

Curriculum Vitae

Prof. Dr. Hai-Wei Liang

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EMPLOYMENT

- 01/2016-Present: University of Science and Technology of China (USTC), Hefei, China
Professor, Department of Chemistry
Hefei National Laboratory for Physical Sciences at the Microscale
- 05/2012-12/2015: Max Planck Institute for Polymer Research (MPIP), Mainz, Germany
Postdoctoral Research Fellow
Advisor: Prof. Müllen Klaus and Prof. Xinliang Feng
- 06/2011-05/2012: University of Science and Technology of China (USTC), Hefei, China
Postdoctoral Research Fellow
Advisor: Prof. Shu-Hong Yu

EDUCATION

- 09/2006-06/2011: University of Science and Technology of China (USTC)
Ph.D., Inorganic chemistry
Advisor: Prof. Shu-Hong Yu
- 09/2002-07/2006: B.S. East China Normal University (ECNU)

RESEARCH INTERESTS

We focus on the design and synthesis of atomically ordered alloys (that is, intermetallic compounds) fuel cell catalysts. We propose 1) to develop synthetic methodology of small-sized atomically ordered alloy catalysts based on the thermodynamics and kinetics of the formation of intermetallic compounds and metal sintering under high temperatures, 2) to prepare highly active and durable atomically ordered alloy catalysts for cathodic oxygen reduction reaction in proton-exchange-membrane fuel cells (PEMFCs), and 3) to prepare advanced porous carbon supports for PEMFCs to meet the challenges of the local oxygen transport resistance in the low-Pt cathodes in PEMFCs.

SELECTED PUBLICATION

1. Yang, C.-L.; Wang, L.-N.; Yin, P.; Liu, J.; Chen, M.-X.; Yan, Q.-Q.; Wang, Z.-S.; Xu, S.-L.; Chu, S.; Cui, C.; Ju, H.; Zhu, J.; Lin, Y.*; Shui, J. L.*; **Liang, H.-W.***, *Science* 2021, accepted.
2. Yin, P.; Luo, X.; Ma, Y.; Chu, S.-Q.; Chen, S.; Zheng, X.; Lu, J.*; Wu, X.-J.*; **Liang, H.-W.***, Sulfur stabilizing metal nanoclusters on carbon at high temperatures. *Nat. Commun.* 2021, 12 (1), 3135.
3. Yin, P.; Hu, S.; Qian, K.; Wei, Z.; Zhang, L.-L.; Lin, Y.*; Huang, W.; Xiong, H.; Li, W.-X.*; **Liang, H.-W.***, Quantification of critical particle distance for mitigating catalyst sintering. *Nat. Commun.* 2021, 12 (1), 4865.
4. Chen, M.-X.; Zhu, M.; Zuo, M.; Chu, S.-Q.; Zhang, J.; Wu, Y.; **Liang, H.-W.***; Feng, X.*, Identification of Catalytic Sites for Oxygen Reduction in Metal/Nitrogen-Doped Carbons with Encapsulated Metal

- Nanoparticles. *Angew. Chem. Int. Ed.* 2020, 59 (4), 1627-1633.
- Li, C.; Ding, Y.-W.; Hu, B.-C.; Wu, Z.-Y.; Gao, H.-L.; **Liang, H.-W.***; Chen, J.-F.; Yu, S.-H.* , Temperature-Invariant Superelastic and Fatigue Resistant Carbon Nanofiber Aerogels. *Adv. Mater.* 2020, 32 (2), 1904331.
 - Yan, Q.-Q.; Wu, D.-X.; Chu, S.-Q.; Chen, Z.-Q.; Lin, Y.; Chen, M.-X.; Zhang, J.; Wu, X.-J.*; **Liang, H.-W.***, Reversing the charge transfer between platinum and sulfur-doped carbon support for electrocatalytic hydrogen evolution. *Nat. Commun.* 2019, 10 (1), 4977.
 - Wang, L.; Chen, M.-X.; Yan, Q.-Q.; Xu, S.-L.; Chu, S.-Q.*; Chen, P.; Lin, Y.*; **Liang, H.-W.***, A sulfur-tethering synthesis strategy toward high-loading atomically dispersed noble metal catalysts. *Sci. Adv.* 2019, 5 (10), eaax6322.
 - Tong, L.; Wang, Y.-C.; Chen, M.-X.; Chen, Z.-Q.; Yan, Q.-Q.; Yang, C.-L.; Zhou, Z.-Y.; Chu, S.-Q.; Feng, X.*; **Liang, H.-W.***, Hierarchically porous carbons as supports for fuel cell electrocatalysts with atomically dispersed Fe-N_x moieties. *Chem. Sci.* 2019, 10 (35), 8236-8240.
 - Wu, Z.-Y.; Xu, S.-L.; Yan, Q.-Q.; Chen, Z.-Q.; Ding, Y.-W.; Li, C.; **Liang, H.-W.***; Yu, S.-H.* , Transition metal-assisted carbonization of small organic molecules toward functional carbon materials. *Sci. Adv.* 2018, 4 (7), eaat0788.
 - Li, S. C.; Hu, B. C.; Ding, Y. W.; **Liang, H. W.***; Li, C.; Yu, Z. Y.; Wu, Z. Y.; Chen, W. S.; Yu, S. H.* , Wood-Derived Ultrathin Carbon Nanofiber Aerogels. *Angew. Chem. Int. Ed.* 2018, 57 (24), 7085-7090.

AWARDS & HONORS

- 2020 Highly Cited Researchers 2020 (Clarivate Analytics, ISI Web of Knowledge)
- 2019 Highly Cited Researchers 2019 (Clarivate Analytics, ISI Web of Knowledge)
- 2018 Highly Cited Researchers 2018 (Clarivate Analytics, ISI Web of Knowledge)
- 2016 The 2nd Prize of National Natural Science Award awarded by Chinese Government
- 2014 The 1st Prize of Natural Science Award of Anhui Province, P. R. China
- 2013 National Excellent Doctoral Dissertation Award
- 2012 CAS Excellent Doctoral Dissertation Award
- 2011 Special Prize of the CAS's President Scholarship for Graduate Student (1% Top)
- 2010 Scholarship Award for Excellent Doctoral Student granted by Ministry of Education
- 2010 Qiu Shi Graduate Student Scholarship (3% Top)