**刘冠宇**



1. **个人基本信息**

刘冠宇，男，长安大学交通运输工程专业博士。主要研究方向：交通功能材料、光催化降解尾气材料、功能型路面及自清洁材料设计。

1. **其他学习、工作经历：**

2022.08-至今 河北大学，建筑工程学院，副教授（低职高聘）

2016.09-2022.06 长安大学，交通运输工程专业，博士（硕博连读）

1. **主讲课程：**

《交通工程》、《土木工程材料》、《土木工程专业英语》

1. **发表论文情况：(包括论文题目、发表时间等）**
2. **Guanyu Liu**\*, Hailiang Fei, Zhen Feng, Qian Shao, Tianzheng Zhao, Wenya Guo, Fen Li Tri-phase interface to enhance the performance of piezoelectric photocatalysis and recyclability of hydrophobic BiOI/BaTiO3 heterojunction, **Journal of Cleaner production,** 2024, 440: 140886. (SCI 1区 IF: 11.1)
3. Hailiang Fei, Tianzheng Zhao, Wenya Guo, Xingyue Wang, Jiaxu Zhang, Ziyi Fei, Zhen Feng \*, **Guanyu Liu\***, Strategies for enhancing activities of typical piezo-photocatalytic material and its applications in environmental remediation: A review, **Journal of Environmental Chemical Engineering**,2024, 12: 111650. (SCI 2区 IF: 7.3)
4. **Guanyu Liu**\*, Tianzheng Zhao, Hailiang Fei, Fen Li, Wenya Guo, Zhaolin Yao, Zhen Feng, A review of various self-cleaning surfaces, durability and functional applications on building exteriors, **Construction and Building Materials**, 2023, 409: 134084. (SCI 1区 IF: 7.4)
5. F. Li, **G.Y. Liu\***, F.Q. Liu, S.Q. Yang, A review of self-cleaning photocatalytic surface: Effect of surface characteristics on photocatalytic activity for NO. **Environmental Pollution**, 2023, 327:121580. (SCI 2区 IF: 9.988)
6. F. Li, **G.Y. Liu\***, F.Q. Liu, J.Y. Wu, S.Q. Yang, Synergetic effect of CQD and oxygen vacancy to TiO2 photocatalyst for boosting visible photocatalytic NO removal. **Journal of Hazardous Materials,** 2023, 452: 131237. (SCI 1区 IF: 14.224) **高被引论文**
7. F. Li, **G.Y. Liu\***, F.Q. Liu, S.Q. Yang, A WO3–TiO2 nanorod/CaCO3 photocatalyst with degradation-regeneration double sites for NO2-inhibited and durable photocatalytic NO, **Chemosphere**, 2023, 324: 138277. (SCI 2区 IF: 8.943)
8. **G.Y. Liu**, H.Y. Xia \*, M.J. Yan, L.F. Song, Li H., Y.H. Niu \* Performance and mechanism of self-cleaning synergistic photocatalytic coating inhibiting NO2 for green degradation of NO, **Applied Surface Science,** 2022, 586: 152787. (SCI 1区 IF: 7.392)
9. **G.Y. Liu**, H.Y. Xia \*, W.S. Zhang, L.F. Song, Q.W. Chen, Y.H. Niu \* Improvement mechanism of NO photocatalytic degradation performance of self-cleaning synergistic photocatalytic coating under high humidity. **Journal of Hazardous Materials,** 2021,418:126337. (SCI 1区 IF: 14.224)
10. **G.Y. Liu**, H.Y. Xia \*, W.S. Zhang, L. Lang, H.P. Geng, L.F .Song, Y.H. Niu \* Photocatalytic superamphiphobic coatings and the effect of surface microstructures on superamphiphobicity. **ACS Applied Materials & Interface,** 2021, 13:12509-12520. (SCI 1区 IF: 10.383)
11. **G.Y. Liu,** H.Y. Xia \*, Y.H. Niu, X. Zhao, G.T. Zhang, L.F. Song, H.X. Chen \* Fabrication of self-cleaning photocatalytic durable building coating based on WO3-TNs/PDMS and NO degradation performance. **Chemical Engineering Journal,** 2021, 409:128187. (SCI 1区 IF: 16.744)
12. **G.Y. Liu**, H.Y. Xia \*, Y.H. Niu, X. Zhao, G.T. Zhang, L.F. Song, H.X. Chen \* Photocatalytic performance of doped TiO2/AC coating and its UV stability research. **Progress in Organic Coatings,** 2020, 148:105882. (SCI 2区 IF: 6.206)
13. **G.Y. Liu**, H.Y. Xia, Y.H. Niu \*, M.J. Yan, H. Li, L.F. Song Preparation and performance of photocatalytic NO degradation superhydrophobic coatings for tunnel. **Environmental Science and Pollution Research,** 2022, 29:53420–53432 (SCI 3区 IF: 5.190)
14. H.Y. Xia \*, **G.Y. Liu**, R. Zhang, L.F. Song, H.X. Chen \* The Photocatalytic Degradation of Vehicle Exhausts by an Fe/N/Co-TiO2 Waterborne Coating under Visible Light. **Materials (Basel)**. 2019, 12:3378. (SCI 3区 IF: 3.748)
15. H.Y. Xia \*, **G.Y. Liu**, C. Zhao, X.J. Meng, F.F. Li, F.Y. Wang, L. Duan, H.X. Chen \* Fluorescence sensing of amine vapours based on ZnS-supramolecular organogel hybrid films. **RSC Advance.** 2017, 7:17264. (SCI 3区 IF: 4.036)
16. 夏慧芸，赵旭，**刘冠宇**，张瑞，宋莉芳，邢明亮，陈华鑫.自清洁阻燃型可见光催化降解汽车尾气涂层的制备及性能研究. **硅酸盐通报**. 2019, 3:589-595.(CSCD)
17. 夏慧芸，**刘冠宇**，宋莉芳，张晓，陈华鑫.无溶剂法评价高RAP和RAS掺量的沥青混合料性能.**中外公路**. 2018, 38(3): 248-253.(北大核心)
18. **获得项目情况：（包括项目名称、项目级别、项目资助额度、获得项目时间等）**

1. 河北省自然科学基金, 压电光催化降解汽车尾气路面材料设计及协同催化机理研究，4.0万元，2023.01-2025.12。主持

2. 隧道自洁光催化降解NOx涂层的制备、性能及机理研究，河北大学高层次人才引进（2022），50万元，2022.11-2026.11。主持

3. 优秀博士研究生创新能力培养资助项目，优秀博士研究生创新能力培养资助项目，3.0万元，2021.03-2022.03。主持

4. 自清洁阻燃型可见光催化降解汽车尾气涂层，西安市科技计划项目，15万元，2017.10-2019.12，参与

5. 可见光催化TiO2尾气吸收涂层的制备及性能，陕西省青年基金，3.0万元，2017.01-2018.12。参与

6. 氨功能化与碱金属掺杂对MOF膜CO2吸附分离性能的协同机制，国家自然科学基金，21万元，2016.01-2018.12。参与

1. **学术兼职**

1. 中国公路学会会员

2. Nano Letter、Chemical Engineering Journal、Journal of Environmental Chemical Engineering、ournal of Photochemistry & Photobiology A: Chemistry、Journal of Sol-Gel Science and Technology、Applied Physics A等审稿人。

1. **授权专利情况：（包括名称、时间、专利号）**

1. 一种铁、氮、钴共掺杂的二氧化钛/活性炭复合物、制备方法及其作为光催化剂应用. CN 110252375 B, 2021-06-29.

2. 一种用于测定光催化降解污染物速率的装置. CN 209549171 U, 2019-10-29.

3. 光催化涂层降解汽车尾气性能的测试装置. 陕西：CN 206074530 U, 2017-04-05.

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