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GIST Professor Chang Hyuck Choi selected as a Young Investigator of the Year by the American Chemical Society

- GIST (Gwangju Institute of Science and Technology, President Kiseon Kim) School of Materials Science and Engineering Professor Chang Hyuck Choi was selected as a Young Investigator of the Year by the most prestigious journal in the field of chemistry.
- Professor Chang Hyuck Choi was selected as a 'JACS Young Investigators 2020,' which was carefully selected from outstanding young researchers among papers published in the Journal of the American Chemical Society in 2019.
- The related paper is the result of collaboration with the research team of Professor Sang-II Choi of Kyungpook National University and Professor Hyung-Kyu Lim of Kangwon National University, and it contains details of the electrochemical hydrogen production reaction on the platinum catalyst. Although the hydrogen production reaction (which is a key to realizing the hydrogen economy) is the simplest electrochemical reaction, controlling it remains a major challenge.
- Professor Chang Hyuck Choi's research team succeeded in accurately predicting this experimentally and theoretically by introducing a work function model. The American Journal of Chemistry evaluated this study as "very important experimental result for understanding hydrogen production reaction."

JACS Young Investigators 2020



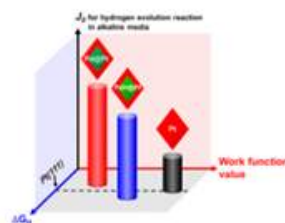
We are excited and pleased to provide an ACS Select virtual issue based upon the outstanding work of young investigators published in 2019 in the *Journal of the American Chemical Society*. This collection of Articles and Communications highlights premier research in diverse topical areas from around the world that is of broad interest to the contemporary readership of *JACS*. These carefully selected publications were chosen by the appropriate, knowledgeable *JACS* Editors on the basis of reviewer input and editorial evaluation.

—Peter J. Stang, Editor-in-Chief

Theoretical and Experimental Understanding of Hydrogen Evolution Reaction Kinetics in Alkaline Electrolytes with Pt-Based Core–Shell Nanocrystals

Jeonghyeon Kim, Haesol Kim, Won-Jae Lee, Bibi Ruqia, Hionsuck Baik, Hyung-Suk Oh, Seung-Min Paek, Hyung-Kyu Lim*, Chang Hyuck Choi*, and Sang-Il Choi*
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Predicting the kinetics of Pt-based catalysts for the hydrogen evolution reaction (HER) in alkaline media is an ongoing challenge. In this manuscript, theoretical and experimental exploration of HER were carried out by constructing the model catalysts of Pd@Pt and PdH@Pt core-shell octahedra enclosed with Pt(111) facets. The authors back up the study with DFT calculations on model surfaces. Interestingly, the calculations predict a better understanding can be obtained by using the work function model (WF) that describes the interfacial electric field. This is an excellent study that adds important work on understanding the alkaline HER.

—Li-Jun Wan

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