REMOTE SENSING OF LEAF AREA INDEX AND PRIMARY PRODUCTIVITY

PROF. MD BEHERA

Department of Civil Engineering

IIT KGP

TYPE OF COURSE   : New | Elective | UG/PG

COURSE DURATION   : 4 Weeks (26-Jul'21-20-Aug' 21)

EXAM DATE   : 26 Sep 2021

PRE-REQUISITES : None

INTENDED AUDIENCE : UG and PG students of Agriculture, Forest and ecological sciences and engineering

INDUSTRIES APPLICABLE TO : All Industries working in Agriculture, Forest, Ecology, Environment and Climate domain

COURSE OUTLINE :

The leaf area index (LAI) is a response parameter for photosynthesis as it directly relates to the light interception and gas exchange through the stomata. It is a dimensionless biophysical variable, which is calculated as the ratio of leaf area to per unit ground surface area. Monitoring of the LAI provides an understanding of dynamic changes in productivity, climate impacts on terrestrial ecosystems, energy balance, canopy water interception, and gas exchange. Therefore, understanding of the LAI is a crucial parameter for physiological, ecological, and climatological studies.

ABOUT INSTRUCTOR :

Dr. MD Behera has made outstanding contributions to the fields of forest remote sensing and ecological climatology through theorizing, modeling and conducting innovative experiments and field-based measurements. He has developed innovative protocols and new methods for estimating a range of vegetation photosynthetic/ structural variables including leaf area index, canopy height, canopy chlorophyll, aboveground biomass and productivity using suite of satellite data products and modeling.

COURSE PLAN :

 Week 1**:** LAI Definition and Importance

 Week 2**:** Plant Productivity

 Week 3**:** LAI study using Remote Sensing

 Week 4**:** LAI, Plant Productivity and Climate Change