

INTERNATIONAL INSTITUTE OF BENGAL AND HIMALAYAN BASINS

10 Evans Hall, University of California at Berkeley

BERKELEY, CALIFORNIA

IIBHB.ORG



The International Institute of the
Bengal and Himalayan Basins

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PEACE

July 20, 2013

TOWNES AND TAGORE FOURTH ANNUAL SEMINAR ON THE GLOBAL WATER CRISIS

1:30 – 2:00 PM

RECEPTION/MIXER

2:00 – 2:15 PM

POETRY / SONG

Mamade Kadreebux

Sushmita Ghosh

2:15-4:00 PM

SEMINAR INTRODUCTION

Rosalie Say

Welcome

Founder's Introduction: Mamade Kadreebux

Welcome and Prefatory Remarks, Rash B. Ghosh, PhD, Founder, IIBHB

SPECIAL WORDS FROM FRIENDS & WELL-WISHERS OF PROFESSOR CHARLES TOWNES

2:45 – 4:00 PM

SESSION ONE

The Convergence of Science and Spirituality

David Presti, PhD, Professor, Molecular Cell Biology, UC Berkeley

Water Budget Estimation and Water Management in the Mekong River Basin

Jeanny Wang, President/Sr. Environmental Engineer, EcoWang Ltd.

Sand from Newton's Seashore: Introduction of Dr. Charles H. Townes

John Paulin, PhD, Technical Writer and Editor, IIBHB

Chief Guest Address: Vivekananda and a Vision for the South Asia, the US, and our Planet

Charles H. Townes, PhD, 1964 Nobel Laureate in Physics, 1999 Rabindranath Tagore Award Recipient, and 2005 Templeton Prize Awardee

Q & A

4:30 - 6:30

SESSION TWO

INTRODUCTION OF KEYNOTE SPEAKER

Derek Whitworth, PhD, President, IIBHB

Keynote Address

Steven Chu, 1997 Nobel Laureate in Physics and former U.S. Secretary of Energy

Reducing the Impact of Toxics in Drinking Water Resources

Rash B. Ghosh, PhD, Founder, IIBHB

Special Presentation: How Advances in Science are Made.

Douglas Osheroff, PhD, 1996 Nobel Laureate in Physics

Q & A

SUMMARY AND CONCLUDING REMARKS

Sterling Bunnell, MD, IIBHB Former President and Advisor

ACKNOWLEDGEMENT

Master of Ceremonies

Rosalie Say



Professor Charles Hard Townes was born in 1915 and invented the microwave laser, or maser, in 1953 while at Columbia University. His discovery of this technology made possible many subsequent scientific revolutions and earned him the 1964 Nobel Prize in Physics. Dr. Townes also received India's Rabindranath Tagore Award in 1999, and he became the 2005 Templeton Laureate for his writings on religion, spirituality, and ethics. In 2003, he gave the Birla and Schrödinger Lectures in India. His public service includes chairing the Human Rights Section of the New York Academy of Sciences, the Advisory Committee on the first human moon landing, and Ronald Reagan's MX missile commission, where his efforts led to an 80% reduction in the administration's eventual missile deployment. He is currently Professor Emeritus of Physics at the University of California at Berkeley. Along with Glenn Seaborg and Dr. Ghosh, he is the cofounder of the International Institute of the Bengal Basin, Or IIBHB. Charles will celebrate his 97th birthday on July 28th.



Rabindranath Tagore (1861-1941), the great Bengali poet, wrote *Gitanjali*, Sanskrit for "Offerings of Song," the collection of poems for which he was awarded the 1913 Nobel Prize in Literature, becoming the first Asian to be recognized by the Nobel Committee. As does much of Mr. Tagore's work, *Gitanjali* celebrates the beauty and value of nature and our connection with it. Like Charles Townes, who in 1999 received the Rabindranath Tagore Award, Mr. Tagore was a scholar and a religious thinker, and he is also regarded as an early environmentalist. The two men also share the study of modern science, a great concern for social equity, and a spirituality that is in harmony with the nature and ecology of our planet. Dr. Ghosh's interest in work of Mr. Tagore began at the suggestion of his former friend and advisor, Professor Linus Pauling, the recipient of the 1954 and 1962 Nobel Prizes in Chemistry and Peace.



The Stream of Life

The same stream of life that runs through my veins night and day runs through the world and dances in rhythmic measures.

It is the same life that shoots in joy through the dust of the earth in numberless blades of grass and breaks into tumultuous waves of leaves and flowers.

It is the same life that is rocked in the ocean-cradle of birth and of death, in ebb and in flow.

I feel my limbs are made glorious by the touch of this world of life. And my pride is from the life-throb of ages dancing in my blood this moment.

Rabindranath Tagore,
From *Gitanjali*, 1910



About the International Institute of Bengal and Himalayan Basins

The International Institute of Bengal and Himalayan Basins (IIBHB) is a nonprofit organization headquartered in Berkeley, California, and registered in the United States and India. We work on environmental and ecological issues in California, the Bengal and Himalayan Basins, and in other locations around the world. The IIBHB also supports educational, health, housing and human rights in the Bengal Basin as well as in other areas where its services are needed.

The IIBHB was cofounded by Dr. Rash B. Ghosh, a Bengali-American scientist, Professor Glenn T. Seaborg, the 1951 Nobel Laureate in Chemistry and discoverer of Plutonium, and Professor Charles H. Townes, the inventor of laser technology, the 1964 Nobel Laureate in Physics, and the 1999 and 2005 recipient of the Tagore and Templeton awards. Rash earned his Ph.D. in hydrology under the direction of Professor William Kershaw at the University of Manchester in Great Britain, and during the 1980s he was introduced to the works of Rabindranath Tagore by his friend and advisor, Linus Pauling, the 1954 Nobel Laureate in Chemistry and 1962 Laureate in Peace. Rash has been the Charles H. Townes Chair Professor of Water and Environmental Chemistry since 2008.

The IIBHB has attracted a wide range of experts in many fields who are ready to assist in the search for solutions to the various water problems that exist throughout the Bengal and Himalayan Basins and the rest of the world. In addition to Linus Pauling, prominent scientists associated with the IIBHB have included Nobel Laureate in Chemistry, Glenn Seaborg, Nobel Laureates in Physics, Arno Penzias and Douglas Osheroff, and its current advisor, Charles Townes, a prominent advocate for South Asian issues. The IIBHB has local chapters in England, Bangladesh, and India.

Our mission is to operate globally using our experience in South Asia and California to create working models that address the water crises in emerging economies. The Himalayan and Bengal Basins and their vast catchment areas are home to one of our planet's most important fresh water resources. This region includes vastly different hydrologies, geologies, and ecosystems, and it spans elevations ranging from the world's highest peaks to one of the lowest lands on the planet. The extreme differences in elevation, geography, and ecology make this region exceptionally valuable for developing water management and remediation technologies for the rest of the planet.

The IIBHB offers pro bono environmental consulting services to industries, landowners, and citizens in the US, on the Indo-Bangla Subcontinent, and elsewhere. Two-hour sessions are available with additional hours for those working for the benefit of the community, including nonprofit and political organizations. Confidentiality is assured. Expert advice is available from the faculty of some of the best universities in the United States, Europe, and the Indo-Bangla Subcontinent.

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