

Report on the 25th International School for Young Astronomer (ISYA)

Thailand - ChiangMai - January 3 - 22, 2001

Michèle Gerbaldi, Chairperson for the ISYA

Boonraks Soonthornthum, University of ChiangMai

This 25th ISYA took place in Thailand at the University of ChiangMai. All the lectures and practical activities were at the Department of Physics (Faculty of Sciences) and the observations took place at the Sirindhorn Observatory.

Lecturers and participants were staying at UNISERV, an hostel located on the ChiangMai University campus.

This ISYA has been organized through an active collaboration with Prof. Boonrucksar Soonthornthum.

The Local Organizing Committee was co-chaired by Prof. B. Soonthornthum (ChiangMai University), and by Prof. Kam Ching Leung (University of Nebraska-Lincoln, USA). Prof. Kam Ching Leung has a long standing collaboration with Prof. B. Soonthornthum, and participated actively to the working out of the planing of the ISYA.

The *Local Orgizing Committee* was:

B. Soonthornthum (C.M.U.) Chair
K.C. Leung Co-Chair

Members:

S. Niparaks (C.M.U.), A. Sooksawat (C.M.U.), W. Nhurpeng (C.M.U.), M. Naksata (C.M.U.), N. Sanguansak (C.M.U.), C. Boonyaraks (N.U.), B. Hutawarakorn (NSTDA), V. Eurchukiat (TAS), P. Chiawkhun (C.M.U.), S. Posayachinda (M.F.L.U.).

The *foreign faculty* were:

- Helmut A. Abt - Kitt Peak National Observatory, Tucson - USA
- Kwing L. Chan - Hong Kong University of Science and Technology - China
- Kwong-Sang Cheng - Hong Kong University - China
- Jean-Pierre De Greve - Vesalius College-VUB, Brussels - Belgium
- Michèle Gerbaldi - Université de Paris XI, Institut d'Astrophysique de Paris - France
- Ajit Kembhavi - IUCAA, Pune - India
- Kam Ching Leung - University of Nebraska-Lincoln, Lincoln - USA
- Donald W. Kurtz - University of Central Lancashire, Preston, Great Britain

Edward Guinan (vice-chairperson for the ISYA) was not able to come due to health reason.

The *Thai faculty*, from the University of ChiangMai, were:

- Sumit Niparaks

- Nuanwan Sanguansak
- Aniwat Sooksawat
- Boonrucksar Soonthornthum

Among the foreign faculty, Helmut A. Abt, Jean-Pierre De Greve, Michèle Gerbaldi and KamChing Leung were able to be present during the all ISYA, or close to it. Ajit Kembhavi and Donald W. Kurtz were able to stay for two weeks but Kwing L. Chan and Kwong-Sang Cheng stayed only one week. Once more we noted that one week is not long enough, by far, to have good interaction with the participants.

The number of participants was : 36, 17 foreign and 19 Thai.

I - Participants

This ISYA was advertised as usual in the Bulletin of the IAU, as well as on the Web Page of the Department of Physics of the Faculty of Science of ChiangMai University. Specific information were send to several institutions in Asia by Prof. B. Soonthornthum.

22 applications, from 9 countries outside of the Asian region, were received but were not taken into account during the selection, those countries being too far from the geographical area considered for this ISYA.

39 applications, not including Thai students were received from 10 Asian countries. It should be noted, that for the first time, few applications from women were received. According to the budget, 20 foreign participants were invited, from 10 different countries and 22 from Thailand. 3 foreign student cancelled their participation at the very last moment, one from Laos (for an happy event) as well as the 2 participants from DPR Korea, which rather unfortunate: it would have been the first link with North Korea.

The participants came from:

China (mainland): 2 (men), Hongkong (China): 1 (man), Taiwan: 1 (man), India: 3 (men), Indonesia: 3 (1 woman, 2 men), Laos: 1 (man), Nepal: 1 (man), Philippines: 3 (men), Vietnam: 2 (women).

Thailand: 22 participants but 3 of them could not come, so there were 19 Thai participants (3 women, 16 men).

II - Academic Activities

The background of the 36 participants, ranged from finishing their B.Sc. (14 participants, all from Thailand), their MSc (9), on the edge of starting their PhD (7), Engineers (3) to 3 participants having already their PhD.

The participants having already a PhD had also a position as university lecturers in Thailand or as curator of the Space Science Museum (Hongkong) and being involved in astronomy teaching at different level.

The participants from Vietnam are teaching basic knowledge in astronomy-astrophysics at the university.

English was the language of the ISYA.

At the beginning of the ISYA, the spoken English level of the participants was ranging from "very fluent" to very "hesitant" specially from the Thai participants, younger on the average than the foreign participants. Moreover the shyness of the Asian participants was another barrier to be overcome. Starting on the second week the language barrier was broken and the Thai participants made progress also, in English spoken.

B. Soonthornthum was impressed how Thai students communicate with foreign participants and all the faculty members during this ISYA. Such a behavior is quite exceptional among Thai students.

III - 1 - Lectures

The topics covered by the lectures were:

Helmut A. Abt

Spectrographs, spectral classification, radial velocity, stellar rotation, visual binaries, spectroscopic binary, mass determination, stellar duplicity and "How to write a paper and get it published".

Kwing L. Chan

Solar type atmospheres, solar seismology, convective heat transfer, numerical simulation.

Kwong-Sang Cheng

High-energy astrophysics, theoretical study of neutron stars and strange stars

Jean-Pierre De Greve

Stellar interior structure, evolutionary models of single stars, evolutionary models of binary stars.

Michele Gerbaldi

Parallaxes, proper motions, stellar atmospheres, fundamental parameters, photometric indices calibration, observed and theoretical spectra, H-R diagram.

Ajit Kembhavi

Introduction to galaxies, galaxy classification, morphology shapes, large scale structure, stellar populations, interstellar medium, chemical properties, galaxy formation and evolution, active galaxies and quasars.

Donald W. Kurtz

Variable, peculiar, and Ap stars; high-speed stellar photometry, frequency analysis, radial and non-radial pulsation; theoretical modeling.

KamChing Leung

Determination of physical parameters of binary star; irradiation and mass circulation in binary atmospheres.

Sumit Niparaks

Observations, astronomy labs.

Nuanwan Sanguansak
Stellar Dynamics.

Aniwat Sooksawat
Astronomy web pages.

Boonrucksar Soonthornthum
Photometer, stellar photometry, eclipsing binaries analyses.

Photocopies of all the transparencies of the lectures were given to the participants. The faculty members have adapted their lectures to the background of the audience; this was much more difficult for the faculty members who stayed only one week. Informal discussions between small groups of students and individual professors occurred regularly, as well as among the students themselves.

III - 2 - Practical Activities

Formal and informal sessions of practical activities were organized.

5 sessions of 2 hours each on data reduction took place, using the PCs of the Physics Department.

Exercises on stellar photometry data reduction and image processing were supervised by Boonrucksar Soonthornthum using a specific software installed on purpose during 2 sessions. Several participants have access or will have access to a moderate size telescope (45 cm on the average), so, this activity put the students in contact with real data.

3 sessions were organized under the supervision of Michèle Gerbaldi with the aim of querying various data base and archives from Space experiments or ground based telescopes.

III - 3 - Observations at the Sirindhorn observatory

The observatory, created in 1997, is located at about 20 minutes drive from the university campus, close to the top of a small mountain, the altitude being of 784 m.

Two telescopes are installed.

The first one (40cm, Cassagrain type) is equipped with a small spectrograph and a CCD. A photometer can also be used: SSP-3A, UBVRI filters and solid state detector. The second telescope is a 50 cm Richey-Chretien, with an automatic pointing system, equipped with a CCD (768x512pixels) for images or broad-band photometry. This telescope is housed in a dome built on the first floor terrace of the building.

This telescope was inaugurated on January 18th by the Crown Princess Sirindhorn, during a very official ceremony where I was invited as IAU representative in the framework of the ISYA.

4 observing sessions were organized from 19h30 till 22h30.

Stellar spectra were obtained during these runs and I am doing a follow up of two students writing an essay on these observations, putting the emphasis on various aspect of data reduction.

The weather was favorable for the ISYA observing runs, despite high light pollution from ChiangMai, but allowed getting practice in obtaining stellar spectra. This instrumentation, even of small size, was appreciated by the participants.

III - 4 - Participant Talks

Sessions were organized for talks by the participants about their Institutions and their works.

17 talks were given, all of them followed by discussions. Even a Thai participant not yet graduated, gave a talk on her observational project and data reduction, the third week. This was a real achievement.

Most of talks were related to the presentation of M.Sc. topics or the beginning of Ph.D. research.

Several institutions or universities in Asia have small telescopes of about 45 cm, some of which were donated by Japan. Lively discussions took place with the faculty members on useful observational programmes that can be developed in stellar research. The experience of Don Kurtz in this field was extremely valuable.

IV - Non-Academic Activities

Non academic activities were organized twice during the ISYA.

On Sunday 7th January a field trip on the Intanon mountain was organized. The altitude of this mountain is 2500 m (the highest in Thailand) and there is a project to establish there a national observatory equipped with a 1 m telescope.

The second excursion took place the next week-end Saturday 13th, Sunday 14th January. This two days tour was arranged to visit Pitsanulok and Sukhothai, old historical cities, located 300 km south of ChiangMai.

V - Budget and Local Organization

Important help was given by the colleagues of the Faculty of Physics in many practical domains during the ISYA.

The IAU and UNESCO provided travel grants to foreign and Thai participants.

The stay during the ISYA was entirely paid by the Thai sponsors for the students as well as for the faculty members.

The main Thai sponsors, besides the the Department of Physics, Faculty of Science, University of ChiangMai are:

EGGO (Electricity Generating Public Company Limited Thailand)

the National Science and Technology Development Agency

the Institut for Promotion in Teaching Science and Technology

the Science Society of Thailand.

Acknowledgments must also be given to the European Space Agency that provided several leaflets and posters pointing out the results from several space experiments.

VI - Conclusion

The organization of an ISYA in Thailand was timely after the long standing efforts by Prof B. Soonthornthum at ChiangMai University to develop an Astronomy Astrophysics Department in the Faculty of Sciences.

The situation in Thailand has been improved : a professional astronomical Society being created. The Sirindhorn Observatory used also for public services is of a great help to establish astronomy in Thailand on firm basis.

Prof. B. Soonthornthum has developed international cooperation , with the Yunnan observatory to be able to obtain observing runs there, but also with the Laos in the sense that ChiangMai University offers MSc programmes in astronomy to the Laotian students.

Paris, April 2001

Thaïlande : Liste des participants

Nom	Prénom	Origine
Allen	Michael	Thaïlande
Aprilia		Indonésie
Aungwerojwit	Amornrat	Thaïlande
Barway	Sudhanshu	Inde
Chaiyachat	Panuwat	Thaïlande
Chanachot	Aram	Thaïlande
Chazhiyat Damodaran	Ravikumar	Inde
Chow	Kim-Fung	Chine
Dela Cruz	Dario	Philippines
Gu	Shenghong	République Populaire de Chine
Homchampa	Bandit	Thaïlande
Irfan	Mochamad	Indonésie
Jeng	Yung-Jyh	Taiwan 106
Komonjinda	Siramas	Thaïlande
Kriwattanawong	Wichean	Thaïlande
Laphirattanakul	Arthit	Thaïlande
Mendoza	Jose IV	Philippines
Nguyen Quynh	Lan	Viêt-Nam
Nuangnun	Chote	Thaïlande
Nuang Pong	Wim	Thaïlande
Osotchan	Tanakorn	Thaïlande
Padtha	Phayvanh	Laos
Palotaidamkerng	Porncharoen	Thaïlande
Ponhan	Witawat	Thaïlande
Qian	Shengbang	République Populaire de Chine
Ramachandran	B.	Inde
Rattanasoon	Somsawat	Thaïlande
Raymundo	Mario	Philippines
Sharma	Sanat Kumar	Népal
Simatupamg	Ferry	Indonésie
Sopitpinyo	Anticha	Thaïlande
Sukonthachat	Jaturong	Thaïlande
Sungsiri	Prakit	Thaïlande
Tanwanichkul	Bhuchiss	Thaïlande
Vu	Thi Kim Lien	Viêt-Nam
Wannatong	Chaloemchon	Thaïlande
Wongsaeng	Chalao	Thaïlande

25th ISYA - Chiangmai Thailand January 2001

income from IAU

22000 US dollars

total to reimburse IAU

1995 US dollars

total of the expenses

20005 US dollars

BUDGET

Travellers

US dollars

Bahts

US dollars

Income

Traveller cheques

220

22000

Change

date

Numbers of the travellers changed

RA 269-588-450 to

RA 269-588-549

and

RA 269-588-600 to

RA 269-588-649

150

15000

9/01/01

75293

13020

RA 269-588-550 to

RA 269-588-574

25

2500

12/01/04

177

2460

RA 269-588-650 to

RA 269-588-669

20

2000

21/01/01

2000

RA 269-588-575 to

RA 269-588-581

7

700

21/01/01

700

	202	20200	which gives	75470	18180
	travellers	US dollars	after change	Bahts	US dollars
Total income after the change					

Expenses

US dollars Bahts

travel expenses foreign participants	9218	7000	
Travel expenses faculty members	6095	4000	
travel expenses Thai participants		13310	
other travel expenses		970	
travel - Thailand	2720	33600	
miscellaneous		8819	conversion of 204 US dollars
miscellaneous		5707	conversion of 132 US dollars

total	18033	73406	
	US dollars	Bahts	

To reimburse to IAU			
22000 - 20200 (US dollars)	1800	US dollars	
18180 - 18033 (US dollars)	147	US dollars	
75470 - 73406 (Bahts)	2064	Bahts	
			that is : 48 US dollars