OFFICE OF THE VICE CHANCELLOR 9513 13 MAR 2014 19 MAR 2014 37.00 ම්ලේ අංකය University of Perade free cood. எமது இல. My Number Perademiya ආපනය විශ්වවි**ද**ැල් RSITY O பாழ்ப்பாண பல்கலைக்கழகம், இலங்கை த. பெ. எண் 57. 800 4-000 திருநெல்வேலி, உமது இல. UNIVERSITY OF JAFFNA, SRI LANKA யாழ்ப்பாணம். Your Number දුරකථනක P. O. Box 57, தொலைபேசி / பக்ஸ் Thirunelvely, Telephone / Fax **JAFFNA** E-mail:

Sampath E-NB >

Office of the Vice-Chancellor University of Jaffna 2014.03.05

The Vice Chancellor
University of Peradeniya

Dear Prof. Atula Senaratne

#### Workshop on Thin Film Solar Cells

I am pleased to inform you that we are organizing a three day Workshop on Thin Film Solar Cells which is to be held on April 16-18, 2014 in our university. First two days will be focused on series of lectures by five eminent scientists / experts in the relevant field of thin film solar cells from USA and the third day workshop on laboratory training by our local resource persons. Scientists and Engineers from universities / research institutes / other state and private sector organizations, and also Science / Engineering graduates who have an interest in participating in this activity and hoping to be active players of a vibrant photovoltaic R & D community in the country, are invited to this three day workshop.

Prof. Siva Sivananthan, Distinguished Professor of Physics at University of Illinois at Chicago, USA and Founder and Chairman of the Board of Directors at Sivananthan Laboratories, Inc is sponsoring the expenses related to international air fare, hotel accommodation and subsistence of the five resource persons from USA, while HETC, Ministry of Higher Education will cover local expenses other than travel and accommodation of the participants from state sector organizations (universities, research institutes) and research students. For all other applicants, the registration fee is Rs. 2,500/=.

Kindly make arrangement to circulate the flyer and the registration form among the staff and research students.

Thank you

Yours Sincerely

VICE CHANCELLOR University of Jaffna

Jaffna, Sri Lanka

Vice-Chancellor / University of Jaffna

Vice - Chancellorg comm University of Peradeniya

Grulak pls

Peradeniya Sri Lanka

## Workshop on Thin Film Solar Cells

## Their Technology & Business Potential for Sri Lanka



UNIVERSITY OF ILLINOIS AT CHICAGO

April 16-18, 2014

Registration form			
Name with Initials:			
Office address:			
- "	Tel: Office	Mobile:	
E-mail:	Tel. Office	Widdle.	
Present occupation			
Educational Qualifications			
BSc (University, Year)			
MSc (University, Year)			
MPhil (University, Year)	8		
PhD (University, Year)		•	
Other			
Meal preference	Vegetarian Non-vegetarian		
Area of Research Interest			
Any previous experience / exposure			
to semiconductors, solar cells, solar			
energy materials, solar panels, etc.			
Please give brief details.			
Have you attended	75	ndamental Studies in 2012? YES/NO	
	2 <sup>nd</sup> PV workshop at University of Ruhuna in 2013? YES/NO		
If you are attending a lab session on	Cadmium based solar cells : Characterisation □		
18.04.2014 from 08.30 am to 14.30	Polymer based Solar cells : Fab	rication   Characterisation	
pm, please tick your choices.	Dye sensitised Solar cells : Fab	rication   Characterisation	
• State and Stat			
Signature:		Date:	
The registration fee for applicants f	from state sector organizations (u	iniversities, research institutes) and	
research students (either proof of			

The registration fee for applicants from state sector organizations (universities, research institutes) and research students (either proof of registration for a degree or recommendation from the supervisor is necessary), will be covered by a grant from the HETC. For all other applicants, the registration fee is Rs. 2,500/=. Lunch and tea during the workshop sessions and a book of handouts will be provided to all participants free of charge. The registration fee doesn't include accommodation or transport to Jaffna.

Please send your completed application by e-mail (<u>physics@ifn.ac.lk</u>) and a signed copy by fax (021 2225924) or post same to: Co-ordinator, Workshop on Solar Cells, Department of Physics, University of Jaffna, Thirunelveli, Jaffna, JA 40 000 on or before 28.03.2014 (Friday).

Sponsored by Sivananthan Laboratories Inc., USA & HETC, Ministry of Higher Education, SL





# Workshop on Thin Film Solar Cells

### Their Technology & Business Potential for Sri Lanka





April 16-18, 2014

#### Resource persons

#### **Prof. Siva Sivananthan**

Founder and Chairman of the Board of Directors at Sivananthan Laboratories, Inc and Distinguished Professor of Physics, UIC

#### Dr. Tim Coutts

Fellow Emeritus at NREL and Adjunct Professor in Physics, UIC

#### Dr. Ramesh Dhere

President, Episolar Inc., USA and Adjunct Professor in Physics, UIC

#### Dr. Tim Gessert

Principal Scientist, Group Manager - Polycrystalline Thin Film PV Devices, NREL and Adjunct Professor in Physics, UIC

#### Dr. Mowafak Al-Jassim

Principal Scientist, National Center for PV, National Renewable Energy Laboratory (NREL), USA

Sivananthan Laboratories, Inc. Illinois, USA in collaboration with Sri Lankan Universities and Research Institutes, has launched a programme to develop a trained workforce of scientists, engineers and technicians in Sri Lanka who will be competent in alternative energy technologies. In order to contribute toward this, a two day workshop on *Thin-film Solar Cells* was held at the *Institute of Fundamental Studies*, Kandy on June 28 & 29, 2012 and an advanced workshop in this series was held at the *University of Ruhuna*, Matara on *March 19-21*, 2013. As a successor, the third workshop and a laboratory training session on fabrication & characterisation of solar cells are being organised to be held on *April 16-18*, 2014 at the *University of Jaffna*.

Scientists and Engineers from universities / research institutes / other state and private sector organizations, preferably with a PhD / MPhil / MSc or equivalent postgraduate or professional qualifications, and also graduates in Engineering and Science who have an interest in participating in this activity and hoping to be active players of a vibrant photovoltaic R & D community in Sri Lanka are invited to send their completed applications by e-mail (physics@ifn.ac.lk) and a signed copy by post or fax (021 2225924) to Co-ordinator, Workshop on Solar Cells, Department of Physics, University of Jaffna, Thirunelveli, Jaffna on or before March 28, 2014 (Friday).

# Workshop on Thin Film Solar Cells

Their Technology & Business Potential for Sri Lanka



University of Jaffna, Sri Lanka
in collaboration with

University of Illinois at Chicago, USA



April 16-18, 2014

	The state of the s	Agenda	
Day 1 -	16.04.2014 (Wednesday	) Inaugural Session	
08:30	Registration		
08:40	Welcome address by the Co-ordinator of the workshop		
08:50	Address by Prof.Siva Sivananthan, the Gold Sponsor and CEO of three companies in US		
09:00	Address by the Dean / Science		
	Address by the Chairman / University Research Committee		
09:05	Address by the Chamballor / University of Laffna		
09:10	Address by the Vice-Chancellor / University of Jaffna		
09:20	Address by the Vice-Chairman / University Grant Commission		
Day 1 -	16.04.2014 (Wednesday)	Lectures	
Time	Resource Person	Topic Svi Lanka	
09:30	Prof.Siva Sivananthan	Developing a PV Workforce for Sri Lanka	
	NACESTRUM AND A STREET	Tea & discussion (10:00 – 10:30)	
10:30	Dr.Tim Coutts	Energy and Society Climate change and possibilities for renewable energy in Sri Lanka	
11:00	Dr. Ramesh Dhere	Materials availability for construction of PV systems in Sri Lanka: why a	
11:30	Dr. Mowafak Al-Jassim	thin-film industry is needed?	
10.00	D. Tim Cossort	Development of a SL PV industry for domestic use and export	
12:00	Dr. Tim Gessert	Lunch (12:30-13:15)	
13:15	Dr. Ramesh Dhere	Thin film deposition options	
14:00	Dr. Tim Gessert	Vacuum technology on a budget	
14.00	Dr. Tim Gessert	Tea (14:45-15:15)	
15:15	Dr.Tim Coutts	Non - vacuum methods of thin film deposition	
16:00	Dr. Tim Gessert	Safety considerations in thin film synthesis	
20.00	Cultura	Programme & Workshop Dinner (19:00 – 21.30)	
Day 2 -	17.04.2014 (Thursday)	Lectures *	
08:30	Dr. Ramesh Dhere	Fundamentals of PV systems	
09:15	Dr. Ramesh Dhere	Installation of a PV home-system	
		Tea (10:00-10:30)	
10:30	Dr. Tim Coutts	Characterization of PV cells	
11:15	Dr. Mowafak Al-Jassim	Characterization of PV systems	
		Lunch (12:00-13:00)	
13:00	Dr. Tim Gessert	Reliability of PV systems	
13:45	Dr. Mowafak Al-Jassim	An overview of PV research and development at NREL	
14:30	Resource persons	Open Q & A session	
15:30	Concluding remark by Prof.M.A.K.L.Dissanayake & Media Briefing		
15:30	Concluding remark by Pr		