

# 2018中国燃料电池、双极板与膜电极关键材料论坛

## Fuel Cells, Bipolar Plate & MEA Key Materials Forum 2018

—开启燃料电池及关键材料产业链千亿级市场

—Open up a hundred billion level market for fuel cell and key materials industry chain



9.19-20

大连 Dalian



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### Background

Hydrogen fuel cell (HFC) directly converts chemical energy in hydrogen and oxygen into electric energy by electrochemical reaction; it is core link of hydrogen energy industrial chain, and it plays a key role in hydrogen energy transportation application and renewable energy large-scaled energy storage. Under the background of development of HFC vehicles speeds up, it is estimated that, in 2030, number of China hydrogen fuel cell vehicles (FCV) will reach 2M, and number of hydrogen fueling stations will reach 1000.

HFC belongs to proton exchange membrane fuel cell (PEMFC), which mainly includes 5 subsystems - fuel cell stack, air supply, hydrogen supply, thermal management and water management. Fuel cell stack mainly consists of monocells by way of stack. Monocell includes bipolar plate, membrane electrode assembly (MEA) and sealing ring, while MEA includes PEM, catalyst and gas diffusion layer (GDL).

Development directions of fuel cell include increase performance and lifetime, decrease cost. <Made in China 2025> proposed that, localization and batched supply of high quality key materials and parts of fuel cells will be realized by 2025. Fuel cell systems volumetric specific power will reach 3kW/L, cold start temperature will reach below -30°C, life will exceed 5000h and capacity will exceed 100k sets. Fuel cell system  $\leq$  CNY 3k/kW, MEA cost  $\leq$  CNY 50/kW, and high temperature composite membrane cost  $\leq$  CNY 3k/m<sup>2</sup>.

Currently, technology and market layout of global and China fuel cells and key materials are actively promoting. In 2016, Dongyue Group life of fuel cell PEM has reached 6000h. Sep 2017, production lines of stack of Guangdong Synergy Ballard, joint venture company of Canada Ballard Power and Synergy Hydrogen, finished commissioning, a total of 1145 sets stacks were produced by the end of 2017. Mar 2018, Hongji Chuangneng 100,000 m<sup>2</sup>/a MEA project settled in Guangzhou, and planned to trial production by the end of 2018; durability of stack modules, which are developed by Sunrise Power, exceeded 5000h. Apr 2018, fuel cell Pt/C catalyst mass production technology, which is independently R&D by Wuhan Himalaya, succeeded.

*English-Chinese Simultaneous Interpretation will be provided.*

### Topics

1. Global and China Fuel Cell Development Updates and Market Prospect
2. Fuel Cell Systems Design for Different Applications - Consumer Electronics, Vehicle and Power Generation
3. Fuel Cell Standard and Testing Technology Progress
4. Quality Control and Intelligent Manufacturing of Scaled Production of Fuel Cell Stacks
5. Production Process of Membrane Electrode Assembly – GDE Route and CCM Route
6. Fuel Cell Platinum Content Decreasing Technology and Non-noble Metal Catalyst
7. Bipolar Plate Selection of Technical Routes – Graphite, Metal and Composite
8. R&D & Application of Fuel Cell Used High Performance Proton Exchange Membrane
9. Localization Progress and Performance Increase of Gas Diffusion Layer
10. Fuel Cell Used Binder and Sealing Material
11. Application Prospect of Graphene on Fuel Cell
12. Fuel Cell Vehicle Leading Enterprises Development Updates and Planning
13. Vehicle Used Fuel Cell Powertrain Technology and Application
14. Critical Factors Analysis of Long Period Stabled Operation of Vehicle Used Fuel Cells
15. Wasted Fuel Cell Treatment and Noble Metal Recycling

**Fuel Cells, Bipolar Plate and MEA Key Materials Forum 2018** will be held in Dalian, Liaoning on Sep 19-20, 2018. The conference will discuss global and China fuel cell development updates and market prospect, fuel cell systems design for different applications, fuel cell standard and testing technology, quality control and intelligent manufacturing of scaled production of stacks, performances optimization and costs control of bipolar plate, MEA, PEM, catalyst and GDL, and critical factors analysis of long period stabled operation of vehicle used fuel cells etc.

### Preliminary Agenda

<b>Sep.19, 2018</b>	<b>Wednesday</b>
08:30~17:00	Industrial visiting
<b>Sep.19, 2018</b>	<b>Wednesday</b>
17:00~20:00	Pre- conference Registration
<b>Sep.20, 2018</b>	<b>Thursday</b>
08:30~12:30	Speech
12:30~14:00	Networking Lunch
14:00~18:30	Speech
18:30~20:00	Banquet

