Consiglio Nazionale delle Ricerche
Istituto di Chimica dei Composti OrganoMetallici

Lunedì 2 Luglio 2018
alle ore 11.00

presso Aula 1 dell'Edificio F
Area della Ricerca CNR
Via Madonna del Piano, 10 Sesto Fiorentino (Firenze)

il Dr. Koichiro Asazawa
Advanced R&D Dept., DAIHATSU MOTOR Co., LTD
3000, Yamanoue, Ryuo, Gamo, SHIGA, JAPAN

terrà il seguente seminario:

" PGM-free Direct Liquid-feed Fuel Cell Vehicle "

Dr. Hamish Miller
Ricercatore CNR

Dr. Francesco Vizza
Direttore ICCOM

Abstract:
DAIHATSU has developed various fuel cell vehicles (one of the vehicles was shown in Fig. 1). The power train of the vehicle, a non-PGM direct hydrazine fuel cell system, was designed compactly, and was stored under the flat floor of the vehicle. The main principle is shown in Fig. 2. The technologies have been published.[1,2] Recent progress of MEA achieving both high power (over 500 mW cm^{-2}) and high durability over 1000h as shown in Fig.3 also has been developed.[3] The detail of technology and remaining issues will be discussed.

Fig. 1 Pt-free, zero-emission vehicle powered by a liquid-feed fuel cell.

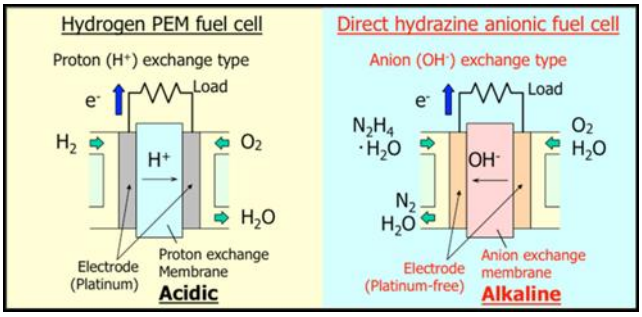

Fig. 2 Principle of DAIHATSU-developed fuel cell system which compared with conventional fuel cell.

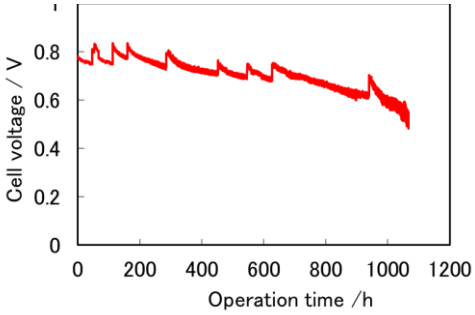

Fig. 3 The cell voltage during long-term operation at a constant current density.

References

1. K. Asazawa, K. Yamada, A. Oka, M. Taniguchi, and T. Kobayashi, Angewandte Chem. Int. Ed., 46 (2007) 8024.

2. A. Serov, M. Padilla, A.J. Roy, P. Atanassov, T. Sakamoto, K. Asazawa, and H. Tanaka, Angewandte Chem. Int. Ed., 126 (2014) 10504.

3. H. Ono, T. Kimura, A. Takano, K. Asazawa, J. Miyake, J. Inukai, and K. Miyatake, J. Mater. Chem. A, 5 (2017) 24804..

Biographic sketch:

In 1998, Dr Asazawa graduated from the Applied Chemistry department in Osaka Prefecture University and started to work at Daihatsu fuel cell team as a material researcher.

In 2009 he received his PhD from the Natural Science department in Kobe University.

Now he is a leader of catalysts and advanced electrolyte materials development in Daihatsu fuel cell team.