

### Symposium 3: Materials Challenges in Fuel Cells

#### February 24 (TUE)

Time	Program	
	[S3-1] Materials Challenges in Fuel Cells	
	Chair: Tak, Yongsug (Inha University)	
13:30-14:00	[2111523] Strategy to Improve Efficiency of Carbon-based ORR Electrode for PEMFC	Woo, SeongIhl (KAIST)
14:00-14:30	[2090758] Developing Nanocatalysts with Enhanced Performances for Fuel Cells	Hu, Jin-Song (Chinese Academy of Sciences)
14:30-15:00	[2157170] Integrating Carbon-based 1D and 2D carbon materials as electrodes with applications in Polymer Electrolyte Membrane Fuel Cells	Chua, Daniel H. (National University of Singapore)
15:00-15:30	[2125457] Development of nanofibrous transition metal-nitrogen-carbon based catalysts for oxygen reduction reaction	Cho, EunAe (KAIST)

Time	Program	
	[S3-2] Materials Challenges in Fuel Cells	
	Chair: Cho, Eun Ae (KAIST)	
15:50-16:10	[2111493] Dimensionality-Dependent Oxygen Reduction Activity on Doped Graphene	Chung, Minwook (KAIST)
16:10-16:30	[2114584] Highly Efficient and Durable TiN Nanofiber Support Materials for Fuel Cell Applications	Kim, Jin Young (KIST)
16:30-17:00	[2143695] Durability of PEMFC cathode during fuel starvation	Tak, Yongsug (Inha University)
17:00-17:30	[2143591] Minimizing impurities in Direct Methanol Fuel Cells (DMFCs) by the use of Ion Exchange Resins	Doebber, Dijana (University of Cologne)
17:30-18:00	[2114319] Small Molecule Mediated Chemical Hydrogen Storage for Fuel Cell Technology: Fundamentals and Applications	Yoon, Chang Won (KIST)
18:00-18:20	[2114058] A new cathode for reduced-temperature molten carbonate fuel cells	Nguyen, Hoang Viet Phuc (KIST)

#### February 25 (WED)

Time	Program	
	[S3-3] Materials Challenges in Fuel Cells	
	Chair: Cha, Suk Won (Seoul National University)	
09:00-09:30	[e-mail] Three-dimensional measurements of electrode microstructure: correlation with electrochemical performance and degradation	Barnett, Scott (Northwestern University)
09:30-09:50	[2114477] B-site doped $\text{La}_{1.7}\text{Ca}_{0.3}\text{Ni}_{0.75}\text{M}_{0.25}\text{O}_{4+\delta}$ (M = Cu, Fe) layered perovskite as cathode for Solid Oxide Fuel Cells (SOFCs)	SHIN, TAEHO (University of St Andrews)
09:50-10:10	[2089715] Tuning the electrocatalytic activity of perovskite oxides for SOFC cathodes by control of the oxygen ion conducting oxide support	Lee, Daehee (Yonsei University)

10:10-10:30	[2072655] Degradation in strength and structural properties of Ni-3YSZ anode support for Solid Oxide Fuel Cell during long-term operation	Mehran, Muhammad Taqi (KIER)
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Time	Program	
	[S3-4] Materials Challenges in Fuel Cells	
	Chair: Han, Jonghee (KIST)	
10:50-11:20	[2082037] Plasma-enhanced atomic layer deposition of high quality yttria-stabilized zirconia nanothin film electrolyte for solid oxide fuel cells	Cha, Suk Won (Seoul National University)
11:20-11:50	[2142865] Surface engineering for enhanced cathode reactions of solid oxide fuel cells	Lee, Wonyoung (Sungkyunkwan University.)
11:50-12:10	[2108590] Durability Study of Solid Oxide Fuel Cell Cathode as a Function of Applied Current Density	Khan, Muhammad Zubair (KIER)
12:10-12:30	[2063767] Performance Enhancement of Freestanding Micro-SOFCs with Ceramic Electrodes by the Insertion of a YSZ-Ag Interlayer	Choi, Sunhee (KIST)