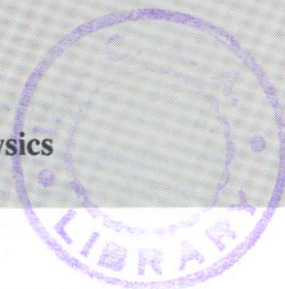


Khagol

Inter-University Centre for Astronomy and Astrophysics

An Autonomous Institution of the UGC



No. 9

THE IUCAA BULLETIN January 1992

Happy New Year!

We wish all our readers a happy 1992. This will be our fourth year of existence (IUCAA's Foundation Stone was laid by Professor Yash Pal on 29 December 1988) and we take this opportunity to thank all our advisers and well wishers. We look forward to help and cooperation from all concerned as we make one more transition during 1992, to our institutional buildings which are rapidly coming up for completion.



A.K. Raychaudhuri speaks

HONORARY FELLOWS

We are happy to announce that the following are the newly selected fellows of IUCAA :

R. Hanbury Brown
Yash Pal
A.K. Raychaudhuri
P.C. Vaidya

FOUNDATION DAY

The 3rd IUCAA Foundation Day was celebrated on December 29, 1991 with the usual enthusiasm and gaiety. A.K. Raychaudhuri delivered the Foundation Day Lecture on *Coordination of research and teaching in our education system*. He recounted his long experience as a teacher and a researcher and emphasised the point that it is just not enough to do research alongwith teaching but it needs to be nurtured. Teaching and research are two faces of intellectual activity and they should be pursued in harmony. Coming from an inspiring personality this lecture gave us all considerable food for thought.

IUCAA played a Cricket match with its traditional rival - NCRA (GMRT) and unfortunately it lost the match, the second time in a row. We hope that IUCAA will do better next time, lest the Director takes some drastic and unpleasant steps to rectify the situation! In the evening there was a variety entertainment programme presented by the in-house talents followed by dinner.



G. Ram Reddy, UGC Chairman
visiting IUCAA Library

VISITORS EXPECTED

- Joanna Anosova, Leningrad State University, January-June, 1992.
- Alikram Aliev, Shemakha Astrophysical Observatory, USSR, February, 1992.
- H.S. Mani, IIT, Kanpur, March, 1992.
- Amitabha Ghosh, IIT, Kanpur, March, 1992.

SEMINARS

September 23, 1991 : *B.R. Iyer*, Raman Research Institute, Bangalore
STF techniques for multipole expansions

September 24, 1991 : *K. Ratnatunga*, Institute for Fundamental Studies, Sri Lanka
Statistical analysis of star catalogs using maximum likelihood estimation

October 9, 1991 : *A.W. Wolfendale*, University of Durham, Durham
Cosmic rays of the highest energies

October 24, 1991 : *Udit Narain*, Astrophysics Research Group, Meerut College
Mechanisms of chromospheric and coronal heating

November 1, 1991 : *Tarun Ghosh*, IUCAA
Field theory on a cone

December 6, 1991 : *C. Iwaniszewska*, Nicolaus Copernicus University, Torun
The dawn of spectroscopy

December 23, 1991 : *Salman Habib*, Los Alamos, USA
LAGEOS - A Satellite experiment to measure the Lens Thirring effect

December 24, 1991 : *R. Brandenberger*, Brown University, USA
Cosmic strings, textures and structure formation

December 24, 1991 : *V.R. Venugopal*, Madurai Kamaraj University
Recent revelations on the crab nebula

PULSARS/QUANTUM GRAVITY

S.R. Kulkarni, Caltech, USA, gave the following series of lectures on *Pulsars*:

December 7, 1991 : Pulsar timing - Introductory discussion

December 19, 1991 : Young pulsars

December 20, 1991 : Millisecond and binary pulsars

December 21, 1991 : Globular cluster pulsars

December 23, 1991 : Pulsar as probes and sources of gravitational waves

Abhay Ashtekar, Syracuse University, USA, conducted a discussion group on *Quantum Gravity* during December 26, 1991 - January 4, 1992.

Their visits were supported by UNDP under the TOKTEN programme.

VACATION STUDENTS PROGRAMME

IUCAA invites applications for the second Vacation Students Programme (VSP). Students selected under the VSP will spend 6 weeks at IUCAA to work on specific research projects under the supervision of the IUCAA faculty. The programme will conclude with seminar presentations of the projects by the participants and those, who perform well, will be preselected to join IUCAA as research students after the completion of their degree.

Those who enter the final year of the M.Sc. (Astronomy, Mathematics, Physics) / B.Tech. / B.E. courses in the academic year of 1992-93 will be eligible to apply for VSP. Application giving the academic record of the applicant as well as two letters of recommendations mailed directly should reach Coordinator, Core Programme, IUCAA by March 15, 1992. The selected candidates will be informed by April 15, 1992 for the programme to be held in May/June 1992.

Mini Workshop on Automated Photoelectric Telescopes

A mini-workshop on Automated Photoelectric Telescopes (APTs) was held at IUCAA during October 21-25, 1991. Such telescopes in 14" class have potential uses for the study of variable stars, solar system objects and routine type observation. About 10 participants from various colleges, university departments and institutions attended the workshop. The schedule consisted of lectures in the morning, the late afternoon and observing sessions on IUCAA Celestron 14" telescope in the night. Several lectures and discussions covered the aspects of APTs, Relevance and Construction, IUCAA's APT, APT-hardware/software design, astronomical photometry, photometric instrumentation, data reduction, application to Stellar photometry, astronomical spectrometers, occultation studies and observing programs with small telescopes. The lectures were given by S.N. Tandon, R. Gupta, Ram Sagar, N.M. Ashok and R. Dev. The night observing session was conducted by A. Paranjpye. As an outcome of this workshop some participants have shown keen interest in participating in a programme for making an APT jointly with IUCAA for their respective institutions.

Mini Workshop on Photoelectric Photometry of Variable Stars

A mini-workshop on Photoelectric Photometry of Variable Stars was held at Gauhati University during December 2-6, 1991. The aim of the workshop was to discuss the techniques of photoelectric photometry, which can be used with a small telescope for observing variable stars and solar system objects. About 10 participants (4 of these were from outside Guwahati) attended the workshop.

In addition to the lectures by N.C. Rana and S.N. Tandon (both of IUCAA) on observations of solar system objects and on techniques of photoelectric photometry respectively, demonstrations of photometric observations were conducted by A. Paranjpye (of IUCAA) with a Celestron-8" telescope.

It is expected that observational work would soon start at Gauhati University with their 6" telescope and the photoelectric photometer. A few outside participants also showed interest in starting experiments involving astronomical observations in their courses.

IAGRG and ICGC-91

The XVI meeting of the Indian Association of General Relativity and Gravitation (IAGRG) was held on December 10 and 11, 1991 at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar. It was attended by about 60 relativists from all over India. The programme consisted of half hour invited talks, contributed papers, an evening lecture on *Geometry and the Universe* by C.V. Vishveshwara and the Second Vaidya-Raychaudhuri Endowment Fund Lecture on *Gravity : A Physical Interaction* by J.V. Narlikar.

It was precursor to the ICGC-91, many of the participants had a leisurely 2-hour journey to Ahmedabad on December 12.

In December 1987, the first International Conference on Gravitation and Cosmology (ICGC) was held in Goa, ICGC-91 at Ahmedabad was a demonstration of the continuity of the series with a frequency of 4 years. The meeting was held at Physical Research Laboratory, during December 13-18, 1991 and was attended by about 150 participants of which about a quarter came from abroad. The meeting witnessed very lively and passionate discussions on quantum gravity, gravitational waves - generation and detection, experimental tests of general relativity and cosmology.

Regional Discussion Meeting

A Regional Discussion Meeting for the universities of Western Indian was held on November 17, 1991 at Mohanlal Sukhadia University, Udaipur. There was rather thin attendance for the meeting as only representatives, apart from the host, Gujarat, Sardar Patel, South Gujarat and Saurashtra universities were present. The discussions started by N. Dadhich briefing the participants on Visitor Programme of IUCAA, S.N. Tandon talked on IUCAA's programme of Automated Photoelectric Telescopes and A. Bhatnagar on Our Sun.

In the afternoon the participants visited Udaipur Solar Observatory situated in the lake. There was enthusiasm amongst university colleagues to introduce an introductory course in astrophysics in their masters' curriculum. They would like IUCAA to help them in framing the course. There was also a view that some selected students during their M.Sc. course should be given specialised training in A & A at IUCAA for 8-10 weeks.

We thank U.N. Upadhyay and A. Bhatnagar for looking after the local arrangements.



It takes two to drop a catch

CALENDAR OF EVENTS

Mini Workshops/Conferences/Meetings

- Second Amateur Astronomers Meet, at Nagput, January 4-5, 1992.
- Regional Meeting for the universities of Southern India, at University of Kerala, Trivandrum, January 18, 1992.
- Young Astronomers' Meet, at IUCAA, February 10-14, 1992.
- Workshop on Space Science Instrumentation, at Gujarat University, February 24-28, 1992. (those interested in participation may contact Prof. S.D. Verma, Physics Department, Gujarat University, Ahmedabad 380 009)
- Mini Workshop on Plasma Astrophysics, Indian Institute of Astrophysics, Bangalore, March 2-6, 1992. (those interested in participation may contact Dr. Vinod Krishan, Indian Institute of Astrophysics, Sarjapur Road, Bangalore 560 034)
- Mini School on Introductory Astronomy, Madras University/IIT, Madras, March 14-16, 1992 (interested students from in and around Madras may contact Prof. V.B. Johri, Department of Mathematics, Indian Institute of Technology, Madras 600 036)

CONGRATULATIONS

- to *S.M.R. Ansari* on his being elected as the Vice President of IAU Commission 41 on History of Astronomy. He is Professor of Physics, Aligarh Muslim University and Senior Associate, IUCAA.
- to *Sucheta Koshti* on being awarded the Ph.D. degree by the University of Poona on her thesis 'Applications of the Ash-tekar Variables in Classical General Relativity' (Supervisor : N. Dadhich).
- to *Ratan Bisht* on being awarded the Ph.D. degree by the Bombay University on his thesis 'Balloon Borne Far-infrared Astronomical Observations with a Two Band Photometer' (Supervisor : S.N. Tandon).

Modern Science : How it works

Dr. Bambang Hidayat from Indonesia has sent us some important scientific truths that he has gleaned from various sources. Since they take our knowledge beyond the celebrated Murphy's laws, we quote a few gems.

Patrick's Theorem : If the experiment works you must be using the wrong equipment.

Compensation Corollary : Any experiment may be considered successful if no more than half the data must be discarded to obtain agreement with your theory.

Axiom of Credibility : Tell a man there are 300 billion stars in the Universe and he will believe you. Tell him a bench has wet paint on it and he'll have to touch to be sure.

Error Principle : To err is human, but to really foul things up requires a computer.

Sameer's Algorithm : If you can't understand it, it is intuitively obvious.

Determinism : The only perfect science is hind-sight.

How To Communicate With IUCAA?

Post : IUCAA, Post Bag 4,
Ganeshkhind, Pune 411 007, India
Phone: 0212-336415/16/17; Fax: 0212-335760
Telex : 0145 7658 GMRT IN
e-mail: root@iucaa.ernet.in
uunet!shakti!iucaa!root