

The background of the slide is a dark, low-angle photograph of a stone wall. On the wall is a large, three-dimensional relief of the Columbia University crest, which features a shield with a cross, a book, and a banner. The lighting is dramatic, highlighting the textures and shadows of the stone and the relief.

Columbia Design Challenge: Urban Water

December 7, 2015

#CUUrbanWater



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|-----------------|---|
| 11:00-11:10AM | Dean Mary Boyce, Welcome |
| 11:10-11:20AM | COPPETEC President Professor Fernando Alves Rochinha,
Professor Otto Correa Rotunno Filho, COPPE/Civil Engineering, Welcome |
| 11:20-11:30AM | Ariane Coelho Brotto, PhD candidate – SEAS
Overview of Rio and water |
| 11:30-11:40AM | Professor Isaac Volschan Jr, PEP/COPPE/UFRJ
Wastewater management in Rio |
| 11:40-11:50AM | Professor Kartik Chandran, SEAS
Resource positive water and sanitation |
| 11:50AM-12:00PM | Professor Kate Orff, GSAPP
Water urbanism |
| 12:00-12:10PM | Professor Gina Lovasi and Richard Remigio, Mailman School of Public Health
Neighborhood Audit of an Informal community within Rio de Janeiro |
| 12:10-12:20PM | Professor Vijay Modi, SEAS
Low-cost smart water meter |
| 12:20-12:30PM | Q&A, Design challenge logistics |

Possible Challenge Project Areas

- Water into residences: leakages in system, smart meters, water storage and health issues,
- Wastewater collection from residences: separation of gray and black water; reuse of gray water; collection and treatment of black water
- Interaction between wastewater and pollution of waterways with solid waste
- Storm sewer overflow and mix with untreated wastewater
- Recovery of energy and nutrients from sewage
- Resource positive water and sanitation
- Extreme rainfall, flooding
- Planning and policy

