

DISSEMINATION ACTIVITIES

1. Publications in peer-reviewed international journals

[1] K. Kappis, J. Papavasiliou, M. Kusmierz, G. Słowik, Y. Li, H. Li, W. Gac, **G. Avgouropoulos***, Steam reforming of methanol over combustion synthesized CuZnOx-based catalysts for fuel cell applications, **Chemical Engineering Journal**, 2023, 461, 142098.

DOI: <https://doi.org/10.1016/j.cej.2023.142098>

[2] Yifan Li, Jing Hu, **Haibin Li** and Li Chen, Performance of an Intermediate-temperature fuel cell with a CsH₅(PO₄)₂-doped polybenzimidazole membrane, **Journal of The Electrochemical Society**, 2022, 169, 024505.

DOI: <https://doi.org/10.1149/1945-7111/ac4d6e>

[3] Yifan Li, Konstantinos Kappis, Joan Papavasiliou, Zhiyong Fu, Li Chen, **Haibin Li***, **Dimitrios E. Vlachos**, **George Avgouropoulos***, Insights on the electrochemical performance of a molten proton conductor fuel cell with internal methanol reformer, **Journal of Power Sources**, 2022, 542, 231813.

DOI: <https://doi.org/10.1016/j.jpowsour.2022.231813>

[4] Zhiyong Fu, Yifan Li, **Joan Papavasiliou**, Yijing Xing, Lei Liu, Zhuoqun Li, Li Chen, **Haibin Li**, Performance of CCM-type MEAs based on a CsH₅(PO₄)₂-doped polybenzimidazole membrane for HT-PEMFC, **International Journal of Energy Research**, 2022, 9, 1–10.

DOI: <https://doi.org/10.1002/er.8722>

[5] Yifan Li, Jing Hu, **Joan Papavasiliou**, Zhiyong Fu, Li Chen and **Haibin Li**, Enhanced MEA performance for an intermediate-temperature fuel cell with a KH₅(PO₄)₂-Doped polybenzimidazole membrane, **Membranes**, 2022, 12, 728.

DOI: <https://doi.org/10.3390/membranes12080728>

[6] Yijing Xing, **Haibin Li***, and **George Avgouropoulos***, Research progress of proton exchange membrane failure and mitigation strategies, **Materials**, 2021, 14, 2591.

DOI: <https://doi.org/10.3390/ma14102591>

[7] Yijing Xing, Lei Liu, Zhuoqun Li, Yifan Li, Zhiyong Fu, **Haibin Li***, Performance of an ePTFE-reinforced membrane electrode assembly for proton-exchange membrane fuel cells, **Energy & Fuels**, 2022, 36, 11177.

DOI: <https://doi.org/10.1021/acs.energyfuels.2c01974>

[8] Lei Liu, Yizhe Li, Rui Qiao, Yijing Xing, and **Haibin Li***, Reinforced composite membranes based on expanded polytetrafluoroethylene skeletons modified by a surface sol–gel process for fuel cell applications, **Energy & Fuels**, 2021, 35(15), 12482-12494.

DOI: <https://doi.org/10.1021/acs.energyfuels.1c01205>

[9] Konstantinos Kappis, Joan Papavasiliou, and **George Avgouropoulos***, Methanol Reforming Processes for Fuel Cell Applications, **Energies**, 2021, 14(24), 8442.

DOI: <https://doi.org/10.3390/en14248442>

2. Patents

[1] **Haibin Li**, Yifan Li, Jing Hu, A membrane electrode assembly based on molten proton conductor electrolyte membrane and its preparation method, Patent application number: 202110739963.3;

[2] **Haibin Li**, Yijing Xing, Yifan Li, A fuel cell membrane electrode assembly and its preparation method, Patent application number: 202110742280.3;

[3] **Haibin Li**, Zhiyong Fu, Yijing Xing, Yifan Li, Membrane electrode assembly based on molten conductor electrolyte membrane and catalytic layer containing proton conductor, Patent application number: 202210840934.0;

[4] **Haibin Li**, Yijing Xing, Yifan Li, Zhiyong Fu, Membrane electrode assembly based on molten proton conductor electrolyte membrane and its preparation method, Patent application number: 202210840927.0;

[5] **Haibin Li**, Rui Qiao, Lei Liu, Minshuo Liu, Integrated membrane electrode and its preparation method, Patent application number: 202010135699.8;

[6] **Haibin Li**, Rui Qiao, Lei Liu, Minshuo Liu, Reinforced integrated membrane electrode and its preparation method, Patent application number: 202010135700.7;

[7] **Haibin Li**, Yijing Xing, Rui Qiao, Zhuoqun Li, An integrated membrane electrode preparation method that can meet different enhancement needs, Patent application number: 202011357790.0.

3. Presentations in conferences, forums and other technology/scientific events

[1] K. Kappis, Y. Li, J. Papavasiliou, **H. Li**, D.E. Vlachos and **G. Avgouropoulos**, Application aspects of molten proton conductor fuel cell modules with internal methanol reformer, **15th European Congress on Catalysis, EuropaCat2023**, Prague, Czech Republic, August 27 – September 1, 2023.

[2] **G. Avgouropoulos**, “The role of hydrogen technologies in the transport sector on the way to climate neutrality”, **Invited, 2nd Patras Green Transport Conference**, Patras, Greece, November 18th, 2022.

[3] K. Kappis, J. Papavasiliou, G. Słowik, M. Kuśmierz, W. Gac, **G. Avgouropoulos**, “Effect of noble metals addition on copper-zinc based catalysts for hydrogen production from methanol”, **16th Panhellenic Catalysis Symposium**, Chania, Greece, October 20-22, 2022.

- [4] **George Avgouropoulos**, “National strategy for hydrogen and the role of catalysis towards climate neutrality”, **Keynote presentation, 16th Panhellenic Catalysis Symposium**, Chania, Greece, October 20-22, 2022.
- [5] K. Kappis, J. Papavasiliou, **G. Avgouropoulos**, G. Słowik, M. Kuśmierz, W. Gac, “Effect of noble metal promoters on the performance of CuZnGaAlO_x-based catalysts for methanol steam reforming reaction”, **15th Pannonian International Symposium on Catalysis (PISC2022)**, Jastrzębia Góra, Poland, September 4-8, 2022.
- [6] K. Kappis, J. Papavasiliou, **G. Avgouropoulos**, “Steam reforming of methanol over copper zinc catalysts for application in fuel cells”, **13th Panhellenic Conference on Chemical Engineering**, Patras, Greece, June 2-4, 2022.
- [7] K. Kappis, J. Papavasiliou, M. Kuśmierz, G. Słowik, W. Gac, **G. Avgouropoulos**, “Production of hydrogen over CuZnO_x-based methanol reformers for fuel cell applications”, **European Hydrogen Energy Conference 2022 (EHEC2022)**. Madrid, Spain, May 18-20, 2022.
- [8] K. Kappis, Y. Li, **H. Li**, **G. Avgouropoulos**, “Integration of an intermediate-temperature fuel cell based on a CsH₅(PO₄)₂-doped polybenzimidazole membrane with a CuZn-based methanol reformer”, **European Hydrogen Energy Conference 2022 (EHEC2022)**. Madrid, Spain, May 18-20, 2022.
- [9] **G. Avgouropoulos**, “Electrification of Transportation Sector via Hydrogen Technologies”, **Invited, 1st Patras Green Transport Conference**, Patras, Greece, November 5th, 2021.
- [10] K. Kappis, J. Papavasiliou, **G. Avgouropoulos**, “«A study of the effect of hydrothermal synthesis parameters on the performance of CuO-CeO₂ catalysts for the production of hydrogen via steam reforming of methanol», **1st Interactive Conference of Young Scientists “Mineral Resources-Environment-Chemical Engineering”**, Kozani, Greece, February 26-28, 2021.
- [11] **George Avgouropoulos**, “Prospects of Electromobility via Hydrogen Technologies”, **Energy e-Forum 2020**, Patras, Greece, July 13-17, 2020.