

Plenary Session

Date: Wednesday, November 2
Time: 15:00 - 17:30
Place: Exhibition Hall C, 1F

Theme

Hydrogen energy

The realization of a carbon-neutral society, SETC2022 theme, has become long term issue for not only for industry but also humankind. Nevertheless, humankind continues to develop newly energy source, because to make better life quality and freedom of movement. As such, possibility of several newly energy sources is actively discussing all over the world.

SETC2022 provides opportunity to know hydrogen energy which is one of the new energy options, and place to discuss about issues facing the small powertrain. Session contents summarize the hydrogen technology how to make, transport, storage, and utilize. And, hydrogen is possible not only direct utilization but also indirect utilization in the way of power storage medium and refining e-fuel. Therefore, I would like to discuss how the utilization of hydrogen energy may contribute to the small power train area toward the realization of a carbon-neutral society.

Moderator



Takemi Chikahisa

Ph.D
President, Hokkaido
Polytechnic College
Professor Emeritus

Professional Experience

1982 - 1984 Assistant Professor Dept. of Mechanical Engineering, Hokkaido University
1984 - 2003 Associate Professor Div. of Mechanical Science, Hokkaido University
2003 - 2019 Professor Div. of Energy and Environmental Systems, Hokkaido University
2019 - Present President Hokkaido Polytechnic College

Education

1976 Bachelor, Dept. of Engineering, Hokkaido University
1978 Master, Graduate School of Engineering, Hokkaido University
1980 Master of Science, University of Wisconsin-Madison
2000 Doctor of Philosophy, Hokkaido University

Awards

JSME Medals for Outstanding Papers (Two times), Thermal Engineering Award for Outstanding Academic Contribution of JSME, Engine Systems Award for Academic Achievement of JSME, The Scientific Contribution Award of JSAE, etc.

Research Backgrounds

In Hokkaido University, he made research on transport phenomena in fuel cell, combustion control in engines, and analysis of optimal energy system in the future. He is now a president of Hokkaido Polytechnic College, one of the ten colleges belonging to Ministry of Health, Labor and Welfare in Japan.

Plenary Session

Speakers



Toshio Fujimura

Dr. / Visiting professor
Aichi Institute of
Technology, Japan

Subject

*To realize carbon neutrality of automobiles,
Green energy policy is indispensable!*

Career

After joining Toyota Motor Corporation in April 1980, engaged in engine design and development for 31 years. I became a professor, Aichi Institute of Technology in 2011, and a visiting professor from April 2018, providing consulting and lecture activities as an advisor to automobile-related companies.

Education

1978 Bachelor, Dept. of Engineering, Okayama University
1980 Master course, Engineering, Okayama University

Academic/Social Activities

- The Japan Society of Mechanical Engineers
- Society of Automotive Engineers of Japan

Awards

- Japan Society of Mechanical Engineers Award Technology Award
「Diesel PM, NOx simultaneous reduction catalyst system」 2003.4
“Borchers Award” for doctor thesis

Research Subject

- Analysis of automotive and environmental technology strategies



Takashi Yoshiyama

Senior Manager
Pilot Project
Promotion Department /
Project Group /
Hydrogen Strategy Division
Kawasaki Heavy
Industries, Ltd.

Subject

International Hydrogen Supply Chain

Career

Joined Kawasaki Heavy Industries, after graduating from 1996 Kobe University.
Engaged in developing coal-firing boilers for power generation, waste incinerator and motorcycle gasoline engine.
Responsible for various projects for realizing hydrogen energy from 2013.

Education

Graduate School of Engineering, Kobe University
Department of Mechanical Engineering
Science and Technology (Master's Program)

Research Subject

Mechanical Engineering (Energy, Combustion, Heat Transfer)

Plenary Session

Speakers



Taku Tsujimura

Doctor of Engineering /
Team Leader, National
Institute of Advanced
Industrial Science and
Technology (AIST)

Subject

***Demonstration research on hydrogen energy carriers in Fukushima
Renewable Energy institute, AIST (FREIA)***

Career

2004 Starting a Research scientist of AIST
2010.3 - 2011.10 Visiting Scientist of Lawrence Livermore National
Laboratory, US
2012.8 - 2013.7 Group leader, Planning office, AIST
2013.1 - 2022.3 Team leader of hydrogen energy carrier team
2022.4 - Team leader of hydrogen energy carrier utilization team setting

Education

1995 Bachelor, Dept. of Engineering, Doshisha University
1999 Master course, Engineering, Graduate School, Doshisha University
2001 Doctor course, Graduate School, Doshisha University
2004 Earned Doctor of Philosophy, Graduate School, Doshisha University

Awards

2006 JIME (The Japan Institute of Marine Engineering) Encouragement award
2008 JSME (The Japan Society of Mechanical Engineers) Encouragement award
2016 Combustion society of Japan Encouragement award
2020 Combustion society of Japan Outstanding paper award

Research Subject

- Combustion diagnostics
- Chemical kinetic modeling
- Renewable energy and its storage
- Production and utilization technologies of hydrogen energy carriers



Jürgen Guldner

Ph.D
General Manager
Hydrogen Technology
and Vehicle Projects,
BMW Group.

Subject

BMW iX5 Hydrogen and Fuel Cell Technology

Career

Leadership positions at BMW Group:
1997 Department Manager Advanced Chassis Engineering
2005 Chief Engineer für BMW X6 ActiveHybrid
2010 Vice President Chassis R&D
2018 General Manager Hydrogen

Education

1992 Master of Science in Electrical Engineering, Clemson University,
South Carolina (USA)
1995 Ph.D. in Controls and Robotics, Technical University of Munich (Germany)
1997 PostDoc at PATH Program, University of California at Berkeley (USA)
Various leader

Awards

1991 Fulbright Scholarship (for Master's Program at Clemson)
1993 DAAD Scholarship (for 3-months study at Tokio University)
1995 Award for PhD Thesis (DLR, Germany)