



● Name:	황창규 Chang Kyu Hwang
● Course:	Ph.D. student
● Research area:	Thin Film Process / Electrocatalysts
● Mobile:	010-2816-7277
● E-mail:	hck0707@korea.ac.kr

SCI Journals

1. **Chang-kyu Hwang**, Won Tae Hwang, Il Doo Kim, Byeong-Kwon Ju and Ki Ro Yoon*
"Perpendicularly Stacked Array of PTFE Nanofibers as a Reinforcement for Highly Durable Composite Membrane in Proton Exchange Membrane Fuel Cells"
(under review)
2. Ki Ro Yoon†, **Chang-Kyu Hwang**†, Seung-hoon Kim+, Ji-Won Jung, Ji Eon Chae, Jun Kim, Kyung Ah Lee, Ahyoum Lim, Su-Ho Cho, Jitendra Pal Singh, Jong Min Kim, Kihyun Shin, Byung Moo Moon, Hyun S. Park, Hyoung-Juhn Kim, Keun Hwa Chae, Hyung Chul Ham, Il-Doo Kim*, and Jin Young Kim*
"Hierarchically assembled cobalt oxynitride and N-doped carbon nanofiber hybrids for efficient bifunctional oxygen electrocatalysis with exceptional regenerative efficiency"
Acs nano 2021, 15, 7, 11218-11230 (*main author*)
3. Ki Ro Yoon, Jong Min Kim, Kyung Ah Lee, **Chang-Kyu Hwang**, Shedrck G.Akpe, Yeo JinLee, Jitendra Pal Singh, Keun Hwa Chae, Seung Soon Jang, Hyung Chu, Ham*, Jin Young Kim*
"Activity-stability benefits of Pt/C fuel cell electrocatalysts prepared via remote CeO₂ interfacial doping"
Journal of Power Sources 2021, 496, 229798 (*Co-author*)
4. Wooyong Choi†, Jong Min Kim†, **Chang-Kyu Hwang**†, Jin Young Kim*, and Jae Sung Son*
"Thiometallate precursors for synthesis of supported Pt and PtNi nanoparticles: Size-focusing of nanoparticles via S ligand capping"
Nanoscale 2020, 12, 10498-10504 (*main author*)
5. **Chang-Kyu Hwang**†, Jong Min Kim†, Sehoon Hwang, Chang Hyun Sung, Byung-Moo Moon, Keun-Hwa Chae, Jitendra Pal Singh, Seung-hoon Kim, Hyung Chul Ham, Seunghee Han*, and Jin Young Kim*
"Porous Strained Pt Nanostructured Thin Film Electrocatalysts via Dealloying for PEM Fuel Cells"
Advanced Materials Interfaces 2020, 7, 1901326 (*main author*)

International Conferences

1. **Chang-Kyu Hwang**, Jong Min Kim, Byung-Moo Moon, Jin Young Kim*
"Nanoporous Platinum Thin Films by Oxygen Plasma Dealloying: Highly Active and Stable Electrocatalyst for Oxygen Reduction Reaction"
Electronic Materials and Nanotechnology for Green Environment (ENGE), Jeju, Korea, 2018

Domestic Conferences

1. **Chang-Kyu Hwang**, Jong Min Kim, Sung Jong Yoo, Byung-Moo Moon, Jin Young Kim*
"Nanoporous Platinum Thin Films by Oxygen Plasma Dealloying: Highly Active and Stable Electrocatalyst for Oxygen Reduction Reaction"
The Korean Electrochemical Society, Jeju, Korea, 2020
2. **Chang-Kyu Hwang**, Jong Min Kim, Byung-Moo Moon, Jin Young Kim*
"Porous Strained Pt Nanostructured Thin Film Electrocatalysts via Dealloying for PEM Fuel Cells"
The Fuel Cell Symposium, Seoul, Korea, 2018
3. **Chang-Kyu Hwang**, Ki Ro Yoon, Byung Moo Moon, Hyoung Juhn Kim, Sung Jong Yoo, Jong Hyun Jang and Jin Young Kim*
"Electrochemical Characterization of Cobalt Nitride Anchored Nitrogen-doped Carbon Nanofibers as Bi-functional Catalyst for ORR and OER in an Alkaline Solution"
The Korean Electrochemical Society, Changwon, Korea, 2018

Technical Papers

1. Min jung Kim†, **Chang-Kyu Hwang**†, Byeong-Kwon Ju*
"Electrochemical energy applications and research trends with multidimensional structures"
electronic science, No. 750, p. 44- 50 (2021. 11)

Patents

1. **Reinforced composite electrolyte membrane and method of manufacturing same**
KR Patent, 10-2020-0055450 (Application), 2020
2. **Method for manufacturing 3D porous thin film catalyst electrode for fuel cell**
KR Patent, 10-2139494-0000 (Registration), 2020
3. **Method for manufacturing ordered metal nanowire and method for manufacturing three-dimensional nano-structured metal catalyst for water electrolysis usir**
KR Patent, 10-2162761-0000 (Registration), 2020