



# **International Conference on Environment, Renewable Energy and Green Chemical Engineering**

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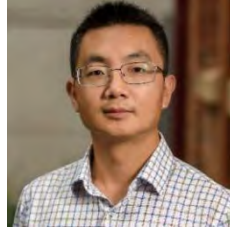
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**April 22-24, 2022**

**Organized by:  
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# Keynote Speakers



**Zhanying Zhang**  
**(Queensland University of Technology)**



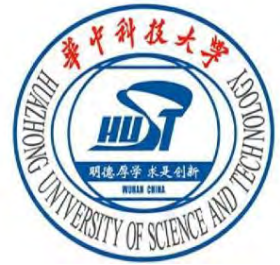
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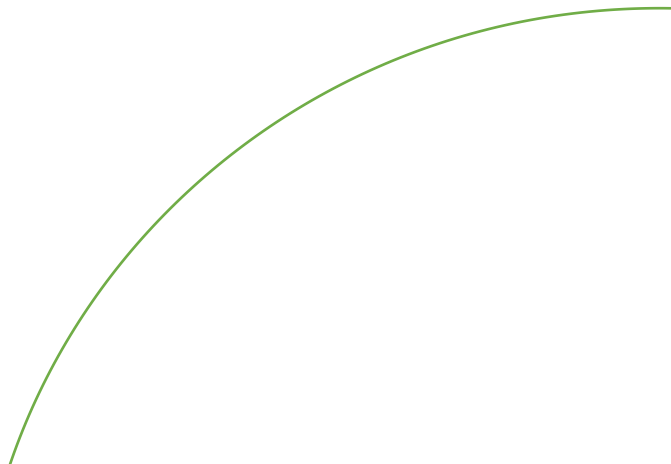
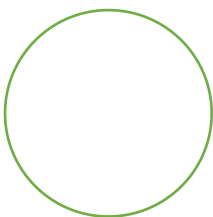
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# Preface

It was our great honor and pleasure to organize the International Conference on Environment, Renewable Energy and Green Chemical Engineering (EREGCE 2022) online on April 22nd to 24th, 2022.

As Chemical industry plays a vital role in the development process of national economy, a large number of poisonous and harmful substances pose a great threat to the ecological environment and human. Therefore, it is a general trend to promote the development of renewable energy and green chemical engineering towards a greener environment. The conference focused on the latest research fields of environment, renewable energy and green chemical engineering, presenting scientific research results and its practical solutions to these matter. It has taken into account the principles of sustainable development, which provides an international platform for experts, professors, scholars and engineers from universities, scientific research institutes, enterprises and institutions at home and abroad to share their professional experiences, expand their professional networks and display their research results.

The comprehensive content of the conference has attracted great attention due to its wealthy information that may be useful to professionals working in the related fields. Many researchers in the related field had participated in the conference and made oral presentations. The conference proceedings contain 50 papers divided into 3 sections: Environment, Renewable Energy and Green Chemical Engineering.

The keynote speeches on April 23, 2022, were given by three scholars, Zhanying Yang, Shahid Hussain and Peigao Duan, and an invited lecture by Chunming Yang. In addition to the presentations brought by the authors, there were three parallel sessions. Session I: Ecosystem sustainability was hosted Haoming Chen (Nanjing University of Science and Technology, China) and Yuanming Guo (Nanjing University of Science and Technology, China), Session II : Remediation of water and soil pollution was hosted by Da Tian (Anhui Agricultural University, China) and Gongwen Luo (Key Laboratory of Soil Environment and Pollution Remediation, Institute of Soil Science, Chinese Academy of Sciences,China), and Session III : Landscape ecological planning and development was hosted by Haoming Chen (Nanjing University of Science and Technology, China) and Yang Feng (Xijing University, China). Whether in the main session or in the parallel sessions, all scholars expressed their views to showcase their research, contributing to drive innovation and breakthroughs in the whole field.

Many thanks to all the authors who had submitted papers for their participation. It is they who have put a lot of effort and creativity to make this work complete. And we feel honored that they are willing to present their excellent work on this conference. Many thanks also to all the editors and reviewers who had contributed a lot of time in their busy schedules to carefully read and evaluate all the manuscripts.

Finally, due to the epidemic prevention policy, it's a pity that we could not have offline communication and discussion, but still we would like to thank all the supporting organizations for their hardwork and the organizing committee for the extensive preparation that made this online conference a great success. We look forward to having a live conference next year to share the results.

Guest Editors

Chunming Yang (Hunan Normal University)

Haoming Chen (Nanjing University of Science and Technology)

Peigao Duan (Xi'an Jiaotong University)

Feipeng Jiao (Central South University)

Chang Wen (Huazhong University of Science and Technology)

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Thank you for sharing. Is there anyone who might want to ask a few questions to our speaker?

小助手

ok, our[表情]next[表情]speaker[表情]would be our general chair —— Prof. Chunming Yang ,he is the editor in chief of 【Journal of Natural Science of Hunan Normal University】

【Journal of Natural Science of Hunan Normal University】 has made great contributions to the successful convening of this EREGCE conference.Let' s welcome Prof. Chunming Yang to introduce the 【Journal of Natural Science of Hunan Normal University】

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- EREGCE 2022 - conference organisers, committee and staff
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- Colleagues in China
- QUT colleagues





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International Conference on Environment, Renewable Energy  
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**Nanomaterials Derived from Metal Organic  
Frameworks for Gas Sensing Applications**

**Prof. Dr. Shahid Hussain**  
[shahid@ujs.edu.cn](mailto:shahid@ujs.edu.cn)

**School of Materials Science and Engineering**




**Jiangsu University**



聊天

... ×

管理成员(63)

☰

batteries. He has published high quality research articles, and also has a wealth of experience, which laid a solid foundation for the project related research. Dr Shahid Hussain has excellent working experience on gas sensors and has been working on sensor device fabrication since 2011. He has published more than 215+ SCI indexed journal research articles with H-Index is 34 in Google Scholar with 3850 citations (Till date Feb 2022). He is also working as an Editor for 16 SCI indexed journals (Elsevier, Springer, Frontiers, Hindawi, American Scientific Publishers and MDPI).

小助手

Prof. Shahid Hussain today' s topic is  
Nanomaterials Derived from Metal Organic  
Frameworks for Gas Sensing Applications

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Shahid Hussain的屏幕共享



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# Keynote Speaker



## Assoc. Prof Zhanying Zhang

Assoc. Prof Zhanying Zhang is the leader of Bioprocessing and Biorefining Group at the Centre for Agriculture and the Bioeconomy (CAB), Queensland University of Technology (Brisbane, Australia). He is also an Advance Queensland Industry Research Fellow. Assoc. Prof. Zhanying Zhang graduated from the University of Adelaide in 2008. He joined the CAB, QUT after he completed his PhD study. He has been working on lignocellulose pretreatment and biorefining, cellulosic biofuels and biochemicals, biomass-based materials since 2008. He developed several solvent-based innovative processes for pretreatment and fractionation of lignocellulosic biomass, which led to a number of patent applications and journal publications. His research is important to solve the real world challenges in energy, waste management and climate change. Assoc. Prof. Zhang has generated 102 publications, including 87 journal articles, 10 conferences papers and 5 book chapters. In addition, Assoc. Prof. Zhang has been granted 11 patents worldwide in the area of biomass pretreatment and biorefineries.

International Confer  
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REGCE主持人

合肥学院-纵诚

王KM

Zhanying Zhang

小助手

结束会议







# 1. Background

## Fossil Fuel

**Energy Crisis**

High Oil Price  
Energy Security Risk



**Climate Change**

Global Warming  
Hazy Weather  
Sea Level Rise





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Table 3 Elemental analysis (wt.%) of upgraded oil obtained at different reaction time and hydrogen replacement times

C/wt.%	H/wt.%	O/wt.%	S(PPM)	N(PPM)	HHV(MJ/kg)
Reaction time(h) (8MPaH <sub>2</sub> ,10wt.%Pt/C, replacement of H <sub>2</sub> at every 2h)					
4	88.78	9.99	0.82	37	5109
6	88.82	9.48	1.27	31	4976
8	89.62	9.83	0.93	32	5481
Number of H <sub>2</sub> replacement times (400°C, 8MPaH <sub>2</sub> , 10wt.% Pt/C, total of 6h)					
1	87.81	10.11	1.17	53	6867
2	88.82	9.48	1.27	31	4976
3	88.15	10.51	1.14	31	4220
4	88.58	9.77	0.87	26	3220
5	88.25	10.05	1.27	27	4168

As the reaction time increases, the denitrogenation and desulfurization increases first and then decreases.

In the same reaction time, the increase in the hydrogen replacement is beneficial to denitrogenation and desulfurization.



Rubia



Xiao Jin Yang



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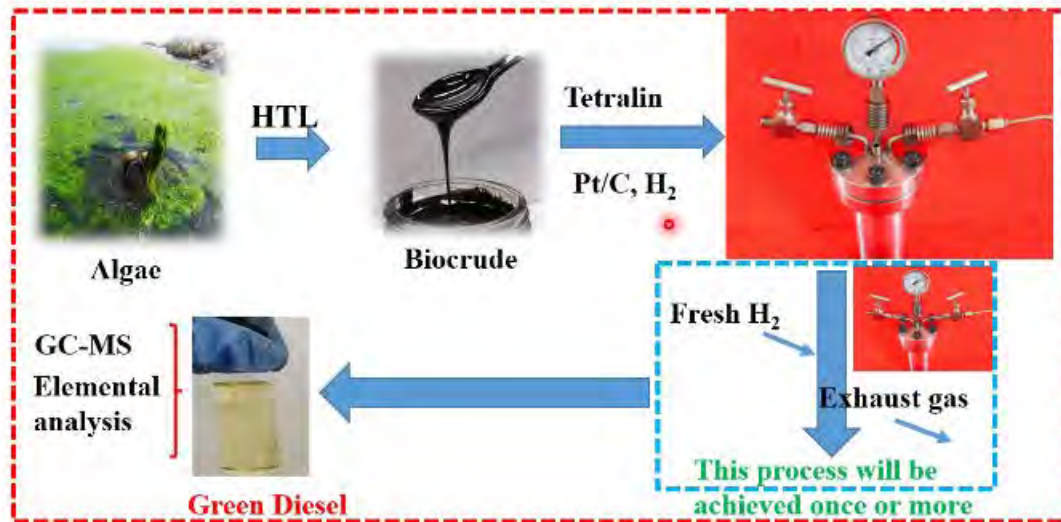
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## Overall Experiment Procedure



DJANDJA





# 1. Background

## Fossil Fuel

**Energy Crisis**

High Oil Price  
Energy Security Risk



**Climate Change**

Global Warming  
Hazy Weather  
Sea Level Rise

