



## **KKR&KSR Institute of Technology and Sciences Vinjanampadu, Guntur, Andhra Pradesh-522017**

Approved by AICTE, New Delhi and Permanent Affiliation from JNTUK, Kakinada  
Accredited with "A" Grade by NAAC & NBA Accreditation Status for 4 UG (CSE, ECE, EEE, ME) Programs



### **1. Title of the Event:-**

**“Student solar Ambassadors::1Million Efforts for Mother Earth on 2<sup>nd</sup>  
October an initiative by MHRD and IIT Bombay”**

### **2. Objective of the Event:**

To celebrate the commemoration of the 150th Gandhi Jayanti, Students Solar Ambassador Workshop was organized on 2nd Oct. 2018 by Indian Institute of Technology (IIT) Bombay. On this day 1.32 lakh students across India got hands-on training of assembling the solar study lamps, and over 5,000 students came together at IIT Bombay campus itself. This was a Guinness Book of World Record Event. It made an incredible sight when 5000 students in the campus lit their own made Solar Lamps simultaneously, spreading the message – Solar is the way forward! Sensitization and participation of students as Solar Ambassadors have a critical role to play in the mitigation of climate change.

Taking Solar Student Workshop 2018 a notch above, Student Solar Ambassador Workshop 2019 has been planned on a much grander scale, with SSA going International this time. Over 80 countries would be joining hands on October 2, 2019, to celebrate the 150th Birth Anniversary of father of the Nation – Mahatma Gandhi. The SSA 2019 is a part of the Gandhi Global Solar Yatra wherein more than 1 Million students will get hands-on training in the assembly of solar study lamps. Come let us Light Solar Lamps, Adopt the Solar Energy, Surrender of grid electricity, practice non-violence towards nature and become self-reliant in Energy. Be a Solar Ambassador to join the BIG Movement! Be the CHANGE yourself!!

### **3. About the Program/Event:**

After Inaugural session, First Dr.Amrendra (HOD, EEE Department) spoken few words about Dr. Chetan Singh Solanki and then Chetan sir engaged the session by introducing about the Solar Ambassador program carried by Millions of students all over India and how it going to save the energy for future generation with the use of Renewable energy as a source of generation. Finally ended with a quote of “ Come let us Light Solar Lamps, Adopt the Solar Energy, Surrender of grid electricity, practice non-violence towards nature and become self-reliant in Energy. Be a Solar Ambassador to join the BIG Movement! Be the CHANGE yourself!! ”

#### 4. Details of Resource Person:

**Dr. Chetan Singh Solanki** (Professor, Department Energy Science and Engineering, IIT Bombay)




Dr. Chetan Singh Solanki, besides being a Professor at the Department of Energy Science and Engineering, IIT Bombay is also an educator, innovator, researcher, entrepreneur, author and philosopher, known for his remarkable work in the solar sector. Prof. Solanki was born in a small village called Nemit in the Khargone district of Madhya Pradesh. His primary school had just one classroom and a teacher at that time. Having studied in the light of the kerosene lamp himself, Prof. Solanki is now committed to providing clean light to all. He received his Ph.D. from IMEC (KU Leuven), Belgium, a leading R&D and innovation hub in micro and nano-electronics.

He is currently leading two projects of national importance on the dissemination of affordable solar technology. The National Center for Photovoltaic Research and Education (NCPRE) houses one of the best research facilities on Photovoltaic (PV) technology in India. Prof. Solanki is also the Principal Investigator in the Solar Urja through Localization for Sustainability (SoULS) Initiative at IIT Bombay, which aims to provide solar study lamp to every child in rural India as part of its 'Right to Light' mission. Dr. Solanki has taken several initiatives at the social front as well. He is the founder of Education Park, an initiative in school education, which provides "high quality and affordable educational training in rural India". Education Park has been built through public support with unique solar passive infrastructure, and its 14-acre campus runs on 100% solar energy. Dr. Solanki's SoULS Initiative earned many awards. Notable awards include Prime Minister's award from Honorable Prime Minister Shri Narendra Modi in April 2017 under 'Innovative Project' category. The Student Solar Ambassador workshop organized on 2nd Oct. 2018 has entered in Guinness World Record. SoULS initiative also won Grand Prize (South Asia Regional Round) in 'Empowering a Billion Lives' competition organized by IEEE. He has won the European Material Research Society's young scientist award in 2003 and IIT Bombay's Young Investigator Award in 2009. He has published over 100 research papers in reputed international journals. He has 4 US patents to his credit. Prof. Solanki has authored 4 books on solar and renewable energy. One of his book titled "Solar Photovoltaics: Fundamentals, Technologies and Applications is widely used.


#### 5. Venue of the Event:

The event is organized in Seminar Hall at KKR & KSR Institute of Technology & Sciences, Vinjanampadu, Andhra Pradesh from morning 9:30 AM to Evening 5:00 PM on 2<sup>nd</sup> Oct, 2019.

## Permission letter:



उन्नत भारत अभियान  
राष्ट्रीय समन्वय संस्थान  
भारतीय प्रौद्योगिकी संस्थान दिल्ली  
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3<sup>rd</sup> July 2019

To,  
<Director/Principal>  
<Participating Institutes, UBA>

Subject: Invitation to conduct for Student Solar Ambassador Workshop 2019, IIT Bombay

Dear Sir/Madam,

In the wake of energy sustainability and mitigating climate change, the idea of "Energy Swaraj" or localized energy self-sufficiency has been conceptualized. Gandhi Global Solar Yatra (GGSY, [www.ggsy.in](http://www.ggsy.in)) is planned by IIT Bombay not only in India but across the globe to sensitize the young minds towards solar energy and dire consequences of climate change. The young generation, who will bear the maximum burden of climate change, has to be an integral part of this clean energy revolution and Energy Swaraj.

A culmination event of this Yatra, the Students Solar Ambassador Workshop, is being organized by IIT Bombay on 2nd Oct. 2019, marking the 150th Birth Anniversary of Mahatma Gandhi, wherein hands-on training will be given to students to make their own solar study lamp. A similar workshop was also organized on 2nd October 2018, wherein more than 1.38 lakh students assembled their own solar study lamps all over India, which was also a Guinness World Record event.

In the above context, we would like you to invite students from your University/Colleges to participate in this one-day mega-global event on 2<sup>nd</sup> October 2019. Following points should be kept in mind while registering:

- It is important to enroll at least 50 students to become a Workshop Associate. Students of 11 years and above can become participants of this workshop. Schools and universities enrolling as a Workshop Associate can approach their teachers to become Master Trainers.
- The Workshop Associates will bear the lamp cost themselves and the estimated cost of the lamp kit is around INR. 510 -530. Certification fees of INR 10 per student (by the student) have to be paid after registration while freezing the exact count of participants (This amount will directly go to IIT Bombay Donation Account)

We look forward to your positive response.

Regards,

*[Signature]*

## 6. Scheduled structure of the event:-

Solar Lamp Assembly Workshop Agenda			
<b>SESSION - 1 Introduction and Sensitization</b>			
<b>10:00 AM – 11:00 AM</b>			
<b>Learning Objective:</b> To sensitize students about the importance and future in Solar sector			
<b>Description</b>	<b>Resources</b>	<b>Trainer's guidelines</b>	
<b>Content:</b>	<ul style="list-style-type: none"> <li>Sensitization towards current climate scenario and climate change</li> <li>Introduction to Energy and Electricity</li> <li>Why solar energy is better than conventional source of energy?</li> <li>Benefits and usage of Solar Energy</li> </ul>	<ul style="list-style-type: none"> <li>Session to happen with the help of PPT and video.</li> <li>Other requirements:               <ul style="list-style-type: none"> <li>Laptop</li> <li>Speaker</li> <li>PPT</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Arrive by 9:30</li> <li>Make sure to have PPT and PDF version of the presentation</li> <li>Always carry a handout of the slides</li> </ul>
<b>Learning Outcomes:</b> At the end of this session, participants should show interest in Solar Energy and feel its importance and should be excited about the next session			
<b>SESSION - 2 Familiarization about toolkit, Solar lamp components, physical and technical testing</b>			
<b>11:00 AM – 1:00 PM</b>			
<b>Learning Objective:</b> To test the components of the solar lamp using Multimeter.			
<b>Description</b>	<b>Resources</b>	<b>Trainer's guidelines</b>	
<b>Content:</b>	<ul style="list-style-type: none"> <li>Introduction to toolkit components.</li> <li>Familiarization of components and physical testing</li> <li>Technical testing of the technical components</li> </ul>	<ul style="list-style-type: none"> <li>Classes should have following facilities:               <ul style="list-style-type: none"> <li>Table and chairs/ desks</li> <li>White Board and Marker</li> <li>Electricity connection</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>A class can have about 25-30 students</li> <li>There will be 1 toolkit for every 25 students per class</li> <li>Spend more time in the technical testing of the components</li> <li>Solar panel testing should be done in an open area</li> </ul>
<b>Learning Outcomes:</b> At the end of this session, participants should be able to assemble a quality solar study lamp			
<b>Lunch 1:00 PM – 2:00 PM</b>			
<b>SESSION - 3 Assembly of Solar Lamp</b>			
<b>2:00 PM – 4:30 PM</b>			
<b>Learning Objective:</b> To assemble quality lamp			
<b>Description</b>	<b>Resources</b>	<b>Trainer's guidelines</b>	
<b>Content:</b>	<ul style="list-style-type: none"> <li>Step by step assembly of Solar lamp</li> </ul>	<ul style="list-style-type: none"> <li>Electricity connection for the soldering stations</li> <li>Wooden table for soldering</li> </ul>	<ul style="list-style-type: none"> <li>1 Soldering station to be setup in each class</li> <li>Soldering should be done under the supervision of trainer for all the lamp kits in the classroom</li> <li>Students should come to soldering table in small groups</li> <li>There will be 1 toolkit for every 25 lamp kits</li> </ul>
<b>Learning Outcomes:</b> At the end of this session, participants should be able to assemble a quality solar study lamp			
<b>Tea Break 4:30 – 5:30 PM</b>			
<b>SESSION - 4 Wrap up session</b>			
<b>Learning Objective:</b> To motivate the participants to adapt to solar energy			
<b>Description</b>	<b>Resources</b>	<b>Trainer's guidelines</b>	
<b>Content:</b>	<ul style="list-style-type: none"> <li>Movement of all the students from class</li> </ul>	<ul style="list-style-type: none"> <li>Mic</li> <li>Speakers</li> <li>Backdrop poster</li> </ul>	<ul style="list-style-type: none"> <li>Wrap up session should be with all the students</li> </ul>

- variance of current and voltage parameters to be demonstrated to the students by varying the light intensity falling on the solar panel.
- Take help from other teachers for crowd movement

**Learning Outcomes:** At the end of this session, participants should be able to test all the technical components and should be well versed with the technical parameters of all components.

**Learning Outcomes:** At the end of this session, participants should be able to assemble a quality solar study lamp

**Learning Objective:** To motivate the participants to adapt to solar energy

**Learning Objective:** To motivate the participants to adapt to solar energy

7. No of Students Participated: 100

8. No of Faculties Participated: 12

9. Event Photographs from different angles covering all the students :



**Inauguration**



**Nonviolence pledge**



## Feedback forms:

KKR AND KSR INSTITUTE OF TECHNOLOGY AND SCIENCES  
(Approved by AICTE, NEW DELHI) Affiliated to JNTUK-Kakinada)  
Vinjanampadu, vatticherukuru, Guntur-17.  
Accredited by NAAC WITH "A" Grade & Accredited by NBA

### WORKSHOP FEEDBACK FORM

- Title of the workshop: Student Solar Ambassador - workshop 2019
- Name of the student: K.N.V.S. Jyothi
- Roll No: 17TR1A0561
- Date: 02-10-19

As the ultimate beneficiary of our quality product your support and feedback will help us to maintain the required standards of education. Here are some of the points to facilitate you in giving feedback about our students. You are requested to give marks in the box provided against each item as per the following norms

Please indicate your level of satisfaction with the following statement by choosing score between 1 and 5. (5-Excellent 4-Very good 3-Good 2-Satisfactory 1-Poor)

SL.NO	Particulars	Yes/NO	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Poor (1)
1	Is this content was as described in publicity material	Yes	✓				
2	Is this workshop was applicable to your job	NO		✓			
3	Is it helpful to your curriculum						✓
4	Can you say the program was well paced within the allotted time	Yes	✓				
5	Do you say the instructor was a good communicator	Yes	✓				
6	The instructor was knowledgeable on the topic	Yes	✓				
7	Do you say the workshop was conducted in well equipped environment	Yes	✓				
8	Can you believe this workshop was advanced one	Yes	✓				
9	Are you interested in attending a follow-up, more advanced workshops on this same subject	Yes	✓				
	Is it recommend to other conservators	Yes	✓				

Any other suggestions:.....

Signature of the student

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### WORKSHOP FEEDBACK FORM

- Title of the workshop : Student Solar Ambassador workshop
- Name of the student: K. Basava MANASA
- Roll No: 17TR1A0201
- Date: 2-10-19

As the ultimate beneficiary of our quality product your support and feedback will help us to maintain the required standards of education. Here are some of the points to facilitate you giving feedback about our students. You are requested to give marks in the box provided against each item as per the following norms

Please indicate your level of satisfaction with the following statement by choosing score between 1 and 5. (5-Excellent 4-Very good 3-Good 2-Satisfactory 1-Poor)

SL.NO	Particulars	Yes/NO	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Poor (1)
1	Is this content was as described in publicity material	Yes		✓			
2	Is this workshop was applicable to your job				✓		
3	Is it helpful to your curriculum					✓	
4	Can you say the program was well paced within the allotted time		✓				
5	Do you say the instructor was a good communicator		✓				
6	The instructor was knowledgeable on the topic		✓				
7	Do you say the workshop was conducted in well equipped environment				✓		
8	Can you believe this workshop was advanced one			✓			
9	Are you interested in attending a follow-up, more advanced workshops on this same subject						✓
	Is it recommend to other conservators						✓

## Outcome:

For the global Student Solar Ambassador workshop, to be held on 2nd Oct. 2019 (SSA-2019) all across the world, the use of solar study lamp, commonly known as Solar Urja (Energy) Lamp (SoUL) is proposed, but not mandatory. Our online master training, includes technical testing of components and their assembly, is designed for SoUL kits.

The design files for SoUL are available on SoULS. The design of SoUL kit is licenced under creative commons and free for anyone to use. The SoUL kit is designed at IIT Bombay and is certified by CPRI (Central Power Research Institute, Ministry of Power, GoI, Bangalore) and NISE (National Institute of Solar Energy, Ministry of New and Renewable Energy, GoI, Gurgaon).

All the workshop associates/institutions/organizations who are going to conduct the SSA-2019 are required to source the solar lamp kits on their own at their own cost. We/IIT Bombay DO NOT take any responsibility or any liability, what so ever, for any issues arising from the procurement of the material for SSA-2019. Terms and conditions of the procurement, including financials, should be finalized mutually by buyer and seller.

We have procured the Solar Urja Lamp kits from following vendors in the past for our Govt. of India sponsored projects based on tendering process. The participating organizations may buy the Solar Urja Lamp kits from any of these vendors. However, participating organizations are completely free to buy the SoUL kits for SSA-2019 from any other vendor/s, anywhere in the world.

# సోలార్తో పర్యావరణ పరిరక్షణ



## రూపొందించిన సోలార్ దీపాలతో విద్యార్థులు

**వట్టిచెరుకూరు, న్యూనీటండే:** సోలార్ శక్తితో పర్యావరణ పరిరక్షణ సాధ్యం అవుతుందని కిట్స్ ఇంజనీరింగ్ కళాశాల చైర్మన్ కోయి సుబ్బారావు అన్నారు. మండలంలోని వింజనంపాడులోని కిట్స్ కళాశాలలో ఈఈఈ విద్యార్థులు బుధవారం స్టూడెంట్ సోలార్ అంబాసిడర్-19 (150 సోలార్ దీపాలతయారీ) ప్రారంభోత్సవంలో ఆయన పాల్గొని మాట్లాడారు. జిల్లాలో ఎన్నో ఇంజనీరింగ్ కళాశాలలు ఉన్నప్పటికీ గాంధీ గ్లోబల్ సోలార్ యాత్ర కార్యక్రమం బాధ్యతను వైపుణ్యాభివృద్ధి

సంస్థ, పునరుత్పాదక శక్తి మంత్రిత్వ శాఖ, ఎంట్రి ప్రెస్ట్యూర్షిప్ విభాగాలు తమ కళాశాలకు అప్పగించడం ఆనందంగా ఉందన్నారు. కాలుష్య రహిత దేశం కావాలంటే సోలార్ ఉత్పత్తులు భారీగా జరగాలన్నారు. కిట్స్లో రూ.కోటితో సోలార్ విద్యుత్తు ఉత్పత్తి ప్లాంట్ ఏర్పాటు చేశామని చెప్పారు. కార్యక్రమంలో కళాశాల కార్యదర్శి కోయి శేఖర్, డైరెక్టర్ కె.హరిబాబు, ఈఈఈ విభాగాధిపతి అమరేంద్ర, ఎన్ఎస్ఎస్ సమన్వయకర్త రాఘవరావు తదితరులు పాల్గొన్నారు.