

Fulbright-Nehru Specialist Information



Fulbright-Nehru Specialist, United States-India Educational Foundation in Collaboration with IIT Indore

The lectures will be delivered by Professor Ram Mohan, currently the Wendell and Loretta Hess Professor of Chemistry, at Illinois Wesleyan University, USA.

Professor Mohan is a synthetic organic chemist whose research is devoted to the development of environmentally friendly organic synthesis using bismuth compounds. Synthetic chemistry is at the heart of Professor Mohan's research program. Coming from a small undergraduate liberal arts school, Professor Mohan has considerable teaching experience. Professor Mohan is an internationally renowned scholar in the field of green synthetic chemistry and he has considerable experience teaching and practicing green chemistry. Recently, he was selected to be a recipient of the prestigious The ACS-CEI (American Chemical Society-Committee on Environmental Improvement) Award for Incorporation of Sustainability into Chemical Education. As per the American Chemical Society, this award "*recognizes individuals or groups who have made exemplary contributions to the incorporation of sustainability into chemical education.*"

In 2005-06 he spent his sabbatical at The Center for Green Chemistry at Monash University in Melbourne, Australia. More recently, he has spent a year in India as a Fulbright scholar. During this time he delivered a green chemistry course at IISER, Mohali. Professor Mohan has also travelled extensively in India and visited numerous small undergraduate colleges. These included a remote place in a tribal belt in North Maharashtra (Shahada College). He believes that it is important to reach students, not just in premier institutes but also in small, remote areas of India. Professor Mohan has also close ties with Hong Kong University where he has conducted green chemistry workshops. His contributions to green chemistry and undergraduate education were recognized by a Pfizer Green Chemistry Award.

**Green Chemistry (GC) Lectures by Prof. Ram Mohan, Illinois Wesleyan University,
Bloomington, USA.**

Duration: Sept. 10 – Oct. 10, 2019

Tentative Lecture Schedule (lectures will be of general interest to all students)

Day 1

Sept. 10, 2019: Tuesday

GC Lecture 1: 10:00-10:55 AM

Introduction to Green Chemistry (Some Toxic Molecules)

GC Lecture 2: 11:00-12.00 Noon

Case Studies 1: Applications of Green Chemistry

Day 2

Sept. 12, 2019: Thursday

GC Lecture 3: 10:00-10:55 AM

Case Studies 2: Applications of Green Chemistry

GC Lecture 4: 11:00-12.00 Noon

Chemicals from Renewable Resources (carbohydrates and fats)

Day 3

Sept. 14, 2019: Saturday

GC Lecture 5: 10:00-10:55 AM

Catalysis

GC Lecture 6: 11:00-12.00 Noon

Effect of Solvents

Day 4

Sept. 17, 2019: Tuesday

GC Lecture 7: 10:00-10:55 AM

Alternate energy sources to promote organic reactions (microwave, ultrasound and electrochemistry)

GC Lecture 8: 11:00-12.00 Noon

Green Chemistry in the Pharmaceutical Industry: Introduction

Day 5

Sept. 19, 2019: Thursday

GC Lecture 9: 10:00-10:55 AM

Green Chemistry in the Pharmaceutical Industry (Commercial green synthesis of Viagra)

GC Lecture 10: 11:00-12.00 Noon

Green Chemistry in the Pharmaceutical Industry (Production of Taxol via plant cell fermentation).

Special Lectures for Ph.D and M.Sc., Students

Sept. 24, 2019: Tuesday

Lecture 1: 4:00-5:00 PM

Green Reagents in Organic Chemistry (with a focus on important reactions used in the pharmaceutical industry: oxidations, coupling, and amide bond formation).

Sept. 26, 2019: Thursday

Lecture 2: 4:00-5:00 PM

Green Chemistry in the Pharmaceutical Industry (Commercial green synthesis of Sitagliptin, a Diabetes drug)