

IAU INTERNATIONAL SCHOOLS FOR YOUNG ASTRONOMERS (ISYA)

REVIEW OF ISYA HELD JULY 1997 IN ZANJAN, IRAN

at Institute for Advanced Studies in Basic Sciences, Dr. Y. Sobouti, Director

This is the first ISYA for which nearly all participants have a working e-mail address four years after the event. IASBS provided most of the addresses of the Iranian participants. Nearly half of both Iranian and foreign participants (23/48) responded, compared to an average of one-third for the earlier reviewed ISYA. Nearly all participants had a good science background and at least a useful minimum of English. All responses were positive and many were enthusiastic about ISYA.

Important for this ISYA seems to have been the Iranian participants' perceived national scientific isolation. Dominant in many evaluations was the exciting international personal contact with foreign faculty and students. Now, somewhat over four years later, a remarkable nine out of 16 responding Iranians have studied, are studying or are a post-doc outside Iran (4 in USA/Canada, 3 in Europe, 2 in India), five of them in astronomy or closely related subjects. Except for one student now studying with faculty member Guinan, ISYA apparently contributed to this development mainly by raising the students' self-confidence. Most of the other Iranian participants still have some connection to astronomy through teaching (university and high-school level), eclipse observations of 1999, continued study, a completed PhD. thesis related to astrophysical plasmas, or as organizer of an amateur group and translator. Phrases in the evaluations include "ISYA caused my serious study of astronomy", "ISYA made me more interested in astronomy", and "without ISYA my interest in science would have died down".

Of the seven foreign participants reporting, all are in astronomy or very closely related subjects, ranging from a M.Sc. expected soon to a completed Ph.D. followed by a research position, plus one science administrator (Ph.D. prior to ISYA). One foreign participant is said to have left science.

There were unusually few comments about the actual courses. Their breadth and academic level seems to have largely matched the needs and expectations of the audience. But there were some favorable comments about nearly all the courses, the practical exercises including with telescope and computer, teaching discussions, library, and useful study materials. All valued the practice of English. Faculty members Guinan and Touma made the most effective contacts with the participants. Except for one complaint that it was too hot, the living conditions and academic atmosphere were unanimously lauded, with phrases including "friendly ambiance", "enjoyable", and "excellent".

Submitted by Donat G. Wentzel, May 2002



The 23rd International School for Young Astronomers (ISYA)

Report by Donat G. Wentzel, secretary for ISYA (University of Maryland), August 20, 1997

The 23rd ISYA met July 4 - 23, 1997 in the mile-high city of Zanjan, Iran, on the attractive campus of the Institute for Advanced Studies in Basic Sciences (IASBS), at the invitation of its Director, Dr. Y. Sobouti. The IAU provided travel grants to 14 foreign participants from Nigeria, Indonesia, Turkey, Lebanon, Poland, Ukraine, and Russia, including the only two foreign women who applied. Among 24 Iranian participants from 11 universities and IASBS, almost half were women (selected on criteria independent of gender). Iran processed all foreign visa applications routinely. Two accepted Egyptian applicants could not attend because Egypt denied their visa to leave Egypt. Applications were expected from more countries, but the only advertisements occurred via the IAU Bulletin, which arrived too late in several relevant isolated institutions, the newsletter of Commission 46, and an e-mail network of former ISYA participants created when the lack of publicity became obvious.

A major goal of ISYA is to demonstrate, to scientifically isolated students, the frontier nature of astronomy and the importance of questions, discussions, judgment on evidence, etc. This goal was so evidently achieved that we ended the ISYA one day earlier than planned. Particularly important for a quick start of discussions was the opportunity, already on the first day, for small-group daytime and nighttime sky observations and, soon thereafter, for practical work on computer-based data analysis. After some days, discussion groups formed quite independently of nationality or gender. Nearly half the participants presented a short outline of their research. Several participants eagerly sought out foreign faculty for detailed presentation of their work.

For the first time at an ISYA, nearly all participants spoke English adequately for conversation even at the start of the ISYA. IASBS employs a professional translator to assure English proficiency among its students.

The lecture courses started at a basic level, since most Iranian students were physics students with only introductory astronomy. But nearly all courses led to some current research topic and demonstrated the flavor of frontier science. Several topics treated in two courses with different points of view demonstrated the breadth of astronomy. The foreign faculty members were: Ed Guinan (USA, binary stars and their many astrophysical applications, use of small telescopes), Rajaram Nityananda (India, gravitational lenses), Michele Gerbaldi (France, stellar atmospheres, data analysis with MIDAS), Jihad Touma (USA/Lebanon, chaos in the solar system), and Don Wentzel (USA, MHD and related solar physics). Mr. Arvind Paranjpye (from IUCAA, India) put the local telescope into working condition, provided his low-cost photometer for measurement of solar limb darkening and, with Michele Gerbaldi, supervised night-time observing, including several nights using a CCD. Michele Gerbaldi became a role model for the Iranian women and put them at ease talking with foreigners. The Iranian lecturers (giving relatively short courses) were: Y. Sobouti (IASBS, stellar structure), G. S. Nasiri (Zanjan University, radio astronomy), D. Jasour (Tabriz University, photometry), N. Riazi (Shiraz University, cosmology), and J. Samimi (Sharif University of Technology, gamma ray astronomy).

Michele Gerbaldi brought two hard disks and software from Haute Provence Observatory, and ESO gave CD Roms with MIDAS software, so that MIDAS could be installed on the local computer system and participants could analyze spectroscopic data. After much efficient advice by telephone and fax to France, the installation was finally successful on one PC. Locally, there

was no one sufficiently familiar with the computer system to accommodate the new programs to it. The Iranian international Internet line was far too slow and erratic to either exchange information or to query any data base. This experience demonstrates the difficulties that will be faced in the future when participants from any workshops on computer data analysis, or workshops on the use of the data from astronomical archives accessible by web or ftp, will try to carry these programs home to their own institutions.

IASBS provided housing and meals. Its efficient staff ran the copy machine and attended to the many individual needs of participants. Much help was provided by the governor of the Province of Zanzan. We enjoyed cultural events, sports, and excursions to historical, archeological and volcanic sites. Ten years from now, this ISYA will have generated not only a few astronomers but also many scientists imbued with the spirit, the way of thinking, and the excitement of astronomy.