

# Khagol

Inter-University Centre for Astronomy and Astrophysics  
*An Autonomous Institution of the UGC*

No. 5

THE IUCAA BULLETIN

January 1991

## TO OUR READERS

We are happy to report that on November 19, 1990 IUCAA signed a Memorandum of Understanding with the University of Poona. This is the first MOU that IUCAA has signed with any university and the occasion was graced by the presence of Professor Yash Pal, the Chairman, UGC.

One may ask why should an MOU be necessary between an inter-university centre and an university? Is it not in the charter of an IUC to have close interaction with *any* university in the country? Isn't a university expected to use the facilities at an IUC as if it were a field station? What more can an MOU achieve?

In principle, probably nothing - in practice, quite a lot. For, an MOU draws attention of the parties to the link that exists and focusses on the ways in which specific interactions can proceed. It implies commitments from either side that facilitate participation in inter-university programmes. The modus-operandi of how IUCAA interacts with a university may differ from one university to another. The MOU highlights these individualities and creates avenues for drawing upon them.

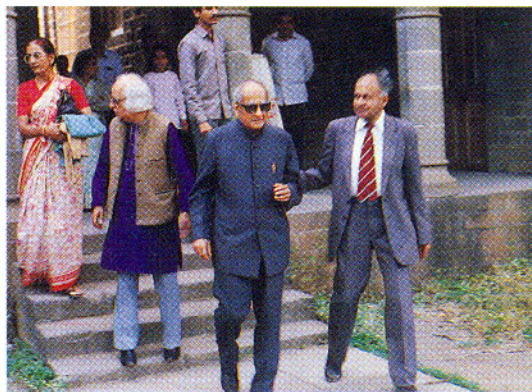
Therefore, through this bulletin we urge other universities to approach IUCAA for signing similar memoranda of understanding.

## CAREERS IN ASTRONOMY

IUCAA has brought out a brochure to inform the students about opportunities available in the country in the area of A & A. Copies may be had by writing to the Public Relations Officer, IUCAA.

## FOUNDATION DAY

IUCAA celebrated its Second Foundation Day on 29 December, 1990. We were fortunate in getting Shri P.N. Haksar as the Foundation Day speaker. His lecture on "India and the World - some reflections" was very thought-provoking.



## VISITORS AT IUCAA

In this quarter ending December 31, 1990 the visitors to IUCAA included G. Fazio (Harvard Smithsonian Centre for Astrophysics, Cambridge), Ian Roxburgh (Queen Mary and Westfield College, London), K. Shivanandan (Naval Research Laboratory, USA), Emil Wolf (Rochester University, USA), S.M. Chitre (TIFR, Bombay), R. Ramchandran (Institute of Mathematical Sciences, Madras), Yash Pal (Chairman, UGC) and P.N. Haksar.

Visitors expected to come in the near future are G. Burbidge (University of California, San Diego, USA), Jean Audouze (Institute of Astrophysics, France), S. Aarseth (Institute of Astronomy, Cambridge), J. Sulentic (University of Alabama, USA), P. Monger (McMaster University, Canada), A. Fabian (Institute of Astronomy, Cambridge), N. Weir (Caltech, U.S.A.) and M. Rees (Institute of Astronomy, Cambridge).

## OBSERVING AT IUCAA

The two telescopes viz. C14 Compustar and C 8 Ultima (both from Celestron International, USA) were acquired and have been used for experiments on atmospheric extinction measurements carried out by M.Sc. (Physics) students of the University of Poona with SSP-3 solid state photometer as back-end instrument.

The solid state photometer and a recently acquired low cost, thermoelectrically cooled CCD camera are being interfaced with a PC - AT for automatic recording and processing of the telescope data. The solid state photometer will be used for making observations of occultations etc. while the CCD camera will be used for imaging and illustrating principles of image processing.

## PROGRESS REPORT ON IUCAA BUILDINGS

When this bulletin reaches you IUCAA will be in the midst of shifting its offices from ADITI to AKASHGANGA, its housing colony. Four houses are being used for offices and the library while three will be used for accommodating guests/visitors. This arrangement will continue until IUCAA's institutional buildings are completed by early 1992.



## REGIONAL MEETINGS

For the south central India region, the meeting was held on September 15, 1990 at the Shivaji University, Kolhapur. It was attended by the

representatives of Shivaji, Karnataka, Karnataka-Belgaum campus, Mangalore, Nagpur and Goa universities, S.K. University (Anantapur), College of Engineering (Sangli), M.G.M. College (Udupi), Ahmednagar College and H.P.T. College (Nasik). In the morning session J.V. Narlikar, N. Dadhich and S.N. Tandon outlined the current trends in astrophysics, gravitation and astronomical instrumentation respectively. In the afternoon there was discussion on various IUCAA programmes and on participation in them by university and college teachers. It was felt that an introductory text book in A & A is urgently needed for teaching in the universities and colleges.

## COLLOQUIA

September 10, 1990 : *R.A. Mashelkar*, NCL, Pune

**Fascination of non-Newtonian fluids**

October 1, 1990 : *Jayant Narlikar*, IUCAA, Pune

**A critique of the big bang cosmology**

December 3, 1990 : *S.M. Chitre*, TIFR, Bombay  
**How well do we know our Sun?**

December 10, 1990 : *R. Ramachandran*, Matsscences, Madras

**Spin statistics and their connection**

## MINI WORKSHOP ON X-RAY ASTRONOMY

Professor A. Fabian of the Institute of Astronomy, University of Cambridge, and Dr. Caroline Crawford of the Department of Astrophysics, University of Oxford will be visiting IUCAA in the second half of February 1991. They will deliver some lectures on various topics in X-ray Astronomy. Any one interested in attending these lectures may write to the **In-charge, Visitor Programme, IUCAA.**

## FUTURE AND RESCHEDULED EVENTS

Due to unavoidable circumstances some of the events listed below (marked by \*) have been rescheduled at the dates indicated.

*January 16-21* : Mini Workshop on N-Body Simulations in Stellar Dynamics, Osmania University, Hyderabad.

*\*January 20-25* : Mini Workshop on Relativistic Astrophysics, Physical Research Laboratory, Ahmedabad.

*February 3-8* : Mini Workshop on Image Processing, IUCAA.

*February 5* : IUCAA Regional Meeting for universities of western India, Rajasthan University, Jaipur.

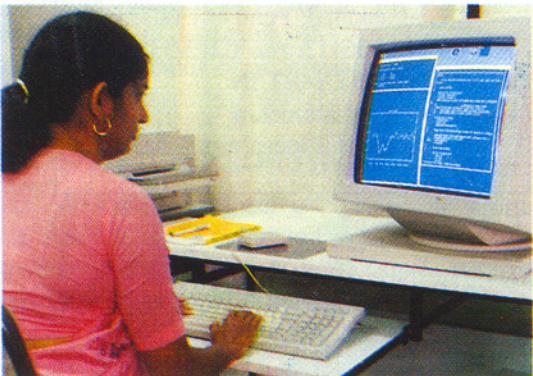
*\*February 8* : IUCAA Regional Meeting for universities of northern India, Panjab University, Chandigarh.

*March 9* : IUCAA Regional Meeting for universities of southern India, Kerala University, Trivandrum.

*\*June 24-29* : Mini Workshop on Gravitation and Gravitational Radiation, H.N.B. Garhwal University, Srinagar.

## VISITS BY ASSOCIATES

During October - December 1990 six of the Associates, S. Mukherji, L.K. Patel, R.S. Tikekar, K.N. Iyer, Suresh Chandra and Pushpa Khare visited IUCAA each for a period of 3 - 4 weeks. Mukherji worked on wormholes solutions in the higher derivative theory while Patel and Tikekar continued their work on finding interesting solutions of Einstein's equations with matter and radiation. Pushpa Khare was concerned with the problem of determining the physical conditions in the regions producing quasar



absorption lines while Suresh Chandra worked on magnetohydrostatic equilibrium in solar coronal arcades. K.N. Iyer investigated some problems in atmospheric scintillations.

## THE SELECTION OF THE SECOND BATCH OF ASSOCIATES

One important component of IUCAA's academic activities is the **Associateship Programme** under which a faculty member of a university or a post graduate department in a college can visit IUCAA for periods of short and long durations over a span of **three years** to develop his/her interest and expertise in astronomy and astrophysics through any of the following means:

- (i) the use of IUCAA's in-house facilities like the specialized library, the advanced computing system etc. towards research projects already undertaken,
- (ii) discussion with IUCAA's core academic staff, post doctoral fellows and visiting experts for teaching and research assignments as well as joint projects,
- (iii) participation in observational programmes in national and international astronomical facilities, and data reduction,
- (iv) carrying out R & D activities in astronomical instrumentation and
- (v) joint research projects with members of other universities/post graduate colleges.

The Associateship Programme has been designed to promote mobility and to this end the travel and local living expenses of an associate for these visits will be borne by IUCAA as per its rules. The associate will continue to carry out his existing commitments at his/her parent organization. However, since IUCAA has been created by the UGC as a field station for these activities, it is expected that those visiting IUCAA under this scheme will be treated as on duty by their respective organizations.

Applications are invited under this scheme for the second batch of associates for the tenure 1 July 1991 to 30 June 1994. The applicants should forward their application through the Heads of their departments / institutions, along

with their biodata, list of publications and a brief write up on the work they wish to carry out as Associates of IUCAA, to **In-charge, Visitor Programme, IUCAA**;

so as to reach him before 15 March 1991. In addition each applicant should arrange for two experts in the field to send their confidential assessment directly to the above address. Those who had applied last year are requested to update their application. The selected candidates will be informed on or before 1 May 1991.

### **VACATION STUDENTS PROGRAMME (VSP)**

IUCAA proposes to start the Vacation Students Programme from the summer of 1991. Students selected under the VSP spend four 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 will perform well, will be preselected to join IUCAA as research students after the completion of their degree.

Those who will enter the final year of the M.Sc. (Astronomy, Mathematics, Physics)/B.Tech./B.E. courses in the academic year 1991-92 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 **In-charge, Core Programme, IUCAA** by 15 March 1991. The selected candidates will be informed by 10 April 1991 for the programme to be held in May/June, 1991.

### **CONDOLENCE**

The distinguished general relativist Bassilis Xanthopoulos was shot dead by a student while giving a talk on Macsyma in a conference at Crete. Persides tried to save him but in vain and he was also injured seriously. We offer condolences to Bassilis' family and the Crete relativity group, and wish a speedy and complete recovery for Persides.

### **On Mathematicians and Sign-painters**

The following story was told to us by a particle physicist working on the problems of grand unification in the very early universe. He had just returned from a long and fruitless discussion with a mathematician.

A traveller riding a horse on the Texan plane during the frontier days arrived - at the end of a long day - at a small town. At the outskirts he saw a shop with a big sign:

"Laundry! Your clothes cleaned while - U - wait."

"Just what I need" thought the tired horseman as he approached the shop and dumped his shirt and trousers on the counter. "Will you please clean them right away? This is the only set I have," he urged.

"What do you mean, Sir?" exclaimed the horrified man behind the counter. "We don't wash clothes here." The irate customer pointed to the sign outside.

"Oh that? Well, we are sign painters."

The moral, if you didn't get it: physicists should launder their theories themselves.

### **How To Communicate With IUCAA?**

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