IOCS-2019 Breakout Workshop "Going beyond HPLC: Coming to rapid consensus on science requirements for assessing phytoplankton composition from satellite imagery"

Co-Chairs : Astrid Bracher (AWI); Ryan Vandermeulen (NASA), Stewart Bernard (CSIR)

Agenda 9 April 2019 from 14:00 to 16:30:

14:00-14:05 Introduction: Scope of BO, former efforts and overview (Astrid Bracher, AWI

14:05-14:25: Minimum requirements for lab and field work and measurements necessary for sufficient PFT algorithm evaluation

14:05-14:15 Overview on "Requirements identified in former international and national meetings", Colleen Mouw (University of Rhode Island)

14:15-14:25 Discussion (chair: Ryan Vandermeulen, NASA)

14:25-15:15: Detection of phytoplankton blooms of specific groups and species – current achievements, gaps and next steps

14:25-14:50 speed talks (3-5 min each):

- South East Asian Waters (Shaolin Shang (tbc), Xianen University - also presenting input from Wonkook Kim, KIOST)
- Australian Waters (Arnold Dekker, CSIRO)
- South American Waters (Ana Dogliotti, IAFE)
- European Waters: Tit Kutserr, University of Tartu
- North-American and global waters: Tihomir Kostadinov (?)

14:50-15:15 Discussion on priority bloom targets and next steps to meet identification (chair Stewart Bernard, CSIR)

15:15-15:30: Role of synthetic data sets and IOP/radiative transfer modelling for development and evaluation of hyperspectral vs multi-spectral detection for phytoplankton groups

15:15-15:23: Speed Talks (4 min each)

- Synthetic data sets from modelling with GIOP, Hydrolight and the coupled atmosphere-ocean radiative transfer model SCIATRAN (Hongyan Xi, AWI)
- Synthetic data sets: hyper- versus multispectral *(*Jianwei Wei – U.Mass)

15:23-15:30: Discussion on synthetic data set – current achievements, gaps and next steps achievements (chair: Astrid Bracher, AWI)

15:30-16:15 How do we best utilise existing programs or recommend new programs to validate satellite approaches for detecting ephemeral blooms in the sea?

15:30-15:50: Speed Talks (3-5 min each)

- International and Australian effort (Lesley Clementson, CSIRO)
- Efforts of NASA (Ryan Vandermeulen, NASA)
- European and Korean efforts (Astrid Bracher, AWI; input from Wonkook Kim, KIOST)
- Chinese efforts (Shaolin Shang, MEL, Xiamen University, tbc)

15:50-16:15 Discussion on gaps and how to move forward to achieve global in-situ validation data sets with common requirements (chair: Stewart Bernard, CSIR)

16:15-16:30: Final discussion, summary and recommendations (chair: Ryan Vandermeulen, NASA)