

IGCS-WORKSHOP

URBAN RESILIENCE: COASTAL HAZARDS AND COASTAL WATER MANAGEMENT, VULNERABILITY AND SUSTAINABILITY

BRIEF BACKGROUND

Around 1.2 billion people are currently living within 100 km of the coastal zones of the Earth, and especially in tropical and subtropical regions. In addition to large scale urbanization and mega-city development, population growth within the coastal zone is expected to be more rapid than in other areas in the near future. More than 50%, of the world's population will likely live in coastal areas by 2030. IPCC (2014) reported that climate change induced a higher frequency of extreme weather and climate events since the 1950s, and that this will "reveal significant vulnerability and exposure of" coastal cities "to current climate variability". Climate change also affects monsoonal patterns, which seem to cause an intensification of the seasonal rainfall that fortifies inundation/floodings in India regularly during the last years. Furthermore the Indian coast is prone to tsunamis, as the Makran subduction zone may cause tsunamigenic earthquakes affecting the Indian west coast. Recently (in 2004), the east coast has been affected by the Sumatra tsunami inducing a 7 m-wave south of Chennai. Besides the primary destructive effects, the widespread contamination of coastal areas due to the pulsed transport of immense pollutant loads during the floodings may seriously affect the coastal ecosystems. This clearly counters increasing population and urbanization in particular along coastlines.

Therefore, our mutual Indian-German workshop aims on discussion, knowledge exchange, and investigation of coastal hazards including toxic floods and their effects on urban resilience. We contribute knowledge on geoscientific and chemical issues, engineering and water management, as well as ecotoxicological aspects combined with cultural belongings on land use. During the workshop talks on these diverse topics are planned as well as a joint reconnaissance field trip. During the field trip, sites will be explored which are on one hand suitable as sedimentary archives for palaeo studies and on the other hand might be valuable for understanding recent processes.

23 - 26 OCT 2017

VENUE:

Hall 1, IC&SR Building,
IIT Madras, Chennai - 600036

SESSIONS:

URBAN AND COASTAL
WATER ENGINEERING

COASTAL HAZARDS
AND CLIMATE CHANGE

BIO- AND ECO-
HAZARDS

SOCIETAL IMPACT AND
URBAN RESILIENCE

Organized by



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and Research

DAAD



IGCS-WORKSHOP AGENDA

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MONDAY 23RD OCTOBER

**17:00 - 22:00 Cultural evening/Dinner
at Radisson Blu, Chennai**

TUESDAY 24TH OCTOBER

09:00 - 12:00	Registration Informal Meetings IIT Madras Campus Tour
12:00 - 13:30	Lunch Break
13:30 - 14:00	Workshop Opening
14:00 - 14:25	Climate Change Impacts Coastal/Marine Sectors S.A. Sannasiraj (IIT Madras)
14:25 - 14:50	Coastal Hazards in Time and Space K. Reicherter (RWTH Aachen Univ.)
14:50 - 15:00	Engineering Geohazards - A new international M.Sc. programme N. Höbig (RWTH Aachen University)
15:00 - 15:25	Social Resilience from a cultural geographical perspective C. Pfaffenbach (RWTH Aachen Univ.)
15:25 - 16:00	Tea & Coffee
16:00 - 16:25	Urban Coastal Floods with a case study of Chennai M.V. Ramana Murthy (IIT Madras)
16:25 - 16:50	Role of Vegetation in Coastal Flooding K. Murali (IIT Madras)
16:50 - 17:15	Geological evidence of Pre-1945 like tsunamis from Makran Subduction Zone, Arabian Sea: Should we expect the unexpected? S. Prizomwala (ISR, Gandhinagar)
17:15 - 17:40	Mangrove ecosystems as key to understand Holocene climate and sea level changes V. Decker (University of Bonn)
17:40 - 18:05	Coastal urbanisation, climate change and extreme wave events G. Hoffmann (University of Bonn)

WEDNESDAY 25TH OCTOBER

09:00 - 09:25	Coastal Hazards and Climate Change C. Sujatha (CUSAT, Cochin)
09:25 - 09:50	Risk potential of fine sediments in context of flood events and marine systems C. Ganai (RWTH Aachen University)
09:50 - 10:15	Coastal Risk Management in Germany H. Schüttrumpf (RWTH Aachen University)
10:15 - 10:45	Studying the effectiveness of coastal protection schemes against tsunami inundation A. Chaudhuri (IIT Madras)
10:45 - 11:10	Tea & Coffee
11:10 - 11:35	Impact of waterborne debris on the nearshore structures during extreme coastal floods V. Sriram (IIT Madras)
11:35 - 12:00	Geo-radar based subsurface investigations on paleo tsunami sediments along Indian coastal areas V.J. Loveson (CSIR-NIO, Dona Paula, Goa)
12:00 - 12:25	The past helping the present and future: sedimentological studies in water management in the Spanish Mediterranean coast J. Santisteban (Complutense Madrid)
12:25 - 12:50	Toxic Floods: ecotoxicological consequences of floods in urban environments S. Crawford (RWTH Aachen University)
12:50 - 14:00	Lunch Break
14:00 - 14:25	Tracing the organic pollution of coastal areas in space and time with molecular indicators J. Schwarzbauer (RWTH Aachen University)
14:25 - 14:50	Environmental controls on microbial activity in coastal sediments - with special reference to methanogenesis S.G. Thanga (University of Kerala, Thiruvananthapuram)
14:50 - 15:15	Fate and effects of highly hydrophobic substances: improving tools for a reliable environmental risk assessment F. Stibany (RWTH Aachen University)
15:15 - 15:45	Tea & Coffee
15:45 - 16:10	Coastal Protection along Indian Coastline V. Sundar (IIT Madras)
16:10 - 16:35	Impacts of climate change and mitigation measures for small islands H. Schüttrumpf (RWTH Aachen Univ.)
16:35 - 17:00	Toxic floods: Origin, distribution, timing and methodological approaches with examples from small river catchments in Central Europe F. Lehmkuhl (RWTH Aachen University)

THURSDAY 26TH OCTOBER

06:00 - 22:00 Excursion/Field trip