INTERNATIONAL WORKSHOP

ON

TRENDS IN SOLAR POWER GENERATION AND ENERGY HARVESTING

DUBAI, United ArAb emirAtes

27-29 MARCH 2017

ORGANISED BY

	CENTRE FOR SCIENCE AND TECHNOLOGY OF THE NON- ALIGNED AND OTHER DEVELOPING COUNTRIES (NAM S&T CENTRE) NEW DELHI, INDIA
	AMITY UNIVERSITY UP, INDIA, DUBAI CAMPUS DUBAI, UAE

Introduction

The global demand for energy is currently growing beyond the limits of installable generation capacity. An effective energy solution should be able to address long-term issues by utilising alternative and renewable energy sources. Of many such sources, solar energy is evidently a promisingly winning option being abundantly available. Solar power either by directly converting sunlight into electricity by using photovoltaics (PV) or by indirect use of concentrated solar energy has a competitive edge over other energy sources in terms of cost and may serve to sustain the lives of millions of underprivileged people in developing countries. The predictions are that in coming years the solar photovoltaics and concentrated solar power would contribute about 16 and 11 percent, respectively, of the worldwide electricity consumption, and solar would be the world's largest source of electricity.

Solar PV is rapidly becoming an inexpensive, low-carbon technology to harness renewable energy from the Sun. With the new investigations and research, the cost of solar electricity has substantially fallen down such that the number of grid-connected solar PV systems has grown into millions of solar power stations with hundreds of megawatts capacity. Besides this, many buildings are being designed and oriented to collect, store and distribute the heat energy from sunlight to maintain the comfort of the occupants without the use of moving parts or electronics. The recent trends are to decrease the cost of the energy generation either by investigating the low cost processing techniques or increasing the efficiency of the solar cells. After 1st and 2nd generation of bulk silicon based solar cells and thin film Si/CdTe/CIGS based solar cells the 3rd generation technologies are underway that make use of new materials or include novel inventions like photo-electrochemical cells; polymer, quantum dot and tandem / multi-junction solar cells; and up-conversion and down-conversion surface plasmonic and nano-crystal solar cells. Efforts are also being made on generating power in space and transmitting it to the Earth and on solar energy storage such as molten salt technology for solar thermal route of energy generation.

In order to deliberate on the current trends in solar power generation, its storage, harnessing and related issues, the Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre) jointly with the Amity University, UP, India, Dubai Campus announces the organisation of an International Workshop on ***'Trends in Solar Power Generation and Energy Harvesting"*** in **Dubai** during **27-29 March 2017.**

Objectives of the Workshop

- To provide a platform and an opportunity to deliberate on the basic academic of the solar energy conversion, processing technologies, modeling and simulation plus engineering of the small solar energy generation plants and about distribution of the electricity.
- To discuss right from tailoring of materials processing technologies and manufacturing of solar cells to designing of panels and converting to the solar power plants.
- To discuss the off-grid and integration with grid for the distribution of electricity.
- To deliberate on various issues on the small solar plants as well as major solar power plants, and to discuss the solar thermal energy storage techniques and systems.

Topics to be Covered

- New investigations in Solar Photovoltaics
- Materials for solar power generation and storage and processing technologies.
- Design of solar panels and engineering of solar plants

- Grid interfacing efficient converter electronic circuits.
- Problems like increase of temperature or cleaning of dust on solar panels.
- Solar thermal Systems for water heating, room heating, cooling and industrial applications, etc.
- Thermal Energy storage system for power generation.
- National Policies in Renewable Energy

Programme of the Workshop

A tentative programme of the Workshop is given below:

DATE	**PROGRAMME**
Sunday, 26th March 2017	Arrival at Dubai
Monday, 27th March 2017	Inauguration & Technical Sessions
Tuesday, 28th March 2017	Technical Sessions
Wednesday, 29th March 2017	Concluding Session, Discussion and Adoption of Resolution, Sight Seeing
Thursday, 30th March 2017	Departure

A detailed Session-wise Programme will be made available before the Workshop.

The Organisers

NAM S&T Centre

The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; www.namstct.org) is an inter-governmental organisation with a membership of 48 countries spread over Asia, Africa, Middle East and Latin America. The Centre was set up in 1989 in New Delhi, India. It undertakes a variety of programmes, including organisation of workshops, symposiums, training courses and training workshops and implementation of collaborative projects. It also offers short-term research fellowships to scientists from developing countries in association with the Centres of Excellence in various countries. The Centre also brings out technical books and other scientific publications in different subjects of interest to developing countries. The Centre's activities provide opportunity for scientist–to–scientist contact and interaction; familiarising participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages academic-R&D-industry interaction in the developing countries through its NAM S&T-Industry Network.

Amity University, UP, India

Established more than twenty years ago, the Amity Education Group is a leading academic entity today offering globally benchmarked education right from pre-schools to Ph.D. level. With 125,000 students worldwide, Amity's fast expanding network of globally benchmarked institutions has resulted in campuses across Dubai, Abu Dhabi, London, Singapore, New York, Mauritius, China and Romania, South Africa with further plans of establishing campuses in 50 countries. Amity's focus on path-breaking innovations in science & technology, a globally benchmarked infrastructure

and record job offers have directly resulted in Amity institutes emerging among the most sought after education destinations.

Amity University, UP, India, Dubai Campus

Amity University UP, India – Dubai Campus opened doors to its 700,000 sq ft campus to students from 49 different nationalities. The University offers 36 career focused programmes at the undergraduate and postgraduate levels in diverse disciplines of higher education. Besides the conventional programmes like Engineering, Management, Commerce, Hospitality, Architecture, Interior Design etc., Amity Dubai also offers new age programmes, viz. Solar Energy, Nanotechnology, Aerospace Engineering, Nuclear Science, Forensic Science, Law, Fashion Designing, Journalism and Mass Communication, Mechanical and Automation Engineering and Applied Psychology etc.

Amity's Dubai campus opens an avenue for new generation students who prefer to pursue education through practical learning. It is designed to provide innovative means of education. Enthralling Events, Knowledge Festivals, Challenging Competitions for students of Amity, life is all about non-stop learning, as much of it outside the classroom as within. Amity is also offering Secured Student Housing on campus. The University offers an excellent range of facilities to let students enjoy a campus life that is stimulating, interesting and full of new opportunities. This being the largest private university in Dubai having Integrated Knowledge Resource Centre, High-tech and course specific laboratories and design studios, state-of-the-art classrooms, sports facilities like football ground, running track, tennis and basketball courts, swimming pool, multipurpose sports hall and fitness center.

Participants

The Workshop programme has been primarily designed to make suggestions, based on the new results obtained by scientists and researchers and industry experts from the developing countries to the policy makers in government departments and ministries

The selection of the participants will be strictly based on merit and relevance of their current responsibilities to the subject of the Workshop as well as the quality of the extended abstract of the paper submitted by them along with the completed nomination form.

A pre-condition for participation in the Workshop is that the participants must submit the full manuscript of their papers, in **MS-Word format**, at least **14 days** before the commencement of the programme.

Submission of Application

Experts and scientists desirous of participating in the Workshop, excepting those from India, are required to submit their nomination form **electronically** directly to the NAM S&T Centre as early as possible but latest by **Monday, 27th February 2017**.

Applicants from India: Applicants from India should submit their requests directly to the Amity University, Noida.

The Nomination Form should be completed in all respects, typewritten or in clear handwriting in capital letters, and no column should be left blank. The following documents must be submitted as e. mail attachments:

i. Filled in Nomination Form (blank Form enclosed)

ii. An extended (**about 2 pages**) abstract (**in MS Word format**) of the paper that would be presented at the workshop

iii. A short (**maximum two pages**) CV (**in MS-Word format**)

iv. Copy of the relevant pages of the passport

The documents at (ii) and (iii) above must be in MS-Word Format; PDF or image files will not be accepted. Hard copies of the Nomination Form and the above attachments are NOT REQUIRED to be submitted.

Presentation of Papers

Each participant will be required to present a country status report and / or a research/ scientific paper on any of the themes appropriate to the Workshop.

Publication of Proceedings of the Workshop

A publication edited by one or more international experts and based on the papers presented by the participants during the Workshop and also containing papers contributed by eminent experts in the field will be brought out in the form of a book as follow up of this programme. Therefore all participants are required to submit the manuscripts of their full papers in **MS-word** format well in advance, but at least 14 days before the commencement of the Workshop.

Local Hospitality and Travel

Local hospitality in Dubai including accommodation, meals and local transport for the delegates will be provided by the local organisers, Amity University, Dubai from **Sunday, March 26th (noon) to Thursday, March 30th (noon)** (i.e. from one day before to one day after the completion of the Workshop). The participants will have to make their own arrangements of stay beyond these dates and they are requested to book their flights accordingly.

Entry Formalities, Immigration and Health

Participants of the Workshop must be in possession of a current passport or any other internationally recognized travel document, which must have a period of validity of at least six months beyond the time of stay allowed in Dubai and must be endorsed for travel to Dubai.

Other Useful Information

The weather in Dubai is likely to be sunny with the expected temperature during the workshop period to be 30^0C in daytime and 25^0C during the nights.

Dubai Standard Time is +04.00 hours ahead of GMT+4

The Dubai Currency is Dirham; the present current exchange rate is US$1 = 3.67 UAE Dirham

Note

o ***The governments / institutions of the selected participants will be required to bear the following costs:***

- *All expenses in the home country incidental to travel abroad, including expenditure for passports, required medical examinations, vaccinations and miscellaneous expenses such as internal travel to the airport of departure in the home country.*
- *Salary and other related allowances for the participants during the period of the Workshop.*

- *Cost of medical insurance to cover the period of participation in the workshop.*

o ***The organisers of this Workshop will not assume responsibility for the following expenditure in connection with the participant's attendance in the Workshop:***

- *Expenses incurred with respect to any insurance, medical bills or hospitalisation fees.*
- *Compensation in the event of death, disability or illness of participants.*
- *Loss of personal belongings or compensation for damage caused to them by climatic or other conditions.*
- *Other costs, including airport tax and excess baggage.*

Contact Details

NAM S&T CENTRE

Prof. Dr. Arun P. Kulshreshtha,
Director General,
Centre for Science & Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre),
Zone-6A, 2ndFloor, India Habitat Centre, Lodhi Road,
New Delhi – 110003,INDIA
Tel: +91-11-24645134, 24644974; Fax: +91-11-24644973
E-mail: namstct@gmail.com , namstct@bol.net.in, apknam@gmail.com
Website: http://www.namstct.org

Mr. M. Bandyopadhyay,
Senior Expert & Administrative Officer
Address, Tel. and E-mail: (O) as above. Tel. (R) +91-11-29941203

AMITY UNIVERSITY, UP, INDIA / DUBAI

Dr. V. K. Jain,
Distinguished Scientist & Professor,
Amity Institute of Advanced Research and Studies (Materials & Devices),
Amity Institute of Renewable and Alternative Energy,
Fourth Floor, E-3 Block,
Amity University, Sector 125,Noida, INDIA
Tel (O):+91- (0)120-4392129; Fax: +91-(0)120-4392289
Mobile:+91- 9818897783
Email: vkjain@amity.edu

AMITY UNIVERSITY DUBAI CAMPUS

Dr. M .Chithirai Pon Selvan
Associate Professor – Mechanical Engineering
Amity University Campus, Dubai
Tel: (+971) 4 4554 900, Fax: (+971) 4 4356 810,
Mobile: (+971) 50 2857651
Email: pselvan@amityuniversity.ae

CENTRE FOR SCIENCE AND TECHNOLOGY OF THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES (NAM S&T CENTRE)

INTERNATIONAL WORKSHOP ON 'TRENDS IN SOLAR POWER GENERATION AND ENERGY HARVESTING'

AMITY UNIVERSITY UP, INDIA, DUBAI CAMPUS 27-29 MARCH 2017

NOMINATION FORM

Please affix your scanned photograph

PLEASE TYPE OR USE BLOCK CAPITALS;
NO COLUMN SHOULD BE LEFT BLANK)

SECTION –A

(To be filled in by the nominee)

1 Name (Prof/Dr/Mr/Mrs/Ms): .....
(As in Passport)

2. Father's/Spouse Name: …….....

3 Designation (Position held): …….....

4. Nationality: .....

5 Date of Birth: ……. Place of Birth (City) …….. (Country)……..

6 Passport No: .....Place of issue: .....

Date of Issue: ..... Valid up to: .....

(Please attach copies of the relevant pages of your Passport)

7 Name of the Parent Institution (Employer): .....

Full Address (Office): .....…….....

.....

Phone: .....…..... Fax: .....

E-mail: ....

8 Full Address (Home): .....

.....

Phone: .....…..... Mobile: .....

Fax: .....…. E-mail: .....

9 Educational Qualifications: Highest Degree. .....

Year of Award: ..... University: .....

Field of Study: .....

10 Brief Bio data (CV): ……

(**Maximum two pages, in MSWord**; to be attached on separate sheet)

11 Abstract of your paper proposed to be presented in the Workshop.

(**About 1-2 pages, in MSWord**; to be attached on separate sheet)

12 What in your opinion qualifies you for participation in this workshop?

(To be attached on separate sheet)

Date: ..... Signature: .....

SECTION -B

ENDORSEMENT BY NOMINATING AUTHORITY

(The Applicant in a member country of the NAM S&T Centre may get the following endorsement signed by the Focal Point of the Centre in his/her country, *if he/she wishes to take advantages accrued to the official nominee of the country*. For the list of member countries and names/addresses of the Focal Points please visit Centre's website www.namstct.org.)

Signature: .....….....

Name (in full): .....

Designation: .....….....

Date: .....….....…….....

SEAL

Enclosures;

1. Scanned copies of the relevant pages of Passport
2. Brief CV (maximum two pages, **in MSWord**)
3. Abstract of Paper proposed to be presented in the Workshop (about 1-2 pages, **in MSWord**)