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个人简介：

程继海：男，工学博士，正高级实验师，硕士生导师。现任合肥学院双能型教师，中国化学会会员，中国有色金属智库专家成员。主要从事新型无机功能材料的制备、性能及其应用研究工作，近年来主要从事材料电化学、固体氧化物燃料电池等新型能源材料及器件的研究。主持和参加国家自然科学基金、安徽省自然科学基金、安徽省高校自然科学基金重大项目、安徽省高校自然科学基金重点项目和安徽省高校自然科学研究一般项目多项。以第一（通讯）作者在 Journal of Power Sources、Journal of Rare Earths、 Ceramics International、Journal of Alloys and Compounds、Materials Research Bulletin、Materials Letters、Journal of Solid State Electrochemistry、应用化学等国内外著名学术期刊上发表研究论文多篇。受邀担任 Journal of Power Sources、Journal of the American Ceramic Society、Journal of Alloys and Compounds、Ionics 等国际知名期刊的审稿人。

主要教学：

从事本科实验教学、实验室建设与管理工作。承担无机非金属材料工程、新能源材料与器件、粉体材料科学与工程的材料基础实验、材料专业实验等多门课程的实验教学任务。

主要科研方向：

（1） 新型无机功能材料的制备、性能及其应用研究。

（2） 新型能源材料及器件：固体氧化物燃料电池关键材料及应用研究。

（3） 功能陶瓷及器件。

主持和参与的主要科研项目：

[1] 安徽省自然科学基金面上项目：系列白钨矿氧离子导体的设计合成及其在固体氧化物燃料电池中的应用。

[2] 安徽省高校自然科学研究重点项目：白钨矿型复合氧化物的离子导电性能及其在 SOFC 中的应用研究。

[3] 国家自然科学基金：中温固体氧化物燃料电池功能梯度电解质膜制备及性能优化研究。

[4] 安徽省自然科学基金：碳酸盐/SDC 复合电解质材料电导增强机制及其结构-性能优化研究。

[5]安徽省自然科学基金：梯度功能电解质薄膜的制备及性能研究。

代表科研成果：

[1] **Jihai Cheng**, Yuting Chen, Lingling Xu, Yanfang Tai. Mo-doped MIEC layered Ruddlesden-Popper phases Nd2Ni1-xMoxO4+δ as promising cathode material for solid oxide fuel cells. Ceramics International, 2025, 51(15): 20999-21007.

[2] **Jihai Cheng**, Wenyi Zhang, Yuting Chen, Maole Zong. Layered perovskite-like Pr2-xErxNiO4 as an improved cathode for intermediate-temperature solid oxide fuel cells. Journal of Alloys and Compounds, 2025, 1017: 179046.

[3] **Jihai Cheng**, Maole Zong, Yuting Chen, Zhong Wu. Perovskite-like Ruddlesden-popper phases Nd2-xPrxNiO4+s as an improved cathode for solid oxide fuel cells. Chemical Physics Letters, 2025, 877: 142219.

[4] **Jihai Cheng**, Xuhang Zhu, Wenyi Zhang. Effects of Sintering Temperature on the Electrical Performance of Ce0.8Sm0.2O1.9-Pr2NiO4 Composite Electrolyte for SOFCs. Journal of Electrochemical Energy Conversion and Storage, 2025, 22(3): 031007.

[5] **Jihai Cheng**, Xuhang Zhu, Yifeng Hou. Effect of Pr6O11 addition on the electrical properties of Sm0.2Ce0.8O1.9 electrolyte materials for solid oxide fuel cells. Functional Materials Letters, 2025, 18(1): 2551003.

[6] **Jihai Cheng**, Yifeng Hou, Ming Wang. Ce0.8Gd0.2O1.9-Sr1.95Pr0.05Fe1.5Mo0.5O6-δ heterogeneous structure composite electrolyte for solid oxide fuel cells. Processing and Application of Ceramics, 2025, 19(2): 157-162.

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on the Electrical Performance of Ce0.8Sm0.2O1.9–Pr2NiO4 Composite Electrolyte for SOFCs. Journal of Electrochemical Energy Conversion and Storage. 2025, 22: 031007.

[9] **Jihai Cheng**, Hao Liang, Xuhang Zhu. Investigation of samarium and neodymium co-doped BaCeO3 electrolyte for proton-conducting solid oxide fuel cells. Chemical Physics Letters, 2024, 856: 141650.

[10] Hao Liang, Xuhang Zhu, Yuting Chen, **Jihai Cheng***. Nanoarchitectonics of yttrium-doped barium cerate-based proton conductor electrolyte for solid oxide fuel cells. Applied Physics A, 2024, 130: 168.

[11] **Jihai Cheng**, Lingling Xu, Hao Liang. Sr-Yb Co-doping of BaCe0.4Zr0.6O3

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[13] **Jihai Cheng**, Hao Liang, Xuhang Zhu, Yuting Chen, Changan Tian. An investigation on novel electrolyte materials with scheelite structure for solid oxide fuel cells. Chemical Physics Letters, 2023, 826: 140684.

[14] Weixing Qian, Hao Liang, Xuhang Zhu, **Jihai Cheng***. The effect of Y, Er co-doped on the sintering and electrical properties of Mo0.05Bi1.95O3 electrolyte materials for solid oxide fuel cells. Functional Materials Letters, 2023, 16(8): 2351007.

[15] 朱旭航，陈雨婷，**程继海***. 添加BaO对Ce0.8Gd0.2O2-δ基电解质材料性能

的影响. 兵器材料科学与工程, 2023, 46(3): 54-58.

[16] **Jihai Cheng**, Weixing Qian, Pan Wang, Changan Tian. A high activity cathode of Sm0.2Ce0.8O1.9 decorated Mn1.5Co1.5O4 using ion impregnation technique within a solid oxide fuel cell system. Solid State Sciences, 2022, 131: 106962.

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[20] **Jihai Cheng**, Ronghao Xu, Yinchao Shi. A strategy for improving the sinterability and electrical properties of gadolinium-doped ceria electrolyte using calcium oxide additive. Journal of Rare Earths, 2021, 39(6): 728-733.

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[29] **Jihai Cheng**, Changan Tian, Renfa Zhu. Synthesis and characterization of the La0.6Sr0.4Co0.8Fe0.2O3-δ-Gd0.2Ce0.8O1.9 composite cathode for Gd0. 2Ce0.8O1.9 electrolyte SOFC. Materials Research Innovations, 2014, 18(6):461-464.

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of $Ca_{0.9}La_{0.1}WO_{4+\delta}$ electrolyte for solid oxide fuel cells. Journal of Solid State Electrochemistry, 2012, 16(2):753-758.

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