-AO: Science of huge AO surveys***
06.02.2013	Olivera Miskovic on ***Holography and Weyl anomaly in Ads3 gravity with torsion***
12.02.2013	Martin Kilbinger on ***Constraints in dark energy and modified gravity models from CFHT lens weak lensing***
12.02.2013	Bidya Binay Karak on ***Theoretical study of the solar magnetic cycle and its irregularities***
14.02.2013	Mathilde Jauzac on ***The large-scale filament feeding the massive galaxy cluster MACSJ0717.53745***
15.02.2013	Hiroaki Isobe on ***Magnetic Reconnection: What are the problems and how we see it in the Sun?***
26.03.2013	T. Padmanabhan on ***Cosmological Constant, Its problem(S) and the solution.***

Gravitational Wave Physics and Astronomy Workshop

The next Gravitational Wave Physics and Astronomy Workshop (GWPAW) will be held in Pune, India during December 17 - 20, 2013. It will be hosted by the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune. GWPAW was formerly called GWDAW. It is a general meeting on the physics and astronomy of gravitational waves, techniques for their detection, and interpretation of data and results.

More information and updates will be available by early August 2013. Please check the IUCAA webpage.

Introductory School in Astronomy and Astrophysics

An Introductory School in Astronomy and Astrophysics was held during January 29 - 31, 2013 at S. S. College, Hailakandi, sponsored by Inter-University Centre for Astronomy and Astrophysics, Pune. The school was attended by 50 participants from different parts of the country. There were ten invited talks and five technical sessions, and 14 participants presented contributory papers .

The inaugural programme was presided over by Bijay Kr. Dhar, President of the Governing Body of S. S. College, and the Chief Guest of the inaugural programme was Tapadhir Bhattacharjee, former Vice Chancellor of Assam University, Silchar.

Ranjan Gupta, IUCAA; H. P. Singh, University of Delhi; U. C. Joshi, PRL, Ahmedabad; Tanuka Chattapadhyay, University of Calcutta; Himadri Sekhar Das, Assam University; Atri Deshmukhyay, Assam University; and A. Senorita Devi, Assam University were the resource persons in the Programme.

The topics covered were (i) Photometry, (ii) Physical parameters of stars, (iii) Galaxies – Active and normal, and IR surveys of Milky Way galaxy and study of its inner region, (iv) Star formation and evolution, and initial mass function, (v) Comets and their important role in the solar system, (vi) Astroparticle physics: Prospects and Challenges today, and (vii) X-ray astronomy.

At the outset, Ashok Kumar Das, Principal of S. S. College, delivered his welcome address, and expressed the aims and objectives of the school. Apart from him, all other distinguished personalities present in the inaugural session also addressed the gathering.

The valedictory programme was held on January 31, 2013 with U. C. Joshi as the Chair. The participants shared their experiences regarding the technical sessions, hospitality, etc. Ashok Kumar Das, conveyed thanks to all the resource persons, members of different committees of the IQAC, NCC cadets, NSS members, women cell, student volunteers and other staff of the college for their active cooperation in making this school a grand success.

Ranjan Gupta and Ashok Kumar Das were the coordinators of the school.

Visitors (January - March 2013)

Gummalla Abhinav, Amir R. Aghamousa, Asif Iqbal Ahangar, Moumita Aich, Shah Alam, Syed Moosa Ali, Bruce Allen, Diego Altamirano, S. Annapurni, Anam Ansari, Manoj Arora, N.M. Ashok, Abhay Ashtekar, Reshma Babar, S.K. Banerjee, Sreeparna Banerjee, Sudhanshu Barway, Renu Batra, Tomaso Belloni, Aru Beri, Harshal Bhadkamkar, Jai Bhagwan, Nilay Bhat, Vasudha Bhatnagar, Debbijoy Bhattacharyya, Samarpita Bhattacharya, Subir Bhattacharyya, Sudip Bhattacharyya, K.G. Biju, Ritabrata Biswas, David Buckley, Arindam Chakraborty, Manoneeta Chakraborty, Shuvendu Chakraborty, Susmita Chakravorty, Gireesh Chandra, Ramesh Chandra, Suresh Chandra, Hui-Yiing Chang, Phil Charles, Asis Kumar Chattopadhyay, Surajit Chattopadhyay, Tanuka Chattopadhyay, Rabin Chhetri, Haeun Chung, Maria Anna Czekaj, Mitali Damle, Ajaz Ahmad Dar, Sudeep Das, Sanghamitra Deb, Ujjal Debnath, Deepak Dhar, P.P. Divakaran, George Djorgovski, Arghya Dutta, Andrew Fabian, Nagnath Garad, Haritma Gaur, Rahul Ghosh, Ritesh Ghosh, Sushant Ghosh, Gerard Gilmore, Rounaq Goenka, Rupjyoti Gogoi, Mathew Graham, Alok C. Gupta, Girjesh Gupta, Yashwant Gupta, Yuko Hada, Mubashir Hamid, JinLin Han, K.P. Harikrishnan, E.P.J. van den Heuvel, Andy Howell, Sk. Monowar Hossein, K. Indulekha, Naseer Iqbal, Nazma Islam, Safiqul Islam, Hiroaki Isobe, Bala Iyer, Nirmal Iyer, Sitha K. Jagan, Gaurava Jaiswal, Mathilde Jauzac, Naveen Jingade, Jithesh V., Reju Sam John, Dhanya Joseph, Nidhi Joshi, Md. Mehedi Kalam, Nibadita Kalita, Atish Kamble, Niti Kant, Bidya Karak, Chrisphin Karthick, Mansi Kasliwal, Romesh Kaul, Nasr. M. Ahmed Khalifa, Martin Kilbinger, Michiel van der Klis, Shrinivas Kulkarni, Ajai Kumar, Pradeep Kumar, Saurabh Kumar, B.S. Kushvah, Rakesh Lakshman, K.V.P. Latha, Joseph Lazio, Charley Lineweaver, Michael Little, Ashish Mahabal, Sunil Maharaj, Sangeeta Malhotra, Ariyeh Maller, Manzoor Malik, Soma Mandal, Dhananjay Mandalkar, Yogesh Mann, Bari Maqbool, Tabasum Masood, Nairwita Mazumder, Biley Menon, Olivera Miskovic, Kuntal Misra, Arabinda Mitra, Supriyo Mitra, Soumita Modak, Aditya Mondal, Sargam Mulay, N. Nagarjuna, S. Naik, K.H. Navalgund, Harsh Nayak, Rajesh Nayak, Samaya Nissanke, Rodrigo Olea, Sudhakar Olwe, Mayukh Pahari, Vaidehi Sharan Paliya, K.K. Pandey, Mangaldeep Pandey, Shashi Bhushan Pandey, P.N. Pandita, Maria Alessandra Papa, Aseem Paranjape, Mayur Patel, Yatrick Patel, Amit Pathak, B.C. Paul, Biswajit Paul, Devraj Pawar, Pramod Pawar, Sushant Pawar, Judith Perry, Ninan Sajeeth Philip, Sateesha Poojary, T.P. Prabhu, Anirudh Pradhan, Ved Prakash, Rajendra Prasad, A.U. Preetha, Marina Prokopyeva, Sanjay Puri, D. Radhika, Farook Rahaman, Ashish Raj, Sendhil Raja, S.R. Rajesh, Gayathri Raman, Chayan Ranjit, Sujata Kundu Ranjit, A.R. Rao, Shantanu Rastogi, C.D. Ravikumar, Alak Ray, Biplab Raychaudhuri, Somak Raychaudhury, B. Eswar Reddy, Ronald Remillard, Sunita Rewale, James Rhoades, Martin Roth, Ashim Roy, Parizat Deb Roy, Prabir Rudra, Abhijit Saha, Kanak Saha, Sunder B. Sahayanathan, Tarun Deep Saini, Saumyadip Samui, S.K. Sharma, Subrata Sarkar, K. Suryanarayana Sarma, Manas Pritam Sarma, David Schade, Asoke Kumar Sen, Hina Shaikh, Peter Shawhan, Juie Shetye, H.P. Singh, K.P. Singh, Shanjit Singh, Yugindro Singh, Warren Skidmore, Satish Sonkamble, S. Sridhar, Radha Srinivasan, Shubham Srivastav, Sruthil Lal S.B., C.S. Stalin, Henry Sukumar, Tushar Tamhane, Sanish Thomas, P. Udayashankar, Makoto Uemura, C.S. Unnikrishnan, Santosh Vadawale, Nilkanth Dattatraya Vagshette, D.B. Vaidya, Tejaswi Venumadhav, M.M. Verma, Naveel Wani, Patricia Whitelock, Roy Williams, Gao Xuyang, J.S. Yadav, Naveen Yadav, Andrzej Antoni Zdziarski, and Rashid Zia.

Visitors Expected

April 2013 : K.G. Biju, W.M.O. Arts and Science College, Wayanad, Kerala; Russell Cannon, Anglo-Australian Observatory, Canberra, Australia; Manish Jain, Indian Institute of Technology, Kanpur; Minu Joy, Alphonsa College, Kerala; Nagendra Kumar, M.M.H. College, Ghaziabad; Soma Mandal, Taki Government College, West Bengal; Pramod Musrif, AIISM's Institute of Information Technology, Pune; Nithya C., University of Calicut, Kerala; Amitesh Omar, ARIES, Nainital; Aseem Paranjape, Institute for Astronomy, ETH, Zurich, Switzerland; Sonu Tabitha Paulson, University of Madras, Chennai; Anirudh Pradhan, Hindu Post-Graduate College, Uttar Pradesh; Martin Roth, Astrophysics Institute, Potsdam, Germany; Ram Sagar, ARIES, Nainital; Prashant Samantray, Arizona State University, USA; Shreya Shah, Gujarat University, Ahmedabad; Nityanand Singh, Indian Institute of Tropical Meteorology, Pune; S. Sriram, Indian Institute of Astrophysics, Bangalore; L. Sriramkumar, Indian Institute of Technology, Madras; D.B. Vaidya, Ex-Gujarat College, Ahmedabad; Vinitha S., University of Calicut, Kerala; and Amitabh Virmani, Institute of Physics, Bhubaneshwar.

May 2013 : Jasjeet Bagla, IISER, Mohali, Chandigarh; Subenoy Chakraborty, Jadavpur University, Kolkata; Sumanta Chakraborty, University of Calcutta, Kolkata; Mamta Dahiya, S.G.T.B. Khalsa College, Delhi; Sudipta Das, Visva-Bharati, Santiniketan; Broja Gopal Dutta, Y.S. Palpara College, West Bengal; Sushant Ghosh, Jamia Millia Islamia, Delhi; Anuradha Gupta, TIFR, Mumbai; Joe Jacob, Newman College, Kerala; Sanjay Jhingan, Jamia Millia Islamia, Delhi; Jithesh V., University of Calicut, Kerala; Kanti Jotania, The M.S. University of Baroda, Vadodara, Gujarat; Nairwita Mazumder, IISER, Thiruvananthapuram, Kerala; Uma Papnoi, Jamia Millia Islamia, Delhi; B.C. Paul, North Bengal University, Siliguri; C.D. Ravikumar, University of Calicut, Kerala; Saibal Ray, Government College of Engineering and Ceramic Technology, Kolkata; S.K. Sahay, BITS-Pilani, Goa; Sanjay Sarwe, S.F.S. College, Nagpur; Anjan Ananda Sen, Jamia Millia Islamia, Delhi; Somasri Sen, Jamia Millia Islamia, Delhi; Ranjan Sharma, P.D. Women's College, Jalpaiguri; and Pankaj Sheoren, Jamia Millia Islamia, Delhi.

June 2013 : Sk. Saiyad Ali, Jadavpur University, Kolkata; Bijan Kumar Bagchi, University of Calcutta, Kolkata; Atreyee Biswas, West Bengal University of Technology, Kolkata; Suresh Chandra, Lovely Professional University, Chandigarh; Asis Chattopadhyay, University of Calcutta, Kolkata; Tanuka Chattopadhyay, University of Calcutta, Kolkata; Rabin Chhetri, Sikkim Government College, Gangtok; S. Gangopadhyay, West Bengal State University, West Bengal; Rupjyoti Gogoi, Tezpur University, Assam; Sarbari Guha, St. Xavier's College, Kolkata; Sk. Monowar Hossein, Aliah University, Kolkata; Tanvir Hussain, Tezpur University, Assam; Deepak Jain, Deen Dayal Upadhyaya College, Delhi; Md. Mehedi Kalam, Aliah University, Kolkata; Chrisphin Karthick, Pondicherry University, Pondicherry; Ram Kishor, Indian School of Mines, Dhanbad; Pankaj Kumar, Delhi Technological University, Delhi; Suresh Kumar, Delhi Technological University, Delhi; Nilanjana Mahata, Jadavpur University, Kolkata; Bivudutta Mishra, BITS-Pilani, Hyderabad Campus, Hyderabad; Soumen Mondal, Ramkrishna Mission Residential College, West Bengal; Sailo Mukherjee, North Bengal University, Siliguri; Hemvati Nandan, Gurukula Kangri Vishwavidyalaya, Uttarakhand; Supriya Pan, Jadavpur University, Kolkata; Sanjay Pandey. L.B.S.P.G. College, Gonda, Uttar Pradesh; Amit Pathak, Tezpur University, Assam; K.D. Patil, B.D. College of Engineering, Wardha; Shantanu Rastogi, D.D.U. Gorakhpur University, Uttar Pradesh; Biplab Raychaudhuri, Visva-Bharati, Santiniketan; Anirban Saha, West Bengal State University, West Bengal; Subhajit Saha, Jadavpur University, Kolkata; Sandeep Sahijpal, Panjab University, Chandigarh; P.K. Sahoo, Birla Institute of Technology and Science, Hyderabad, Rathin Sarma, Hojai College, Assam; Bhim Prasad Sarmah, Tezpur University, Assam; Parijat Thakur, Guru Ghasidas Central University, Bilaspur; B.V. Tripathi, Gurukula Kangri Vishwavidyalaya, Uttarakhand; Vivek Kumar Upadhyay, Sastra University, Thanjavur; A.A. Usmani, Aligarh Muslim University, Aligarh; and Subham Vidyant, Indian Institute of Science, Bangalore.

Long term visitors:

P. C. Agrawal; Sanjeev Dhurandhar; Shaon Ghosh; Pushpa Khare; and M. Parthasarathy.

Obituary

Mr. Sadanand Raghunath Tarphe, who was on the administrative staff at IUCAA for close to twenty-four years, passed away due to a medical complication, which led to a massive heart attack on January 30, 2013.

He moved to IUCAA from TIFR along with Professor Jayant V. Narlikar and Professor Ajit K. Kembhavi in 1989. He worked as an assistant in Professor Narlikar's office for long period. He was known for his meticulous work, and organisational abilities. To quote Professor Narlikar, "He was a man of few words, and contributed significantly in the day-to-day running of the office. In fact, because of his quiet efficiency, he was one of the few members from TIFR to be chosen to work in IUCAA."

Just three years ago, he was transferred to Stores, section and once again proved his efficiency.

He was the founder Secretary of the IUCAA Employees Credit Cooperative Society, and was fondly remembered by the society members for his immense contributions in crystallizing it in the present form.

Mr. Tarphe is survived by his wife, teenage son, and mother. He was greatly respected by his extended family whom he supported at all levels, and host of colleagues from IUCAA, and TIFR. In IUCAA, we lost a sincere, hardworking and meticulous colleague.

Know Thy Birds-1

— Chaitanya Rajarshi

Common Kestrel

Have you ever wished to fly like birds? If not, you must observe the flight of some of the birds of prey and one of them is Common Kestrel. Humans have invented many flying machines, but flying with your own wings is something great and different.

I first saw it at IUCAA Girawali Observatory, and I was stunned. Inspite of the strong breeze, the bird was floating at one place in the sky, which is termed as *Hovering*.

The scientific name of the Common Kestrel is Falco Tinnunculus. It is known as "Sasana or Kharuchi" in Marathi, "Shyen" in Sanskrit.

The average size is about 36 cm from head to tail, i.e., comparable to Blue Rock Pigeon. The wingspan is about 60-80 cm.

The back of the male is light chestnut brown with blackish spots, while head is grayish (black in female). The edges of the feathers are black. The beak is yellow except for the blackish tip. The tail is grayish and has a black tip, while it is white in the female.

Common Kestrel is widespread in Europe, Asia and Africa. It is mainly found in shrub lands as the prey has to be visible from a height.

The Common Kestrel starts breeding in April-June in Himalayas, while February to April in Southern India. It is a cavity nester, preferring holes in cliffs, trees or buildings. The female lays 3-6 eggs at a time. The eggs are abundantly patterned with brown spots. The incubation period is about 4 weeks and both male and female take part in hatching the eggs.

Kestrel's diet mainly consists of lizards, field rats, frogs, and insects. While hunting, the Common Kestrel hovers above the ground in search for prey, and once it is sighted, the bird dives toward the target with great speed.

The Common Kestrel
(Courtsey: Chaitanya Rajarshi)

A Common Kestrel hovering in the sky
(Courtsey : Chaitanya Rajarshi)

Please look at the sky for this amazing bird when you visit IUCAA Girawali Observatory.
I have uploaded some videos on YouTube. The links are given below:
https://www.youtube.com/watch?v=FXWphHi5M80
https://www.youtube.com/watch?v=i5T5z2b96fg

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