



Institut Tanah dan Ukur Negara (INSTUN)
Kementerian Air, Tanah dan Sumber Asli (KATS)

LAPORAN

ASEAN ASTRONOMICAL WORKSHOP FOR TEACHERS

Tarikh : 25 HINGGA 29 DISEMBER 2019
Tempat : UTM
Penglibatan : 2 Orang Pegawai INSTUN sebagai peserta dan juga sebagai *Technical Assistant* (En Fazili Anuar Md Yusuf dan Encik Mahruzaman Misran)

Ringkasan Program

AAWT is a regional workshop for teachers from South East Asia countries (ASEAN). This workshop is designed to promote astronomy teaching for secondary school science teachers in ASEAN and to bring the basic observational tools of Astronomy closer to them. AAWT is designing to support the International Astronomical Union (IAU), 100 years of the anniversary (IAU100). The speciality of this workshop is it is held in conjunction with Annular Solar Eclipse on 26 December 2019. This 3-day workshop (26-28 December 2019) will hold up to 40 participants and will feature talks, hands-on activities such as telescope demonstrations and observations (day and night). Apart from that, this workshop would also introduce and demonstrate opportunities to use robotic observatories in this region. These teachers hands-on training will aim at upgrading the skills, teaching tools and aids of these teachers, equipping them with an innovative and simple method of teaching and learning. The immediate targeted impact is they can spread the knowledge to their colleagues at their home countries, which can be used at their respective schools. Secondly, this workshop will allow the participants to use and exchange ideas when using other robotic observatories in the region. With this arrangement, the final beneficiaries will be the students in the region.

- **25/12/2019 (RABU)**

Melapor diri kepada Urus setia AAWT di UTM, Skudai, Johor

Ke Tanjong Piai, Pontian, Johor, bagi mencari lokasi untuk cerapan Gerhana Matahari Cincin dan memeriksa peralatan cerapan dan rakaman agar berada di dalam keadaan baik.

Pengimejan Proses Gerhana Matahari Anulus

1. Cerapan bagi aktiviti ini menggunakan Teleskop Pembiasan (Reflector Telescope) 80 mm berjenama Espirit - Sky Watcher, teleskop ini akan diletak di atas mount Alt Az. Teleskop dilekapkan dengan Sun/Solar Filter.

2. Rakaman gerhana matahari penuh ini akan menggunakan Kamera SONY yang dilekapkan kepada teleskop dengan menggunakan Camera Adapter.

- **26/12/2019 (KHAMIS)**

Telah berada seawal jam 7:00 pagi dilokasi cerapan gerhana berikutan dijangkakan ramai pencerap dan juga pengunjung yang membanjiri lokasi di sini.

Jam 10:00 pagi teleskop didirisiapkan bersama puluhan lagi teleskop oleh pencerap yang hadir.

Dari INSTUN didirikan 3 Teleskop dan 1 Benacular yang siap dengan Sun Filter, di mana: -

1 Teleskop untuk merakam gambar setiap detik gerhana.

1 Teleskop untuk pembelajaran kepada peserta AAWT di bawah pengawasan pegawai INSTUN.

1 Teleskop manual untuk kegunaan orang rami yang ingin mencuba mencerap sendiri.

1 Benokular untuk orang ramai melihat juga secara manual.

4:00 petang bertolak balik ke UTM

8:00 malam – Upacara perasmian AAWT

- *Welcoming Remarks by YBhg. Prof. Emeritus Datuk Dr Mazlan Othman, Director of International Science Council, Regional Office for Asia and the Pacific (ISC-ROAP)*
- *Officiating Speech by YBhg. Prof. Datuk Ir. Dr. Wahid Omar, Vice-chancellor of Universiti Teknologi Malaysia (UTM)*

Public talk 1: Dr Bambang Hidayat Akademi Sains Indonesia

Public talk 2: YBhg. Prof. Emeritus Datuk Dr Mazlan Othman International Science Council, Regional Office for Asia and the Pacific (ISCROAP)

“The Future of Astronomy”

- **27/12/19 (JUMAAT)**

- *Lecture 1: Introduction of Astronomy - Dr. Bambang Hidayat*
- *Lecture 2: Latest development in Astronomy Dr Hedehiko Agata*
- *Lecture 3: Inter- multi- and trans-disciplinary approaches in teaching and learning astronomy for teachers - Dr. Nor Sakinah Mohamad*
- *Lecture 4: Eclipses Through the Ages - En Wan Mohd Aimran Wan Mohd Kamil*
- *Lecture 5: Introduction to telescope - Dr Othman bin Zainon/Facilitator En Fazili Anuar Md Yusuf dan En Mahruzaman Misran*
- *Practical 1: Make and use the NAOJ telescope kit - Dr Hedehiko Agata*
- *Practical 2: Preparing night observation (safety, telescope, attire, planning, equipment) Technical Assistant by INSTUN & UKM*

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- **28/12/19 (SABTU)**

- *Lecture 6: Introduction of Robotic Telescope & demonstration - Ms Pranita Sappankun*
- *Lecture 7: Sun & Earth Relationship - Structure - Solar Cycle - Solar Activities - Space Weather - Solar Research-Prof Dr. Hasan Abu Kassim*
- *Lecture 8: Solar Activity & solar observation - Dr Othman bin Zainon/Facilitator En Fazili Anuar Md Yusuf dan En Mahruzaman Misran*
- *Lecture 9: Introduction to Stellar - Constellation - Stellar Property o Spectroscopy - Stellar Evolution - Stellar Research - Dr. Hakim L. Malasan*
- *Practical 4: Projects for robotic telescope - Introduction to image processin*
- *Session 2: Discussion on collaboration (SEAAN, outreach, education), presentations (solar, stellar, robotic telescope) & Wrap up (Interactive discussion*

- **RUMUSAN**

Semasa Gerhana Matahari Anular beberapa perkara telah dilaksanakan oleh pegawai INSTUN antaranya:-

- Berjaya merakam detik-detik berlakunya Gerhana dengan hasil yang sangat memuaskan.
- Dapat memberi tunjuk ajar kepada peserta AAWT juga kepada urus setia di kalangan mahasiswa UTM
- Menyediakan kemudahan teleskop manual untuk masyarakat mengenali peralatn Teleskop secara terus.

Sebagai Technical Assistant terlibat dalam beberapa slot iaitu:

- *Lecture 5: Introduction to telescope - Dr Othman bin Zainon/Facilitator En Fazili Anuar Md Yusuf dan En Mahruzaman Misran*
- *Practical 2: Preparing night observation (safety, telescope, attire, planning, equipment) Technical Assistant by INSTUN & UKM*
- *Lecture 8: Solar Activity & solar observation - Dr Othman bin Zainon/Facilitator En Fazili Anuar Md Yusuf dan En Mahruzaman Misran*

Disediakan oleh:

Fazili Anuar Md Yusuf & Mahruzaman bin Misran
Bahagian Ukur dan Pemetaan (BUP)
Institut Tanah dan Ukur Negara (INSTUN)

GAMBAR-GAMBAR SEPANJANG PROGRAM

Annular Solar Eclipse
MALAYSIA 2019



Eclipse Time
1320

Photograph by : Mahruzaman Misran INSTUN
Assisted by : Fazili Anuar INSTUN
Location : Tanjung Piai, Johor MALAYSIA
Date: 26 Dec 2019
Time: 1126 -1517
Latitude: 1°16'10.08"N
Longitude: 103°30'34.11"E



National Institute of Land And Survey (INSTUN)
Ministry of Water, Land And Natural Resources (KATS)













