

Sudan University of Science and Technology (SUST) with partnership with the National Society of Renewable Energies (NORE)



Report of a training workshop on: Introduction to Space Science and Solar Cells

Report issuance date: ***May 29, 2014***

Attachments:

- I. Sample of Certificate of participation***
- II. A collage of photos.***

Written by:

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**This pdf circulated in
Vol 6, Number 036,
on 01 June 2014.**

Title: *A workshop on Introduction to Space Science and Solar Cells*

Targeted Trainees and Personnel: Students-Researchers and Interested Scientists.

Duration: 4 Days (from Monday: March 24, 2014 to Thursday: March 27, 2014).

Venue: Sudan, Khartoum, Almogran area, Sudan University of Science and Technology, west wing campus, Alshuhada conferences hall.

Objectives:

1. To enrich attendees knowledge to a great deal of information and some details on the fields of space science and solar energy and the importance of researches on these fields through oral presentations.
2. To stimulate efforts on contributing to support of scientific researches on space science through biasing attendees to work on researches on space science and its applications and that is through oral presentations.
3. To train attendees on how to monitor the space environment and that is through the practical sessions.
4. To trigger the intention of mutual cooperation between attendees of different affiliations in a personal or institutional cooperation and that is via exchanging of ideas and the point of view regarding attentions at space research and solar energy.

Organization:

In accordance to the partnership between the National Society of Renewable Energies (**NORE**) and the Sudan University of Science and Technology (**SUST**) the above mentioned workshop was held and took place in the period between: March 24, 2014 to March 27, 2014 at the west wing campus of the Sudan University of Science and Technology, Almogran Area, Khartoum, Sudan. To administrate running of the workshop the following committees were held:

1. Organizing high committee, this committee was held to manage the financial and the relates of the workshop, it consist of the following:
 - a) Uz. Bilal Abbas, the project director at **NORE**, the head of the organizing high committee.
 - b) Uz. Mohammed Algadi, the director of **NORE**, member of the organizing high committee.
 - c) Uz, Mustafa Algack, director of training and continuous studies Department at **SUST**, member of the organizing high committee.
 - d) Uz. Gazali of Africa city of technology, member of the organizing high committee.
2. Scientific papers committee, this committee was held to manage the scientific program of

the workshop, it consist of the following:

- a. Dr. Magdi Elfadil, Assistant professor at College of Science, Physics Department at **SUST**, the head of the scientific papers committee.
 - b. Dr. Rania Alhadi, from the Ministry of Science and Communications, National Energy Research Centre, Solar Energy Department, member of the scientific papers committee.
 - c. Dr. Alrasheed, from the National Researches Center, member of the scientific papers committee.
3. Programs and services committees, these committees were held to manage different services during the running of the workshop, they consist of the following members:
- a) Sarah Abakar, member of the programs committee.
 - b) Zainab Omer, member of the programs committee.
 - c) Renad Alsadig, member of the programs committee.
 - d) Alzamakhshari Abbas, member of the programs committee.
 - e) Mohammed Elkhidir, member of the programs committee.
 - f) Suhair Elfadil, member of the services committee.
 - g) Mustafa Mohammed Latif, member of the services committee.
 - h) Emad M. Khair, member of the services committee.

Announcing and attracting attendees:

The first announcement of the workshop was appeared in the local newspapers ads on March 9, 2014 (e.g. in AKHIR LAHZA newspaper issue 2696-Sunday-2014-3-9), then posters and Invitation letters were sent to Universities in and outside Khartoum.

Opening program:

On March 24, 2014 the opening ceremonies were started at 10:00 AM with reciting of the holy Quran by: Shaikh. Ahmed Higazi then followed by a speech delivered by the head of organizing high committee: Uz. Bilal Abbas, he pointed out to the cooperation of Japan with Sudan to bring to home facilities of the scientific research, i.e. a magnetic data acquisition system (**MAGDAS**) observatory which was installed in the Southern wing campus of **SUST**. The next speech was delivered by the director of training and continuous studies Department at **SUST**: Uz. Mustafa Algack, and he assured the continuation of his Department to organize similar workshops; after his speech, another speech was delivered by the director of **NORE**: Uz. Mohammed Algadi, he talked about the partnership between his organization and **SUST** and how they sustain this partnership relation. The followed speech was delivered by his honor the deputy head of mission from the Japanese Embassy in Sudan: Mr. Hiroyuki Orikasa, he said: “ We Japanese will show you the road while you (Sudanese) are driving the car”, he also said: “we will talk together, laugh together, but we will not cry together”, he pointed out to the strengthen of the good relations between the two nations, he also urged students to apply for Japanese scholarships for 2015 by the next April. The next speech was delivered by the deputy vice chancellor of **SUST**: Professor. Jadallah Abdullah Alhassan, he talked about the University support for such workshops and he thanked the deputy head of mission from the Japanese Embassy in Sudan for his kind presence during the opening ceremonies of this training

workshop. The last speech was delivered by her Excellency the minister of Science and Communication: Dr. Tahani Abdullah Attia, she stated that her ministry is now conducting and auspices a great project on the sector of Space Science at Sudan, and that currently her ministry is collecting data about Sudanese experts and specialists who are working on Space Science in and outside Sudan, she thanked authorities and staff of Physics Departments at Universities: Sudan University of Science and Technology (SUST), and University of Khartoum (U of K) for their continuous exerted efforts to develop the progress on the major of Space Science in Sudan, she also thanked the group of Scientists who are working in a project of an educational mini satellite Kn-sat-1 where on-board are sensors to measure humidity and temperature and a Camera, this satellite is mainly managed by University of Khartoum, also she thanked the deputy head of mission from Japanese Embassy for his speech and their continuous support to many Scientific and development programs in Sudan, in her speech she confirmed the full support and encouragement from her ministry for organizing of those training workshops of a similar orientations. The opening ceremonies program was then concluded by reciting of the holy Qaran by: Shaikh. Ahmed Higazi.

The participants then resumed the scheduled program after some break, and the first lecture was delivered. The following workshop program was executed:

Program:

Monday: March, 24, 2014:

-Opening ceremonies

-lectures on studies on the heliosphere (The Sun and the solar wind, Planetary Magnetospheres);

Presented by: Dr. Magdi of Sudan University of Science and Technology-College of Science-Physics Department.

Tuesday: March, 25, 2014:

-Lectures on probing the space (Artificial satellites and in-situ probing of the space, MAGDAS Ground observatories and ground-based probing of the space environment);

Presented by: Dr. Magdi of Sudan University of Science and Technology-College of Science-Physics Department.

-Practical (monitoring the space environment);

Presented by: Dr. Magdi & Uz. Qamar, both of Sudan University of Science and Technology-College of Science-Physics Department.

Wednesday: March, 26, 2014:

-Lectures on the Solar Cells (Solar Cells, Solar cell panels and space-crafts);

Presented by: Dr. Rania of National Energy Research Center.

-Practical (monitoring the space environment);

Presented by: Dr. Magdi & Uz. Qamar, both of Sudan University of Science and Technology-College of Science-Physics Department.

Thursday: March, 27, 2014:

-Lectures on Earth's lithosphere and space applications (Geophysical structure of the Earth, Monitoring Earthquakes);

Presented by: Dr. Rasheed of National Researches Center.

-Practical (monitoring the space environment);

Presented by: Dr. Magdi & Uz. Qamar, both of Sudan University of Science and Technology-College of Science-Physics Department.

Closing Ceremonies

Time table:

Day\Time	Session I	Session II	Session III	
Monday 24/3/2014	Studies on the heliosphere			
	10:00-10:40	12:30-14:30	14:30-15:00	15:00-17:00
	Opening ceremonies	The Sun and the solar wind Presenter: Dr. Magdi	Prayers and coffee break	Planetary Magnetospheres Presenter: Dr. Magdi
Tuesday 25/3/2014	Probing the space			
	11:30-13:00	13:00-14:00	14:00-15:30	15:45-17:45
	Artificial satellites and in-situ probing of the space environment Presenter: Dr. Magdi	Prayers and coffee break	MAGDAS Ground observatories and ground-based probing of the space environment Presenter: Dr. Magdi	Practical (monitoring the space environment) Presenter: Dr. Magdi, Uz. Qamar.
Wednesday 26/3/2014	Solar Cells			
	11:30-13:00	13:00-14:00	14:00-15:30	15:45-17:45
	Solar Cells Presenter: Dr. Rania	Prayers and coffee break	Solar cell panels and space-crafts Presenter: Dr. Rania	Practical (monitoring the space environment) Presenter: Dr. Magdi, Uz. Qamar.
Thursday 27/3/2014	Earth's lithosphere and space applications			
	11:30-13:00	13:00-14:00	14:00-15:30	15:45-17:45
	Geophysical structure of the Earth Presenter: Dr. Rasheed	Prayers and coffee break	Monitoring Earthquakes Presenter: Dr. Rasheed	Practical (monitoring the space environment) Presenter: Dr. Magdi, Uz. Qamar.

Trainers and organizers of the workshop:

S.N	Name	Affiliation	Remarks
1	Bilal Abbas	Sudan University of Science and Technology	Organizer
2	Magdi Elfadil Yousif Suliman	Sudan University of Science and Technology	Lecturer & Organizer
3	Mohammed Algadi	Africa city of Technology	Organizer
4	Qamar Alanbia Bilal	Sudan University of Science and Technology	Participant Technician
5	Rania Alhadi	National Energy Research Center	Lecturer
6	Rasheed Warage	National Researches Center	Lecturer

Trainees who participated in the workshop:

S.N	Name	Affiliation	Remarks
1	Abdallah Mohammed Aldooma	Sudan University of Science and Technology	Student
2	Abdelnasir Abdelmageed	Sudan University of Science and Technology	Student
3	Abdelraheem Ahmed Ali Kuku	Sudan University of Science and Technology	Student
4	Abdullah Adam Ahmed	Foreigners Organization	-
5	Abubakr Alamin Mohammed Ahmed	International Africa University	Staff
6	Abubakr Ibrahim Ahmed	Sudan University of Science and Technology	Student
7	Adam Mosa Adam	Sudan University of Science and Technology	Student
8	Ahmed Adam Mosa Hussein	Sudan University of Science and Technology	Student
9	Ahmed BabAllah Hamdan Sumi	Sudan University of Science and Technology	Student
10	Ahmed Zaki Ibrahim Ali	Sudan University of Science and Technology	Student
11	Alhafiz Khatir Ramadan	Sudan University of Science and Technology	Student
12	Alzamakshari Abbas Elshafia	Sudan University of Science and Technology	Student
13	Amena Ahmed Mohammed Ali Babikr	Sudan University of Science and Technology	Student
14	Amena Buraee Osman Ahmed	Sudan University of Science and Technology	Student

15	Amena Hussein Babikr Algendeel	Sudan University of Science and Technology	Student
16	Anwar Hassan Yunis	Sudan University of Science and Technology	Student
17	Asiaa Ibrahim Abdallah Yahia	Sudan University of Science and Technology	Student
18	Asmaa Mohammed Mahjoob	Sudan University of Science and Technology	Student
19	Aya Omer Ali	Sudan University of Science and Technology	Student
20	Badr Ahmed Mohammed Mahmod	Sudan University of Science and Technology	Student
21	Eiman KamalEldeen Eltigani Mohammed	Sudan University of Science and Technology	Student
22	Einass Abbass Ibrahim Mohammed Ali	Sudan University of Science and Technology	Student
23	Elshaffia Abdallah Ali Elzain	Alzaim Alazhari University	Staff
24	Fadwa Mohammed Fadlallah Mohammed	Sudan University of Science and Technology	Student
25	Farah Abuzaid Saboon	Sudan University of Science and Technology	Staff
26	Hadeel Abdelelah Mohammed Bakheet	Sudan University of Science and Technology	Student
27	Haifaa TajElsir Ahmed	Sudan University of Science and Technology	Student
28	Ibrahim Adam Ibrahim Hammad	Alzaim Alazhari University	Staff
29	Ibrahim Elhag Ibrahim	Sudan University of Science and Technology	Student
30	Ibtehal Abdelrahim Eltahir	Sudan University of Science and Technology	Student
31	Imtisal Eltaeeb Eltahir Eltaeeb	Sudan University of Science and Technology	Student
32	Islam Ahmed Elhaj Mohammed Khir	Sudan University of Science and Technology	Student
33	Jawahir Ibrahim Mohammed	Sudan University of Science and Technology	Student
34	KaramEldeen Ibrahim Mohammed Omer	University of Khartoum	Staff
35	Malik Eissa Alratl	Sudan University of Science and Technology	Student
36	Mekka Moawia Mostafa	Sudan University of Science and Technology	Student
37	Mohammed Ahmed Abdelaziz	Sudan University of Science and Technology	Student
38	Mohammed Ahmed Mahjoob Mohammed Salih	Sudan University of Science and Technology	Student

39	Mohammed Kamal Hdy Ahmed	Alzaim Alazhari University	Staff
40	Mohammed Osman Elkhidir Mansoor	Sudan University of Science and Technology	Student
41	Mohammed Rahma Brir Mosa	Sudan University of Science and Technology	Student
42	Mohammed Saadeldeen Mohammed Sadig	Sudan University of Science and Technology	Student
43	Mohammed SadEldeen Mohammed	International Africa University	Staff
44	Mohanad Mohammed Alsidig Ali	International Africa University	Staff
45	Mostafa Daffallah Adam	Sudan University of Science and Technology	Student
46	Motaz Habib Allah Bakheet	Sudanese standards & metrology organization	Student
47	Nada Abbas Ahmed	Sudan University of Science and Technology	Student
48	Nadir Abdelhamid Ali Omer	University of Khartoum	Staff
49	NagmEldeen Ahmed Haroon	Sudan University of Science and Technology	Student
50	Nahed Ahmed Balal	Kurdofan University	Staff
51	Nahed Hassan Zaki Ahmed	Sudan University of Science and Technology	Student
52	Omer Abubakr Omer Ismail	Sudan University of Science and Technology	Student
53	Rabab Elhadi Mohammed Abdelgadir	Sudan University of Science and Technology	Student
54	Rania Mohammed Mahmood Adam	Sudan University of Science and Technology	Student
55	Rasha Bashir Rahma	White Nile University	Staff
56	Rayan Elfadil Hassan	Sudan University of Science and Technology	Student
57	Rayan Mohammed Elmobarak Imam	University of Khartoum	Student
58	Riham JamalEldeen Adam Mobarak	Sudan University of Science and Technology	Student
59	Roaa Bushara Yousif Ahmed	Sudan University of Science and Technology	Student
60	Salah Aldeen Mohammed Hassan Mohammed	Sudan University of Science and Technology	Student
61	Shawgi Salah	Foreigners Organization	-
62	Wigdan Mohammed Hassan Ali	Sudan University of Science and Technology	Student
63	Yasir Badawy Obied	Sudan University of Science and Technology	Student
64	Yosri Yagob Ishag	Alzaim Alazhari University	Staff
65	Zainab Abbass Mohammed	Sudan University of Science and Technology	Student

Media response:

The media had reported the opening ceremonies of the workshop that took place at the west wing of Sudan University of Science and Technology and that was started on March 24, 2014; on this date and during a newscast on the National Sudan television it was mentioned that the minister of Science and Communication had inaugurated opening ceremonies of the workshop held at the west wing of Sudan University of Science and Technology; it was also mentioned in a newspaper that: “ The minister of Science and Communication: Dr. Tahani Abdullah Attia had called Scientists and Experts in and outside Sudan to work together putting efforts to support Sudan’s Space program and that is by putting strategies and plans to push forward to have all levels of technology of Space Science being brought to home ...”.

Recommendations:

On March 27, 2014 during closing of the workshop a discussion session was held to summarize the outcomes and discussing how to build up a networking for further collaboration between the participants, the main outcome was mutual agreement between all participants for establishing a forum for those who are interested in majors of Space and solar cells Sciences and Technologies; afterwards, the workshop was closed with a satisfactory degree of success.

Attached with this report:

- I. Sample of Certificate of participation
- II. A collage of photos.

Note:

The pdf file of this report can be downloaded from this web page:
http://staff.sustech.edu/english/community.php/-Dr.-Magdi_Elfadil_Yousif_Suliman



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
جمهورية السودان

THE REPUBLIC OF THE SUDAN

جامعة السودان للعلوم والتكنولوجيا
Sudan University of Science & Technology
College of Technology



B 0125429

TRAINING CERTIFICATE

We the undersigned here certify that Mr. /Ms

Alzamakhshari Abbas Alshafee Alamin

Has attended the joint training workshop which is titled:

Sudan's capabilities on contributing on the supports of scientific researches on space science and solar energy.

The attendee has completed extensive and intensive lectures in addition to practical sessions in the duration from March 24, 2014 to March 27, 2014. The course transcripts are as follows:

1. The Sun and the solar wind.
2. Planetary Magnetospheres.
3. Artificial satellites and in-situ probing of the space environment.
4. MAGDAS Ground observatories and ground-based probing of the space environment.
5. Solar Cells.
6. Solar cell panels and space-crafts.
7. Geophysical structure of the Earth.
8. Monitoring Earthquakes.
9. Practical on space weather report.
10. Practical on seismicity.

DATE OF ISSUE: 18/4/2014

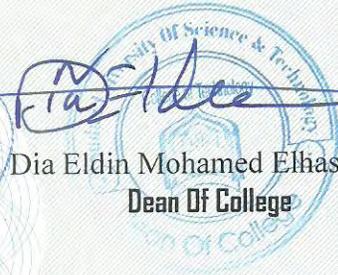
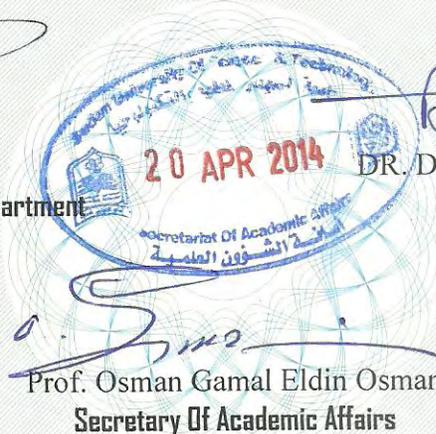
Mustafa Ahmed Elgak Hussein
Head Of Training & Continuous Studies Department



20 APR 2014

DR. Dia Eldin Mohamed Elhassan Mukhtar
Dean Of College

Prof. Osman Gamal Eldin Osman
Secretary Of Academic Affairs



(ANY ALTERATION INVALIDATES THE CERTIFICATE)

Collage of photos of a training workshop on: Introduction to Space Science and Solar Cells

Duration: Monday: March 24, 2014 to Thursday: March 27, 2014

Venue: Sudan, Khartoum, Almogran area, Sudan University of Science and Technology, west wing campus, Alshuhada conferences hall

Prepared by: Dr. Magdi Elfadil Yousif Suliman
Sudan University of Science and Technology, College of Science, Physics Department.
Photos taken by: Zainab Omer.



High table include (from left to right): "SUST" Deputy Vice-chancellor, Minister of Science and Communication, director of "NORE", respectively.



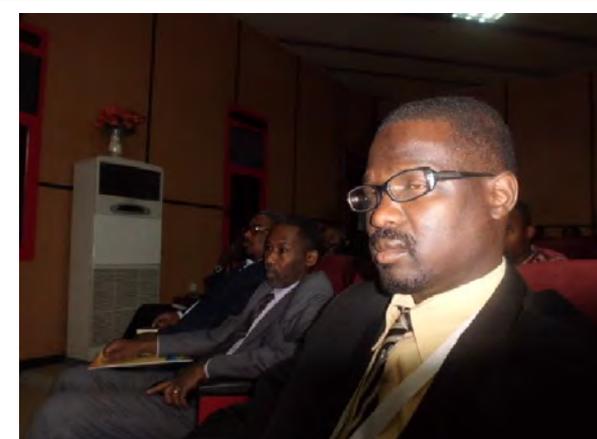
"SUST" Deputy Vice-Chancellor gives his speech

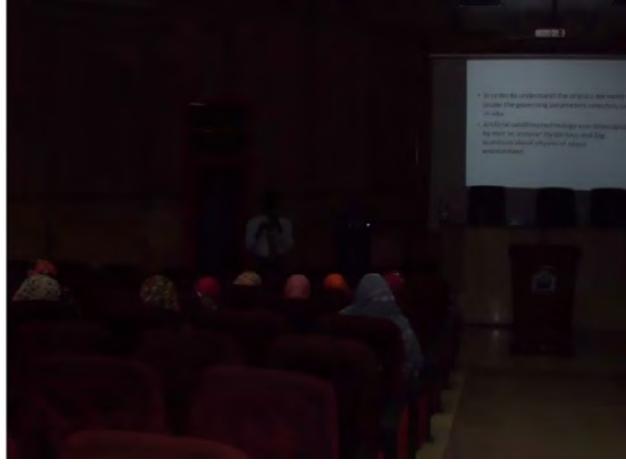


Minister of Science and Communication gives her speech



Our guest: his honor the Deputy head of mission from Japan Embassy in Khartoum





The workshop was reported in the local newspapers





Examples of satellites missions

- SOHO.
- The SOLar and Heliospheric Observatory is a common project being carried out by the European Space Agency (ESA) and the US National Aeronautics and Space Administration (NASA) in the framework of the Solar Terrestrial Science Program (STSP) comprising other missions like CLUSTER and the International Solar Terrestrial Physics Program (ISTP) with Geotail, WIND and Polar. SOHO was launched on December 2, 1995.





