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简历：

1995年至今，任职中国科学院广州能源研究所，研究员，博士生导师，博士，现任制氢与利用研究室主任。

于2006年建立了制氢与利用研究室，主要开展质子交换膜水电解和燃料电池及其它制氢相关的纳米催化、材料、传热等基础研究，研发氢气制备和氢燃料电池等氢能利用的器件、装置及系统。主持和参与完成了国家自然科学基金、国家重点研发项目、国家发改委、中科院、广东省和广州市等50多个相关项目，在国内外学术期刊发表论文120多篇；获得授权发明专利20件；获得广东省科技进步一等奖1项。参与出版中英文著作5部。

研究领域：

主要从事氢气制备、氢燃料电池和加氢合成等氢能利用的基础研究与开发利用，为水电解制氢、重整制氢、氢燃料电池汽车、分布式热电联供和可再生能源制氢储能等应用提供技术支撑。

开展纳米催化、表面电化学、材料、传热等相关的基础研究：（1）质子交换膜电解水、生物质及其衍生物催化重整、光解水等可再生能源与新能源制氢；（2）质子交换膜燃料电池材料及电极；（3）纳米催化材料及有序结构；（4）微传热传质。

获奖及荣誉：

广东省科学技术奖科技进步奖一等奖，2004年

代表论著：

- (1) Zhida Wang, Yilang Mai, Yi Yang, Lisha Shen, Changfeng Yan*, Highly Ordered Pt-Based Nanoparticles Directed by the Self-Assembly of Block Copolymers for the Oxygen Reduction Reaction, ACS Appl. Mater. Interfaces 2021 13(32) 38138-38146
- (2) Xiangping Min, Yan Shi*, Zhuoxin Lu, Lisha Shen, Taiwo Oladapo Ogundipe, Pralhad Gupta, Chi Wang, Changqing Guo, Zhida Wang, Hongyi Tan, Sanjeev Mukerjee, Changfeng Yan*, High performance and cost-effective supported IrOx catalyst for proton exchange membrane water electrolysis, Electrochimica Acta 385 (2021) 138391
- (3) Yi Yang, Zhida Wang*, Yilang Mai, Changqing Guo, Yan Shi, Hongyi Tan, Zhuoxin Lu, Lisha Shen, and Changfeng Yan*, Highly active PtCo nanoparticles on hierarchically ordered mesoporous carbon support for polymer electrolyte membrane fuel cells, J Mater Sci (2021) 56:13083-13095
- (4) Jing-Hong Lian, Hong-Yi Tan, Chang-Qing Guo, Li-Sha Shen, Zhuo-Xin Lu, Yan Shi, Chang-Feng Yan*, Unravelling the role of ceria in improving the stability of Mo2C- based catalysts for the steam reforming of dimethyl ether, Catalysis Science & Technology, 2021, 11, 5570 - 5578

- (5)Zhi-Da Wang*, Yuan Gan, Yi-lang Mai, Yan Shi, Shuo Cao, Zhuo-Xin Lu, Chang-qing Guo, Hong-yi Tan, Chang-Feng Yan*, Synthesis of Ordered Pt Nanocube Arrays Directed by Block Copolymer Nanotemplate and Their Potential on Ethanol Oxidation Reaction, *ACS Analytical Chemistry* 2020, 92, 8046–8050
- (6)Zhuo-Xin Lu, Yan Shi, Pralhad Gupta, Xiang-ping Min, Hong-yi Tan, Zhi-Da Wang, Chang-qing Guo, Zhi-qing Zou, Hui Yang, Sanjeev Mukerjee, Chang-Feng Yan*, Electrochemical fabrication of IrO_x nanoarrays with tunable length and morphology for solid polymer electrolyte water electrolysis, *Electrochimica Acta*, 2020, 348, 136302
- (7)Jing-Hong Lian, Hong-Yi Tan*, Chang-Qing Guo, Zhi-Da Wang, Yan Shi, Zhuo-Xin Lu, Li-Sha Shen, Chang-Feng Yan*, A highly active and stable Pt modified molybdenum carbide catalyst for steam reforming of dimethyl ether and the reaction pathway, *International Journal of Hydrogen Energy*, 2020 45(56) 31523-31537
- (8)Zhang Liang, Chang-Feng Yan*, Sami Rtimi, Jayasundera Bandara*, Piezoelectric materials for catalytic/photocatalytic removal of pollutants: recent advances and outlooks, *Applied Catalysis B: Environmental*, 2019, 241(2)256-269
- (9)Yan Shi*, Lili Guo, Zhuoxin Lu, Zhida Wang, Yuan Gan, Changqing Guo, Hongyi Tan, and Changfeng Yan*, Design and Performance Investigation of a Carbon-Free Pt/Ti Cathode with Low Membrane Degradation Rate for Proton Exchange Membrane Water Electrolyser, *Energy Technol.* 2019 7(5) 1-10
- (10)Yuan Gan, Zhi-da Wang , Yan Shi, Chang-qing Guo, Hong-yi Tan, Zhuo-xin Lu, Chang-feng Yan*, Synthesis of density-multiplied Pt-NP arrays and their application in fuel cell by self-assembly of di-block copolymer, *Electrochimica Acta* 2018, 283, 1–10
- (11)Yan Shi, ZhuoxinLu, LiliGuo, ZhidaWang, ChangqingGuo, HongyiTan, ChangfengYan*, Fabrication of IrO₂ decorated vertical aligned self-doped TiO₂ nanotube arrays for oxygen evolution in water electrolysis, *International Journal of Hydrogen Energy*, 2018, 43(19) 9133-9143
- (12)Rushdi D. Senevirathne, Lahiru K. Abeykoon, Nuwan L. De Silva, Chang-Feng Yan, Jayasundera Bandara*, Sono-photocatalytic production of hydrogen by interface modified metal oxide insulators, *Ultrasonics Sonochemistry*, 2018, 45, 279-285
- (13)Yuan Gan, Zhida Wang, Zhuoxin Lu, Yan Shi, Hongyi Tan, Changfeng Yan*, Control on the Morphology of ABA Amphiphilic Triblock Copolymer Micelles in Dioxane/Water Mixture Solvent, *Chin J Polym Sci*, 2018, 36(6) 728-735
- (14) Yuan Gan, Zhida Wang, Changqing Guo, Changfeng Yan*, Effective Size-Controlled Synthesis and Electrochemical Characterization of Ordered Pt Nanopattern Arrays from Self-Assembling Block Copolymer Template, *Journal of Materials Science*, 2018, 53(6), 4089-4102
- (15)Qing-qing Tao, Hong-yi Tan, Zhuo-xin Lu, Zhi-da Wang, Li-qi Yi, Bandara Jayasundera, Chang-qing Guo, Yuan Gan, Jing-hong Lian, Liang Zhang, Chang-feng Yan*, Enhanced catalytic activity of Ni-Mo₂C/La₂O₃-ZrO₂ bifunctional catalyst for dry reforming of methane, *Journal of Materials Science*, 2018, 53(20) 14559–14572
- (16)Ying Huang, Chang-Feng Yan*, Chang-Qing Guo, Zhuo-Xin Lu, Yan Shi, Zhi-Da Wang, Synthesis of GO-modified Cu₂O nanosphere and the photocatalytic mechanism of water splitting for hydrogen production, *International Journal of Hydrogen Energy*, 2017, 42(7), 4007-4016
- (17)Zhida Wang, Changqing Guo, Yuan Gan, Changfeng Yan*, Patterning of Au nanoparticles via secondary phase-separation of large-sized compound micelles of amphiphilic block copolymer, *Materials Letters*, 2017, 194, 135-137
- (18)Zhuo-Xin Lu, Yan Shi, Chang-Feng Yan*, Chang-Qing Guo, Zhi-Da Wang, Investigation on IrO₂ supported on hydrogenated TiO₂ nanotube array as OER electro-catalyst for water electrolysis, *International Journal of Hydrogen Energy*, 2017, 42(6), 3572-3578
- (19)Ya-ping Xue, Chang-feng Yan*, Xiao-yong Zhao, Shi-lin Huang, Chang-qing Guo, Ni/La₂O₃-ZrO₂ Catalyst for Hydrogen Production from Steam Reforming of Acetic Acid as a Model Compound of Bio-oil, *Korean Journal of Chemical Engineering*, 2017, 34(2), 305-313
- (20)Xiao-yong Zhao, Ya-ping Xue, Chang-feng Yan*, Zhi-da Wang, Chang-qing Guo, Shi-lin Huang, Sorbent Assisted Catalyst of Ni-CaO-La₂O₃ for Sorption Enhanced Steam Reforming of Bio-oil with Acetic Acid as the Model Compound, *Chemical Engineering and Processing: Process Intensification*, 2017, 119,106-112.

- (21)Xiao-yong Zhao, Ya-ping Xue, Zhuo-Xin Lu, Ying Huang, Chang-Qing Guo, Chang-Feng Yan*, Encapsulating Ni/CeO₂-ZrO₂ with SiO₂ layer to improve its catalytic activity for steam reforming of toluene, *Catalysis Communications*, 2017, 101, 138-141
- (22)Xiao-yong Zhao, Ya-ping Xue, Chang-Feng Yan*, Ying Huang, Zhuo-Xin Lu, Zhi-da Wang, Liang Zhang, Chang-qing Guo, Promoted activity of porous silica coated Ni/CeO₂-ZrO₂ catalyst for steam reforming of acetic acid, *International Journal of Hydrogen Energy*, 2017, 42(34), 21677-21685
- (23)Yan Shi, Zhuoxin Lu, Lili Guo, Changfeng Yan*, Fabrication of membrane electrode assemblies by direct spray catalyst on water swollen Nafion membrane for PEM water electrolysis, *International Journal of Hydrogen Energy*, 2017, 42(42) 26183-26191
- (24) 负责主编 Chapter 3: Technologies for biomass-based hydrogen production for "Bioenergy: Principles and Technologies", De Gruyter, Science Press, 2017
- (25)负责主编“生物质能高效利用技术”中第九章“生物质制氢”, 化学工业出版社, 2016
- (26)Ying Huang, Chang-Feng Yan*, Chang-Qing Guo, Yan Shi, Experimental and first-principles DFT study on oxygen vacancies on cerium dioxide and its effect on enhanced photocatalytic hydrogen production, *International Journal of Hydrogen Energy*, 2016, 41, 7919-7926
- (27)Zhida Wang, Feng-man Sun, Shilin Huang, Chang-feng Yan*, From toroidal to rod-like nanostructure, a mechanism study for the reversible morphological control on amphiphilic triblock copolymer micelle, *Journal of Polymer Science: Polymer Physics Edition*, 2016, 54, 1450-1457
- (28)Ying Huang, Chang-Feng Yan*, Chang-Qing Guo, and Shi-Lin Huang, Enhanced photoreduction activity of carbon dioxide over Co₃O₄/CeO₂ catalysts under visible light irradiation, *International Journal of Photoenergy*, 2015, 1-11
- (29)Feng-man Sun, Chang-feng Yan*, Zhi-da Wang, Chang-qing Guo, Shi-lin Huang, Ni/Ce-Zr-O catalyst for high CO₂ conversion during reverse water gas shift reaction (RWGS), *International Journal of Hydrogen Energy*, 2015, 40(46), 15985-15993
- (30)Chang-Feng Yan*, Hao Chen, Rong-Rong Hu, Shilin Huang, Weimin Luo, Changqing Guo, Mingyun Li, Wenbo Li, Synthesis of mesoporous Co-Ce oxides catalysts by glycine-nitrate combustion approach for CO preferential oxidation reaction in excess H₂, *International Journal of Hydrogen Energy*, 2014, 39, 18695-18701
- (31)Chang-Feng Yan*, Wen Ye, Chang-Qing Guo, Shi-Lin Huang, Wenbo Li, Wei-Min Luo, Numerical simulation and experimental study of hydrogen production from dimethyl ether steam reforming in a micro-reactor, *International Journal of Hydrogen Energy*, 2014, 39, 18642-18649
- (32)Changfeng Yan*, Hang Hai, Rongrong Hu, Changqing Guo, Shilin Huang, Wenbo Li, Ye Wen, Effect of Cr promoter on performance of steam reforming of dimethyl ether in a metal foam micro-reactor, *International Journal of Hydrogen Energy*, 2014, 39, 186252-18631
- (33)Changfeng Yan*, Hang Hai, Changqing Guo, Wenbo Li, Shilin Huang, Hao Chen, Hydrogen production by steam reforming of dimethyl ether and CO-PrOx in a metal foam micro-reactor, *International Journal of Hydrogen Energy*, 2014, 39, 10409-10416
- (34)Rong-rong Hu, Chang-feng Yan*, Xiao-xiao Zheng, Carbon deposition on Ni/ZrO₂-CeO₂ catalyst during steam reforming of acetic acid, *International Journal of Hydrogen Energy*, 2013, 38(14), 6033-6038
- (35)Xiaoxiao Zheng, Chang-feng Yan*, Rongrong Hu, Juan Li, Hai Hang, Weimin Luo, Changqing Guo, Wenbo Li, Zhouyu Zhou, Hydrogen from Acetic Acid as the Model Compound of Biomass Fast-Pyrolysis Oil Over Ni Catalyst Supported on Ceria-Zirconia, *International Journal of Hydrogen Energy*, 2012, 37, 12987-12993
- (36)Changfeng Yan*, Enyuan Hu, Chilibi Cai, Hydrogen production from bio-oil aqueous fraction with in situ carbon dioxide capture, 2010, *International journal of hydrogen energy*, 2010, 35(7), 2612 - 2616
- (37)Chang-Feng Yan*, Fei-Fei Cheng, Rong-Rong Hu, Hydrogen production from catalytic steam reforming of bio-oil aqueous fraction over Ni/CeO₂-ZrO₂ catalysts, *International Journal of Hydrogen Energy*, 2010, 35(21), 11693-11699

(38)Chang-Feng Yan*, John R Grace and C. Jim Lim, Effects of rapid calcination on properties of calcium-based sorbents, *Fuel Processing Technology*, 2010, 91(11), 1678-1686

承担科研项目情况：

主持和参与完成了国家自然科学基金、国家重点研发项目、国家发改委、中科院、广东省和广州市等50多个项目。



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