

The Ethiopian Space Science Society (ESSS)

**Developing Astronomy Globally Cornerstone Project
International Year of Astronomy 2009**

Final Report on the Project

“Astronomy Outreach Workshop for University Students”

Submitted to the Coordinator for the Development of Astronomy

South African Astronomical Observatory (SAAO)

1. Background to the Project

A grant of 1000 Euros was offered to the Ethiopian Space Science Society (ESSS) on the basis of the proposal submitted in support of the Society's application for the International Year of Astronomy 2009 Cornerstone: Developing Astronomy Globally. The project was conceived with the principle that the youth to successfully contribute to and lead society in the 21st century, must have a deep understanding of the physical world, the scientific process for uncovering its guiding principles, and the ways these ideas are transformed into useful technologies. The ESSS seized the new opportunity to advance and popularize astronomy among university students taking advantage of the strong interest exhibited by these students. Of particular significance was the new educational policy in Ethiopia that 70% of university students in all public universities will pursue studies in science and technology fields. Along this line, 13 new physics departments have opened with curricula to offer courses and programs in astronomy/space science with each having acquired 5 light telescopes to support the teaching of astronomy.

The **Astronomy Outreach Workshop for University Students (AOWUS)** was earlier planned and run by the ESSS with the aim to promote basic knowledge and observational experience of astronomy among undergraduate university youth. The program stresses the importance of creating and growing a community of informal astronomy educators at Space Science Clubs who can effectively conduct programs for their members and visitors. The program has been effective in the universities of Addis Ababa, Adama and Mekele. The project funded by DAG is part of the AOWUS initiative and was intended to undertake an outreach activity in three new public universities.

2. Specific objectives of the Project

The specific objectives of the project included the following:

- Motivate science students to study astronomy and space science
- Build the pool of people able to do astronomy outreach by taking advantage of the strong interest exhibited by students
- Facilitate new clubs and networks

In order to meet the above objectives, a two-week activity was planned to be undertaken at three new public universities, namely Ambo, Wollega and Mizan-Tepi universities starting 1st May 2009. The target audience was a community of university science students and staff, astronomy enthusiasts and anyone in the universities keen to promote astronomy.

3. Project Implementation

A letter of Award was sent to the Project leader on May 4, 2009 and money transfer was possible towards the end of May, 2009. With this delay in fund availability, the planned

timing of implementation of the project coincided with semester final examinations and end of academic year in the universities. Hence, it became necessary to postpone to a later period when the universities re-opened for the 2009-2010 academic year in October 2009 and when both students and staff were available in their campuses. The time frame of the implementation of the project was, therefore, not in accordance with the dates indicated in the project proposal.

This program was lead by ESSS volunteer astrophysicists, **Mr. Tolu Biressa** and **Mr. Sultan Mohammed**. The team delivered power-point presentations and also taught and demonstrated the proper utilization of telescopes. The trainees were given adequate practical sessions on how to use small telescopes at night to explore the sky. At the end of the workshop program, a group of students and instructors were elected at each of the three universities to pursue the establishment of Space Science Clubs in their respective universities. The table below summarizes the dates of project execution.

Description of Activity/Deliverable	Date of Completion
Preparation of materials (Brochures, Pamphlets. Educational materials, Astronomical images and photographs in CDs and DVDs)	10 May 2009
Workshop tours to three universities:	
Ambo University	22-24 October 2009
Wollega University	02-04 November, 2009
Mizan-Tepi University	12-14 November, 2009

Number of participants (university students, instructors and technical staff)

- Ambo University - 300
- Wollega University - 600
- Mizan – Tepi University - 400
- Total: 1300**

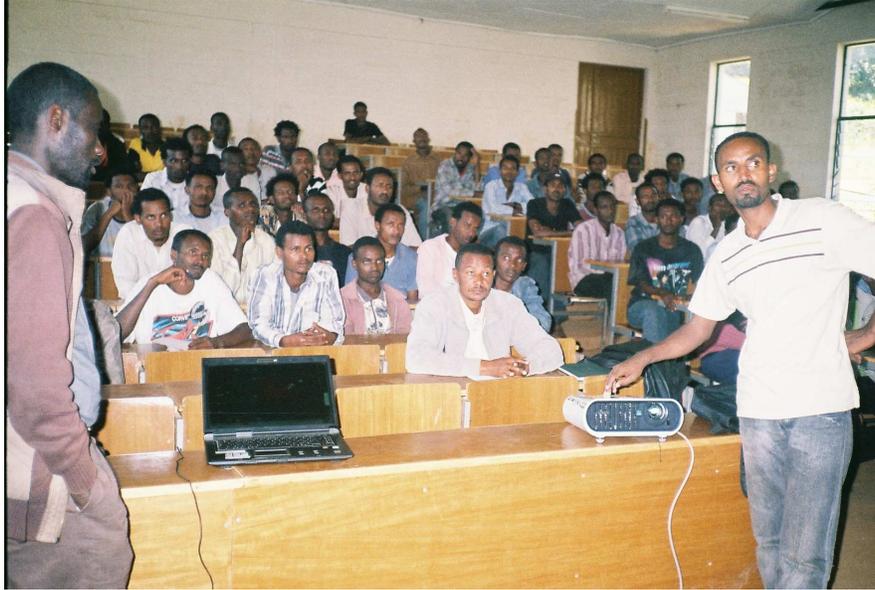
The workshop activities in each university were as follows:

Presentations

- Distributing brochures prepared in English and Amharic (the Ethiopian national language) that highlight the goals, aims and key activities of IYA2009.
- Introducing the objectives and activities of ESSS in promoting Astronomy/Space science.
- Presentation of the objectives and activities of IYA2009
- Educational Seminar on : *Space Science and its application*
- Training on using telescopes
- Discussion on the future of Astronomy/Space Science in Ethiopia.
- Establishing Space Science Clubs



Presentation session at Ambo university



Mr. Tolu Biressa delivering presentations at Wollega university



Mr. Sultan Mohammed delivering presentations at Mizan – Tepi university

Discussion Sessions

Some of the points of discussions were:

- Present status of the space science and astronomy in Ethiopia

- The importance of these disciplines in the economic and cultural development in Ethiopia
- Ethiopia's future prospects in investing resources in space science and technology
- Curriculum development to offer space science and astronomy courses at schools and universities and promoting the disciplines among the youth



Mr. Sultan Mohammed during a discussion session at Wollega university

Night sky observation sessions

The workshop period was quite favorable for sky observations as the rainy season has passed and the sky was clear of clouds. In all cases, the weather conditions permitted very good sky observations with small telescopes. Participants benefitted from the opportunity to observe for the first time better images of the moon, the planets such as Jupiter and some galaxies such as Cassiopeia.



Telescope observation session at Ambo University



Telescope observation session at Wollega University



Telescope observation session at Mizan –Tepi University (Tepi campus)

Establishing clubs

During the course of the workshop, participants expressed great interest and motivation to work with ESSS for a better understanding of astronomy and continued experience in sky observations. Participants at each of the three universities agreed to establish space science clubs to pursue activities and observations on regular basis. They also agreed and accepted a

provisional club Charter or Constitution (See Appendix 1) and elected ad hoc committees that will work with ESSS to formally launch the clubs. The committee members comprised of students and teaching staff members. The elected ad-committee members were given responsibilities to realize the creation of active and vibrant clubs that will grow into chapters of ESSS. The committees will design programs and activities to promote space science and astronomy in their respective communities and will submit progress reports to ESSS and to their respective universities.



Elected Committee members from Ambo University

1. Mr. Mesfin W/Michael
2. Mr. Semere Ayalewu
3. Mr. Shimelis Terefe
4. Mr. Abebe Hunde
5. Dereje T/Birhan
6. Alemu Nigussie



Elected Committee members at Wollega University

1. Amsalu Mute
2. Senbeto Kena
3. Geremewu Lemessa
4. Addisu Dola
5. Ashenafi Kassahun
6. Ayleyu Chane
7. Kumera Assefa



Elected Committee members at Mizan-Tepi University

1. Mr. Tamirat Abebe
2. Mr. Wasihun Dereje
3. Mr. Seid Abdulahi
4. Mr. Nebiyu Zelalem
5. Fitsum Hagos
6. Abeba Tesfaye
7. Sisay Mamm0
8. Tesfahun Kebede
9. Teklemariam Benti

4. Utilization of funds

The funds availed to ESSS by DAG amounted to 1000 Euros (equivalent to Ethiopian Birr 12,325.00) and were utilized entirely for the purpose of the project. The project did not generate any income. The table below provides a summary of how the funds were spent. The proper utilization of these funds have been verified for their validity by the Internal Auditor of the ESSS as well as by an External Auditor designated to oversee the yearly financial transactions of the Society. All proof of expenditure (original receipts, invoices, etc) pertaining to the DAG funds are filed with the society archives.

Description of expenditure		Cost [Ethiopian Birr]	Cost [Euro]
Travel	Car hire	3944.00	320
subsistence	2 persons@ 20 Euros/day x 15 days	7395.00	600
Production and printing	Brochures Posters Educational materials	986.00	80
Administration and support costs		ESSS has covered other essential expenses (administrative, telephone, computer time, etc)	
TOTAL COST		12.325.00 Birr	1000 Euros

5. Project success and achievements

The main goal of the project has been achieved by way of bringing a large number of young university students together to learn about IYA 2009 and acknowledge that in Ethiopia, astronomy needs to be developed professionally in universities, publicly among the media and amateur groups as well as educationally in schools. In the process of the short workshop and training sessions, students have developed new observational interests and skills, including logical reasoning, inquiry and collaboration. The main outcome of this workshop has been to have more people interested to do astronomy outreach and to stimulate the establishment and enhancement of clubs and networks that focus on the development of space science and astronomy. The major impact of these activities has been to bring together motivated youth and an expanded team of people promoting astronomy.

6. Acknowledgements

The ESSS extends sincere appreciation and thanks to the Developing Astronomy Globally Cornerstone project for supporting this program through its financial contribution to development astronomy in Ethiopia.

Project Leader

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APPENDIX 1

SPACE SCIENCE AND ASTRONOMY CLUB CHARTER

Article 1: Name

The name of this club shall be the ----- Club, hereinafter referred to as the Club.

Article 2: Purpose

Section 1

The purpose of this club is to promote, through its activities, interest and education in astronomy and related space sciences for its members, the University, public schools and the general public.

Section 2

Activities of the Club shall include the scheduling of star parties for the general public and by request for schools, clubs, special interest groups and special events (see Article 10).

Section 3

The club shall function as a non-profit organization.

Article 3: Membership

Section 1

Membership in the Space Science and Astronomy Club shall be open to anyone who wishes to join the club. In order to main member status within the club, one should remain active in club activities, and attend meetings when possible.

Section 2

Regular membership is extended to students, faculty, and staff of ----- University and to any members of the community.

Section 3

Special Members are those members who have advanced the purpose of this club by virtue of their outstanding contributions and support for the club.

Section 4

Voting members are limited to those who are students, faculty and staff of the -----
University and the active Special Members. Only student members, who have paid their
membership fee, may vote on club matters.

Section 5

An up-to-date membership list shall be kept by the Secretary of the club and reviewed/updated as
necessary.

Section 6

Membership may be revoked by a two thirds majority of the voting membership. Revocation
may be based upon extended inactivity or actions deemed to be harmful to the club and its
stated purposes

Article 4: Club Meetings

Section 1

Regular meetings of the club shall be conducted once every month during the university
academic year at a time and place fixed by the consensus of majority of the club
membership.

Section 2

Notice of regular or special meetings shall be announced by various means at least two days
before the meeting.

Article 5: Officers of the Club

Section 1

The club shall have the following officers:

1. President
2. Vice President
3. Secretary
4. Treasurer
5. Public Relations Officer

Section 2

Officers shall be elected at the last regular meeting before the end of the Second semester. Officers shall be elected from the voting membership of the club by a simple majority of the voting members present.

Section 3

In the event of a vacant post, the President or Vice President shall call a special meeting for the purpose of a special election to fill the vacancy.

Section 4

An officer may be removed from office provided the following conditions are met:

1. A written proposal for removal containing the signatures of at least 50% of the voting membership shall be provided to all officers of the club at least one week prior to a regular meeting.
2. At the next regular meeting following the submission of the proposal for removal, the proposal shall be voted upon by the voting membership after time has been provided for each side to present their case and for the general membership to discuss the proposal.
3. An officer may be removed from office by a two thirds majority of the voting membership present.
4. A removed officer may not hold office in the club for one full academic year following removal.

Article 6: Duties of Officers

Section 1

The duties of the President include: scheduling meetings and club events; posting of meeting notices; presiding over the majority club meetings; appointment of committees; and in general providing the leadership necessary for the club to fulfill its stated purposes.

Section 2

The duties of the Vice President include: assisting, the President in carrying out his duties; assuming the duties of the President during his/her absence; and production and distribution of the club newsletter.

Section 3

The duties of the Secretary include: the taking of complete and accurate minutes of all meetings; maintaining files of the minutes of all meetings, all club correspondence, club activities, and distributing copies of the minutes of all meetings to all officers of the club.

Section 4

The duties of the Treasurer include: developing budget (in accordance with Student Association guidelines); submitting the budget to the club membership for their approval; maintaining complete and accurate records of club finances; reporting the status of club finances to the membership at each regular meeting; overseeing the disbursement of club funds; and to provide an accounting of all funds given to the club.

Article 7: Committees

Section 1

The President may appoint committees to work on special projects related to the functioning of the club and its stated purposes. Each committee shall work on a single task, defined by the President, and is automatically disbanded when that task is complete.

Section 2

Membership of each committee is decided by the President and shall consist of 3 to 5 members.

Article 8: Expenditure of Funds

Section 1

The Officers shall have authority to expend funds on a monthly basis not exceeding Birr 500.00 and without approval of the voting membership provided that such expenditures do not exceed any budgetary limits.

Section 2

No funds that exceed budgetary limits or account balances may be expended by the club for any reason.

Section 3

All funds expended on a monthly basis, exceeding Birr 500.00, must be approved by a simple majority of the meeting quorum at any regular meeting of the club.

Article 9: Faculty Advisor

Section 1

The club shall select a member of the University faculty to function as an advisor to the club.

Section 2

The advisor shall be automatically invited to all meetings and club events. He/she shall be consulted on matters pertaining to the functioning of the club and be provided with copies of all budgets, minutes, correspondence and documents used by the club.

Article 10: Amendments

Section 1

The Charter of the -----University Space Science and Astronomy Club may be amended at any time provided the request for amendment is approved by a two thirds majority of the voting members at a regular meeting. An amendment must receive a two thirds majority of the voting members at a regular meeting to become effective. Any newly approved amendment shall be immediately added to the constitution and by-laws and distributed to the voting membership by no later than the next regular meeting.