

Hyung Chul Yoon, Ph.D.

Clean Fuel Laboratory, Korea Institute of Energy Research, Daejeon, South Korea
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Education

Doctor of Philosophy degree in Mechanical Engineering, University of California, Davis

Thesis Title: "Comparison of Steam and Autothermal Reforming of Methanol for Fuel Cell Applications." degree received in June/2008.

Master of Science in Mechanical Engineering, University of California, Davis

degree received in September/2006

Professional Appointments

2020 – Present	Chief, Clean Fuel Laboratory, Korea Institute of Energy Research, Daejeon, South Korea
2017- Present	Principal Researcher Clean Fuel Laboratory, Korea Institute of Energy Research, Daejeon, South Korea
2016- Present	Adjunct Professor Graduate School of Energy Science and Technology, Chungnam National University, Daejeon, South Korea Subject of Lecture: Energy Carrier, 2019 - 2020
2015- Present	Professor Department of Advanced Energy and Technology, University of Science and Technology, Daejeon, South Korea
2011-2016	Senior Researcher, Petroleum and Gas Laboratory, Korea Institute of Energy Research, Daejeon, South Korea
2008- 2011	Research Associate, Professorship in Renewable Energy Carrier, Institute of Energy Technology, Mechanical and Process Engineering Department, Swiss Federal Institute of Technology Zürich, Switzerland
2003-2008	Research Assistant, Hydrogen Production and Utilization Laboratory, Mechanical and Aeronautical Engineering Department, University of California Davis, U.S.A

Professional Society

2021 - Present	Deputy Director of Clean Ammonia Association
2020- Present	Committee member of Standardization of hydrogen technology
2020- Present	Committee member of Hydrogen Technology Roadmap

Honors and Awards

2022	Minister's Commendation Ministry of Trade, Industry, and Energy
2021	Minister's Commendation Ministry of SMEs and Startups
2005- 2006	Gate Fellowship, United States Department of Energy

Selected Peer-reviewed Publication

T. Kim, E. Lee, S. Byun, D.Seo, H.Hwang, **H.C Yoon**, H.Kim, S.Ryi, Highly selective Pd composite membrane on porous metal support for high-purity hydrogen production through effective ammonia decomposition, *Energy*, 260, 2022

B. Brigljević, M. Byun, H. Lee, A. Kim, B. Lee, C. M., J. H. Choi, **H. C. Yoon**, C. W. Yoon, Y. S. Ok, D.Ha Lim, C.-H. Kim, S. Moon, H. Lim, When Bigger Is Not Greener: Ensuring the Sustainability of Power-to-Gas Hydrogen on a National Scale, *Environmental Science & Technology*, 56, 2022

S. Cheon, J. Y. Lee, S. H. Kim, **H.C. Yoon***, J. Han*, Effective Electroregeneration of the Oxidized Iron(II) Thiochelatate Absorbent in the Wet NO_x Absorption Process, *ACS EST Engg.* 2, 7, 2022

H. J. Cho, S. H. Kim, J. Kang, K. Cho, H. Y. Lee, H. Kim, H. Ju, J. W. Choi, S. G. Kim, S. Oh, C. Lee, **H.C. Yoon***, Experimental and DFT studies on the equilibrium properties, kinetics, and mechanism of nitric oxide removal using metal-EDTA and ferrous thiochelates, 431, *Chemical Engineering Journal*, 2022

J.H.Kim, H. Ju, B. An, Y. An, K. Cho, S. H. Kim, Y. Bae, **H. C. Yoon***, Comparison between Fe₂O₃/C and Fe₃C/Fe₂O₃/Fe/C Electrocatalysts for N₂ Reduction in an Alkaline Electrolyte, *ACS Applied Materials & Interfaces*, 13, 2021

Y, Kwon, S. K. Kim, Y. B. Kin, S. J. Son, G. D. Nam, H. J. Park, W. Cho, **H.C. Yoon***, J. H Joo*, Nitric oxide utilization for ammonia production using solid electrolysis cell at atmospheric pressure, *ACS Energy Letters*, 6 , 2021

C. H. Jung, C. Yoo, J. Kim, E. Jeong, J. H. Park, H. C. Choi, M. Han, **H. C. Yoon***, Preparation of metal oxide/polyaniline/N-MWCNT hybrid composite electrodes for electrocatalytic synthesis of ammonia at atmospheric pressure, *Sustainable Energy & Fuels*, 3(2), 431-438, 2019 (**Back cover**)