一、 个人基本信息

姓　　名：杨琪

性　　别：女

出生年月：1988.12

职　　称：副教授

最高学历：博士研究生

工作单位：科技创新研究院民航热灾害防控与应急重点实验室

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招生专业及方向：安全科学与工程专业 飞机防火技术方向

二、 学习和工作经历

1. 教育经历

2016.03-2020.04：澳大利亚科廷大学，化学工程专业，博士；

2012.09-2015.07：中国石油大学（华东），化学工程与技术专业，硕士；

2008.09-2012.07：中国石油大学（华东），化学工程与工艺专业，学士。

2. 工作经历

2022.01-至今：中国民航大学科技创新研究院，蓝天青年学者，副教授；

2020.10-2021.12：中国民航大学科技创新研究院，蓝天青年学者，讲师。

三、 研究方向

飞机机载灭火系统管网设计与计算流体力学（CFD）模拟，新型机载灭火及阻燃材料开发，功能化纳米材料设计及制备

四、 科研情况

1. 科研项目

（1）机载三氟碘甲烷灭火系统数值仿真及飞机货舱“哈龙”替代应用，10 万元，天津市自然科学基金多元投入面上项目，2024.10-2027.9，主持；

（2）碳基氧还原催化剂本征缺陷与氮杂原子可控构筑及协同机制研究，30 万元，国家自然科学基金青年项目，2024.01.01-2026.12.31，主持；

（3）蓝天青年学者培养经费，50 万元，中国民航大学，2022.10-2026.09，主持；

（4）机载“哈龙”替代灭火剂构效关系研究与理性设计，100 万元，天津市杰出青年科学基金项目，2021.10-2025.9，参与，排名 2/5；

（5）基于数值模拟与实验的机载灭火系统管网设计与优化，8 万元，天津市教委科研计划项目，2021.12-2023.12，主持；

（6）双金属氢氧化物/官能化碳纳米管协效阻燃剂及其环氧树脂阻燃应用研究，8 万元，中央高校基本科研项目，2021.7-2023.6，主持.

2. 学术论著

（1）Qi Yang*, Jingjing Liu, Yun Lu, Xiaomeng Zhou*, Haijun Zhang*, Flow and release characteristics of a potential Halon substituent CF_3I influenced by filling density and pressure. Physics of Fluids, 2025, 37: 035183.

（2）Qi Yang*, Xinyu Wang, Jingjing Liu, Xiaomeng Zhou*, Haijun Zhang*, CFD investigation on flowing and discharging characteristics of airborne Halon 1301 fire-extinguishing agent at varied altitudes. Case Studies in Thermal Engineering, 2024, 63: 105293.

（3）Qi Yang, Yu Gao, Yiman Yang, Xiaomeng Zhou*, Haijun Zhang*, Toward

better Halon substitutes: Effects of carbon chain length on pyrolytic and fire-suppressing mechanisms of perfluoroalkanes. Journal of Molecular Structure, 2024, 1312: 138589.

（4）Qi Yang; Jiaqi Zhang; Yu Gao; Xiaomeng Zhou; Haijun Zhang; Toward better Halon substitutes: Effects of H content on pyrolytic and fire-suppressing mechanisms of ozone-friendly fluorinated alkanes; Journal of Molecular Structure, 2023, 1285: 135506.

（5）Qi Yang; Xiaoxiong Huang; Jiaqi Zhang; Zhichang Xiao; Xiaoguang Duan; Shanke Zhou; Yue Niu; Hongqi Sun; Linjie Zhi*; Shaobin Wang*; Unzipping MWCNTs for controlled edge- and heteroatom-defects in revealing their roles in gas-phase oxidative dehydrogenation of ethanol to acetaldehyde, Chemical Engineering Journal, 2022, 446: 137150.

（6）Qi Yang; Yixiao Jia; Xiaomeng Zhou*; Haijun Zhang*; Mechanically Reinforced Flame-Retardant Epoxy Resins by Layered Double Hydroxide In Situ Decorated Carbon Nanotubes, ACS Applied Polymer Materials, 2022, 4 (9):6731-6741.

（7）Haijun Zhang, Yiru Di, Qi Yang*, Xiaomeng Zhou*, Composites of Layered Double Hydroxide Nanosheets, Hydroxy-Functionalized Carbon Nanotubes, and Hydroxyapatite Nanoparticles as Flame Retardants for Epoxy Resins. ACS Applied Nano Materials, 2021. 4(11):11753-11762.

（8）Haijun Zhang; Xuefang Meng; Qi Yang*; Xiaomeng Zhou*; Toward Better Halon Substitutes: Theoretical and Experimental Studies on the Pyrolysis

Mechanism and Fire-Suppressing Performance of C5F10O (Perfluoro-3-methyl-2-butanone), ACS Sustainable Chemistry & Engineering, 2021, 9: 1272-1285.

（9）Qi Yang; Yidi Chen; Xiaoguang Duan; Shanke Zhou; Yue Niu; Hongqi Sun; Linjie Zhi*; Shaobin Wang*; Unzipping carbon nanotubes to nanoribbons for revealing the mechanism of nonradical oxidation by carbocatalysis, Applied Catalysis B: Environmental, 2020, 276: 119146.

（10）Xinying Luo#; Qi Yang#; Yanli Dong; Xiaoxiong Huang; Debin Kong; Bin Wang; Huimin Liu; Zhichang Xiao*; Linjie Zhi; Maximizing pore and heteroatom utilization within N,P-co-doped polypyrrole-derived carbon nanotubes for high-performance supercapacitors, Journal of Materials Chemistry A, 2020, 8: 17558-17567.

（11）Qi Yang; Zhichang Xiao; Debin Kong; Taolin Zhang; Xiaoguang Duan; Shanke Zhou; Yue Niu; Yudi Shen; Hongqi Sun; Shaobin Wang*; Linjie Zhi*; New insight to the role of edges and heteroatoms in nanocarbons for oxygen reduction reaction, Nano Energy, 2019, 66: 104096.

（12）Qi Yang; Abdallah S. Berrouk*; Yupeng Du; Hui Zhao; Chaohe Yang; Mohammad Abdur Rakib; Abdulhamid Mohamed; Anood Taher; CFD investigation of hydrodynamics, heat transfer and cracking reactions in a large-scale fluidized catalytic cracking riser, Applied Mathematical Modelling, 2016, 40: 9378-9397.

3. 授权专利

4. 科研获奖

5. 学术兼职

五、 其他