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## A Report on The Webinar Entitled “Hydrogen Storage Technologies”

**Date: 22/06/2024**

**Time: 11AM to 12 PM**

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**Webinar Organizer:** School of Applied Sciences in collaboration with Centre for Waste to Wealth Management, Centurion University of Technology and Management, Odisha, India

**No. of Participants:** 25

**Co-ordinator Details:** Dr. Subhasis Pati, Asst. Professor, Dept. of Chemistry, SoAS, CUTM, Parlakhemundi.

**Resource Person Details:** Prof. Suresh Chandra Parida, Head Product Development Division and Fuel Chemistry Division, Bhabha Atomic Research Centre, Mumbai, India.

& Professor, Homi Bhabha National Institute, Anushaktinagar, Mumbai, India.

Prof. Suresh Chandra Parida is an eminent Scientist at Bhabha Atomic Research Centre, having more than 25 years of experience in teaching and research. Dr. Suresh Chandra Parida is currently Head, Product Development Division and Head, Fuel Chemistry Division of Bhabha Atomic Research Centre, Trombay, Mumbai and Professor at Homi Bhabha National Institute. He has completed M.Sc. in Chemistry from Utkal University in 1994, M.Sc. in Metallurgical Engineering from Indian Institute of Science, Ph.D. in Chemistry from Mumbai University and Post-doctorate from University of Alabama. His area of expertise include thermodynamics of materials of relevance to nuclear technology, actinide chemistry and hydrogen storage materials. He has more than 85 publications in peer reviewed international journals, edited a book on Thermal and Thermodynamic Stability of Nanomaterial. He is a recipient of several awards namely, Calorimetry Excellence Award (Indian Thermal Analysis Society), DAE Group Achievement Award, Outstanding Research Investigator Award (DEA-SRC), Scientific and Technical Excellence Award (DAE), Extraction & Processing



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Division Science Award (TMS, USA), TA Instruments-ITAS Young Scientist Award (Indian Thermal

Analysis Society) and Dr. Tarun Datta Memorial Award (Indian Association of Nuclear Chemists and Allied Scientists).

### Detailed report of the Webinar:

School of Applied Sciences in collaboration with Centre for Waste to Wealth Management, Centurion University of Technology and Management, Odisha, India organised the webinar on **hydrogen storage technologies** on the auspicious occasion of Dev Snan Purnima on 22<sup>nd</sup> June 2024 (Saturday), from 11 AM to 12 PM. The webinar flyer along with Google meeting link was shared at CUTM community at various platforms including Slack, Email, and WhatsApp etc.

The webinar was started by welcoming of the guest speaker and audiences by Dr. Subhasis Pati, followed by a brief introduction of the Speaker Prof. Suresh Chandra Parida by Prof. G K. Sahu (co-ordinator SoAS).

Prof. Parida started his discussion with an introduction about India's vision towards energy independency (Atmanirbhar Bharat). Govt. of India has started a hydrogen energy mission to make India a hub of hydrogen technology and reduce its energy dependency on middle east. He discussed about the various methods of hydrogen production and their separation process. Further, Dr. Parida highlighted about the importance of hydrogen storage and various methods of hydrogen storage technology starting from high pressure cylinders, adsorbent materials, cryogenic gas storage to metal hydrides. His vast knowledge and simplistic explanation on various methods made the audience understand about the science behind the technique. Dr. Parida also explained about the thermodynamics and kinetics of hydrogen storage technologies. At the end of the session there was a fruitful discussion with the audience where the queries raised by the audience were answered by the speaker. The entire session was a highly informative and interactive one. Dr. Parida also expressed his



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willingness for a potential collaboration of BARC with CUTM and for various collaborative funding options from BRNS.

Around 25 participants comprising of faculties and students and research scholars from different departments and different campuses had joined the webinar. The webinar came to an end by the vote of thanks by Dr. Narayana Gouda.

*The co-ordinator is highly thankful to Prof. G. K Sahu for his encouragement and suggestions in conducting the webinar. The co-ordinator has also, expressed his gratitude to CUTM authorities for providing the platform and opportunity to conduct such an event.*

### Snapshots from the Webinar

The screenshot displays a Zoom meeting interface. The main content area shows a presentation slide with the following text:

- 75 Azadi Ka Amrit Mahotsav
- BARC (Bhabha Atomic Research Centre) logo
- विकसित भारत@2047
- Hydrogen Storage Technologies**
- S.C. Parida
- Product Development Division & Fuel Chemistry Division
- Bhabha Atomic Research Centre, Trombay, Mumbai-400 085, India,
- E-mail: sureshp@barc.gov.in, Tel. No.: +91 22 25594875

The participant sidebar on the right shows a grid of 12 participants:

- DR. SUBHASIS PATI (Presenting)
- Suresh Chandra Par...
- SUDIPA BHATTACH...
- Victor Pradhan
- Prasanta Kumar Rath
- DR. ARCHANA SEN...
- Dr. Sangram Keshar...
- 15 others
- G. K. Sahu



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### SUSTAINABLE DEVELOPMENT GOALS



**Hydrogen Storage Technologies**

**What is Energy Security?**

The International Energy Agency (IEA) defines energy security as "the uninterrupted availability of energy sources at an affordable price".

Energy security concerns are a key driving force of energy policy.

- **Robustness** (sufficiency of resources, reliability of infrastructure, and stable & affordable prices)
- **Sovereignty** (protection from potential threats from external agents)
- **Resilience** (the ability to withstand diverse disruptions)

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**People**

Add people

IN MEETING

Contributors 24

- G. K. Sahu (You)
- Anamika Sinha
- Balaji Padhy
- Bikash Samantaray
- DR. ARCHANA SENAPATI
- Dr. Ashok Mishra
- Dr. Bishnuprasad Dash
- DR. LIMBRAJ PARSHURA...

11:14 AM | gft-upmi-vgz

Participant tiles (clockwise from top-left):

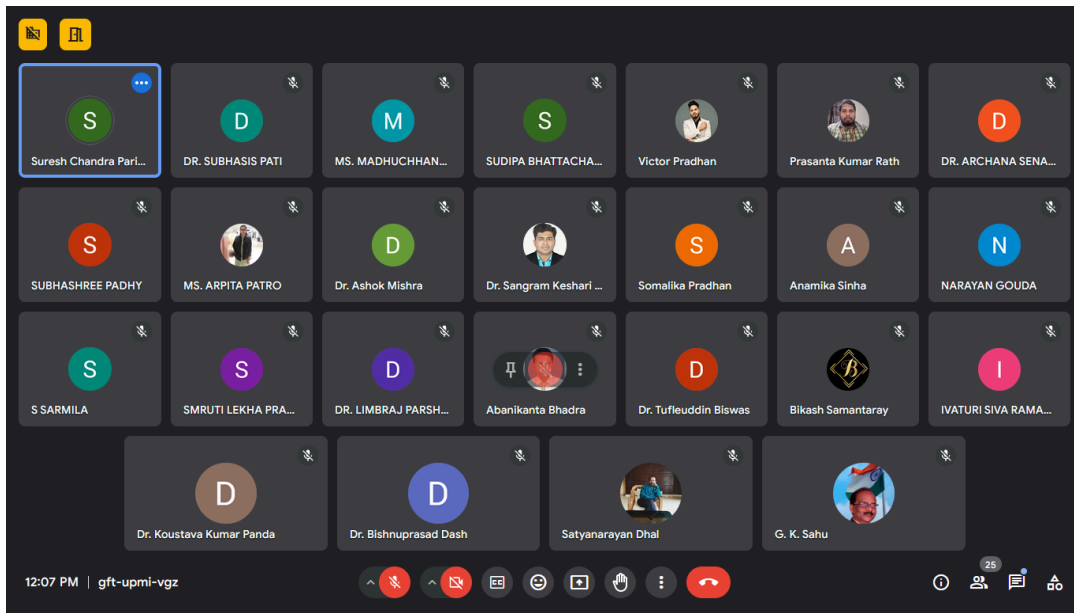
- Suresh Chandra Parida
- DR. SUBHASIS PATI** (Active)
- MS. MADHUCHHAN...
- SUDIPA BHATTACHA...
- Victor Pradhan
- Prasanta Kumar Rath
- DR. ARCHANA SENA...
- SUBHASHREE PADHY
- MS. ARPITA PATRO
- Dr. Ashok Mishra
- Dr. Sangram Keshari ...
- Somalika Pradhan
- Anamika Sinha
- NARAYAN GOUDA
- S SARMILA
- SMRUTI LEKHA PRA...
- DR. LIMBRAJ PARSH...
- Abanikanta Bhadra
- Dr. Tufleuddin Biswas
- Bikash Samantaray
- IVATURI SIVA RAMA...
- Dr. Koustava Kumar Panda
- Dr. Bishnuprasad Dash
- Satyanarayan Dhal
- G. K. Sahu



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**Participants:**

- |  |                       |  |  |  |                           |  |  |
|--|-----------------------|--|--|--|---------------------------|--|--|
|  | Pratap Chhotaray      |  |  |  | Dr. Sangram Keshari Swain |  |  |
|  | S SARMILA             |  |  |  | DR. SUBHASIS PATI         |  |  |
|  | Satyanarayan Dhal     |  |  |  | DR. SUBHASIS PATI         |  |  |
|  | SMRUTI LEKHA PRADHAN  |  |  |  | IVATURI SIVA RAMAKOTI     |  |  |
|  | SUBHASHREE PADHY      |  |  |  | Jyoti Prakash Giri        |  |  |
|  | SUDIPA BHATTACHARJEE  |  |  |  | MS. ARPITA PATRO          |  |  |
|  | Suresh Chandra Parida |  |  |  | NARAYAN GOUDA             |  |  |
|  | Victor Pradhan        |  |  |  | Prasanta Kumar Rath       |  |  |
|  |                       |  |  |  | Pratap Chhotaray          |  |  |
|  |                       |  |  |  | S SARMILA                 |  |  |































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-  G. K. Sahu (You)  
-  Anamika Sinha  
-  Balaji Padhy  
-  Bikash Samantaray  
-  DR. ARCHANA SENAPATI  
-  Dr. Ashok Mishra  
-  Dr. Bishnuprasad Dash  
-  DR. KRUSHNA CHANDRA...  
-  DR. LIMBRAJ PARSHURA...  
-  Dr. Sangram Keshari Swain 