



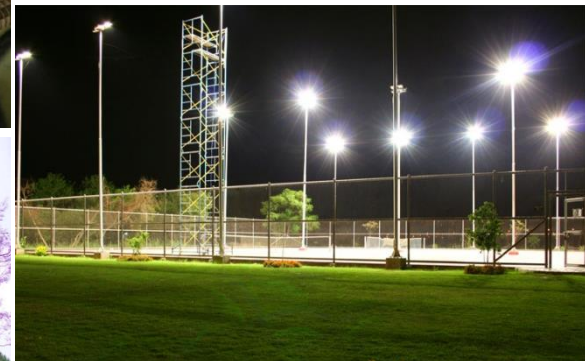
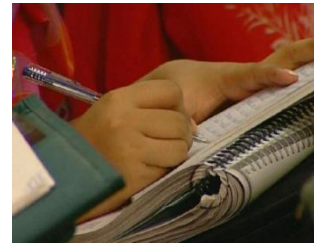
Spring School on Water Systems, Science & Practice

Center for Water Informatics & Technology (WIT)
Lahore University of Management Sciences, Pakistan

<http://www.lums.edu.pk/wit/>

LUMS Overview

- Pakistan's 2nd Private University
 - Founded in 1985
 - Non-profit organization
 - 100 acre campus
- 4500+ Student Body
 - 35% women
 - 60% resident on-campus
 - Need-based and merit-based financial assistance
- 300+ faculty members
 - PhD's from Stanford, MIT, Yale, Oxford, Cambridge, Imperial,
- Four Schools
 - Business (SD-SB)
 - Science & Engineering (SBA-SSE)
 - Humanities & Social Sciences (MG-SHSS)
 - Law (SAH-SOL)



Unique Strengths at LUMS for Water

- Vibrant SSE departments
 - Very strong EE and CS groups in all streams
 - Multidisciplinary teams in Bio, Chem, Phys, Maths
- Agri-Business emphasis (SDSB)
- Agricultural policy / economics research (SHSS)
- Social sciences and Law (philosophy, history, gender, culture)
- Center for Entrepreneurship (LCE)
- Office of Sponsored Programs and Research (OSPR)

Center for Water Informatics & Technology (WIT)

A new initiative, building on previous success and diving into new avenues.

Target Research Themes

Interdisciplinary interplay between the physical, technological, social, institutional and economic processes to develop innovative approaches in:

- 1. Hydro-informatics and Water-Smart Agriculture**
- 2. Economics and public policy for sustainable water management**
- 3. Understanding nexus of water with**
 - food and agricultural production;
 - climate change adaptation and mitigation;
 - energy in hydropower production, water collection, storage and treatment;
 - environment and ecosystems.

Introductory Video

Spring School Overview

- Four Modules on water related -
 - Science, Systems, Technology, Practice
- Three Invited Lectures
- Lab Tour (Day 2)
- Field Visit to Nestle Factory (Day 3)
- Poster Session (Day 4)
- World Water Day Celebrations (Day 5)

Main Instructors



Day 1

Time	Session	Speaker
9:00 – 10:00	Registrations	
10:00 -10:30	Welcome Remarks	Abubakr Muhammad
10:30 - 11:00	Module 1 Lecture 1 Topic: Introduction to hydrology and hydro-climatic datasets	Asif Khan
11:00 - 11:30	Tea Break	
11:30 - 12:30	Module 1 Lecture 1 (Continued) Topic: Introduction to hydrology and hydro-climatic datasets	Asif Khan
12:30 - 02:30	Lunch Break	
02:30 - 03:30	Module 3 Lecture 1 Topic: Water as a science, technology and art for sustainable life	Iftikhar Ahmed
03:30 - 04:30	Invited Speaker Topic: A Conversation with Syed Babar Ali on Water, Agriculture and Education	Syed Babar Ali

Day 2

Time	Session	Speaker
09:00 - 10:30	Module 2 Lecture 1 Topic: Introduction to Systems Analysis	Afreen Siddiqi
10:30 - 11:00	Tea Break	
11:00 - 12:30	Module 1 Lecture 2 Topic: Hydro-climatic datasets and hydrological modelling	Asif Khan
12:30 - 02:00	Lunch Break	
02:00 - 03:00	Invited Speaker Topic: TBD	Hammad Naqi Khan
3:00- 4:00	Module 3 Lecture 2 Topic: Water informatics and smart infrastructures	Abubakr Muhammad
4:00 -5:00	Module 3 Lab Tour Topic: Water informatics and smart infrastructures	CYPHYNETS Lab

Day 3

Time	Session	Speaker
09:00 - 10:00	Module 1 Lecture 3 Topic: Introduction to snow and glacier data and their rectification	Asif Khan
10:00 - 11:30	Module 2 Lecture 2 Topic: Multi-objective Decision Making	Afreen Siddiqi
11:30 – 12: 00	Tea Break	
12:00 - 1:00	Module 3 Lecture 3 Topic: Water quality monitoring & purification technologies	Iftikhar Ahmed
1:00 – 2:00	Lunch Break	
2:00 – 6:00pm	Field Trip to Nestle Factory	

Day 4

Time	Session	Speaker
09:00 - 10:30	Module 2 Lecture 3 Topic: Applied Systems Analysis: Water-Energy-Food Nexus	Afreen Siddiqi
10:30 - 11:00	Tea Break	
11:00 - 12:30	Module 4 Lecture 1 Topic: International Water Law	Rafay Alam
12:30 - 02:00	Poster Session (Lunch served)	
02:00 - 03:00	Invited Speaker Topic: Operations Research Tools in Irrigation Management	Arif Anwar
03:00 - 4:30	Module 4 Lecture 2 Topic: Pakistan Water Law	Rafay Alam

Day 5

Time	Session	Speaker
09:30 - 10:30	Module 3 Lecture 4 Topic: Water treatment vs. water recovery	Iftikhar Ahmad
10:30 - 11:00	Tea Break	
11:00 - 12:30	Module 4 Lecture 3 Topic: Policy Analysis and Conflict Negotiation	Laila Kasuri
12:30 - 02:00	Lunch Break	
02:00 - 03:30	Module 2 Lecture 4 Topic: Water-Energy-Food Nexus: Global Perspectives, Practice and Future Research	Afreen Siddiqi / Asif Khan
03:30 - 05:45	World Water Day Event (Jointly Organized by WWF, Nestle and WIT)	Panelists: Pervez Amir Kausar Abdullah Malik Arif Anwar Kiran Farhan Ali Hasnain Sayed

General Information

- **Lecture Venue:** *10-301 SSE Bldg*
- **Campus Entry / Name Tags:**
- **Meal Coupons:** Avail at Pepsi Dining Center (PDC)
- **Attendance Policy:** An attendance sheet will be circulated twice daily (AM and PM).
- **Lecture Hall Policy:** It is strongly advised that mobile phones be switched OFF during lecture. Leaving or entering the Lecture Hall while a lecture is in progress, is highly discouraged. Also, please show your respect to lecturers and speakers by avoiding conversation amongst yourselves.
- **Course Material:**
<https://cyphynets.lums.edu.pk/index.php/WSSP2016>
- **Certificates of Completion:** Attendance and participation in surveys / assessments