Report on International Visit

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Purpose of International Visit: to attend XXIII International Society for Photogrammetry and Remote Sensing (ISPRS) summer school and congress at Telc and Prague, Czech Republic

Summary of the visit
Main objective of my research is to develop methodology using sensor web enablement for water management in citrus crop. It comprises application of proximal and satellite based platforms for field level spatio-temporal estimation of crop water requirement. The main applications of satellite remote sensing data are,

i. To estimate citrus crop growth stage using satellite based remote sensing and data assimilation techniques for crop resources (water, fertilizer) management.

ii. Crop evapotranspiration estimation using satellite based surface energy balance for water management in horticulture crop (i.e. Citrus / Mandarin).

The paper titled "Time Series Analysis of Remote Sensing Observations for Citrus Crop Growth Stage and Evapotranspiration Estimation" was presented on 18th July 2016, working group VIII/8, session number 6 titled "Land Cover and its Dynamics, Including Agricultural & Urban Land Use 6". The main objectives are to integrate the empirical crop-water models with WSN systems for information dissemination and design of optimum irrigation schedule for citrus crop. The presentation was well received by the experts in the field of research. The suggestions were mainly regarding future work related to validation of crop growth parameters (crop coefficient) values using ET flux tower. As member of ISPRS regional organization Indian Society of Remote Sensing (ISRS) I served as a session chair for working group VIII/8, session number 5 titled "Land Cover and its Dynamics, Including Agricultural & Urban Land Use 5". Participation in ISPRS congress provided updates about recent research trends in Remote Sensing and Photogrammetry.

In addition to ISPRS congress I was able to attend ISPRS Summer School (SS) on "Natural Resource Management: From data processing to web publishing" at Telc, Czech Republic, which provided insights into current trends in laser scanning and image processing methods for natural resource management. Laser scanning related component covered the theory and application on terrestrial and airborne laser scanning. The web publishing related component of summer school provided insights into open-source and commercial software tools for geospatial data processing. The discussions were focused on application of Open Geospatial Consortium (OGC) compliant web services such as Web Map Service (WMS), Web Feature Service (WFS) and Web Processing Service (WPS) for geospatial data processing and publishing. The introduction to open source (GRASS) and commercial (ArcGIS pro and ArcGIS online) geospatial data processing tools provided insights into recent advances in geospatial data processing tools. Open source initiative called GIS Lab (http://gislab.readthedocs.io/en/latest/index.html) provided insights into distributed client server architecture for geospatial data processing (http://www.gismentors.cz/). The Quantum GIS and WPS based web publishing component provided insights into publishing geospatial data over web (http://training.gismentors.eu/isprs-summer-school-2016/).
Overall the participation in ISPRS Summer School and Congress was educationally enriching experience. I request ISPRS community to continue providing TIF support (partial / full) for early / young scientists / researchers to attend ISPRS events. The ISPRS TIF grant was helpful to cover the congress registration fees and international air travel was supported by project "ICT in Water and Pest/Disease Management for Yield Improvement in Horticulture (Citrus)" (ITRA15(106), 13ITRA001) funded by Information Technology Research Academy Water, Media Lab Asia, Department of Information Technology (DietY), Ministry of Communications and Information Technology, Government of India (GoI), India.

Participants of ISPRS Summer School
(Picture credit: Ms. Martina organizer of ISPRS Summer School, CTU Telc, Czech Republic)

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