

梁振兴个人简历

梁振兴，男，2008 年博士毕业于香港科技大学，华南理工大学化学与化工学院教授、广东省电化学能源工程技术研究中心主任、广东省燃料电池技术重点实验室副主任。

研究领域为电化学基础与应用，具体包括：扫描电化学显微镜、纳米碰撞电化学、电池用关键材料、电催化反应机理与动力学、多孔电极荷质传递过程研究等。迄今发表 SCI 收录研究论文近 90 篇，h 因子 40。主持国家自然科学基金、国家十三五重点研发计划、广东省科技计划项目、广州市科技计划重大专项（对外科技合作）等，获得教育部自然科学二等奖，入选广州市珠江科技新星。

个人简历

姓名 梁振兴 性别 男
电子信箱 zliang@scut.edu.cn 联系电话 +86-13138662628
联系地址 广州市五山路 381 号华南理工大学逸夫工程馆 129 房间, 510641

教育工作经历

1997-2001 年 山东大学 化学与化工学院, 导师: 宋其圣 教授
学士论文: 一种溴代医药中间体的合成
2001-2004 年 中国科学院大连化学物理研究所, 导师: 辛勤、孙公权 研究员
硕士论文: 直接甲醇燃料电池: Nafion 膜的红外光谱研究和新型阻醇质子交换膜的开发
2004-2008 年 香港科技大学 机械工程系, 导师: 赵天寿 教授
博士论文: Preparation of High-Durability Membrane and Electrode Assemblies for Direct Methanol Fuel Cells
2008-2011 年 华南理工大学化学与化工学院 讲师
2011-2016 年 华南理工大学化学与化工学院 副教授
2014-2015 年 美国得克萨斯大学奥斯汀分校化学系 访问学者
2016 年- 华南理工大学化学与化工学院 教授
2018-2021 年 国家自然科学基金委员会化学科学部 能源化学流动编制项目主任

学术兼职

2016-, 中国化学会会员
2009-, 国际电化学学会会员
2018-, International Association for Hydrogen Energy-Hydrogen Energy Systems 成员
2020-2024, *Chinese Journal of Catalysis* 副主编

荣誉与奖励

- 2013.02, 广州市珠江科技新星
- 2011.01, 教育部自然科学二等奖“质子交换膜燃料电池的应用基础研究”

研究方向

- 电能源化学、能源电催化、能源材料
- 低温燃料电池、液流电池、锂电池
- 电能源化学研究方法

专著

- Z.X. Liang**, T.S. Zhao (Editors), 2012, *Catalysts for Alcohol-Fuelled Direct Oxidation Fuel Cells*, Royal Society of Chemistry, ISBN 978-1-84973-405-9.
- T.S. Zhao*, **Z.X. Liang**, J.B. Xu, 2009, FUEL CELLS - DIRECT ALCOHOL FUEL CELLS | Overview,

代表性论文

1. S.Z. Hu, L.W. Wang, X.Z. Yuan, Z.P. Xiang, M.B. Huang, P. Luo, Y.F. Liu, Z.Y. Fu*, **Z.X. Liang***, Viologen-Decorated TEMPO for Neutral Aqueous Organic Redox Flow Batteries, *Energy Material Advances*, Article ID 9795237, 2021.
2. J.H. Huang, S.Z. Hu*, X.Z. Yuan, Z.P. Xiang, M.B. Huang, K. Wan, J.H. Piao, Z.Y. Fu, **Z.X. Liang***, A Novel Tripyridinium-Triazine Molecule: Radicals Stabilization Enabling Reversible Multi-Electron Storage, *Angewandte Chemie International Edition*, DOI: 10.1002/anie.202107216, 2021.
3. S.Z. Hu, T.Y. Li, M.B. Huang, J.H. Huang, W.J. Li, L.W. Wang, Z.Q. Chen, Z.Y. Fu*, X.F. Li, **Z.X. Liang***, Self-Regulated Conjugation of Phenylene-Bridged Bispyridinium with High Capacity and Stability for Aqueous Flow Battery, *Advanced Materials*, 2005839, 2021.
4. M.Y. Liu, M.Y. Du, G.F. Long, H. Wang, W. Qin, D.D. Zhang, S. Ye, S.Z. Liu, J.Y. Shi*, **Z.X. Liang***, C. Li*, Iron/Quinone-based all-in-one solar rechargeable flow cell for highly efficient solar energy conversion and storage, *Nano Energy*, 76: 104907, 2020.
5. C.X. Jin, H.Y. Lei, M.Y. Liu, A.D. Tan*, J.H. Piao, Z.Y. Fu, **Z.X. Liang***, H.H. Wang, Low-dimensional Nitrogen-Doped Carbon for Br₂/Br⁻ Redox Reaction in Zinc-Bromine Flow Battery, *Chemical Engineering Journal*, 380: 122606, 2020.
6. H.X. Xiang, A.D. Tan, J.H. Piao, Z.Y. Fu*, **Z.X. Liang***, Efficient Nitrogen-doped Carbon for Zinc-Bromine Flow Battery, *Small*, 15(24): 1901848, 2019.
7. Z.P. Xiang, H.Q. Deng, P. Peljo, Z.Y. Fu, S.L. Wang, D. Mandler, G.Q. Sun*, **Z.X. Liang***, Electrochemical Dynamics of Single Platinum Nanoparticle Collision Event towards Hydrogen Evolution Reaction, *Angewandte Chemie International Edition*, 57 (13): 3464-3468, 2018.
8. **Z.X. Liang***, H.S. Ahn, A.J. Bard, A Study of the Mechanism of the Hydrogen Evolution Reaction on Nickel by Surface Interrogation Scanning Electrochemical Microscopy, *Journal of the American Chemical Society*, 139 (13): 4854-4858, 2017
9. G.F. Long, K. Wan, M.Y. Liu, **Z.X. Liang***, J.H. Piao, P. Tsiakaras, Active Sites and Mechanism on Nitrogen-Doped Carbon Catalyst for Hydrogen Evolution Reaction, *Journal of Catalysis*, 348: 151-159, 2017.
10. K. Wan, Z.P. Yu, X.H. Li, M.Y. Liu, G. Yang, J.H. Piao, **Z.X. Liang***, pH effect on electrochemistry of nitrogen-doped carbon catalyst for oxygen reduction reaction, *ACS Catalysis*, 5: 4325-4332, 2015.

其他论文

1. Z.P. Xiang, A.D. Tan*, J.H. Piao, Z.Y. Fu, **Z.X. Liang***, Oxygen reduction reaction on single Pt nanoparticle, *Journal of Energy Chemistry*, 49: 323-326, 2020.
2. L.Y. Tian, Y.C. Luo, K.L. Chu, D.J. Wu, J.Y. Shi*, **Z.X. Liang***, A robust photocatalyst of Au₂₅@ZIF-8@TiO₂-ReP with dual photoreductive sites to promote photoelectron utilization in H₂O splitting to H₂ and CO₂ reduction to CO, *Chemical Communications*, 55: 12976, 2019.
3. Y. Wang, G.F. Long, J.H. Piao, Z.Y. Fu, **Z.X. Liang***, Facile Synthesis Strategy of Ni_{core}Pt_{shell} Electrocatalyst for Oxygen Reduction Reaction, *Journal of Energy Chemistry*, 37: 192-196, 2019.
4. H.Y. Lei, J.H. Piao, A. Brouzgou, E. Gorbova, P. Tsiakaras, **Z.X. Liang***, Synthesis of Nitrogen-doped Mesoporous Carbon Nanosheets for Oxygen Reduction Electrocatalytic Activity Enhancement in Acid and Alkaline Media, *International Journal of Hydrogen Energy*, 44 (9): 4423-4431, 2019.
5. G. Yang, Z.P. Yu, J. Zhang, **Z.X. Liang***, A highly efficient flower-like cobalt catalyst for electroreduction of carbon dioxide, *Chinese Journal of Catalysis*, 39 (5): 914-919, 2018.
6. A.D. Tan, K. Wang, Y.F. Wang, Z.Y. Fu, **Z.X. Liang***, N, S-Containing MOF Derived Dual-Doped Mesoporous Carbon as Highly Effective Oxygen Reduction Reaction Electrocatalyst, *Catalysis Science & Technology*, 8: 335-343, 2018.
7. L. Zhang, Y. Wang, K. Wan, J.H. Piao, **Z.X. Liang***, Effective sulfur-doping in carbon by high-temperature molten salt bath and its electrocatalysis for oxygen reduction reaction, *Electrochemistry Communications*, 86: 53-56, 2018.
8. M.Y. Liu, Z.P. Xiang, J.H. Piao, J.Y. Shi, **Z.X. Liang***, Electrochemistry of Vanadium Redox Couples on Nitrogen-doped Carbon, *Electrochimica Acta*, 259: 687-693, 2018.
9. K. Wan, A.D. Tan, Z.P. Yu, **Z.X. Liang***, J.H. Piao, P. Tsiakaras, 2D Nitrogen-Doped Hierarchically Porous Carbon:

- Key Role of Low Dimensional Structure in Favoring Electrocatalysis and Mass Transfer for Oxygen Reduction Reaction, *Applied Catalysis B: Environmental*, 209: 447-454, 2017.
10. A.D. Tan, Y.F. Wang, Z.Y. Fu, P. Tsiakaras, **Z.X. Liang***, Highly Effective Oxygen Reduction Reaction Electrocatalysis: Nitrogen-doped Hierarchically Mesoporous Carbon Derived from Interpenetrated Nonporous Metal-Organic Frameworks, *Applied Catalysis B: Environmental*, 218: 260-266, 2017.
 11. G.F. Long, X.H. Li, K. Wan, **Z.X. Liang***, J.H. Piao, P. Tsiakaras, Pt/C_N-doped Electrocatalysts: Superior Electrocatalytic Activity for Methanol Oxidation Reaction and Mechanistic Insight into Interfacial Enhancement, *Applied Catalysis B: Environmental*, 203: 541-548, 2017.
 12. Z.P. Yu, J.H. Piao, **Z.X. Liang***, Synthesis of 2D Nitrogen-Doped Mesoporous Carbon Catalyst for Oxygen Reduction Reaction, *Feature Article in Materials*, 10: 197, 2017.
 13. B.T. Li, X. Luo, J. Huang, X.J. Wang, **Z.X. Liang***, One-pot synthesis of ordered mesoporous Cu-KIT-6 and its improved catalytic behavior for the epoxidation of styrene: Effects of the pH value of the initial gel, *Chinese Journal of Catalysis*, 38(3): 518-528, 2017.
 14. M.Y. Liu, Z.P. Xiang, H.Q. Deng, K. Wan, Q.B. Liu, J.H. Piao, Y.Y. Zheng, **Z.X. Liang***, Electrochemical behavior of vanadium redox couples on carbon electrode, *Journal of The Electrochemical Society*, 163(10), H937-H942, 2016.
 15. K. Wan, M.Y. Liu, Z.P. Yu, **Z.X. Liang***, Q.B. Liu, J.H. Piao, Y.Y. Zheng, Synthesis of nitrogen-doped ordered mesoporous carbon electrocatalyst: Nanoconfinement effect in SBA-15 template, *International Journal of Hydrogen Energy*, 41(40):18027-18032, 2016.
 16. K. Wan, Z.P. Yu, Q.B. Liu, J.H. Piao, Y.Y. Zheng, **Z.X. Liang***, An Ultrathin 2D Semi-Ordered Mesoporous Silica Film: Co-Operative Assembly and Application, *RSC Advances*, 6(79), 75058-75062, 2016.
 17. X.H. Li, K. Wan, Q.B. Liu, J.H. Piao, Y.Y. Zheng, **Z.X. Liang***, Nitrogen-doped ordered mesoporous carbon: Effect of carbon precursor on oxygen reduction reactions, *Chinese Journal of Catalysis*, 37(9): 1562-1568, 2016.
 18. K. Wan, G.F. Long, M.Y. Liu, **Z.X. Liang***, P. Tsiakaras, Nitrogen-doped ordered mesoporous carbon: Synthesis and active sites for electrocatalysis of oxygen reduction reaction, *Applied Catalysis B: Environmental*, 165: 566-571, 2015.
 19. K. Wan, Z.P. Yu, **Z.X. Liang***, Polyaniline-derived ordered mesoporous carbon as efficient electrocatalyst for oxygen reduction reaction, invited paper in *Electrocatalysis in Fuel Cells in Catalysts*, 5(3): 1034-1045, 2015.
 20. G.F. Long, M.Y. Liu, K. Wan, X.H. Li, **Z.X. Liang***, J.H. Piao, Effect of pyrolysis conditions on nitrogen-doped ordered mesoporous carbon electrocatalyst, *Chinese Journal of Catalysis*, 36: 1197-1204, 2015.
 21. M.C. Wu, M.Y. Liu, G.F. Long, K. Wan, **Z.X. Liang***, T.S. Zhao, A novel high-energy-density positive electrolyte with multiple redox couples for redox flow batteries, *Applied Energy*, 136 (31): 576-581, 2014.
 22. Q.B. Liu, S.J. Liao, H.Y. Song, **Z.X. Liang***, High performance LiFePO₄/C materials: Effect of carbon source on microstructure and performance, *Journal of Power Sources*, 211 (1): 52-58, 2012.
 23. P.B. Xi, **Z.X. Liang***, S.J. Liao, Stability of hemin/C electrocatalyst for oxygen reduction reaction, *International Journal of Hydrogen Energy*, 37 (5): 4606-4611, 2012.
 24. P. Hong, S.J. Liao, J.H. Zeng, Y.L. Zhong, **Z.X. Liang***, A miniature passive direct formic acid fuel cell based twin-cell stack with highly stable and reproducible long-term discharge performance, *Journal of Power Sources*, 196 (3): 1107-1111, 2011.
 25. **Z.X. Liang***, H.Y. Song, S.J. Liao, Hemin: a highly effective electrocatalyst mediating oxygen reduction reaction, *The Journal of Physical Chemistry C*, 115 (5): 2604-2610, 2011.
 26. J.H. Zeng, T. Shu, S.J. Liao, **Z.X. Liang***, Effect of Pt oxidation state on methanol oxidation activity, *Chinese Journal of Catalysis*, 32 (1): 86-92, 2011.
 27. **Z.X. Liang***, J.Y. Shi, S.J. Liao, J.H. Zeng, Noble metal nanowires incorporated Nafion[®] membranes for reduction of methanol crossover in direct methanol fuel cells, *International Journal of Hydrogen Energy*, 25 (17): 9182-9185, 2010.
 28. **Z.X. Liang***, T.S. Zhao*, J.B. Xu, L.D. Zhu, Mechanism study of the ethanol oxidation reaction on palladium in the alkaline solution, *Electrochimica Acta*, 54 (8): 2203-2208, 2009. (*Top Cited Article 2008 to 2009*)
 29. **Z.X. Liang***, T.S. Zhao*, J.B. Xu, Stabilization of the platinum-ruthenium electrocatalyst against the dissolution of ruthenium with the incorporation of gold, *Journal of Power Sources*, 185 (1): 166-170, 2008.
 30. **Z.X. Liang***, T.S. Zhao*, New DMFC anode structure consisting of platinum nanowires deposited into a Nafion membrane, *The Journal of Physical Chemistry C*, 111 (22): 8128-8134, 2007.
 31. **Z.X. Liang***, T.S. Zhao*, C. Xu, J.B. Xu, Microscopic characterizations of membrane electrode assemblies

- prepared under different hot-pressing conditions, *Electrochimica Acta*, 53 (2): 894-902, 2007.
32. **Z.X. Liang**, T.S. Zhao*, J. Prabhuram, A glue method for fabricating membrane electrode assemblies for direct methanol fuel cells, *Electrochimica Acta*, 51(28): 6412-6418, 2006.
 33. **Z.X. Liang**, T.S. Zhao*, J. Prabhuram, Diphenylsilicate-incorporated Nafion® membranes for reduction of methanol crossover in direct methanol fuel cells, *Journal of Membrane Science*, 283 (1-2): 219-224, 2006.
 34. **Z.X. Liang**, W.M. Chen, J.G. Liu, S.L. Wang, Z.H. Zhou, W.Z. Li, G.Q. Sun, Q. Xin*, FT-IR study of the microstructure of Nafion® membrane, *Journal of Membrane Science*, 233 (1-2): 39-44, 2004.
 35. 刘宾, 廖世军, **梁振兴***, 核壳结构: 燃料电池低铂催化剂的最佳途径, *化学进展*, 23 (5): 33-40, 2011.
 36. 罗远来, **梁振兴***, 廖世军, 直接甲醇燃料电池阳极催化剂研究进展, *催化学报*, 38 (2): 142-149, 2010.
 37. 李玉鹏, **梁振兴***, 廖世军, 具有特殊形貌和有序孔结构燃料电池用碳材料研究进展, *化工新型材料*, 38 (8):14-16, 2010.
 38. L. Huang, J. Zhang, Z. Xiang, D. Wu, X. Huang, X. Huang, **Z.X. Liang**, Z.Y. Tang, H.Q. Deng, Faradaic Counter for Liposomes Loaded with Potassium, Sodium Ions, or Protonated Dopamine, *Analytical Chemistry*, 93(27): 9495-9504, 2021.
 39. B.C. Liu, W.L. Dai, **Z.X. Liang**, J.S. Ye, L.Z. Ouyang, Fe/N/C carbon nanotubes with high nitrogen content as effective non-precious catalyst for oxygen reduction reaction in alkaline medium, *International Journal of Hydrogen Energy*, 42 (9): 5908-5915, 2017.
 40. B.Q. Zhang, S.Y. Wang, W.J. Fan, W.G. Ma, **Z.X. Liang**, J.Y. Shi, S.J. Liao, C. Li, Photoassisted Oxygen Reduction Reaction in H₂-O₂ Fuel Cells, *Angewandte Chemie International Edition*, 55(47): 1448-14751, 2016
 41. A. Brouzgou, S.Q. Song*, **Z.X. Liang***, P. Tsiakaras*, Non-precious electrocatalysts for oxygen reduction reaction in alkaline media: Latest achievements on novel carbon materials, *Catalysts*, 6: 159, 2016.
 42. Q. Zhang, R.G. Li, Z. Li, A.L. Li, S.Y. Wang, **Z.X. Liang**, S.J. Liao, C. Li, The dependence of photocatalytic activity on the selective and nonselective deposition of noble metal cocatalysts on the facets of rutile TiO₂, *Journal of Catalysis*, 337: 36-44 2016.
 43. Q. Zhang, Z. Li, S.Y. Wang, R.G. Li, X.W. Zhang, **Z.X. Liang**, H.X. Han, S.J. Liao, C. Li, Effect of redox cocatalysts location on photocatalytic overall water splitting over cubic NaTaO₃ semiconductor crystals exposed with equivalent facets, *ACS Catalysis*, 6: 2182-2191, 2016.
 44. H.N. Cui, **Z.X. Liang**, J.Z. Zhang, H. Liu, J.Y. Shi, Enhancement of the photocatalytic activity of a TiO₂/carbon aerogel based on a hydrophilic secondary pore structure, *RSC Advances*, 6: 68416-68423, 2016.
 45. J.X. Zhang, D.D. Liu, H.Y. Song, **Z.X. Liang**, X.F. Guo, L. Du, S.J. Liao, Effects of tailoring and dehydrated cross-linking on morphology evolution of ordered mesoporous carbons, *RSC Advances*, 6: 19515-19521, 2016.
 46. B.Q. Zhang, J.Y. Shi, C.M. Ding, R.F. Chong, B. Zhang, Z.L. Wang, A.L. Li, **Z.X. Liang**, S.J. Liao, C. Li, Conversion of biomass derivatives to electricity in photo fuel cells using undoped and tungsten-doped bismuth vanadate photoanodes, *ChemSusChem*, 8 (23): 4049-4055, 2015.
 47. X. Luo, Y. Li, J.B. Zheng, H.L. Qi, **Z.X. Liang**, X.H. Ning, The determination of DNA methyltransferase activity by quenching of tris(2,2'-bipyridine)ruthenium electrogenerated chemiluminescence with ferrocene, *Chemical Communications*, 51: 9487, 2015.
 48. H.N. Cui, D. Li, G.T. Liu, **Z.X. Liang**, J.Y. Shi, A TiN_{0.3}/CeO₂ photo-anode and its photo-electrocatalytic performance, *Chinese Journal of Catalysis*, 36(4): 550, 2015.
 49. B.Q. Zhang, H.L. Peng, L.J. Yang, H.L. Li, H.X. Nan, **Z.X. Liang**, H.Y. Song, H.N. Su, C. Li, S.J. Liao, Three dimensional palladium nanoflowers with enhanced electrocatalytic activity towards the anodic oxidation of formic acid, *Journal of Material Chemistry A*, 3: 973, 2015.
 50. S.Y. Hou, S.J. Liao, Z. Xiong, H.B. Zou, D. Dang, R.P. Zheng, T. Shu, **Z.X. Liang**, X.H. Li, Y.W. Li, Improvement of proton exchange membrane fuel cell performance in low-humidity conditions by adding hygroscopic agarose powder to the catalyst layer, *Journal of Power Sources*, 273 (1): 138-173, 2015.
 51. Y.N. Wu, S.J. Liao, H.F. Guo, X.Y. Hao, **Z.X. Liang**, Ultralow platinum-loading PtPdRu@PtRuIr/C catalyst with excellent CO tolerance and high performance for the methanol oxidation reaction, *Rare Metals*, 33(3): 337-342, 2014.
 52. K. Wang, Y. Wang, **Z.X. Liang**, Y.R. Liang, D.C. Wu, S.Q. Song, P. Tsiakaras, Ordered mesoporous tungsten carbide/carbon composites promoted Pt catalyst with high activity and stability for methanol electrooxidation, *Applied Catalysis B: Environmental*, 147: 518-525, 2014.
 53. Q. Zhang, X Guo, **Z.X. Liang**, J.H. Zeng, J. Yang*, S.J. Liao*, Hybrid PdAg alloy-Au nanorods: Controlled growth, optical properties and electrochemical catalysis, *Nano Research*, 6(7): 571-580, 2013.

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54. J.X. Zhang, G.W. Huang, C. Zhang, Q.H. He, C. Huang, X. Yang, H.Y. Song, **Z.X. Liang**, L. Du*, S.J. Liao*, Immobilization of highly active Pd nano-catalysts on functionalized mesoporous silica supports using mercapto groups as anchoring sites and their catalytic performance for phenol hydrogenation, *Chinese Journal of Catalysis*, 34 (8): 1519-1526, 2013.
 55. J.Y. Shi*, H.N. Cui, **Z.X. Liang**, X.H. Lu, Y.X. Tong, C.Y. Su, H. Liu, The roles of defect states in photoelectric and photocatalytic processes for $Zn_xCd_{1-x}S$, *Energy & Environmental Science*, 4: 466-470, 2011.
 56. X. Yang, S.J. Liao*, **Z.X. Liang**, Y.X. Li, L. Du, Gelatin-assisted templating route to synthesize sponge-like mesoporous silica with bimodal porosity and lysozyme adsorption behavior, *Microporous and Mesoporous Materials*, 143 (2-3): 263-269, 2011.
 57. H.L. Gao, S.J. Liao*, **Z.X. Liang**, H.G. Liang, F. Luo, Anodic oxidation of ethanol on core-shell structured Ru@PtPd/C catalyst in alkaline media, *Journal of Power Sources*, 196 (15): 6138-6143, 2011.
 58. X. Yang, S.J. Liao*, J.H. Zeng, **Z.X. Liang**, A mesoporous hollow silica sphere (MHSS): Synthesis through a facile emulsion approach and application of support for high performance Pd/MHSS catalyst for phenol hydrogenation, *Applied Surface Science*, 257: 4472-4477, 2011.
 59. J.H. Zeng*, S.J. Liao, J.Y. Lee, **Z.X. Liang**, Oxygen reduction reaction operated on magnetically modified PtFe/C electrocatalyst, *International Journal of Hydrogen Energy*, 35 (3): 942-948, 2010.
 60. H.L. Gao, S.J. Liao*, J.H. Zeng, **Z.X. Liang**, Y.C. Xie, Preparation and characterization of platinum-decorated Ru/C catalyst with high performance and superior poison tolerance for methanol oxidation, *Acta Physico-Chimica Sinica*, 12: 3193-3198, 2010.
 61. H.N. Su, L.M. Xu, H.P. Zhu, Y.N. Wu, L.J. Yang, S.J. Liao, H.Y. Song, **Z.X. Liang**, V. Birss, Self-humidification of a PEM fuel cell using a novel Pt/SiO₂/C anode catalyst, *International Journal of Hydrogen Energy*, 35 (15): 7874-7880, 2010.
 62. Y.N. Wu, S.J. Liao*, **Z.X. Liang**, L.J. Yang, R.F. Wang, High-performance core-shell PdPt@Pt/C catalysts via decorating PdPt alloy cores with Pt, *Journal of Power Sources*, 194 (2): 805-810, 2009.
 63. J.H. Piao, S.J. Liao*, **Z.X. Liang**, A novel cesium hydrogen sulfate-zeolite inorganic composite electrolyte membrane for polymer electrolyte membrane fuel cells application, *Journal of Power Sources*, 193: 483-487, 2009.
 64. L.M. Xu, S.J. Liao*, L.J. Yang, **Z.X. Liang**, Investigation of a novel catalyst coated membrane method to prepare low-platinum-loading membrane electrode assemblies for PEMFCs, *Fuel Cells*, 9: 101-105, 2009.
 65. Y.S. Li, T.S. Zhao*, **Z.X. Liang**, Effect of polymer binders in the anode catalyst layer on performance of alkaline direct ethanol fuel cells, *Journal of Power Sources*, 190: 223-229, 2009.
 66. Y.S. Li, T.S. Zhao*, **Z.X. Liang**, Performance test of alkaline electrolyte-membrane based direct ethanol fuel cells, *Journal of Power Sources*, 187 (2): 387-392, 2009.
 67. L.D. Zhu, T.S. Zhao*, J.B. Xu, **Z.X. Liang**, Preparation and characterization of carbon-supported submonolayer Pd decorated Au nanoparticles for the electro-oxidation of ethanol in alkaline media, *Journal of Power Sources*, 187 (1): 80-84, 2009.
 68. J.B. Xu, T.S. Zhao*, **Z.X. Liang**, Synthesis of active Pt-Ag alloy electrocatalyst towards the formic acid oxidation reaction, *The Journal of Physical Chemistry C*, 112 (44): 17362-17367, 2008.
 69. J.B. Xu, T.S. Zhao*, **Z.X. Liang**, Carbon supported Pt-Au alloy catalyst for direct formic acid fuel cells, *Journal of Power Sources*, 185 (2): 857-861, 2008.
 70. J.B. Xu, T.S. Zhao*, **Z.X. Liang**, L.D. Zhu, Facile preparation of AuPt alloy nanoparticles from organometallic complex precursor, *Chemistry of Materials*, 20 (5): 1688-1690, 2008.
 71. C.Y. Du, T.S. Zhao*, **Z.X. Liang**, Sulfonation of carbon-nanotube supported platinum catalysts for polymer electrolyte fuel cells, *Journal of Power Sources*, 176 (1): 9-15, 2008.
 72. J. Prabhuram, T.S. Zhao*, **Z.X. Liang**, R. Chen, A simple method for the synthesis of PtRu nanoparticles on the multi-walled carbon nanotube for the anode of a DMFC, *Electrochimica Acta*, 52 (7): 2649-2656, 2007. (*ScienceDirect Top 25 Hottest Articles*)
 73. J.G. Liu, T.S. Zhao*, **Z.X. Liang**, R. Chen, Effect of membrane thickness on the performance and efficiency of passive direct methanol fuel cells, *Journal of Power Sources*, 153 (1): 61-67, 2006.
 74. J. Prabhuram, T.S. Zhao*, Z.K. Tang, R. Chen, **Z.X. Liang**, Multiwalled carbon nanotube supported PtRu for the anode of direct methanol fuel cells, *The Journal of Physical Chemistry B*, 110 (11): 5245-5252, 2006.
 75. W.M. Chen, G.Q. Sun*, **Z.X. Liang**, Q. Mao, H.Q. Li, G.X. Wang, Q. Xin, H. Chang, C. Pak, D. Seung, The stability of a PtRu/C electrocatalyst at anode potentials in a direct methanol fuel cell, *Journal of Power Sources*,

- 160 (2): 933-939, 2006.
76. S.Z. Ren, G.Q. Sun*, C.N. Li, **Z.X. Liang**, Z.M. Wu, W. Jin, Q. Xin, X.F. Yang, Organic silica /Nafion composite membrane for direct methanol fuel cells, *Journal of Membrane Science*, 282 (1-2): 50-57, 2006.
 77. S.Q. Song, **Z.X. Liang**, W.J. Zhou, G.Q. Sun, Q. Xin*, V. Stergiopoulos, P. Tsiakaras, Direct methanol fuel cells: The effect of electrode fabrication procedure on MEAs structural properties and cell performance, *Journal of Power Sources*, 145 (2): 495-501, 2005.
 78. J. Prabhuram, T.S. Zhao*, **Z.X. Liang**, H. Yang, C.W. Wong, Pd and Pd-Cu alloy deposited Nafion membranes for reduction of methanol crossover in direct methanol fuel cell, *Journal of the Electrochemical Society*, 152 (7): A1390-A1397, 2005.
 79. S.Q. Song, W.J. Zhou, **Z.X. Liang**, R. Cai, G.Q. Sun, Q. Xin, V. Stergiopoulos, P. Tsiakaras, The effect of methanol and ethanol cross-over on the performance of PtRu/C-based anode DAFCs, *Applied Catalysis B: Environmental*, 55 (1): 65-72, 2005.

会议报告

1. **梁振兴**, 氮杂碳材料表面的电化学研究, 口头报告, 中国化学会第 30 届学术年会, 大连, 2016 年 7 月.
2. **Z.X. Liang**, Carbon-based electrocatalyst for fuel cells, 特邀报告, International Conferences on Modern Materials and Technologies, 意大利, 2014 年 6 月.
3. **Z.X. Liang**, Hemin: a highly effective and stable electrocatalyst for ORR, 特邀报告, IUMRS-ICA2011, 台北, 2011 年 9 月.
4. **梁振兴**, 氯化血红素: 一种高活性氧还原反应电催化剂, 口头报告, 第十五届全国催化学术会议, 广州, 2010 年 12 月.
5. **Z.X. Liang**, Hemin: a highly effective electrocatalyst for ORR, 邀请报告, 第一届便携式燃料电池国际研讨会, 浙江长兴, 2010 年 11 月.
6. **梁振兴**, 直接醇类燃料电池阳极设计, 主题报告, 第十五届中国电化学会议, 长春, 2009 年 12 月.
7. **Z.X. Liang**, Nafion membrane filled with noble metal nanowires for direct alcohol fuel cells, 口头报告, 第六十届国际电化学学会年会, 北京, 2009 年 6 月.
8. **Z.X. Liang**, T.S. Zhao*, Nafion membrane filled with platinum nanowires for direct methanol fuel cells, 口头报告, 第 211 届美国电化学学会年会, 芝加哥, 2007 年 5 月.

专利

1. **梁振兴**, 吕建广, 谭爱东, 一种金纳米颗粒负载于二氧化铈纳米片材料及其合成方法与应用, 202110096211X.
2. **梁振兴**, 卓宝柳, 谭爱东, 一种超薄二维金属有机框架材料及其制备方法与应用, 2020116056055.
3. **梁振兴**, 万凯, 一种有序介孔碳材料的制备方法, CN103896250B, 2016.04.13.
4. **梁振兴**, 朴金花, 余志鹏, 一种钴铁-氮杂炭材料催化剂及其制备方法和在电池中的应用, CN109167075B, 2020.12.22.
5. **梁振兴**, 朴金花, 余志鹏, 一种高效的锌溴储能电池正极材料及其制备方法和应用, CN201810948020, 2018.08.20.
6. **梁振兴**, 朴金花, 余志鹏, 一种高效二维氮杂炭材料及其制备方法和在能源转化领域中的应用, CN201810947626, 2018.08.20.
7. 孙为正, 刘海雄, **梁振兴**, 赵谋明, 一种修饰电极的高效催化剂及其制备方法和用途, CN201810203143, 2018.03.13.
8. **梁振兴**, 刘明尧, 巫茂春, 一种高比能液流电池正极电解液及其制备方法和应用, CN201410344660.1, 2014.
9. **梁振兴**, 廖世军, 碱性乙醇燃料电池非贵金属氧还原催化剂及其制法和应用, CN201010515754.2, 2010.
10. 廖世军, 朱华平, 徐磊敏, 苏华能, 杨莉君, 吴燕妮, **梁振兴**, 用于燃料电池膜电极的电催化剂及其制备方法及燃料电池膜电极, PCT/CN2010/071413, 2010.
11. 廖世军, 朱华平, 徐磊敏, 苏华能, 杨莉君, 吴燕妮, **梁振兴**, 用于燃料电池膜电极的电催化剂及其制备方法及燃料电池膜电极, 中国专利公开号: 200910041374.7, 2010.
12. 辛勤, 陈维民, 孙公权, **梁振兴**, 任素贞, 燃料电池复合材料双极板及其制作方法, 中国专利授权号: CN03156680.4, 2005.

主持科研项目

1. 基于活性中心结构调控的新型 M/N/C 氧还原催化剂, 中央高校基本科研业务费, 2018-2019.
2. 高效碳基电催化材料的制备及其燃料电池应用研究, 广州市科技计划项目产学研协同创新重大专项对外科技合作, 2017-2019.
3. 锌溴储能电池高效正极材料与电极结构的设计与开发, 广东省科技计划项目粤港联合创新领域, 2017-2019.
4. 基于超微电极与扫描电化学显微镜方法的电催化机理研究, 中国科学院燃料电池及复合电能源重点实验室开放课题, 2017.
5. 高效界面双功能复合电催化剂的理性设计、工程组装及相关基础科学问题研究, 国家自然科学基金, 2017-2020.
6. 燃料电池基础材料与过程机理研究, 科技部十三五国家重点研究计划, 2016-2021.
7. 三维开放孔结构碳纳米管/石墨烯复合材料与电极的构筑及其基础问题研究, 中央高校基本科研业务费, 2015-2016.
8. 高效氮掺杂有序介孔碳电催化剂材料与电极的构筑及相关基础问题研究, 广东省教育厅特色创新项目, 2015-2017.
9. 高效氮掺杂有序介孔碳电催化剂材料与电极的构筑及相关基础问题研究, 国家自然科学基金, 2015-2018.
10. 新型有序化液体燃料电池电极结构的制备与性能研究, 广东省自然科学基金, 2013-2015.
11. 碱性聚合物膜燃料电池非贵金属电催化剂、电极、电池的研究与开发, 广州市科信局珠江科技新星计划项目, 2013-2016.
12. 碱性聚合物膜燃料电池非贵金属电催化剂的研究与开发, 广州博能科技有限公司, 2014-2015.
13. 高效稳定燃料电池非贵金属电催化剂的合成及其基础问题研究, 中央高校基本科研业务费, 2013-2014.
14. 直接甲醇燃料电池高效一维纳米复合阳极结构的设计、构筑与性能研究, 中央高校基本科研业务费, 2011-2012.
15. 直接甲醇燃料电池高效一维纳米复合阳极结构的设计、构筑与性能研究, 国家自然科学基金, 2010-2012.
16. 直接甲醇燃料电池高效一维纳米复合阳极结构的设计、构筑与性能研究, 广东省教育厅学科建设-育苗工程, 2010-2012.