Avanços, Limitações e Pesquisas Futuras em Óptica da Água e Sensoriamento Remoto

Advances, Limitations and Future Research on Water Optics and Remote Sensing

Coordenador: Dr. Felipe de Lúcia Lobo (INPE)

Sala: Marte – 16 de abril – Terça-feira – 8h30 às 10h40

ABSTRACT: Numerous water quality changes have been reported due to land-cover use change, and wastewater discharge causing eutrophication, algae bloom, and water siltation of inland and coastal aquatic systems. In order to improve the water quality monitoring, significant advances on retrieving water quality parameters using remote sensing and optical data have been done by several research groups in Brazil and abroad. Following the recommendation by GEOSS (2018) to determine a comprehensive aquatic ecosystem Earth observing capability, this session will focus on: i) ability to estimate algal pigment concentrations of chlorophyll-a, cyanobacteria pigments (cyano-phycocyanin especially), ii) ability to measure suspended matter, organic and mineral matter, iv) ability to measure coloured dissolved organic matter and discriminate terrestrial from marine CDOM, and v) ability to retrieve these Optically-Active Components (OACs) using current satellite imagery available, such as Sentinel-2&3 and Landsat-8. Four speakers were invited to give a presentation that synthesises the main findings of their research group including: a) Main advances made by the research group, in regards to techniques, methods, optical data processing, and highlights of the most recent results; b) Limitations and difficulties on retrieving OACs due to measurements, data processing, and resolution of satellite images; and c) Approaches to overcome the limitations for future research.

Títulos	Palestrantes	Período
Advances of the Instrumentation Laboratory for Aquatic Systems (LabISA/INPE) towards inland water monitoring program	Dr. Felipe de Lucia Lobo (INPE)	8:30
Achievements, Limitations, and Challenges in Remote Sensing of Coastal and Inland Waters	Dr. Wesley Moses (United States Naval Research Laboratory / NRL)	8:45
Bio-optical research, teaching and outreach to society conducted by Aquarela Group (CEBIMAR/USP)	Dra. Aurea Maria Ciotti (USP)	9:15
Applications of remote sensing in coastal and continental aquatic systems by the MoceanS group	Dr. Milton Kampel (INPE)	9:40
Challenges of bio-optical modeling in hydroelectric reservoirs	Dr. Luiz Henrique da Silva Rotta (Unesp – Presidente Prudente)	10:05
Discussion / Q&A – Closing		10:30