4th Nobel Laureates Symposium on Global Sustainability

8 – 11 October 2014, Hong Kong

"4C: Changing Climate, Changing Cities"

Wednesday 8th October 2014 - Evening Opening Event

6.00 pm- 9.00 pm Opening Ceremony, Reception and Dinner

Program Outline 7 April 2014

“4C: Changing Climate, Changing Cities”

Over the past 10 millennia of human civilization cities have been the source of cultural, technological and economic innovation. With rapidly increasing rates of urbanization since the beginning of the industrial revolution cities are now the globally predominant form of human settlement. Cities are key drivers of the global environmental change to which they are themselves most vulnerable but they may also be the catalysts for a global sustainability transition.

The 4th Nobel Symposium 2014 – Changing Climate, Changing Cities– seeks to address the most fundamental challenges for cities in a world of rapid climate and socioeconomic change, by exploring past, present and future conditions of urban evolution.

The starting point will be a common definition of the phenomenon city and a discussion of the major advantages of density, size and economic specialization. This will prepare the grounds to examine the causal mechanisms behind the historical success of agglomeration as social organization and the changing roles of space and location for the formation of cities.

Preindustrial societies almost exclusively rely on biomass as energy source. The resulting labor intensive energy system and high transport costs force a metabolic limit on the level of urbanization and the effective city size that can be achieved in an agrarian regime. On average, regional urbanization levels cannot exceed 20% as about 80% of the population are needed to generate the energetic surplus to sustain the urban populations. Cities along coastlines and rivers are favored due to the convenient transport those afford.

These conditions have prevailed for most of human history up to the dawn of the industrial age when the ability to harness fossil energy began to fundamentally transform the relationships between labor, energy space, and climate. In the agricultural sector labor is substituted by energy, and area productivity increases. The resulting energetic surplus leads to huge population growth and the rapidly increasing urbanization more than inverts the previous ratio between rural and urban populations in mature industrial countries. The hinterlands sustaining individual cities expand to an increasingly global scale due to plummeting transport costs which allow exponential growth, densification and economic specialization. The emergence of *despatialized hypercities* (über-cities) like Hong Kong or Singapore is further assisted by recent innovation in technologies for near instantaneous communication.

Today's world is one of transition in which all of these stages of urban development coexist, sometimes even within a single city. The great challenge of urban sustainability is to strengthen cities as centres of innovation while also mitigating and adapting to global climate change.

Day 1 of the symposium will focus on the scientific basis for understanding the systemic conditions of urbanization as a co-evolutionary process between nature and society, from the ancient past to a future when cities will be facing severe climate change, including sea level rise and extreme events. On day 2 the symposium will explore the most pressing local and sectoral challenges in Asian cities. Air pollution, water, sanitation, public health, transport, and clean energy for cities in Asia will be discussed from political, technical and socioeconomic perspectives. Day 3 of the symposium aims to fathom visionary but still attainable futures for cities in Asia and elsewhere. The systemic insights from day 1, together with the local and sectoral insights from day 2 will converge into place based visions for specific cities and into a more comprehensive perspective of sustainable urban energy systems.

The symposium will close with the presentation of a memorandum signed by the participating Nobel Laureates and the scientific chair of the symposium.

Thursday, 9th October 2014: DAY 1 The scientific basis	
Opening	
09:00-09:30	**Welcome and opening (Top-level representatives from Hong Kong and Asia Society Hong Kong)**
Session 1: Cities, Climate, and Civilization (3 talks 20‘ each) *The opening keynotes cover three fundamental issues: climate change, financing urban change, and the dynamics linking cities, climate and civilization.*	
09:30-10:30	**Hans Joachim Schellnhuber: *Climate Change: State of the Play*** **Talk2: *Investing in Urban Mitigation and Adaptation*** **Talk3: *Society –Nature Co-evolution***
10:30-11:00	**Discussion**
11:00-11:30	***Coffee Break***
Session 2: From ancient to über-cities (3 talks 15‘ each) This session sets the stage for a common understanding of the phenomenon city, of the changing conditions how cities functioned historically and might function in the future.	
11:30-12:15	**Talk 1: *Agglomeration as Social Organization*** **Talk 2**: ***From agrarian to Über-cities*** **Talk 2: *Cities as Complex Systems***
12:15-12:40	**Discussion**
12:40-02:00	***Lunch***
Session 3: Anthropogenic Climate Change: Key Results from IPCC AR5 (3 talks 15 ‘ each)	
02:00-02:40	**Talk 1** **Talk 2** **Talk 3**
02:40-03:40	**Discussion**
03:40-04:10	***Coffee Break***
04:10-05:00	**Discussion on Memorandum**
06:30/07:00	**Dinner Organized by Hong Kong Scientific Community**

Friday, 10th October 2014: DAY 2 Problem analysis and potential solutions	
Session 4: Mayors' Perspectives (3 talks 15' each) *The political perspective: Mayors or ex-mayors of 3 global cities will present the specific sustainability challenges their cities are facing and discuss policy solutions.*	
09:15-10:00	**Talk 1: *Shanghai*** **Talk 2: *Seoul*** **Talk 3: *New York***
10:00-10:45	**Discussion**
10:45-11:15	***Coffee Break***
Session 5: Climate Challenges for Asian Cities (4 talks 10' each) *The technical perspective: Experts discuss the most pressing sectoral sustainability challenges in Asian cities, research gaps, and technical solutions*	
11:15-12:00	**Talk 1: *Air pollution*** **Talk 2: *Urban Water and Sanitation*** **Talk 3: *Built Environment / Infrastructure*** **Talk 4: *Energy Systems***
12:00-12:45	**Discussion**
12:45-02:00	***Lunch***
Session 6: The Socioeconomics of City Change (4 talks 10 ' min each) The socio-economic perspective: What will be the economic and social costs of the changes cities are making and will be forced to make in the future?	
02:15-03:00	**Talk 1** **Talk 2** **Talk 3** **Talk 4**
03:00-03:45	**Discussion**
03:45-04:15	***Coffee Break***
04:15-05:30	**Discussion on Memorandum**
06:30/ 07:00	***Relaxation Dinner***

Saturday, 11th October 2014: DAY 3 A vision of the future	
Session 7: Visions for Places (panel discussion) *Downscaling the systemic and sectoral analysis to comprehensive visions for specific places*	
09:15-10:15	**Talk 1: *Hong Kong*** **Talk 2**:***Tokyo*** **Talk 3**: ***Rotterdam*** **Talk 4: *Manila***
Perspective Lecture	
10:15-10:45	**Cities energy future**
10:45-11:15	***Coffee Break***
11:15-12:15	**Symposium Wrap up and Conclusions** *(time allocation management yet to be decided)*
12:15-01:00	**Final Draft of Memorandum**
12:45-02:00	***Lunch***
02:15-03:00	***Signing and Presentation of the Memorandum***
	Close of Symposium