



## NEW APPLICATIONS USING VERY HIGH RESOLUTION SATELLITE OCEAN COLOUR DATA

**Co-Chairs:** Kevin Ruddick (RBINS) and Quinten Vanhellemont (RBINS)

The advent of satellite optical sensors providing very high spatial resolution data at low or no cost opens up important new applications for coastal and inland waters. High quality Landsat-8 data is now available globally and free of charge at 30m resolution (15m panchromatic) and similar data is expected from Sentinel 2/MSI (10m-60m, launch expected 2015).

Worldview and Pléiades provide on demand even higher resolution multispectral data, down to 1-2m (even less for panchromatic). These missions, although designed for terrestrial applications, also reveal features and processes in coastal and inland waters worldwide that have been hitherto accessible only to expensive airborne missions.

Emerging applications include the assessment of sediment transport associated with offshore constructions; detection of patchy algae distributions; water quality in estuaries, ports and inland waters; small scale discharges; detection of large marine animals; impact of ships; sub pixel scale effects in medium resolution imagery, etc.

Exploitation of these missions raises new challenges/opportunities including the correction of air-water interface reflection for spatially resolved waves, the need to deal with low signal: noise specifications and different spectral band sets.

This breakout session is structured via short talks introducing each of the following emerging questions as a basis for group discussion:

1. Who are the future users of such data?
2. What new marine processes and features can be seen at 10m resolution? At 1m?
3. What new processes and features can be detected in ports, estuaries and inland waters?
4. What are the processing challenges ... and opportunities?
5. What new algorithms will be required?

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| <b>09:30-09:50</b> | <b>Introduction to breakout session</b><br>Kevin Ruddick (RBINS)   |
| <b>09:50-10:05</b> | <b>What new marine processes and features can be seen at 10m resolution? At 1m?</b><br>Quinten Vanhellemont (RBINS)      |
| <b>10:05-10:20</b> | <b>What new processes and features can be detected in ports, estuaries and inland waters?</b><br>Stewart Bernard (CSIRO) |
| <b>10:20-10:35</b> | <b>Who are the future users of such data?</b><br>Antoine Mangin (ACRI-ST)  |
| <b>10:35-10:50</b> | <b>Break</b>   |
| <b>10:50-11:05</b> | <b>What are the processing challenges ... and opportunities?</b><br>Chuanmin Hu (U. South Florida)                       |
| <b>11:10-11:25</b> | <b>What new algorithms will be required?</b><br>Nima Pahlevan (SSAI/NASA GSFC)   |
| <b>11:30-12:15</b> | <b>Concluding discussion</b>   |