

International Workshop on Surface-Earth System Science

Social–natural systems currently face multiple unprecedented and interconnected challenges, which include, but not limited to, climate change, biodiversity loss, freshwater scarcity, waste mismanagement, land degradation and urban air pollution. These challenges are threatening the sustainable development of society. Achieving the goal of sustainability requires reorientation toward new research that better allows science and society to address the needs of decision-makers and citizens at global, regional, national, and local scales.

New strategies are needed to generate scientific knowledge to support societal action. Much exciting new knowledge, insights and understanding are owing from disciplinary research on parts of the Earth System. Even more than before, the Earth System science research, is needed. However, the biggest challenge is to develop a substantive science of integration, putting the pieces together in innovative and incisive ways towards the goal of understanding the dynamics of the planetary life support system as a whole (IGBP Secretariat, 2004).

This workshop has a main theme on “the Surface-Earth System Sciences and Sustainability”, and will focus on the following topics from a perceptive of the Surface-Earth System Sciences.

Topics

1. Structure, composition and dynamics of Surface-Earth systems in past, at present and in future
2. Regional and global biogeochemical cycling of elements related to climate/environmental changes
3. Impacts of natural and anthropogenic processes on the evolution of the ecosystem service of the Surface-Earth systems

Workshop Programme

	Morning	Afternoon
26 March	Registration	Registration
27 March	Opening Ceremony / Invited Talks	Invited Talks
28 March	Invited Talks	Invited Talks

Venue: Meeting Room No. 7, Conference Building, Weijin Road Campus, Tianjin University

27th March, 2018

Time	Event / Talk	Speaker
9:00-9:30	Opening Ceremony (Meeting Room No. 7) Chaired by Congqiang Liu <ul style="list-style-type: none"> Introduction to the workshop and the speakers Welcome by Vice President of Tianjin University Address by Vice President of NSFC 	<ul style="list-style-type: none"> Congqiang Liu Wenping Hu Zengqian Hou
9:30-10:00	Conferring Ceremony of Honorary Professorship Chaired by Director of International Cooperation Office <ul style="list-style-type: none"> Introduction to the nominees Honorary Professorship awarded Address by a representative of Honorary Professors 	<ul style="list-style-type: none"> Congqiang Liu Wenping Hu Jérôme Gaillardet
10:00-10:15	Coffee Break	
Chairperson: Philippe Van Cappellen		
10:15-10:45	The global control of carbonate weathering	Jérôme Gaillardet
10:45-11:15	Hysteresis in the Carbon Cycle	Timothy Ian Eglinton
11:15-11:45	Molecular composition and sources of organic aerosol in the atmosphere	Pingqing Fu
11:45-12:15	Long-term trends of water-soluble organic aerosols in the western North Pacific: Environmental changes in the marine atmosphere	Kimitaka Kawamura
12:15-14:00	Lunch and break	
Chairperson: Harry Vereecken		
14:00-14:30	The Mobile Surface of the Critical Zone: anthropogenic soil erosion and deposition as a source of heterogeneity	Timothy A. Quine
14:30-15:00	Climate Change and Water Security: Case study in China	Jun Xia
15:00-15:30	Isotopic and modeling approaches for deciphering weathering processes in elementary granitic catchments: The Strengbach (Vosges Mountain, France) case.	François Chabaux
15:30-16:00	Coffee break	
Chairperson: Jérôme Gaillardet		
16:00-16:30	Mechanics of Earth Surface Processes: Needs and Opportunities	William E. Dietrich
16:30-17:00	Microbial methane cycle in waterlogged surface-earth systems	Yahai Lu
17:00-17:30	Clumped Isotopes: new palaeotemperature proxies for Earth-Surface System Science	Robert M. Ellam
17:30-18:00	The mysterious mass-independent fractionation of even Hg isotopes	Jiubin Chen

28th March, 2018

Time	Event / Talk	Speaker
Chairperson: Timothy Ian Eglinton		
9:00-9:30	Land cover change and its ecological and hydrological impacts	Bojie Fu
9:30-10:00	Application of PKU Emission Inventories of Air Pollutants	Shu Tao
10:00-10:30	Neogene-Quaternary loess deposits in China and the climate-tectonic implications	Zhengtang Guo
10:30-11:00	Coffee Break	
Chairperson: William E. Dietrich		
11:00-11:30	Airborne particulate matter pollution in urban China: a chemical/biological mixture perspective from sources to impacts	Xiangdong Li
11:30-12:00	Damming profoundly changes riverine nutrient delivery to the global coastal zone	Philippe Van Cappellen
12:00-12:30	Sedimentological and hydro-biogeochemical processes controlling arsenic behavior in the Pleistocene aquifers of the central Yangtze River Basin	Yanxin Wang
12:30-14:00	Lunch and break	
Chairperson: Robert M. Ellam		
14:00-14:30	The need to revise the classical crystallization theory	Henry H. Teng
14:30-15:00	Terrestrial systems: from observation to prediction	Harry Vereecken
15:00-15:30	Big Earth Data for Sustainable Development in Belt and Road Region	Huadong Guo
15:30-16:00	Coffee break	
Chairperson: Bojie Fu		
16:00-16:30	Protecting and Enhancing Soil Functions in Earth's Critical Zone	Steven A. Banwart
16:30-17:00	Causes and sources of air pollution over Guanzhong Plain	Junji Cao
17:00-17:30	Conclusion	Congqiang Liu