



Transactions of Tianjin University: Join Us to Step up to the Next Generation of Sustainable Energy

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Due to a steady increase in world's population and huge demands of fossil fuels and its products, the global energy crisis has become more and more visible as the biggest challenge that impedes the sustainable development of humanity. As a result of advances in industry and technology and various forms of pollution from anthropogenic activities, our Earth has taken a great toll with massive emission of green house gases, causing the rise of sea levels, deforestation and extreme weather. Thus, to address climate change and seek harmonious development with environment is the primary task of scientists and policy makers; therefore, the research for clean and sustainable energy has seen explosive growth. With the rapid development of solar power, hydrogen energy, biofuels, etc., breakthrough in generating and storage of energy has driven the industry and technology to a new era. The modern society started to embrace the captivating technology of hydrogen vehicle, low energy housing and renewable heat. Energy-related topics attract enormous attentions from governments, societies and even investment.

To meet the growing demand on sustainable energy resources, scientists all over the world are now making a concerted effort in the innovation of new and advanced technologies, aggressive energy policies, action and planning activities. At the policy level, plenty of policy instruments are used to lead economic activity toward environmental sustainability, such as regulation, subsidies and tax incentives. Efforts are now putting on to resolve the barriers of commercial production based on sustainable energy and to get out of a predicament of environment and sustainability. As the main force to promote green energy revolution, researchers from different fields have realized that developing novel and reliable materials and devices is essential to improving the efficiency and safety of new energy as well as reducing environmental impacts. The unremitting efforts

of cross-field research works have broadened the academic horizon and brought together chemistry, materials science, applied and theoretical physics, fabricating new materials and designing manufacturing methods or reviving present materials for brand new applications for next-generation energy technology.

The *Transactions of Tianjin University* (ISSN 1006-4982) is an academic journal published by the Springer Nature Group. The theme of our journal is to publish high-quality, cutting-edge research in natural science and engineering, particularly focusing on energy-related technologies. The journal will serve as a high-quality platform for researchers working in a wide variety of scientific areas with interests in energy-related fields, such as solar energy and photovoltaics, energy storage and conversion materials, batteries and supercapacitors, CO₂ conversion and storage, new strategies for the clean utilization of coal and oil and so on. *Transactions of Tianjin University* is an international, peer-reviewed, interdisciplinary journal, which publishes a full mix of research article types, including letters, articles, perspectives, reviews and viewpoints with online publications accessed through SpringerLink (<https://link.springer.com/journal/12209>).

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insightful and cutting-edge research achievements and provide authors a highly efficient peer review and publishing production processes. We firmly believe that, with all the efforts of our excellent editorial team, critical reviewers, passionate readers and ingenious authors, *Transactions of Tianjin University* will evolve into a leading scientific journal in the research field of green and sustainable energy.

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Editor in chief
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