



南京大学国际地球系统科学研究所

*ESSI* International Institute for Earth System Science, Nanjing University

## International Summer School

July, 6-9, 2016 Nanjing University Xianlin Campus

### *Topic:*

Monitoring, Modelling, and Data  
Assimilation for Carbon Cycle Research

### *Invited Speakers:*

Guirui YU (Institute of Geography Sciences and Natural Resources  
Research, Chinese Academy of Sciences)

Shilong PIAO (Peking University)

Alfredo HUETE (University of Technology, Sydney)

Christian FRANKENBERG (California Institute of Technology)

Forrest HALL (University of Maryland, Baltimore County)

Huilin CHEN (University of Groningen)

Wouter PETERS (University of Groningen)

Jingming CHEN (Nanjing University)

### *Time Schedule:*

June 26, 2016 Deadline for application

July 5, 2016 Registration

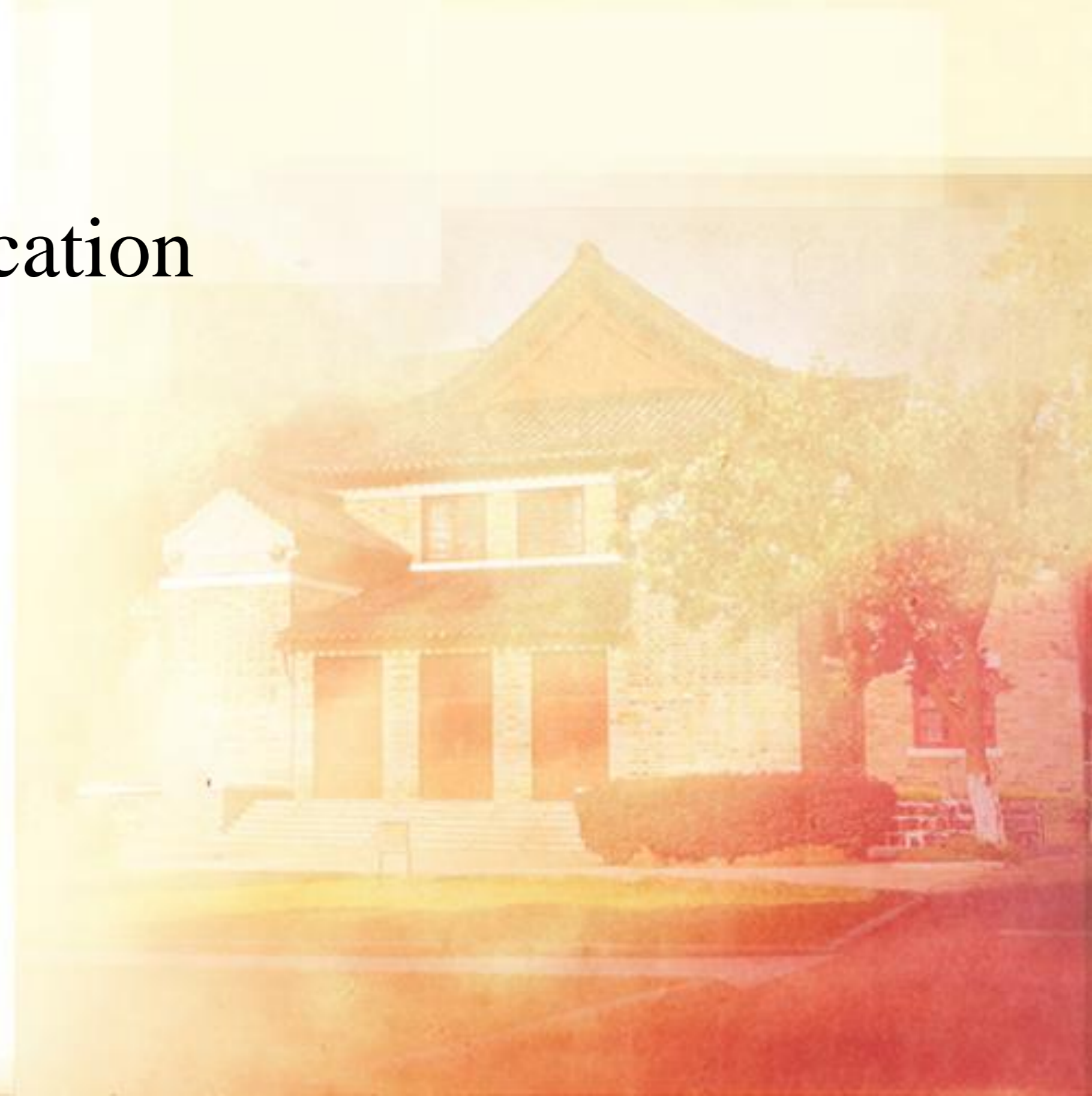
### *Contact Information:*

Ms. Zhe CAI

Tel: 86-13912963247

E-mail: caizhe@smail.nju.edu.cn

***FREE registration fee!***





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(Institute of Geography Sciences and Natural Resources Research, Chinese Academy of Sciences)

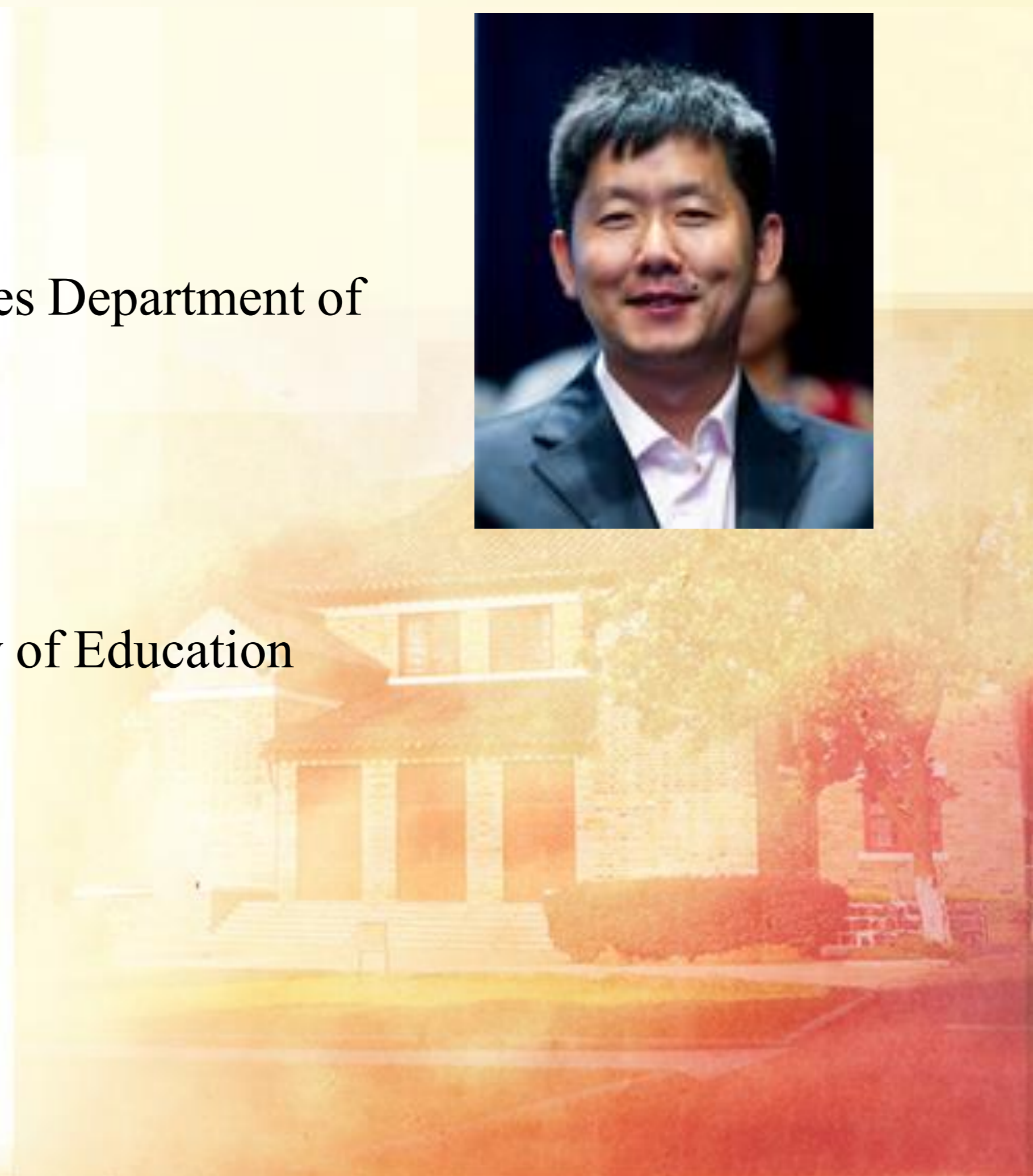
- Deputy director, Institute of Geographic Sciences and Natural Resources Research, CAS.
- Professor and director, Key Laboratory of Ecosystem Network Observation and Modelling, Institute of Geographical Sciences and Natural Resources Research, CAS.
- Director, Synthesis Research Center of Chinese Ecosystem Research Network (CERN).
- Research interests
  - ✓ Ecophysiology, agronomy
  - ✓ Water transfer in Soil-Plant-Atmosphere-Continuum (SPAC)
  - ✓ Carbon, water and nitrogen cycles in terrestrial ecosystems
  - ✓ Global change



#### Shilong PIAO

(Peking University)

- Professor, College of Urban and Environmental Sciences Department of Ecology.
- 2011 China Youth Science and Technology Award
- 2004 Second Class National Natural Science Award
- 2003 First Class Natural Science Award of the Ministry of Education
- Research interests
  - ✓ Carbon cycle
  - ✓ Global change ecology





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#### Alfredo HUETE

(University of Technology, Sydney)

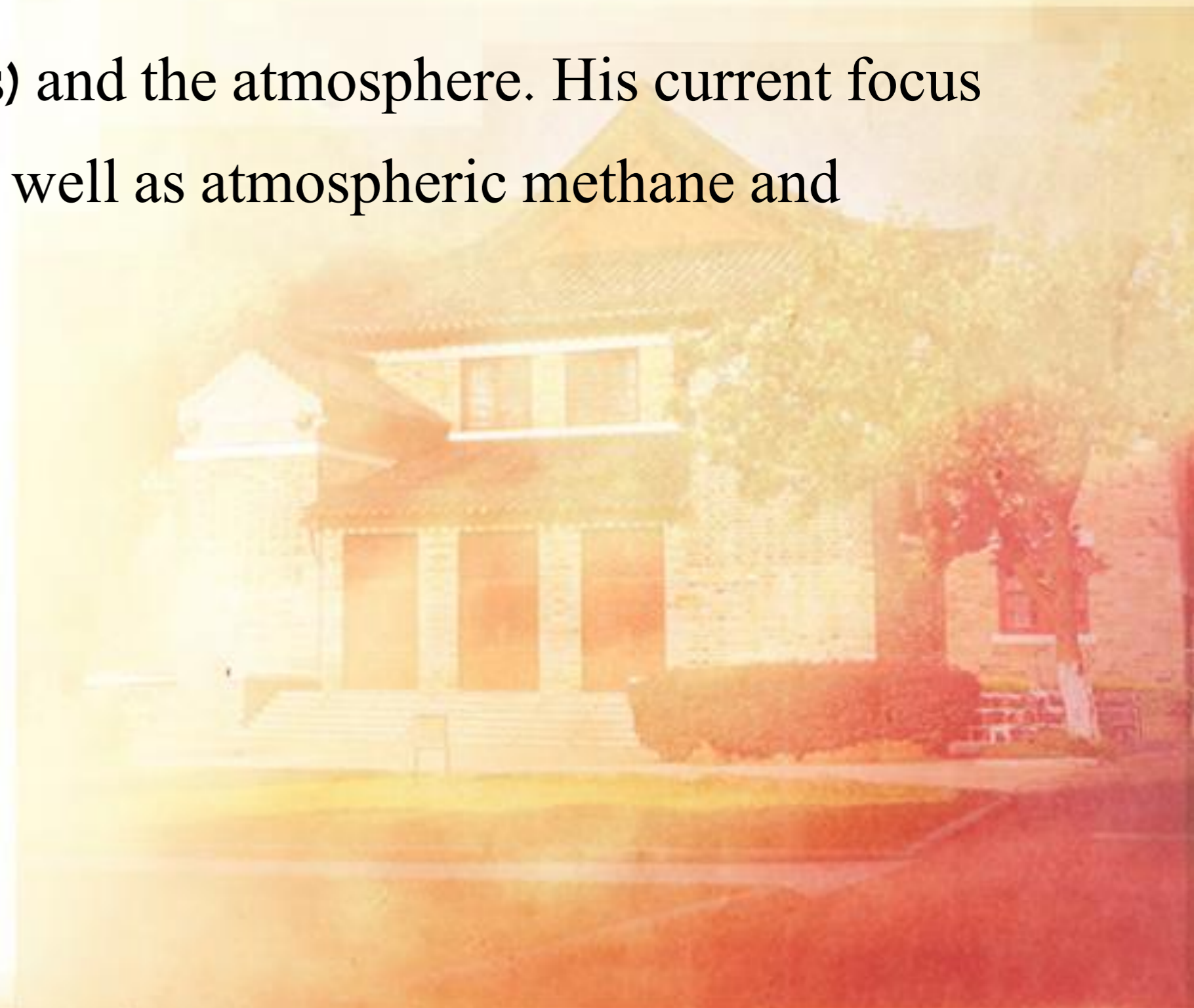
- Professor, Plant Functional Biology and Climate Change.
- Core Member, C3 - Plant Functional Biology and Climate Change.
- Research interests
  - ✓ Ecosystem responses to climate forcings and drought
  - ✓ Functional phenology measures and climate-induced biome shifts in seasonality
  - ✓ Satellite - flux tower integrations for carbon and water models
  - ✓ Tropical savanna and rainforest dynamics
  - ✓ Land-ocean interactions and feedback
  - ✓ Phenology (pollen) - public health studies



#### Christian FRANKENBERG

(California Institute of Technology)

- Associate Professor, Environmental Science & Engineering.
- His research is broadly focused on the global carbon cycle, especially using the vantage point from space (or air) to obtain a truly global (or regional) view on specific phenomena occurring at the interface between the Earth Surface (including terrestrial biosphere and anthropogenic activities) and the atmosphere. His current focus is on the study of solar induced chlorophyll fluorescence as well as atmospheric methane and carbon dioxide.
- Research interests
  - ✓ Ground-based studies of fluorescence
  - ✓ Fluorescence imaging
  - ✓ OCO-2 remote sensing of CO<sub>2</sub> and fluorescence
  - ✓ Remote sensing of methane





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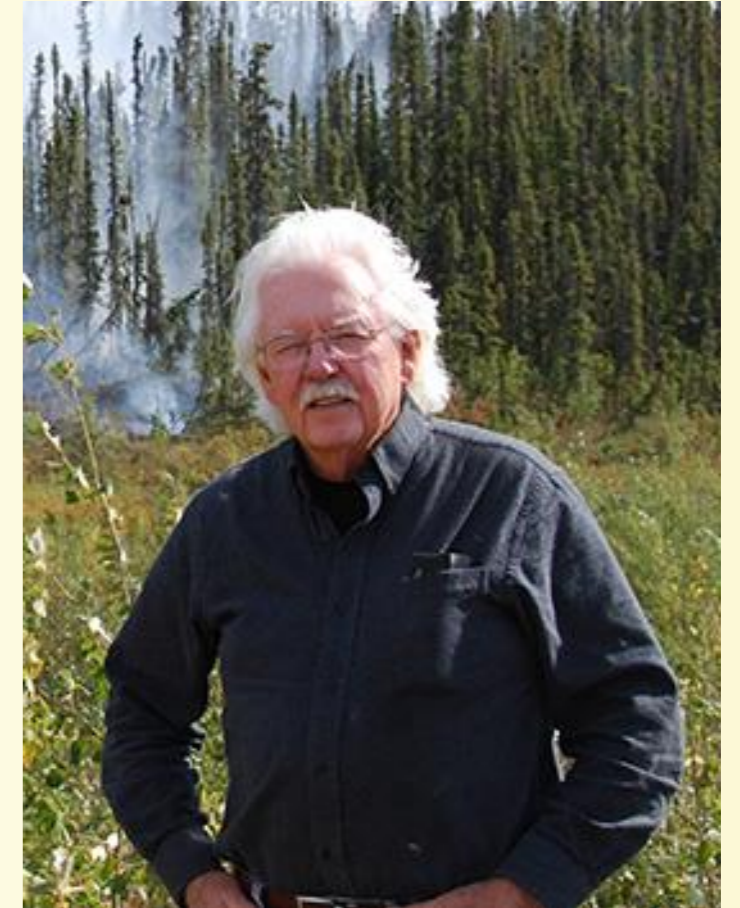
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### *Invited Speakers:*

#### Forrest HALL

(University of Maryland, Baltimore County)

- Physicist, currently teaches Climatology and Astronomy at Maryland Institute College of Art and at Johns Hopkins University's Odyssey program.
- He is located at NASA'S Goddard Space Flight Center in the GSFC/UMBC Joint Center for Earth Systems Technology. Dr. Hall has been active since 1980



in global change research using earth-observing satellites and models to monitor human-induced and natural changes to the earth's land ecosystems and the effects those changes have had on the earth's climate.

- He has authored more than 60 scientific papers on satellite monitoring of the global carbon cycle and climate change.

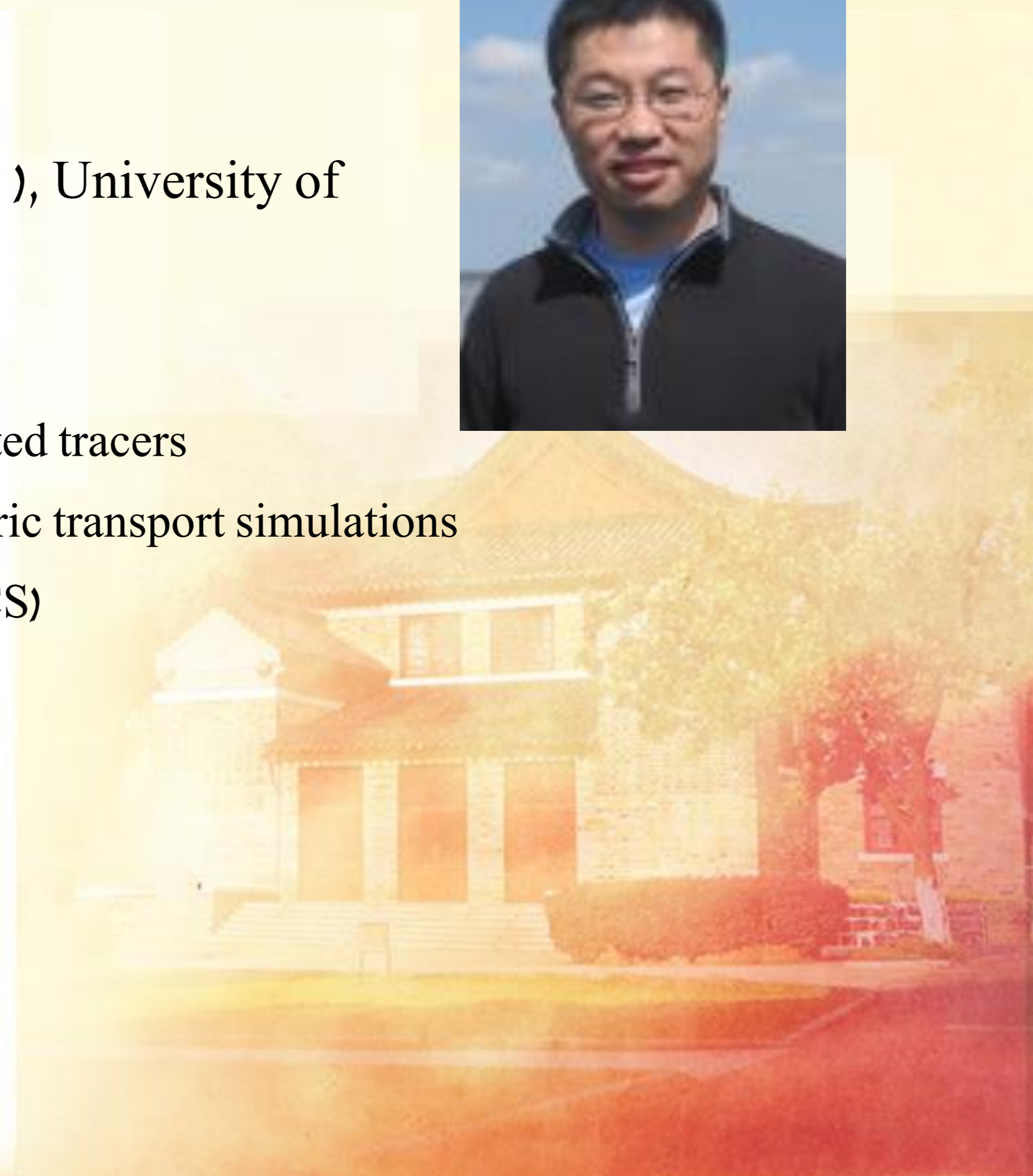
#### Huilin CHEN

(University of Groningen)

- Assistant Professor, Center for Isotope Research (CIO), University of Groningen.

- Research interests

- ✓ Atmospheric measurements of greenhouse gases and related tracers
- ✓ Lagrangian Particle Dispersion Model (LPDM) atmospheric transport simulations
- ✓ Improve carbon flux estimates using carbonyl sulfide (OCS)





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#### Wouter PETERS

(University of Groningen)

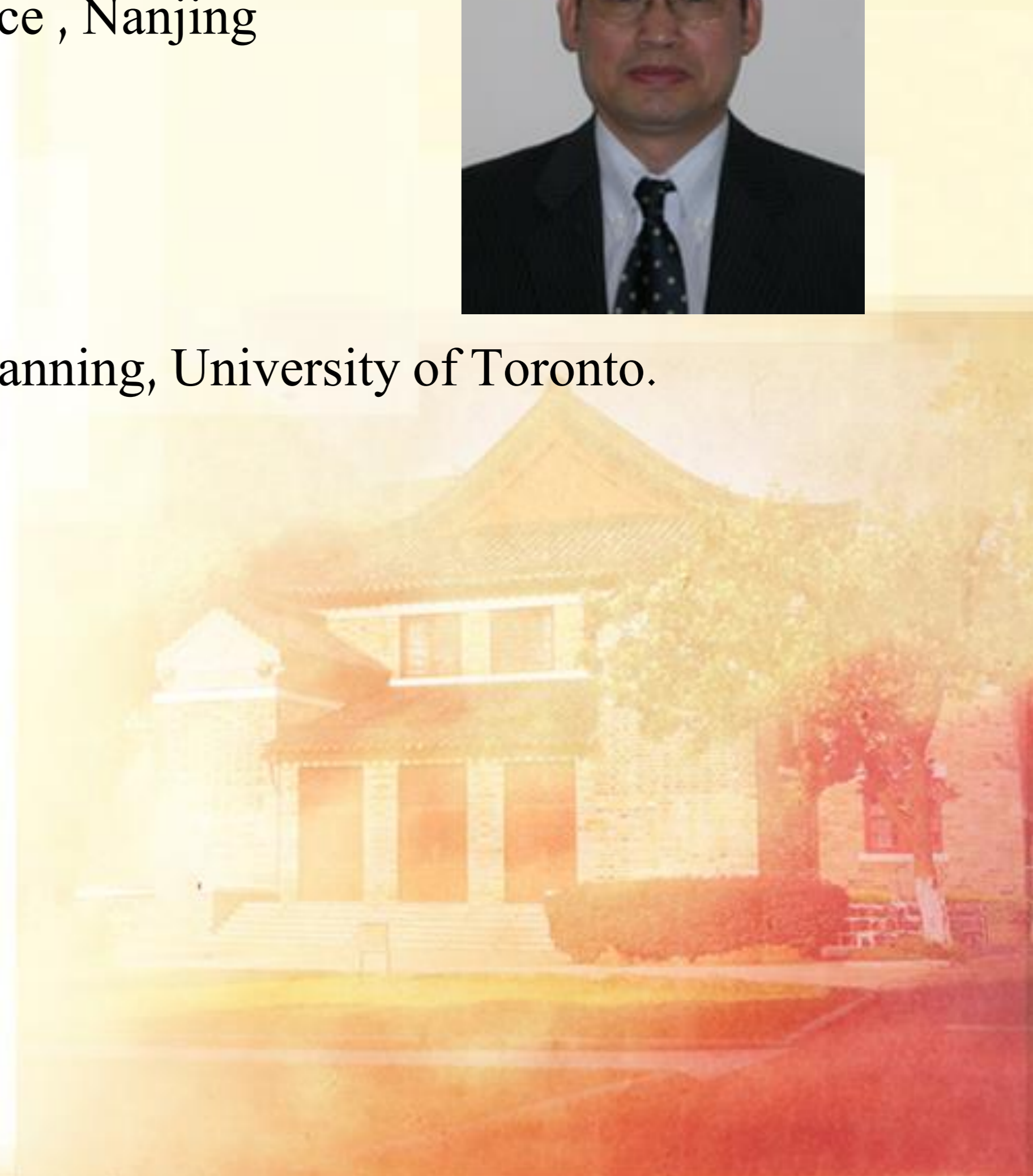
- Professor, Center for Isotope Research (CIO), University of Groningen.
- Professor, Meteorology and Air Quality Department, Wageningen University.
- He led the development of the “Carbon Tracker” North America data assimilation system for atmospheric CO<sub>2</sub> at NOAA, and continues to lead “Carbon Tracker” development in Europe, China, Brazil, and New Zealand.
- Research interests
  - ✓ Atmospheric composition modeling
  - ✓ Data assimilation on carbon cycle



#### Jingming CHEN

(Nanjing University)

- Director, International Institute for Earth System Science, Nanjing University (ESSI).
- Fellow of Royal Society of Canada
- Senior Canada Research Chair
- Professor, Department of Geography and Program in Planning, University of Toronto.
- Research Interests
  - ✓ Biogeochemical cycle modeling
  - ✓ Remote sensing
  - ✓ Climate change
  - ✓ Micrometeorology
  - ✓ Hydrology
  - ✓ Geographic information systems
  - ✓ Isotope modeling





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Date	Time	Name	Title
July, 6	8:30-10:00	Guirui Yu	Monitoring of Terrestrial Ecosystem Carbon Flux
	10:00-11:40		
	2:00-3:30	Shilong Piao	Response of Terrestrial Ecosystem Carbon Cycle to Climate Change
	3:40-5:10		
July, 7	8:30-10:00	Huilin Chen	Atmospheric Novel Tracers and Isotopes
	10:00-11:40		
	2:00-3:30	Forrest Hall	Remote Sensing of Plant Photosynthesis, Evapotranspiration and Respiration
	3:40-5:10		
July, 8	8:30-10:00	Forrest Hall	Data Assimilation of Photosynthetic Light-Use Efficiency using Multi-angular Satellite Data
	10:00-11:40		
	2:00-3:30	Jingming Chen	PRI and Photosynthesis-2
	3:40-5:10		
July, 9	8:30-10:00	Alfredo Huete	Satellite Monitoring for Carbon Cycle Research
	10:00-11:40		
	2:00-3:30	Christian Frankenberg	The Global Carbon Cycle from an Atmospheric Viewpoint
	3:40-5:10		



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[caizhe@smail.nju.edu.cn](mailto:caizhe@smail.nju.edu.cn)

### Application

Please fill out the form below, and email it to Ms. Zhe CAI ([caizhe@smail.nju.edu.cn](mailto:caizhe@smail.nju.edu.cn)).

	Name	Institution	Educational background	E-mail	Telephone
1			/		
2					

Please book hotels yourselves in advance. There are many guesthouses, hotels, and inns near Nanjing University Xianlin Campus.

Please feel free to contact us if you have any questions.

