

## Rita Colwell awarded for her research on cholera



The devastating floods in Pakistan where millions of people need clean water, food and shelter are but one illustration of the importance of water quality — the overriding theme at the ongoing World Water Week.

US researcher Rita Colwell, known for her work on infectious waterborne diseases like cholera, will Thursday accept the 2010 Stockholm Water Prize at a ceremony at Stockholm City Hall.

“Bad water kills more people than HIV, malaria and wars together, affecting the lives of families and the economic development of many countries around the world,” said Anders Berntell, head of Stockholm International Water Institute that manages the award.

Colwell, 76, a professor at the University of Maryland and John Hopkins University’s Bloomberg School of Public Health in the US, was cited for “pioneering research,” including “exceptional contributions to control the spread of cholera.” The annual award, worth 150,000 dollars, was created in 1990 to recognize achievements in water science, water management, water action or awareness building.

Cholera is estimated to cause some 120,000 deaths each year and infects 3 to 5 million people.

Colwell in a keynote speech Monday gave delegates including researchers and government members an overview of her research.

Already in the 1960s Colwell observed that *Vibrio cholera*, the causative agent for cholera, could survive by attaching to zooplankton. She also made a pioneering discovery that certain bacteria can enter a dormant stage that could revert to an infectious state under the proper conditions.

Rivers, lakes and oceans can therefore serve as reservoirs for these bacteria. Previously, it was thought that cholera spread from person to person, food or drinking water and that its presence in the environment could only be due to sewage.

Using satellite imagery of zooplankton blooming in the Bay of Bengal, Colwell and her team were also able to develop means to predict outbreaks of cholera in Bangladesh and India.

In her remarks, she noted how well-worn sari cloth — readily available also to poor women — that was folded several times had proved to be a very effective filter that could remove zooplankton.

Other speakers like Kenya's minister of water and irrigation, Charity Kaluki Ngilu, underlined how poverty and poor access to clean water and sanitation raised mortality rates, especially among infants.

Scores of seminars where findings and reports are released are held during the week-long gathering.

The effects of climate change including more erratic rainfall and its impacts on "rain-fed agriculture" not the least in Asia and Africa was highlighted in a report from the International Water Management Institute (IWMI).

The Sri Lanka-based organization made the case for not solely relying on big dams for water but to use an "integrated approach" using water from wetlands, water stored in the soil, groundwater and water collected in ponds, tanks and reservoirs.

"Just as modern consumers diversify their financial holdings to reduce risk, smallholder farmers need a wide array of 'water accounts' to provide a buffer against climate change impacts," lead author Matthew McCartney said.