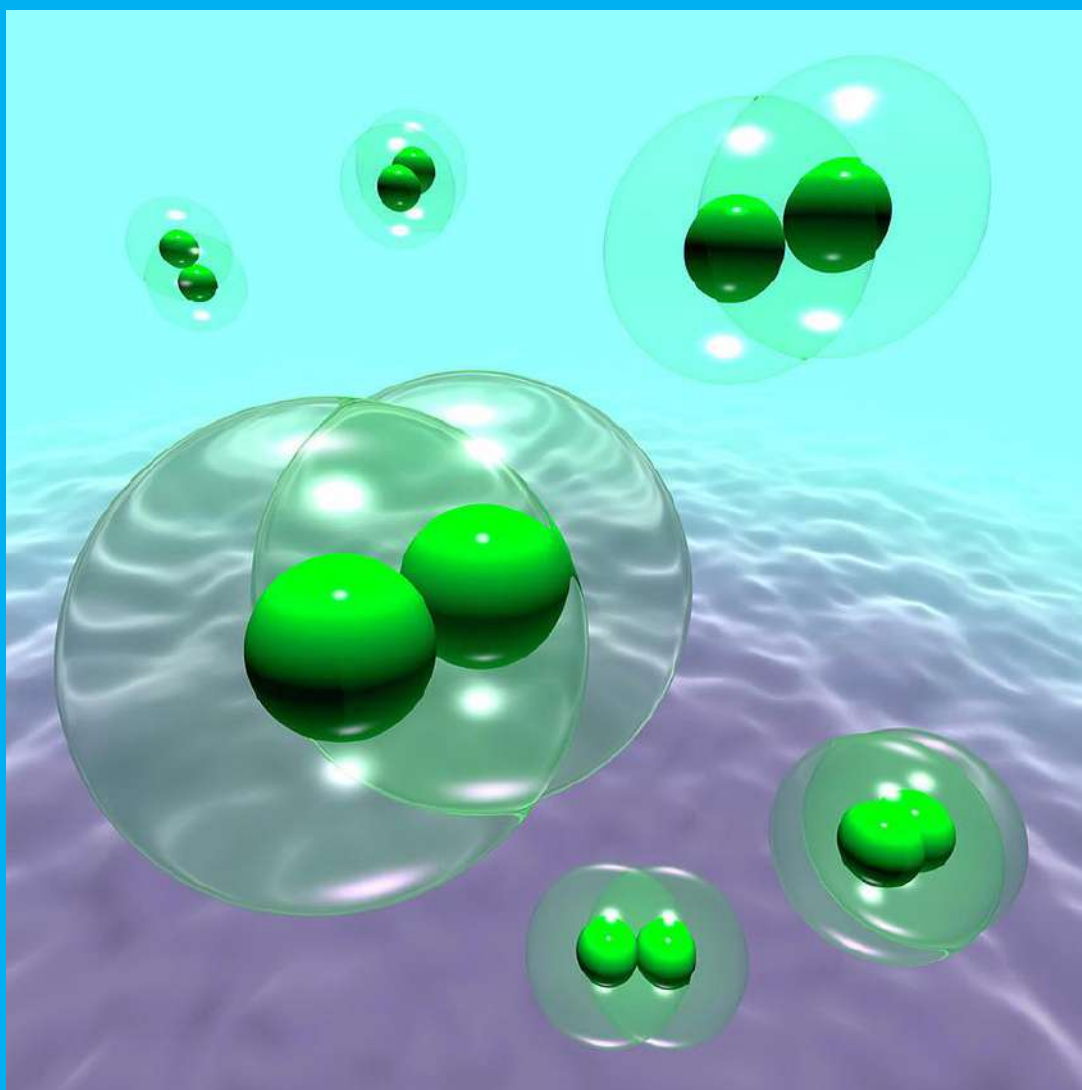




Skill development programme on “Hydrogen Energy: Production, Storage and Utilisation”

Date: 12th January, 2021

Time: 10.30 am – 2:00 pm



**National Institute of Solar Energy
Gwal Pahari, Gurugram- Faridabad Road,
Gurugram , Haryana - 122003**

Background:

Hydrogen is considered as the second most important form of energy carrier next to electricity. It is most abundant element on the earth and can be found in water, organic compounds and hydrides. The hydrogen based energy eco-system, commonly known as “Hydrogen Economy” has three main components i.e. hydrogen production, storage and utilisation.

Hydrogen can be produced from a variety of feedstocks. These include fossil resources, such as natural gas, oil and coal, as well as renewable resources. Green hydrogen can be produced by water splitting through electrolysis using electricity generated by renewable energy sources or from biomass. Hydrogen can be stored in its pure form i.e., gaseous, liquid states and also in some other materials by means of physisorption or chemically bounded form. The energy stored in hydrogen can be utilised using fuel cells or by combustion process. Hydrogen is also been used in many industries such as fertiliser industry, petroleum industry etc.

In the current course, these three parts of hydrogen economy will be discussed along with the safety guidelines and precautions to be taken during handling of hydrogen.

About NISE:

NISE is an autonomous institute under Ministry of New and Renewable Energy, Government of India established to facilitate the Research & Development, Testing, Certification, and Skill Development activities in the field of solar energy technologies. (www.nise.res.in)

Learning Objectives

1. To understand the basics of hydrogen energy.
2. To learn about the hydrogen production methods.
3. To gain knowledge about the safety issues related to hydrogen handling.
4. To gain knowledge on the various hydrogen storage methods.
5. To get an overview of the use of hydrogen in different sectors.

Vision & Mission

1. The **vision** of this programme enables participants to gain basic knowledge about hydrogen as an energy carrier.
2. The mission of this programme is to impart the knowledge and enable participants to understand the prospects of hydrogen energy, its usefulness for decarbonisation of various sectors in the country.

Target Audience

Engineers and technologist from industry and researchers and students from academic institution keen to understand about the basics of hydrogen production, its storage, and utilisation.

PROGRAMME AGENDA

| Timing | Course Content |
|--------------|--|
| 10:30 - 2:00 | Welcome note & Introduction |
| | Introduction to hydrogen energy |
| | Hydrogen production methods with emphasis on green hydrogen |
| | Hydrogen storage and safety |
| | Applications of hydrogen in industry, transport and power generation |

Fee Details

| | |
|-------------------------------|---|
| Training Fees per participant | Rs 1,000 plus GST @ 18 % (Rs 1,180/-) in favor of “National Institute of Solar Energy –Capacity Building “Gurugram. |
| Fees Includes | Access to all the lectures, Certificate |

Number of Seats:

| | |
|--------------|------------------------------------|
| No. of Seats | Registration Confirmation |
| 30 | Based on the payment confirmation. |

How to Apply?

1. To register click on link <https://training.nise.res.in/u/apply>
2. Participant will have to give basic details in the registration page.
3. After filling the required details an OTP will be sent to your email ID through which participant will Login
4. After logging in participant has to fill the payment details as per the following details:

Participants may kindly make the Payment of **Rs 1,000 plus GST @ 18 % (Rs 1180/-)** through RTGS/NEFT/Cheque/Demand Draft (DD) only, in favor of:

Account details are as follows:

ACCOUNT HOLDER NAME: NATIONAL INSTITUTE OF SOLAR ENERGY (NISE)

ACCOUNT TYPE: CURRENT ACCOUNT

BANK NAME: STATE BANK OF INDIA, DLF QUTAB ENCLAVE, SHOP NO.: 109-110 QUTUB PLAZA, SHOPPING C, GURGAON HARYANA,
(SBI BRANCH CODE: 6604)

ACCOUNT NO. 37266665652

IFSC CODE: SBIN0006604

Note: If you require invoice against your organization, it is mandatory to mention GSTN number of your organization. Otherwise, your invoice will be generated as an individual.

The participants must clearly indicate their bank transfer details in the application form. Registration will be confirmed only after the making of desired payment and submission of the application form.

Coordinators at NISE

For any queries, please contact between 10:00 am to 17:30 pm during weekdays: -

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|------------------------------------|--------------------------------|--|
| Dr. Vikrant Sharma | Dy. Director (Technical), NISE | Sharma.vs1982@gmail.com (0124-2853035) |
| Mr. Rahul Pachauri (9953451476) | Project Engineer-II, NISE | nisepvdesign@gmail.com (0124-2853023) |