



CAST

CHINA ASSOCIATION FOR SCIENCE AND TECHNOLOGY



ABOUT US

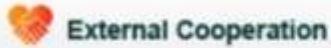
MEMBERSHIP

LOCAL BRANCHES

PEOPLE

UPCOMING EVENTS

Search:



External Cooperation



Academic Exchanges



Science Popularization



Science for Children&amp;Youth

WARMLY CELEBRATE THE FIRST NATIONAL SCIENCE AND TECHNOLOGY WORKERS DAY!

- Serve scientific and technological workers;
- Serve innovation-driven development;



Annual Meeting

As the largest non-governmental organization of S&T professionals in China, **CAST** serves as a bridge that links the Chinese government to the country's S&T community.

Through its 210 national member societies and local branches all over the country, **CAST** maintains close ties with millions of Chinese scientists, engineers and other professionals working in the fields of S&T.

**CAST** maintains cooperative relations with S&T organizations of many countries and, as the representative of the Chinese S&T community, is the national members of ICSU, WFEO and many other international organizations.



## Major tasks:

- 1) to carry out academic exchanges, activate academic thinking, promote the development of all scientific disciplines, and stimulate independent innovation.
- 2) to organize professionals to contribute to the establishment of a technological innovation system
- 3) to carry forward the scientific spirit, popularize scientific knowledge and disseminating scientific ideas and methods;
- 4) to reflect suggestions, opinions and demands of S&T professionals, and safeguard their legitimate rights and interests.
- 5) to push forward the establishment and improvement of a research integrity supervision mechanism, and promote the construction of scientific ethics and a fine style of study.
- 6) to organize professionals to participate in the making of S&T-related policies and laws and the political consultation.
- 7) to recognize and reward outstanding professionals, and recommend scientific and technological talents.
- 8) to provide scientific augmentation and consulting services, and policy advice, facilitate the transformation of research results; undertake project evaluation and appraisal, participate in the formulation of technical standards, professional qualification accreditation.
- 9) to organize international exchange programs, promote international cooperation, and develop cooperative relations with organizations and personnel worldwide.



## Science, Innovation Cooperation to Benefit Bel

CAS is the linchpin of China's drive to explore and harness high technology and the natural sciences for the benefit of China and the world.

Since its founding, CAS has fulfilled multiple roles — as a national team and a locomotive driving national technological innovation, a pioneer in supporting nationwide S&T development, a think tank delivering S&T advice and a community for training young S&T talent.

CAS scientists conduct research in most areas of basic science and technology as well as strategic advanced technologies and areas related to the public welfare and the development of emerging industries.



CAS comprises 104 research institutes, three universities and 11 supporting organizations in 23 provincial-level areas throughout the country.

CAS comprises 1,000 sites and stations.

CAS has a staff of 67,900, including about 56,000 professional researchers.

CAS nurtures young S&T talent through three affiliated universities, the University of Science and Technology of China (USTC), University of the Chinese Academy of Sciences (UCAS) and Shanghai Tech University. So far, CAS has graduated 85,884 masters and 64,977 PhDs.





# 中国科学院大气物理研究所中层大气和全球环境探测重点实验室

Key Laboratory of Middle Atmosphere and Global Environment Observation (LAGEO) Institute of Atmospheric Physics Chinese Academy of Sciences

网站首页 关于我们 科研成果 人才培养 科研条件 合作交流 实验室管理 招贤纳士 内部信息 论坛

新闻中心

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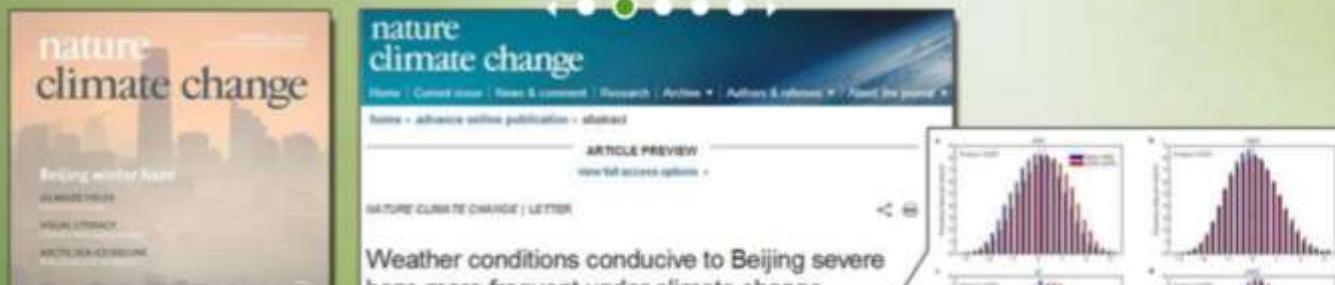
学术报告

更多>>

As a key lab of CAS, **LAGEO** aims at the fundamental and applied research of key pioneering scientific and technological problems in the fields of middle atmosphere and global environment detection.

## Research fields:

1. Processes in middle atmosphere, and their effects on weather and climate
2. Atmospheric radiative transfer, atmospheric remote sensing
3. Global atmospheric electricity, lightning and storm electricity
4. High technology of atmospheric detection



NUIST, founded in 1960 and renamed from Nanjing Institute of Meteorology in 2004. NUIST is a key university co-constructed by the Jiangsu Provincial People's Government, the Ministry of Education of China and the China Meteorological Administration (CMA).

NUIST has a complete higher education system with undergraduate, postgraduate, doctoral programs as well as post-doctoral research centers.

The discipline of Atmospheric Science ranks No. 1 in the national discipline evaluation conducted by the Ministry of Education of China in 2012, which has great influence in the world.



## What is iCACGP?

iCACGP is one of the Commissions in **IAMAS** (International Association of Meteorology and Atmospheric Sciences), which in turn is one of the associations within **IUGG** (International Union of Geodesy and Geophysics) under the non-governmental **ICSU** (International Council of Science) family

### What does iCACGP do?

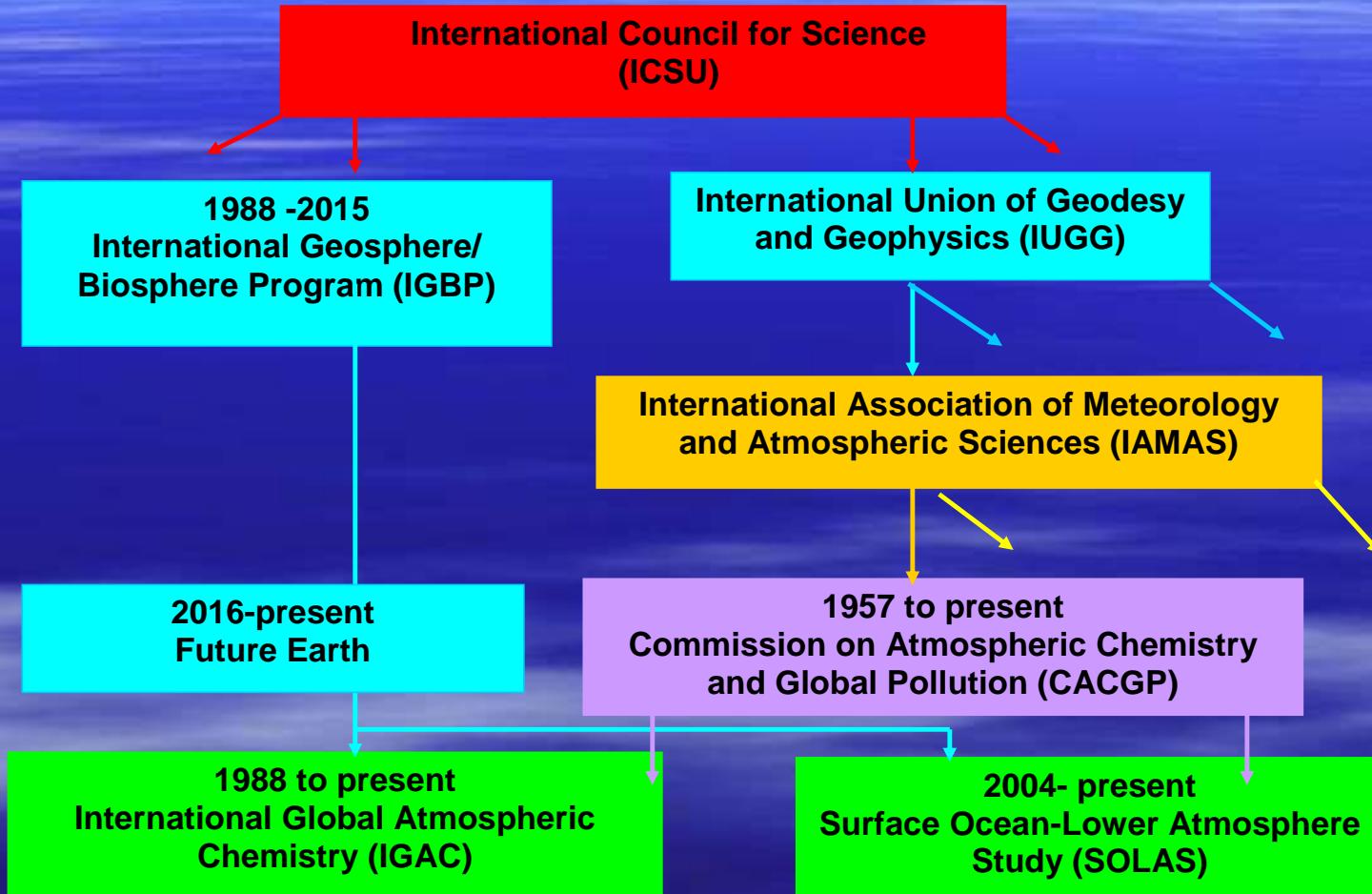
- *facilitates research in atmospheric chemistry that contributes to **basic science** and for solving **major environmental and societal issues** addressing water supply, food production and human and ecosystem health*
- *stimulates an **enhanced understanding** of the fundamental mechanisms that control atmospheric composition and development of **improved predictive capabilities***



**IAMAS**

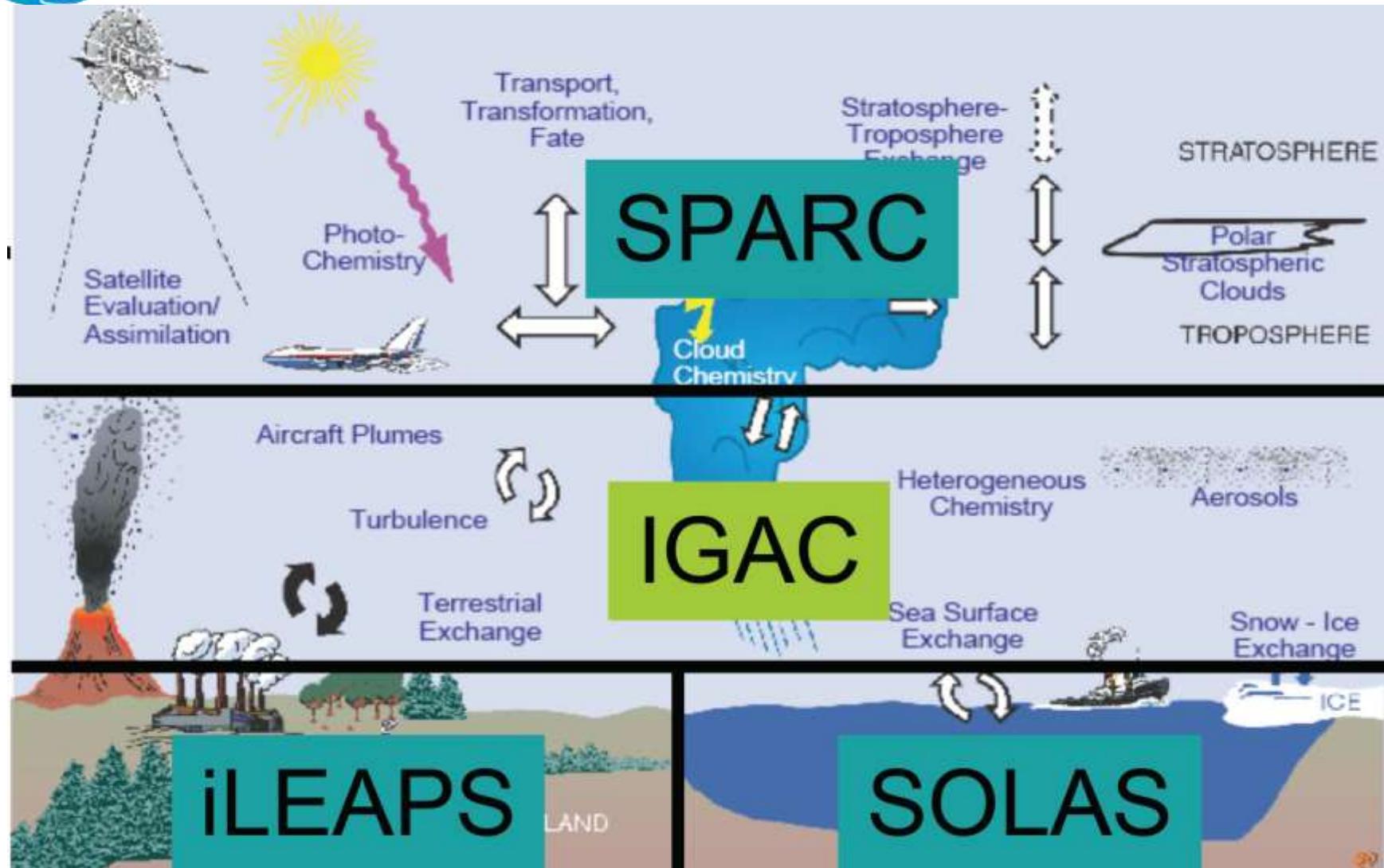
International Association of Meteorology  
and Atmospheric Sciences

# Where does iCACGP sit in the international organisational alphabet soup of science?





International  
Commission on Atmospheric Chemistry and Global Pollution  
<http://www.icacgp.org>



# WCRP Structure

Joint Scientific Committee

Modeling Advisory Council

Joint Planning Staff

Data Advisory Council

**Working Groups on:** Coupled Modeling (WGCM), Numerical Experiment (WGNE), Regional Climate (WGRC), Seasonal to Interannual Prediction (WGSIP)

CliC

Cryosphere-  
Climate

CLIVAR

Ocean-  
Atmosphere

GEWEX

Land-  
Atmosphere

SPARC

Troposphere -  
Stratosphere



# Emerging Activities



**SPARC**  
Stratosphere-Troposphere  
Processes and their Role in Climate



Neil  
Harris  
Co-Chair



Judith  
Perlwitz  
Co-Chair

The SSG



Boram Lee  
WCRP Liaison



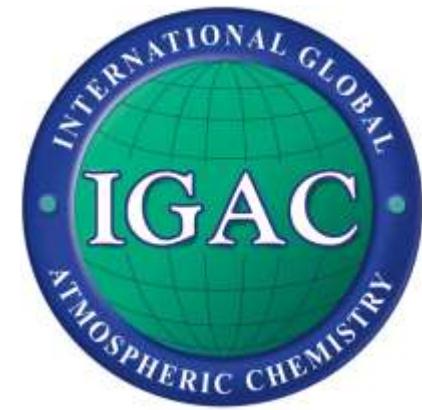
**SPARC**  
Stratosphere-troposphere  
Processes And their Role in Climate

SPARC Office  
Zurich



# Facilitating atmospheric chemistry research toward a sustainable world

- Fostering Community
- Building Capacity
- Providing Leadership



# IGAC National/Regional Working Groups

IGAC builds capacity in developing countries/regions by creating a strong cohesive community of atmospheric scientists that together have a sum greater than their parts and connects these scientists to the larger IGAC community to foster international collaborations.



# International Centre for Integrated Mountain Development (ICIMOD)

ICIMOD

FOR MOUNTAINS AND PEOPLE



9 Air Quality Monitoring stations



Langtang (5000 m.a.s.l.)

**ATMOSPHERIC PROCESSES SCIENCE**

**AIR POLLUTION EMISSIONS**

**IMPACT: HUMANS & ENVIRONMENT**

**MITIGATION**

Arnico Panday  
Programme Coordinator  
Atmosphere Initiative

Bidya Banmali Pradhan  
Programme Coordinator  
Clean Brick Initiative

**REGIONAL PROGRAMME on  
ATMOSPHERE and CRYOSPHERE**

Anna Sinisalo  
Programme Coordinator  
Cryosphere Initiative



Jülich Research Centre (Forschungszentrum) is one of the largest interdisciplinary research centres in Europe (more than 5700 members of staff).



...and more than 120 people work in atmospheric science!

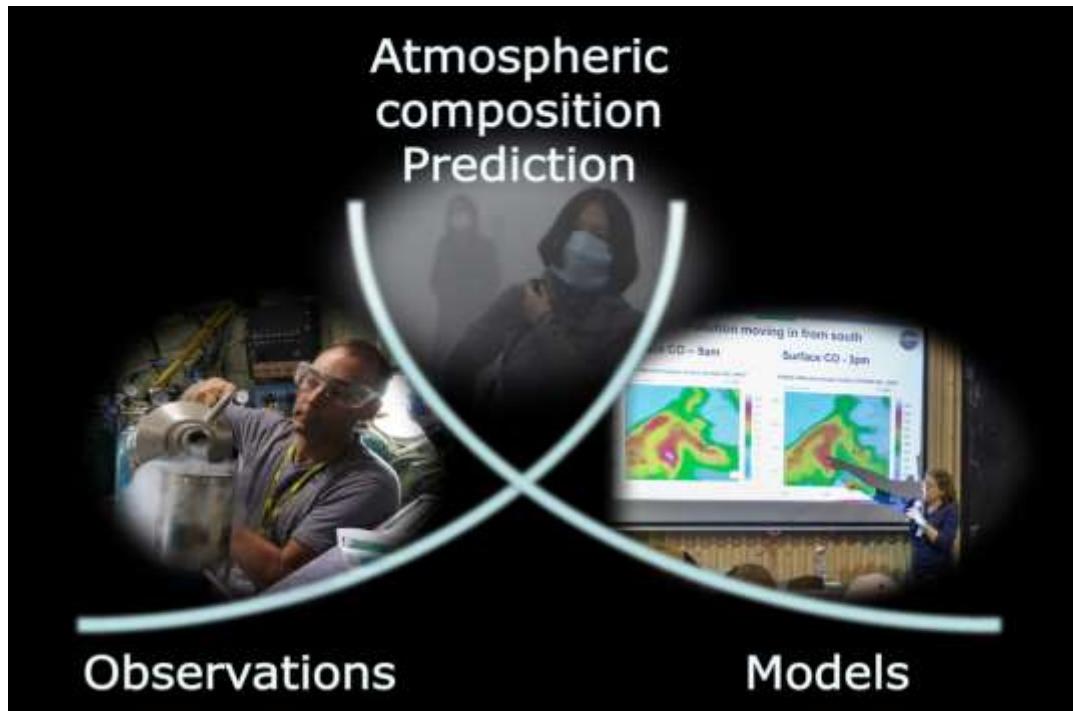


Nepal,  
2017



# National Center for Atmospheric Research (NCAR)

## Atmospheric Chemistry Observations and Modeling



Contributed to ACAM

- Website
- Workshop administrative support
- Leadership in SSG



# PICARRO

## Picarro Analyzers Deliver High-Precision Isotopic and Greenhouse Gas Concentration Measurements from the Air, Soil, and Water



### **NEW Picarro G2207-i $\delta^{18}\text{O}$ Isotope and $\text{O}_2$ Gas Concentration Analyzer**

combines the capability to perform precise measurements of  $\delta^{18}\text{O}$  isotopes and  $\text{O}_2$  gas concentration in a single instrument.

- Measure  $\text{O}_2$  gas concentration at 1 ppm precision
- Maximum drift is 3 ppm peak-to-peak at STP



**Picarro L2130-i Isotope Water Analyzer** enables streamlined, simple, and simultaneous measurements of  $\delta^{18}\text{O}$  and  $\delta\text{D}$  in liquids and vapor.

- Precision of 25 per meg (0.025‰) for  $\delta^{18}\text{O}$  measurements
- Precision of 100 per meg (0.1‰) for  $\delta\text{D}$  measurements



**Picarro G4301 GasScouter™ Mobile Gas Concentration Analyzer** is a new generation extra-lightweight and portable, battery-powered analyzer designed for science on the move.

- High-precision ppb measurements of  $\text{CO}_2$  and  $\text{CH}_4$  concentrations
- Portable, lightweight (11kg), low power (25W) backpack case