



SAVITRIBAI PHULE PUNE UNIVERSITY



Savitribai Phule Pune University, Pune Center for Energy Studies

and

Danao Green Tech Services

Organize

3-Day Workshop on 'Hydrogen Energy Systems'

'H₂O → H₂ → H₂O'

17 – 19 November 2022

Contact for Registration and Information

Dr Anagha Pathak, +91 – 98230 21066, drpathakam@gmail.com

Dr Sanjay Danao, +91 – 95456 48496, spdanao@gmail.com

Registration link: <https://forms.gle/pCT48miw8aYmy2HL9>

Preamble

'Hydrogen Energy' is gaining importance as the future source of sustainable energy that has potential to reduce greenhouse gases and achieve Net Zero Emission. Our Government, Research Organizations, Corporates and Industries are investing heavily in the Hydrogen Generation Systems and its wide range of industrial applications thereon. This is generating promising career opportunities for Engineering and Science Students, whereby they can make a career in this emerging sector. Proposed program focuses on providing deep insight into this highly challenging field whereby Faculties, Students and Professionals can explore future opportunities for career development and research.

About Center for Energy Studies, SPPU Pune

'Center for Energy Studies' was established under the flag ship of University of Pune, to promote interdisciplinary research, development and teaching activities in the field of energy and renewable energy sources. The major objective of this effort was to bring and to bear, the expertise and facilities that are available in the various science departments on the University campus, for teaching and solving frontline problems, both of basic and applied nature. Center is involved in Teaching & Training programs, Research and Development, Extension and field trials, Transfer of technology to industry and Provide consultancy to industry or users. Center has the excellent facilities of Solar PV and Thermal Systems, Battery Storage Systems.

About Danao Green Tech Services

'Danao Green Tech Services' is dedicated to the generation of national wealth through sustainable development through Capacity building of Human Resource working in Hydrogen Energy Systems, Fuel Cells, Solar Energy Systems and Industrial Water Management Systems. It uses the most modern learning techniques of Multiple Intelligence and Bloom Taxonomy to make young brains technically competent and personally confident in these fields, which is successfully exhibited. We have very strong Team expert in German and American skilling methodologies.

Chief Patron:

Prof. (Dr) Karbhari V. Kale

Hon'ble Vice Chancellor, Savitribai Phule Pune University

Patron:

Dr Sanjeev Sonawane

Hon'ble Pro-Vice Chancellor, Savitribai Phule Pune University

Advisory Committee:

Dr Manohar G. Chaskar, Dean, Science and Technology, SPPU

Dr Parag C. Kalkar, Dean, Commerce and Management, SPPU

Dr Vijay Khare, Dean, Humanities, SPPU

Dr Deepak Mane, Dean, Interdisciplinary Studies SPPU

Dr Prafulla Pawar, Registrar, SPPU

CA Charusheela Gayke, Finance and Accounts Officer, SPPU

Dr Mahesh Kakade, Director, Board of Examination and Evaluation, SPPU

Dr Sanjay G. Dhande, Distinguished Professor, Department of Technology

Dr Subhash V. Ghaisas, Distinguished Professor, Centre for Energy Studies

Prof. Kiran Deshpande, Bank of Maharashtra Chair Professor, CES

Dr S.I. Patil, Emeritus Professor, Centre for Energy Studies

Prof. Sanjay Dhole, Director, CIIL, SPPU

Prof. Suresh Gosavi, Director School of Physical Sciences, SPPU

Prof. Sandesh Jadkar, Head, Dept of Physics, SPPU

Prof. Avinash Kumbhar, Director, School of Chemical Sciences, SPPU

Prof. Pragati Thakur, Dept of Chemistry, SPPU

Chair:

Dr Aditya Abhyankar, Coordinator, Centre for Energy Studies,

Director, School of Technology, SPPU

Coordinators:

Dr Anagha Pathak, Centre for Energy Studies

Dr Adinath Funde, Centre for Energy Studies

Dr Sanjay Danao, Danao Green Tech Services, Pune

Organizing Committee:

Ms Asmita Marathe, Centre for Energy Studies

Dr Yogesh Waghadkar, Centre for Energy Studies

Mr Niraj Diwatiya, Centre for Energy Studies

Mr Praveen Penurkar, Centre for Energy Studies

Mr Nilesh Aher, Centre for Energy Studies

Mr Dilip Gaikwad, Centre for Energy Studies

Mr Ganesh Lokhande, Centre for Energy Studies

Resource Persons

Experienced Professional Resource Persons from Industries & Research.

Who Can Participate?

Faculty & Students from Engineering, Science & Vocational Disciplines.

Others also can participate.

Venue

Digital Hall, Classroom Complex, SPPU Research Park Foundation

Savitribai Phule Pune University (SPPU), Pune

Ganeshkhind, Pune – 411 007 (India).

Registration Fee (per Participant)

Rs 5,000/- (for Faculty and Others)

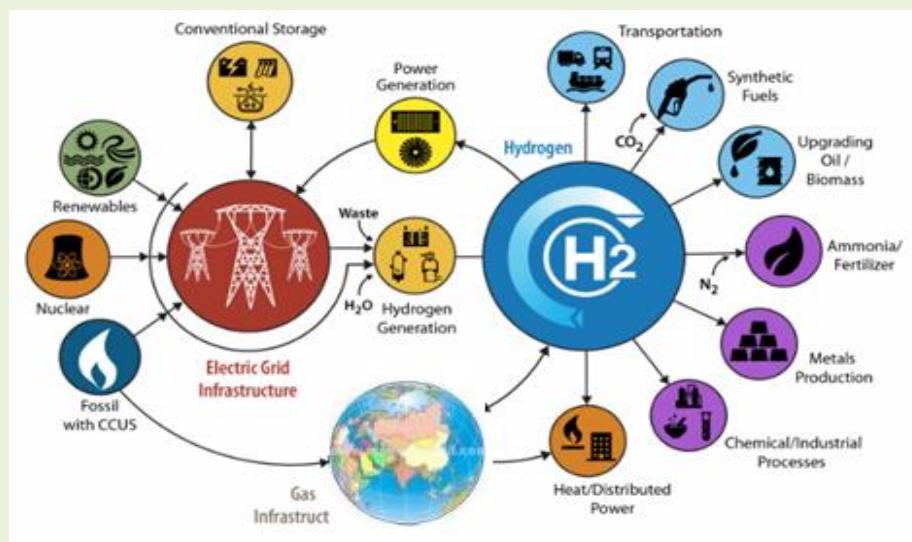
Rs 4,000/- (for Students)

Includes Workshop charges and lunch.

Payment mode: Through Registration Link

Maximum Number of Participants is 30 (first-cum-first-serve basis).

Certificates will be issued on completion of Workshop.



Workshop Schedule: 17-19 November 2022

Timeline	Session	Particular
Thursday, 17 November 2022		
0930-1000	Registration and Welcome	
1000-1100	Inauguration, Orientation, Perspective	
1100-1115	Break	
1115-1300	Importance: Sustainable Development Goals (SDGs), Energy sources, International Protocol on Climate Change (IPCC) Report, National Hydrogen Mission (NHM) and Green Hydrogen Policy (GHP), System Components, Carbon Capture, Utilization and Storage (CCUS)	Dr Sanjay Danao DGTS
1300-1400	Break	
1400-1500	Opportunities & Challenges: Storage, Transmission, Distribution, Safety	Dr Sanjay Danao DGTS
1500-1545	Hydrogen Cycle: Mind Map Development	
1545-1600	Break	
1600-1700	Scope & Applications: Industrial uses, Chemicals, Transport, Building, Power	Apoorva Ranjekar ICT Mumbai
1700-1730	Mind Map Presentation	
	Assignments, Activity	
Friday, 18 November 2022		
0930-1045	Hydrogen Generation Methods: Present and Under development	Dr Sanjay Danao DGTS
1045-1100	Break	
1100-1200	Reformer Technology: Blue, Grey, Black, Green, Hydrogen	Dr Somnath Nandi DoT, SPPU
1200-1300	Alkaline Electrolyzer: Technology (Virtual mode)	Aniket Awasthi, FRT EUBV, Netherlands
1300-1400	Break	
1400-1500	PEM Electrolyzer: Technology	Dr Sanjay Danao DGTS
1500-1545	Ammonia Production from Green Hydrogen	Dr Sanjay Danao DGTS
1545-1600	Break	
1600-1700	Solid Oxide Electrolyzer: Technology	Dr Dadasaheb Shendge h2e Power Systems
1700-1730	Hydrogen processing, compression, packing, safety	INOX Air (to be confirmed)
	Assignments, Activity	

Saturday, 19 November 2022

0930-1030	Fuel Cells	Dr Bharat Kale DG, CMET
1030-1115	Fuel Cells: Proton Exchange Membrane, Alkaline, Solid Oxide, Phosphoric Acid	R Balu Thermax India
1115-1130	Break	
1130-1215	Solar PV based Renewable Energy Generation	Dr Adinath Funde SPPU
1215-1315	Solar PV Site Visit	Dr Anagha Pathak SPPU
1315-1400	Break	
1400-1500	Water Purification Methods for Electrolyzers	Dr Sanjay Danao DGTS
1500-1615	Complete Green Hydrogen Process Cycle with inputs on Material Balance, Enthalpy Balance, System Efficiency and Economics	Dr Sanjay Danao DGTS
1615-1630	Break	
1630-1700	Open Session: Q&A, Discussion, Presentation	
1700-1730	Valediction, Feedback	

