

# Global Cities Sustainability and Management of the Urban Ecosystem

## Overview

The management of urban systems is, key challenge for the developed as well as developing countries, Asia and Europe. The unprecedented and unplanned urban growth particularly in India has created a dismal condition and has posed serious challenge to the urban affairs. This condition may be attributed to the lack of understanding of the complex interaction among the natural, built and socio economic system. Therefore, there is a need for efforts in the enhancement of higher education on urban environmental planning and management challenges for addressing the Global Cities Sustainability. The issue of sustainable management of urbanisation processes and urban development in general is of great interest in all countries and regions of Asia – even though at different scale and scope all partners expect to benefit from sharing experiences of mutual interest. The course aims to address key issues of urban environmental management. The courses shall provide an opportunity to address a selection of these issues in education, taking into consideration Asian and European perspectives, challenges and experiences. The course is a further step in elaborating possibilities of a development of a joint curriculum focusing on urban environmental management.

There is Worldwide a need for:

- fostering and enhancing the understanding of cities as ecosystems;
- an enhanced education on cities sustainability and urban ecosystem management;
- a research on the particular dynamic urbanisation and transformation process in Asia, e.g. India;
- support of the application of know-how in practice for cities sustainability;
- in-depth, multidisciplinary research of this subject and;
- networking across disciplines, cultures and beyond professional boundaries.

## Objectives

*The overall objectives of the course are as follows:*

- Develop an understanding of the city as complex urban ecosystem and exchange according experiences from Asian and European perspective, incorporating interdisciplinary aspects;
- To exchange innovative and integrated approaches for urban ecosystem management applicable to practical needs – both of relevance to Asia and Europe;
- To join efforts in order to enhance higher education on urban environmental management and planning by identifying future and practice-oriented aspects of teaching and exploring possibilities of standardising courses and credit schemes.

## Course details

This course will focus on sustainable urban development, management processes, its dynamics and related socio-economic, ecological and planning aspects and their inter-linkage with the urban environment, especially for planners. This will include presentations and discussions about following aspects:

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- Urban ecosystems (structure, resource consumption / resource flows, land-use etc.);
- Evaluation of urban planning strategies;
- Ecological aspects of urban planning (innovative, applied approaches to enable a sustainable urban environmental development and management enable sustainable communities),
- Evaluation of actual planning projects.

One of the key features of this course is one day field study that shall provide participants with an opportunity to reflect and analyse the ecological aspects of the intense urban development processes ongoing in Delhi. Resulting effects on the urban environment as well as management approaches (relevant and applicable European and Asian approaches) should also be explained and discussed upfront.

### ***Structuring and description***

The main subjects of the course are understanding and application of the concept of urban ecosystems and learning tools, instruments, approaches and practices of urban ecosystem management.

The course shall divulge on five aspects:

- Megacities as urban ecosystems
- Urban ecosystem risks and environmental policy
- Sustainable development and sustainable city
- Climate change and ecosystem services
- Urban green

<b>Course &amp; Module Details</b>	<b><u>Structure &amp; Duration of the course:</u></b> (5 days)
	Tuesday, 1 <sup>st</sup> Nov. 2016 to Saturday, 5 <sup>th</sup> Nov. 2016
	<b><i>Day 1- Contemporary urban development – Worldwide Comparison</i></b> <i>(e. g. Europe and Asia)</i>
	<b>Inauguration: By Prof. Talat Ahmad</b> (Vice Chancellor, JMI) 10. 00 to 10.30 AM <b>Mir Taqi Mir Hall</b> <i>Tea/Coffee Break 10:30 AM to 10:45 AM</i>
	Lecture 1: 10:45 to 12:15 PM Contemporary urban development
	Lecture 2: 12:15 to 01:45 PM Urban Development in Asia, especially in India <i>Lunch Break 01:45 to 02:15 PM</i>
	Lecture 3: 02.15 to 03.45 PM Urban Ecology –Structures and Processes
	<b><i>Day 2 - Cities as ecosystems (Introduction to elements and processes)</i></b>
	Lecture 1: 9:00 to 10:30 AM Urban Biodiversity and Ecosystem Services <i>Tea/Coffee Break 10:30 AM to 10:45 AM</i>
	Lecture 2: 10:45 to 12:15 PM Soil Sealing <i>Lunch Break 12:15 to 01:00 PM</i>
Lecture 3: 01.00 to 02.30 PM Urban Green and Ecosystem Services	

	<p><b><i>Day 3- Ecosystem dynamics, modelling, impacts and disturbances</i></b> (Focus on human impact and interaction of social, economic, environmental factors in general, including details on problems / disturbances and pollution issues)</p> <p>Lecture 1: 9:00 to 10:30 AM Remote Sensing for Urban Ecosystem Modelling and Monitoring  <i>Tea/Coffee Break 10:30 AM to 10:45 AM</i></p> <p>Lecture 2: 10:45 to 12:15 PM Adaptation to Climate Change  <i>Lunch Break 12:15 to 01:00 PM</i></p> <p>Lecture 3: 01.00 to 02.30 PM Salzburg, Austria Urban Cultural Landscape</p> <p><b><i>Day 4 - Urban green and nature as focal element of urban ecosystems</i></b></p> <p>Lecture 1: 9:00 to 10:30 AM Urban Ecological Management  <i>Tea/Coffee Break 10:30 AM to 10:45 AM</i></p> <p>Lecture 2: 10:45 to 12:15 PM Degradation of Ecosystem Services  <i>Lunch Break 12:15 to 01:00 PM</i></p> <p>Lecture 3: 01.00 to 02.30 PM Eco-cities</p> <p><b>Exam and Evaluation of Participants: 4:00 PM – 5:00 PM</b></p> <p><b><i>Day 5- Planning, policy making and management practices</i></b></p> <p>Local field trip to understand problems and management of urban &amp; socio-ecological systems 08.30 AM to 1.00 PM</p> <p><b>Valedictory Session and Certificate Distribution: 3:00 PM</b></p>
<p><b>Who Should Attend</b></p>	<ul style="list-style-type: none"> <li>▪ You are in academics, a teacher, research associate, research scholar, etc.</li> <li>▪ A person with a Graduation degree, with Geography/Geology/Planning/Architecture/Engineering/or any other Allied subject.</li> </ul>
<p><b>Course Fees</b></p>	<p><b>The participation fees for the course is as follows:</b></p> <p>Students: <b>Rs 750</b>  Teachers: <b>Rs 1500</b>  Participants from SAARC Countries (other than India): <b>USD 150</b>  Participants from abroad (non-SAARC countries): <b>USD 200</b></p> <p>The course fee includes all reading materials, kit, refreshments, lunch, certificates and library facility.</p> <p>Accommodation can be provided on payment basis for out station participants.</p> <p><b>Number of seats for the course is limited to 40 (Forty).</b></p> <p><b>Venue:</b> Seminar Room, Department of Geography, Faculty of Natural Science, Jamia Millia Islamia, New Delhi-25 (India)</p>

## The Faculty



**Prof. Jürgen Breuste** is Chair Urban Landscape Ecology at the Geography/Geology Department at Paris-Lodron-University Salzburg (Austria). He studied Geography at Martin-Luther University Halle/Wittenberg from where he got his Ph. D in 1982 and his second Ph. D in 1986. He is specified in urban ecosystem research, nature protection, and Sustainable urban development and modelling of urban development. He was university lecturer for Geography, Geo-Ecology and Urban Ecology at the German universities in Halle, Greifswald, Dresden and Leipzig and was Head of department Urban Landscape at the Environmental Research Centre Leipzig/Halle for 10 years before joining the present position in 2001. He has worked as project leader in a number of research projects on urban ecology and urban development at European Union and World level and various international research cooperation's including India. He has more than 200 Peer-reviewed publications (average per year: 12-13) to his credit. He is Honorary Professor of Capital Normal University Beijing, China, full professor for urban ecology of East China University Shanghai, and member of several scientific boards and President of the International Society of Urban Ecology (SURE). He is Honorary Professor for Urban Ecology of Capital Normal University, College of Resources, Environment and Tourism, Beijing, China; Professor for Urban Ecology der East China Normal University, Dept. Environmental Sciences, Shanghai, China & Professor honoris causa of the University Bucharest, Romania. He is Vice President of International Association for Landscape Ecology (IALE), Europe, since 2009. He is widely travelled across the globe for various conferences and meetings.

## The Coordinator



**Prof. Atiqur Rahman** teaches at the Dept. of Geography, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, India. His research interest is on urban environmental management, water resources and use of remote sensing satellite data, GIS and GPS. He worked as a Post Doctoral Fellow (PDF) at UFZ-Centre for Environmental Research, Leipzig, Germany (1999). He was Co-PI of Indo-Germany DST-DAAD major project (2000-2002). He is the recipient of prestigious Young Scientist Project Grant Award (2001-2004) from Department of Science and Technology (DST), Government of India. He worked as one a member of Scientific Research Team of NASA funded UEM project on *Urban Ecology and Sustainability* (2004-2007). He is the Co-PI Indo-Canadian major research projects funded by ICMR (India) and CHI (Canada) 2010-2015. He was Co-PI of a major research project Funded by Ministry of Environment and Forest, Government of India. He worked as collaborating Scientist of another NASA funded major project (2012-2015). Dr. Rahman attended professional development training on *Climate Change and Its Impacts: Resilience and Adaptation to Changes in Precipitation*, at Brown University USA (2010). He served as Steering Committee (SC) Member of Population and Environment Research Network (PERN) based at CISIN, Columbia University USA (2009-2012). He was the Advisor-Technical cum Consultant on Remote Sensing & GIS for the project (2014-15) on '*The effects of Built environment on Physical activity and CMD Disease risk factors* (PHFI & AIIMS, and Emory University, USA project). He has published 7 books and 70 peer reviewed research papers in various national and international journals. He has widely travelled to various countries in Europe, Africa, Canada and USA to attend conferences and scientific committee meetings.

### Contact:

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**Course Registration Link:** <http://www.gian.iitkgp.ac.in/GREGN>