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工作及教育经历：

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2009.09-2012.09 韩国化学研究院绿色化学部，博士后高级研究员；

2009.03-2009.08 东京工业大学资源化学研究所，　高级访问学者；

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研究方向：

1. 二氧化碳的捕获及应用
2. 石油化工，烃类的转化
3. 新型催化、吸附材料的设计与应用

荣誉称号：

1. 2015年 入选 天津“三年千人”计划

2. 2011年入选 辽宁省优秀人才(第二层次）；

3. 2013年获 抚顺市第五届自然科学青年学科带头人；

获奖与社会兼职：

1、“稠环氮化物在Cu(I)Y分子筛上的吸附机理研究”，2010年获辽宁省自然科学学术成果一等奖. 排名第一；

2. New Simple Synthesis Route for Decatungstate Hybrids: Novel Thermo-Regulated Phase Transfer Catalysts for Selective Oxidation of Alcohols，2013年获辽宁省自然科学学术成果二等奖. 排名第一；

3. 《Green Chemistry》， 《Scientific report》，《Chemical Engineering Journal》等十余种国际期刊审稿人

主持及参加的科研项目：

1. 环境友好型功能化离子液体的合成及其催化氧化深度脱硫(21103077)，国家自然科学基金，负责人；
2. Pt 系丙烷脱氢催化剂的结构与性能研究，中海油天津化工研究设计院有限公司，负责人；
3. 酸性离子液体的分子设计及其在油品氧化脱硫中的应用，天津市应用基础与前沿技术研究计划，负责人；
4. 燃料油选择性脱硫吸附剂的分子设计（LJQ2011035），辽宁省高等学校优秀人才支持计划，负责人
5. 清洁燃料在铜或银金属有机骨架材料上选择性吸附脱硫机理的研究(201102120)，省自然科学基金，负责人
6. 十聚钨酸季铵盐的合成及其在醇选择性清洁氧化中的应用(2010243)，辽宁省教育厅，负责人
7. Development of magnesium-based medium-temperature sorbents for CO2 capturing in an energy-exchangeable fluidized bed，2012.6-2017.6，韩国科技部(KCCS 2020 project)，主要参与者
8. 二氧化碳的压缩，运输和注入工艺和技术，中石化催化剂北京有限公司， 负责人

代表性学术论文：

1. Lixia Yang, **Dan Liu***, Pingping Wang, Hwimin Seo, Jianzhou Gui*, and Yong-Ki Park* ,Toward the Insights into Fast CO_2 Absorption over Novel Nanostructured MgO-Based Sorbent, **Ind. Eng. Chem. Res.** 2018, 57, 10591−10600
2. Yiming Zhang, Xiaoyan Yang, Peng Zhang, Dan Liu,* Zhimei Zou, Rui Tan, and Jianzhou Gui,* Morphology-tunable & Template-free fabrication of MoS2

nanostructures with enhanced photoreduction activities for Cr(VI). Journal of Photochemistry and Photobiology A: Chemistry, 2019, 373: 176–181.

3. Yao Lu, Aijing Ma, Yifu Yu, Rui Tan, Chengwei Liu, Peng Zhang, Dan Liu, and Jianzhou Gui*, Engineering Oxygen Vacancies into LaCoO3 Perovskite for Efficient Electrocatalytic Oxygen Evolution, ACS Sustainable Chem. Eng., 2019, 7 (3), 2906–2910
4. Zhimei Zou, Xiaoyan Yang, Peng Zhang Yiming Zhang XiaoxiaoYan, Rongmei Zhou, **Dan Liu***, Lin Xu ,Jianzhou Gui*, Trace carbon-hybridized ZnS/ZnO hollow nanospheres with multi-enhanced visible-light photocatalytic performance, **Journal of Alloys and Compounds**,775, 2019 :481-489

5 Xiaoyan Yang, Hailong Peng, Zhimei Zou, Peng Zhang, Xuefeng Zhai, Yiming Zhang, Chengwei Liu, **Liu Dan*** and Jianzhou Gui* , Diethylenediamine-assisted template-free synthesis of a hierarchical TiO2 sphere-in-sphere with enhanced photocatalytic performance, Dalton Trans., 2018,47, 16502-16508

6. Shuyun Cao, Dan Liu*, Hui Ding, Jinghui Wang, Hui Lu, Jianzhou Gui,* Corrosion inhibition effects of a novel ionic liquid with and without potassium iodide for carbon steel in 0.5 M HCl solution: An experimental study and theoretical calculation, Journal of Molecular Liquids, 2019, 275, 729-740.
7. Xuefeng Zhai, Chengwei Liu, Qiang Chang, Chunqiu Zhao, Rui Tan, Hailong Peng, **Dan Liu***, Peng Zhang and Jianzhou Gui* TiO_2-nanosheet-assembled microspheres as Pd-catalyst support for highly-stable low-temperature CO oxidation, **New J. Chem.,** 2018, 42, 18066-18076
8. Rongmei Zhou, Xiaoyan Yang, Peng Zhang, Lixia Yang, Chengwei Liu, **Dan Liu*** and Jianzhou Gui*, Insights into catalytic roles of noble-metal-free catalysts CoxSy for reduction of 4-nitrophenol, **Phys. Chem. Chem. Phys.,** 2018,20, 27730-27734

9. Xiaoyan Yang, Yi Li, Peng Zhang*, Rongmei Zhou, Hailong Peng, **Dan Liu*,** and Jianzhou Gui*, Photoinduced in Situ Deposition of Uniform and Well-Dispersed PtO2 Nanoparticles on ZnO Nanorods for Efficient Catalytic Reduction of 4-Nitrophenol, **ACS Appl. Mater. Interfaces**, 2018, 10 (27), pp 23154–23162

10. Yiming Zhang , Xiaoyan Yang , Na He, Peng Zhang , Yongqi Ding , **Dan Liu***, Zhimei Zou, Jianzhou Gui*, One-step hydrothermal fabrication of erythrocyte-like ZnS/ZnO composite with superior visible light photocatalytic performance, **Materials Letters** 228 (2018) 305–308
11. Shuyun Cao, **Dan Liu***, Peng Zhang, Lixia Yang, Peng Yang, Hui Lu & Jianzhou Gui,* Green Brönsted acid ionic liquids as novel corrosion inhibitors for carbon steel in acidic medium, **Scientific Reports**, 2017, 7: 8773.

12 Hailong Peng, Xiaoyan Yang, Peng Zhang, Yiming Zhang, Chengwei Liu, **Dan Liu*** and Jianzhou Gui * Diethylenetriamine-assisted in situ synthesis of TiO2 nanoparticles on carbon nanotubes with well defined structure and enhanced photocatalytic performance， **RSC Adv.**, 2017, 7, 50216–50224

13. Peng Zhang, Xiaoyan Yang, Hailong Peng, **Dan Liu***, Hui Lu, Junfu Wei, Jianzhou Gui*, Magnetically recoverable hierarchical Pt/Fe2O3 microflower: Superior catalytic activity and stability for reduction of 4-nitrophenol, **Catalysis Communications** 100 (2017) 214–218.
14. Shuyun Cao, **Dan Liu***, Hui Ding, Kun Peng, Lixia Yang, Hui Lu, Jianzhou Gui. Brönsted acid ionic liquid: Electrochemical passivation behavior to mild steel, **Journal of Molecular Liquid**s, 2016,220: 63-70.
15. Ruirui Jin， Shaozheng Hu*, Jianzhou Gui, **Liu Dan***. A convenient method to prepare novel rare earth metal Ce-doped carbon nitride with enhanced

photocatalytic activity under visible light[J]. **Bulletin of the Korean Chemical Society**，2015，36(1)：17~23

16. Shaozheng Hu*, Ruirui Jin, Guang Lu, **Dan Liu** and Jianzhou Gui*, The properties and photocatalytic performance comparison of Fe^{3+}-doped g-C_3N_4 and Fe_2O_3/g-C_3N_4 composite catalysts, **RSC Adv.**, 2014, 4, 24863–24869
17. Lei Zhang*, Jun-teng Lei, Yuan Tian, Xin Hu, Jin Bai, Xin Hu, Dan Liu*, Yi Yang, Li-wei Pan, Effect of precursor and precipitant concentrations on the catalytic properties of CuO/ZnO/CeO2-ZrO2 for methanol steam reforming, **Journal of Fuel Chemistry and Technology,** *2015, 43(11): 1366-1374*
18. **Dan Liu**, Won Choon Choi, Na Young Kang, You Jin Lee, Hun Su Park, Chae-Ho Shin, Yong-Ki Park*, Intercoversion of light olefins over ZSM-5 based cracking catalysts, **Catalysis Today**, 2014, 226: 52-66
19. **Dan Liu**, Jianzhou Gui*, Daosheng Liu, Xilai Peng, Shuang Yang, Zhaolin Sun, Deep oxidative desulfurization of real diesel catalyzed by Na_2WO_4 in ionic liquid, **Energy Sources, Part A:** Recovery, Utilization, and Environmental Effects,2013, 35(1): 1-8 .
20. **Dan Liu**，Jianzhou Gui*，Feng lu，Zhaolin Sun，Yong-Ki Park，New Simple Synthesis Route for Decatungstate Hybrids: Novel Thermo-Regulated Phase Transfer Catalysts for Selective Oxidation of Alcohols, **Catal. Lett** , 2012, 142(11):1330–1335.
21. **Dan Liu**, Jianzhou Gui*, Yong-Ki Park, Shuang Yang, Yuhuan Gao, Xilai Peng, Zhaolin Sun, Deep oxidative desulfurization of real diesel with task-specific ionic liquid, **Korean J. Chem. Eng.,** (2012) 29(1): 49-53.
22. **Dan Liu**, Jianzhou Gui*, Daosheng Liu, Juyoung Lee, Shuang Yang, Zhaolin Sun, Oxidation of dibenzothiophene catalyzed by Na_2WO_4 in a halogen-free ionic liquid, **Reac Kinet Mech Cat.**, (2011) 104:111–123.
23. **Dan Liu**, Won Choon Choi, Chul Wee Lee, Na Young Kang, You Jin Lee, Yong Ki Park*, Steaming and washing effect of P/HZSM-5 in catalytic cracking of naphtha, **Catalysis Today**, 2011, 164(1), 154-157.

24 Gui Jianzhou*, **Liu Dan**, Wang Chan, Darong Min, Sun Zhaolin. Deep Oxidative Desulfurization with Task-specific Ionic Liquids: an experimental and computational study, **J. Mol. Catal. A**, 2010, 331(1-2):64-70

25 **Dan Liu**, Jianzhou Gui *, Yulian Yang, Feng Lu, Zhaolin Sun.Oxidative aromatization of Hantzsch 1,4-dihydropyridines catalyzed by ferric perchlorate in ionic liquids with air, **Synth. Commun.**, 2010, 40, 1004-1008.

26. Jianzhou Gui, **Dan Liu**, Yulian Yang, Feng Lu, Zhaolin Sun. One-pot synthesis of 3,4-dihydropyrimidin-2(1H)-ones catalyzed by acidic ionic liquids under solvent-free conditions，**Synth. Commun.**, 2009, 39, 3436-3443.
27. **Dan Liu**, Jianzhou Gui, Zhaolin Sun. Adsorption structures of heterocyclic nitrogen compounds over Cu(I)Y zeolite: a first principle study on mechanism of the denitrogenation and the effect of nitrogen compounds on adsorptive desulfurization **Journal of Molecular Catalysis A: Chemical**, 2008, 291：17-21.
28. **Dan Liu**, Jianzhou Gui, Lijuan Song, Xiaotong Zhang, Zhaolin Sun. Deep desulfurization of diesel fuel by extraction with task-specific ionic liquids. **Petroleum Science and Technology**, 2008, 26(9)：973-982.
29. **Dan Liu**, Jianzhou Gui, Xiangqin Zhu, Lijuan Song, Zhaolin Sun. Synthesis and Characterization of Task-Specific Ionic Liquids Possessing Two Brönsted Acid Sites. **Synthetic Communications**, 2007, 37, (5): 759 – 765

30. **Dan Liu**, Lijuan Song, Jianzhou Gui, Shi Liu and Zhaolin Sun. Adsorption structures of heterocyclic sulfur compounds on Cu (I)Y zeolite: a first principle study. **Studies in Surface Science and Catalysis**, 2007, 170(B):1699-1704.

代表性专利：

1. 一种脱氧催化剂及其制备方法和应用，中国发明专利，专利号 ZL 200610134892.X
2.杂多酸型离子液体及其在氧化脱硫中的应用，中国发明专利，专利号：ZL 201510005652.9；.
3. 一种中温二氧化碳吸附剂及其制备方法和应用，中国发明专利，专利号：ZL 2015 1 0392559.8
4.一种高氯容液相脱氯剂及其制备方法和应用，中国发明专利，专利号:ZL 2014 1 0776492.3
5.复合离子液体钢铁缓蚀剂及应用；中国发明专利，ZL 2014 10776405.4
6. 一种催化湿式氧化催化剂的制备方法，中国发明专利，专利号： ZL 2015 1 0132896.3
7.二氧化碳吸附剂及其制备方法（Carbon dioxide absorbent and fabricating method thereof） PCT 专利: 10-2012-0084791(第一发明人)
8. 二氧化碳吸附剂及其二氧化碳捕获工艺（Carbon dioxide absorbent and carbon dioxide capture process thereof）PCT 专利， 10-2013-0137793
9. 一种环戊烯选择性氧化制备环戊酮的方法，中国发明专利，申请号：CN201510132897
10 一种高温吸收二氧化碳的正硅酸锂材料的制备方法：中国，申请号：201710205799.1
11.一种高温吸收二氧化碳的锆酸锂材料的制备方法：中国，申请号：201710594892.6

学术报告：

1. 2015 2.9-2.12 The 5th Korea international CCS conference,
口头报告："Towards reproducible preparation of dry CO2 sorbents for energy exchangeable fluidized bed process".

2. 2014 02.24-2.26, The 4th Korea international CCS conference, oral presentation
任职： Chairman of Dry Sorbents Section,
邀请报告: Developing dry sorbents for CO_2 capture in energy exchangeable fluidized bed process；

3. 2013 03.13-03.15, The 3rd Korea international CCS conference, oral presentation
口头报告: Mg-based medium-temperature sorbents for CO_2 capture in an energy-exchanged fluidized-bed process；

4. 2012 04.09-04.14 The 2nd Korea international CCS conference, Post presentation.
Dan Liu, Wonchoon Choi, DaYoung Min, NaYoung Kang, Jainzhou Gui, Yongki Park. Novel hierarchical CaO Based sorbents for CO_2 capture,

5. 201009.12-09.16 2nd Asia Pacific Conference on Ionic Liquids and Green Processes

口头报告： Deep Catalytic Oxidative desulfurization from diesel with task-specific ionic liquids

6. 2007 0812 - 0817, the 15th International Zeolite Conference, Poster
Dan Liu, Lijuan Song, Jianzhou Gui, Shi Liu and Zhaolin Sun, Adsorption structures of heterocyclic sulfur compounds on Cu (I)Y zeolite: a first principle study. **Studies in Surface Science and Catalysis**, 2007, 170(B):1699-1704.