



Communication, Cooperation and Co-prosperity

Telling Sci-tech Innovation Stories, Enhancing Exchanges Between Nations

The relationship between China and the rest of the world is undergoing historic changes. China needs to know better about the world, and the world needs to know better about China.

How to tell China's sci-tech innovation stories, in order to help present a true, multi-dimensional and panoramic view of China to the world, promote international sci-tech cooperation, share experiences and achievements, and ultimately help build a community with a shared future for humankind is an important question of our time.

Over the years, *Science and Technology Daily (SET Daily)* has been deeply involved in covering major science and technology events. It has played an important role in advocating sci-tech innovation and popularizing science.

SET Daily stays true to the mission of communicating China to the world. In particular, with your support, we initiated the IUSTC as a cooperative mechanism on September 20, 2018. The union has become a multilateral cooperation platform focusing on dissemination of sci-tech information worldwide.

On July 1 this year, we launched the Weekly Edition of *Science and Technology Daily* (in English), providing information and cases to tell China's sci-tech

innovation stories and to help deepen international sci-tech cooperation. The Weekly Edition also aims to offer IUSTC members a new perspective, so that you can have a better understanding of China's sci-tech progress.

Over the past few years, on major international issues such as the global fight against COVID-19, tackling global climate change, and the application of 5G technology to the global media, the IUSTC members have worked together and played our part in information exchange and communication interaction.

Exchanges and mutual learning between nations create an important vehicle for human progress,

world peace and development. Science and technology have no borders. Today, via this video conference, we hope all IUSTC members could exchange ideas and work together to write a new chapter in promoting the integration and interaction of global intellectual resources.

Science and Technology Daily



Global Efforts to Achieve Carbon Neutrality

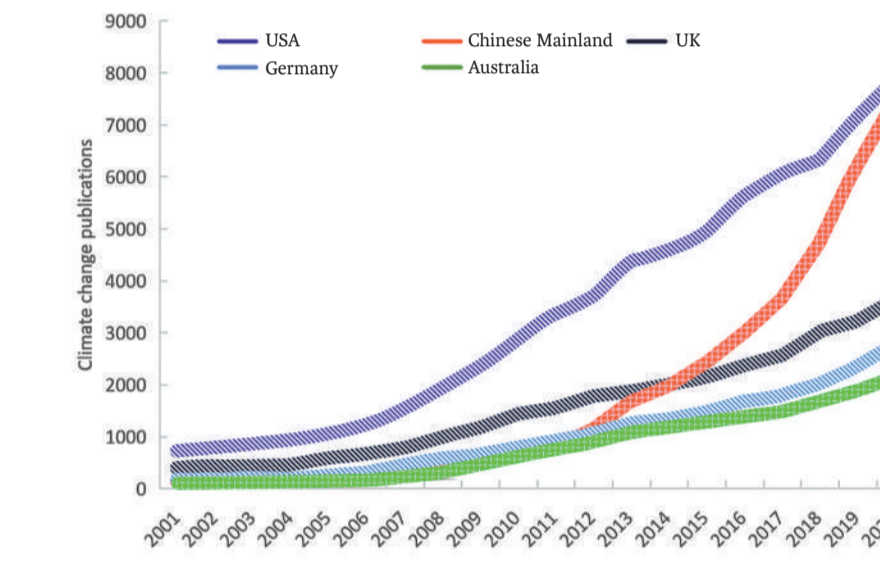
During the IUSTC annual conference, a report, titled *Science and Technology in Supporting Global Efforts to Achieve Carbon Neutrality*, was released by *SET Daily* and supported by the data from Clarivate. The key findings are as follows:

- The research output related to climate change is increasing, and the growth of such research is faster than that of the

- overall indexed papers in the database;
- The disciplines covered by climate change research have changed;
- The output of climate change publications in the U.S. began to grow rapidly as early as 2006. Relevant research on the Chinese mainland began to increase significantly after 2012 with the highest growth rate;
- The percentage of international col-

laboration papers has increased rapidly, far exceeding the overall proportion of global international collaboration papers in the same period;

- China and the U.S. are each other's largest partners;
- Half of the Top 10 countries with the most collaboration in climate change research with the Chinese mainland are from Europe. The Chinese mainland is also the second largest partner of the EU27+UK;
- China and ASEAN countries began to collaborate in climate change research since 2003. More collaborations appear in recent ten years, particularly in recent five years.



Top 10 Research Frontiers in Climate Change

- The number of global insect declines
- Using climate models to study climate change
- Peer-to-Peer (P2P) energy trading
- River or soil forecast based on neural network theory
- Global glacier mass changes
- Decoupling economic growth and carbon emissions
- Efficient electrocatalytic nitrogen fixation under ambient conditions
- Aerosol research
- Research on shared bicycles
- Greenland and Antarctic ice sheet research

Global Carbon Neutrality Requires Closer International Cooperation

The COP26 in Glasgow, convened in November 2021, saw a changing phase of the Paris Agreement from rule-making to implementation for the global climate governance—using emerging technologies for climate change mitigation and adaptation to reach the agreed temperature objectives.

It is reported that the U.S., China, the

UK, Germany, Australia and Canada are the most productive countries in terms of total number of publications on climate change. The U.S. tops the list; China's publications outnumbered the UK in 2014 after significant increase from 2012. The growth of publications is closely related to China's growing input in scientific research on climate change over the past ten years.

With a determined goal, we should make more efforts on research and development of carbon neutrality technologies as solutions, and make more interdisciplinary and cross-sector international sci-tech cooperation. As such, we'll quicken the green and low-carbon transition globally at a lower cost within a shorter period of time.



Zhong Ping

Director, Global (Environment) Office, The Administrative Center for China-Africa Cooperation, Chinese Academy of Technology of China

Technology Empowers 'Dual Carbon' Goals

Climate issues need multilateral cooperation. It must be made clear that the natural risks brought by climate change are featured by a systematic and spatially differentiated increase, while atmospheric control has obvious public benefits.

Science and technology is one of the core and key issues of global climate cooperation. Global climate governance under

the multilateralism framework, which promotes green and low-carbon technology innovation and application deployment, will become an important part of global climate cooperation. The research and development, deployment and large-scale popularization and application of major sci-tech innovations in key areas determine the global climate governance capacity.

The mid- and long-term emission reduction technologies focus on fossil energy, industry, construction, transportation, energy storage, etc. The strategic role of deep carbon emission reduction or zero emission technology, negative emission technology and geoeengineering technology in the future global emission reduction framework has attracted much attention.



Zhuang Guiyang

Professor and deputy director of the Research Institute for Eco-civilization, Chinese Academy of Sciences

Supporting Role of Adaptation Actions to Be Maximized

It has become the consensus of the international community that mitigation and adaptation, as two basic countermeasures to meet the challenge of climate change, are equally important and cannot be neglected.

Developed countries, which bear major historical responsibilities, should take

the lead in substantially reducing carbon emissions. Most developing countries should vigorously carry out actions to adapt to climate change while making their own contributions to emission reduction.

In the past 20 years, substantial progress has been made in theoretical research and technology research, and development

of adaptation to climate change at home and abroad. In China, there are a number of examples of adapting to climate change, such as solving climate poverty, protecting fragile ecosystems, developing climate-intelligent agriculture, and solving the problem of unstable frozen soil subgrade while building the Qinghai-Tibet Railway.



Zheng Dawei

Professor of China Agricultural University

Collaborative Governance Between 'Dual Carbon' Goals and Human Health

Human society is a community with a shared future. It is difficult for any country in the world to be immune to the climate crisis. The public health and biosafety risks caused by climate change are global and public, which requires the cooperation of governments and the scientific community.

We need to fully understand and pay attention to the connections between climate policy, air quality, lifestyle and public health, so as to provide key catalysts for climate change mitigation and adaptation actions.

In view of the high public attention to

health, it is urgent to integrate health into the climate decision-making process, and fully consider the potential impact and synergistic benefits of climate policies and systems on health. In this way, we'll develop a more cost-effective and socially acceptable technological path.



Huang Cunrui

Professor of Yanhe School of Public Health, Tsinghua University

Actively Engaged in International Discussions

SET Daily is Sputnik's largest science news partner in China. Cooperation between *SET Daily* and Sputnik is a vivid example of general news outlets and specialized media effectively working together to promote scientific topics in the interna-

tional information landscape and further develop this practice.

In this regard, we are very pleased that our partners are actively engaging us in international discussions, such as the World 5G Convention, where Sputnik ex-

perts have shared their views on the use of advanced media technologies for two years.

Special events promoting the exchange of science news also deserve a mention here.



Zhao Sha

China Media Development Director of PR Newswire

Distribution Combined with Multi-media

PR Newswire today provides optimized and targeted content and news with distribution measure results. The development of search engines, social media, digital technology and the popularity of mobile devices have fundamentally changed the pattern of global news distribution. In

China, more and more media have been very successful in distribution combined with the social media, video, photo, and big data technology. In addition to their authority, more importantly, they have found the best way to tell stories on different distribution platforms. In 2018, PR

Newswire joined in IUSTC, which is the first platform with the mission of "international dissemination for science and technology" found by *SET Daily*. We made the international channel wider, besides, more deeply contents can also be shared freely and immediately among IUSTC members.

Communication Improved on Sci-tech Information

IUSTC is a great platform for the global audiences to learn science and technology development. Clarivate has been a member of IUSTC since its establishment in 2018. We are truly thankful for the great support from all IUSTC members. At Clarivate, our vision is to improve the way the world creates, protects and advances

innovation. To achieve this, we deliver critical data, information, workflow solutions and deep domain expertise to innovators everywhere. This is well aligned with the aim of IUSTC, which is to improve the efficiency of communication on science and technology related information. Science and technology are the foun-

ds for the better future of our world. I look forward to working more closely with each member of IUSTC in telling more good stories in science and technology development. I am sure that our work will help the world better understand science and technology frontiers that are shaping our future.



Okimura Kazuki

Honorary President of Japan Science and Technology Agency (JST)

Mutual Benefit Expected in the Future

Since its establishment in 2018, IUSTC has played an important role in promoting the exchange and dissemination of scientific and technological information globally. Despite the COVID-19 pandemic, the schedule of this annual worldwide meeting remained unchanged.

I would like to express my heartfelt respect to this meaningful meeting for science and technology exchange, and innovations. Major changes are expected in the future internationally. I believe that cooperation between China and Japan will become more and more important. In the

future, mutually beneficial relationships where all parties can learn together are highly anticipated. I would like to make efforts with IUSTC members, with continued support in the future. Lastly, I would like to express my heartfelt hopes and welcome the success of this meeting.

Scientific Information Spread through Digital Outreach

Initiated by *SET Daily*, IUSTC was established in September 2018.

Since its establishment, IUSTC has played its important role in promoting global sci-tech exchanges and cooperation, improving the efficiency of sci-tech information, communication, and enhancing media influence.

In 2020, ICGEB Regional Research Centre was established in Taizhou, Jiangsu province. The research center is expanding interactions between the international communities, in particular Italy, and China, focusing on vaccines, antibody drugs and in-vitro diagnostics.

Through digital media platforms, pub-

lic engagement, and media relations, ICGEB contributes to promoting international sci-tech cooperation together with IUSTC.

Besides, the collaboration with *SET Daily* makes us find common ground and areas of interest, and publishes several articles on Chinese media platform.

IUSTC Annual Conference: Information Exchanges Promote Global Collaboration

In order to strengthen exchanges among members of the IUSTC, seek more cooperation possibilities, and promote international sci-tech cooperation, the first annual conference of IUSTC was convened on December 21 in Beijing, online and offline.

The IUSTC was initiated in September 2018, and its members reviewed the past three year's work, presented the prospects for future cooperation, and discussed how to better facilitate international sci-tech cooperation with the help of multi-media during this year's annual conference.

Speaking at the conference, the head of *SET Daily* hoped that IUSTC would be

committed to telling stories of sci-tech innovation, and promoting sci-tech cooperation and cultural exchanges. He also announced Xu Zhilong, editor-in-chief of *SET Daily*, as the new chairman of IUSTC.

Xu reviewed three achievements of cooperation among IUSTC members at the conference. First, the increasing exchange of manuscripts and information of interview. Second, providing a platform for communication and cooperation. Third, jointly developing think tank initiatives.

Xu introduced the Weekly Edition of *SET Daily*. Launched on July 1, 2021, the Weekly Edition covers contemporary

topics related to science and technology, such as climate change, tracing the source of novel coronavirus, and the digital economy. In addition, the Weekly Edition keeps up with the cutting edge of sci-tech development and offers professional analysis.

IUSTC members, including representatives from Sputnik News Agency and Radio, PR Newswire, Japan Science and Technology Agency (JST), Clarivate and International Center for Genetic Engineering and Biotechnology (ICGEB), presented their congratulations at the opening ceremony, summarized their past sci-tech cooperation, especially with *SET Daily* and looked forward to more ex-

changes among IUSTC members.

To help promote the spread of scientific and technological information, the IUSTC Secretariat issued four working initiatives for IUSTC members.

In addition, a report titled *Science and Technology in Supporting Global Efforts to Achieve Carbon Neutrality-Global technology development report 2021 climate change* was released on the conference by *SET Daily*, and supported by the data from Clarivate.

The report is a fundamental study of global climate change over the past 20 years, putting forward relevant suggestions for international cooperation on climate change.