International Ocean Colour Science Meeting 2013 | Advancing Global Ocean Colour Observations

MONDAY 6 MAY

9:00 MORNING PLENARY — Spectrum A

- 9:00 Welcome and introduction by Alain Ratier, EUMETSAT Director General
- 9:20 Welcome by Paula Bontempi, Program Manager for NASA's Ocean Biology and Biogeochemistry research program
- 9:25 Meeting rationale, overview, update on IOCCG activities (David Antoine, IOCCG Chair)
- 9:40 IOCS organisation (Venetia Stuart, IOCCG Project Coordinator)

9:45 AGENCY REPORTS (75 min - 15 min + 3 x 20 min) — Spectrum A

- NASA: Future Directions for NASA Ocean Colour Remote Sensing (Paula Bontempi)
- EUMETSAT: Update on EUMETSAT Ocean Colour Services (Ewa Kwiatkowska)
- ESA: From MERIS to OLCI - Ocean Colour at ESA (Henri Laur)
- NOAA: Update on NOAA Ocean Colour Activities: VIIRS et al. (Cara Wilson)

11:00 COFFEE BREAK (30 min)

11:30 KEYNOTE ADDRESS 1 - STEVEN ACKLESON (45 min) — Spectrum A

In Situ Observations Supporting Future Ocean Colour Research

12:15 LUNCH BREAK (75 min)

13:30 AFTERNOON SPLINTERS (2 hr 30 min)

SPLINTER 1 — Spectrum A

CHAIR: Paula Bontempi (NASA)

NASA Ocean Colour Research Team (OCRT) meeting

- 13:30 Welcome/Program Update for NASA Ocean Biology & Biogeochemistry/ Community Q&A (Paula Bontempi, NASA Headquarters)
- 14:00 NASA Satellite Ocean Color Time series (Bryan Franz, NASA GSFC)
- 14:20 NASA Science Team Assessment of S-NPP VIIRS Ocean Color Products (Kevin Turpie, Univ. of Maryland)
- 14:40 Pre-Aerosol, Cloud, ocean Ecosystem (PACE) Science (Carlos Del Castillo, Johns Hopkins University - Applied Physics Laboratory)
- 15:00 Controls on Open Ocean Productivity and Export eXperiment (COOPEX) (Dave Siegel, Univ. of California - Santa Barbara)
- 15:20 Break
- 15:30 Agency data sharing discussion (with "Multi-Agency Data Sharing" splinter session)

SPLINTER 2 — Spectrum B

Co CHAIRS: Sean Bailey (NASA/GSFC), Robert Frouin (SIO/UCSD) and Cédric Jamet (LOG/ULCO)

Advances in atmospheric correction of satellite ocean colour imagery

- 13:30 Atmospheric correction over turbid waters (Cédric Jamet, Université du Littoral-Côte d'Opale)
- 14:00 Aerosol determination with emphasis on aerosol absorption (Sean Bailey, NASA/GSFC)
- 14:30 Atmospheric correction in the presence of Sun glint, thin clouds, and adjacency effects (Robert Frouin, Scripps Institution of Oceanography, USA)
- 15:00 The remainder of the session will be dedicated to a general discussion about the atmospheric correction advances and implications for future missions. The three Co-Chairs will moderate the discussion

SPLINTER 3 — Spectrum C

Co CHAIRS: Joo-Hyung Ryu (KIOST, Korea), Kevin Ruddick (RBINS/MUMM, Belgium) and Antonio Mannino (NASA GSFC)

Geostationary ocean colour radiometry

1. GEO product and application

- 13:30 Jong-Kuk Choi (KOSC/KIOST, KOR)
- 13:37 David Doxaran (LOV, FRA)
- 13:44 Robert Frouin (SIO, USA)
- 13:50 Discussion

2. GEO data processing technique

- 14:20 Seunghyun Son (NOAA, USA)
- 14:30 Constant Mazeran (ACRI, FRA)
- 14:40 Discussion

3. GEO new mission and synergy

- 14:50 Joo-Hyung Ryu (KOSC/KOIST, KOR)
- 14:55 Antonio Mannino (NASA, USA)
- 15:00 David Antoine (LOV, FRA)
- 15:05 Quinten Vanhellemont (RBINS/MUMM, Belgium)
- 15:10 Discussion

SPLINTER 4 — Platinum 2

Co CHAIRS: Lothar Wolf (EUMETSAT), Henri Laur (ESA)

Multi-agency data sharing (satellite and in situ data)

- 13:30 Introduction by the session Chairs
- 13:35 MERIS & OLCI data policies (ESA/Eumetsat) (Henri Laur, ESA)
- 13:55 MODIS & SeaWiFs data policies (Jeremy Werdell, NASA)
- 14:15 SGLI & GLI data policy (Hiroshi Murakami, JAXA)
- 14:35 VIIRS data policy (Wei Shi, NOAA)
- 14:55 Inter agency data sharing and exchange principles (Michael Schick, EUMETSAT)
- 15:15 Group to join the OCRT session in Spectrum A room to continue discussions

16:00 COFFEE BREAK (30 min)

16:30 POSTER SESSION (1 hr 30 min) — Registration area

18:00 SESSION REPORTS (1 hr) — Spectrum A

- 18:00 Splinter Session 1 report
- 18:15 Splinter Session 2 report
- 18:30 Splinter Session 3 report
- 18:45 Splinter Session 4 report

19:00 ICEBREAKER AT THE MEETING VENUE

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TUESDAY 7 MAY

8:30 **KEYNOTE ADDRESS 2 - SHAILESH NAYAK (45 min)** — Spectrum A
Challenges and opportunities for the operational use of ocean colour for fisheries

9:15 **COFFEE BREAK (30 min)**

9:45 **MORNING SPLINTERS (2 hr 30 min)**

SPLINTER 5 — Spectrum A

CHAIR: Ewa Kwiatkowska (EUMETSAT) and Stewart Bernard (CSIR, South Africa)

Operational ocean colour data in support of research, applications and services

- 9:45 Splinter session introduction (Ewa Kwiatkowska, EUMETSAT)

Topic: Redefining "Operational" (sustained long-term, routine provision of quality satellite data for a variety of evolving applications, including science, climate, environment and services)

- 9:55 Emerging perspective (Cara Wilson, NOAA)
- 10:10 Marine services view (Rosalia Santoleri, EU MyOcean)
- 10:20 Diverse applications and their needs (Stewart Bernard, CSIR)
- 10:30 Discussion

Topic: Scientific and technological innovation in support of evolving applications and user needs

- 11:00 Emerging applications, modelling/data assimilation (Rosa Barciela, Met Office)
- 11:10 Data access and tools (Steve Groom, PML)
- 11:20 Discussion

Topic: Community organisation to support the implementation

- 11:50 International Ocean Colour Community view and OCR-VC (Mark Dowell, JRC)
- 12:00 Discussion

SPLINTER 6 — Spectrum B

Co CHAIRS: Jean-Paul Huot (ESA) and Giulietta Fargion (San Diego State University)

***In situ* measurement protocol revision for cal/val**

- 9:45 AOP protocols for field measurement (Giuseppe Zibordi, JRC, EU)
- 10:05 IOP instrumentation in the lab (Rüdiger Röttgers, Helmholtz-Zentrum Geesthacht, Germany)
- 10:25 IOP measurements in the field (Jean-Francois Berthon, JRC, EU)
- 10:45 Biogeochemistry - lab/field instruments for carbon stocks and rates (Heidi Sosik, Woods Hole Oceanographic Institution, USA)
- 11:05 Biogeochemistry - lab/field instruments for size of particles (Michael Twardowski, WetLabs, USA)
- 11:25 Discussion

SPLINTER 7 — Spectrum C

CHAIR: Mark Higgins (EUMETSAT)

International training and outreach

- 9:45 POGO Capacity Building activities (Shubha Sathyendranath, PML, UK)
- 9:55 IOCCG Training Initiatives (Venetia Stuart, IOCCG Project Coordinator)
- 10:05 Training in Ocean Optics (Emmanuel Boss, University of Maine, USA)
- 10:15 Experiences from EUMETSAT (Mark Higgins, EUMETSAT)
- 10:25 Group discussion

SPLINTER 8 — Platinum 2

Co CHAIRS: Giuseppe Zibordi (JRC, EU) and Jeremy Werdell (NASA GSFC)

System vicarious calibration

- 9:45 Introduction by session chairs (fix fundamental elements and focus of discussions)
- 9:55 General overview of the method currently applied by NASA-OPBG with a focus on constrains for in situ reference data (Jeremy Werdell, NASA GSFC)
- 10:10 General overview of the method currently applied for MERIS with focus on the dual source of in situ reference data (Constant Mazeran, ACRI-ST)
- 10:25 Requirements for system vicarious calibration of future ocean color sensors with reference to sources of in situ data (Carlos Del Castillo, Johns Hopkins University)
- 10:40 Discussion supported by seed questions linked to above talks (limited time for each topic)
- 12:00 Wrap-up to recap any action(s) requiring community consideration

12:15 **LUNCH BREAK (75 min)**

13:30 **KEYNOTE ADDRESS 3 - FRÉDÉRIC MÉLIN (45 min)** — Spectrum A
In search of long-term trends in the ocean colour record

14:15 **COFFEE BREAK (30 min)**

14:45 **AFTERNOON SPLINTERS (2 hr 30 min)**

SPLINTER 9 — Spectrum A

Co CHAIRS: James Yoder (WHOI, USA), Mark Dowell (JRC, EU) and Stephanie Dutkiewicz (MIT, USA)

Climate variables and long term trends

- 14:45 Relations involving international bodies like CEOS/SIT/GEO/GCOS, space agencies and scientists related to climate variables (Mark Dowell, JRC)
- 15:15 Activities of the IOCCG Essential Climate Variable (ECV) Task Team (James Yoder, WHOI)
- 15:40 Break
- 15:50 Discussion of long-term trends particularly in reference to Frédéric Mélin's keynote address and including brief summaries of projects that are generating multiple-year time series of ocean color variables.
- 16:40 Interactions between the ocean colour and biogeochemical modeling communities (Stephanie Dutkiewicz, MIT)
- 17:00 Discussion

SPLINTER 10 — Spectrum B

Co CHAIRS: Astrid Bracher (Alfred-Wegener-Institute, Germany) and Takafumi Hirata (Hokkaido University, Japan)

Phytoplankton community structure from ocean colour: methods, validation, intercomparisons and application

- 14:45 Welcome, program and goal of the session (Astrid Bracher, AWI and Taka Hirata, Hokkaido University)
- 14:50 Update of IOCCG PFT working group (Shubha Sathyendranath, PML, UK)
- 15:00 Overview of PFT satellite products (Astrid Bracher, AWI and Nick Hardman-Mountford, CSIRO, Australia)
- 15:20 In situ/laboratory classification of phytoplankton types – data base: efforts/goals (Lesley Clementson, CSIRO, Australia)
- 15:40 Validation/Intercomparison of PFT satellite products (Taka Hirata, Hokkaido University)
- 16:00 Cecile Rousseaux-NASA GSFC: Application of PFT satellite products in ecosystem modeling
- 16:15 Discussion

SPLINTER 11 — Spectrum C

Co CHAIRS: Carsten Brockman (Brockman Consult, Germany), Bryan Franz (NASA GSFC), Simon Elliott (EUMETSAT)

Satellite data file formats and tools for easy science exploitation

(1) Data file content and formats

- 14:45 NASA's perspective on ocean colour data formats and conventions (Sean Bailey, NASA GSFC)
- 15:00 Discussion

(2) Data processing, analysis and exploitation tools

- 15:20 Processing and validation environment MERMAID and ODESA (Constant Mazeran, ACRI-ST)
- 15:35 SeaDAS and BEAM user tools (Sean Bailey, NASA & Norman Fomferra, Brockman Consult)
- 15:50 Discussion

(3) Data distribution

- 16:20 EUMETSAT's means and plans for distributing ocean colour data (Thomas Heinemann, EUMETSAT)

(4) Review of recommendations

- 16:35 Discussion

SPLINTER 12 — Platinum 2

Co CHAIRS: Gerhard Meister (NASA GSFC) and Bertrand Fougnie (CNES, France)

Satellite instrument pre- and post-launch calibration

- 14:45 Introduction (Bertrand Fougnie, CNES)
- 14:50 OCM-2 calibration and characterization (Samir Pal, ISRO)
- 15:00 MERIS calibration and characterization (Steven Delwart, ESA/ESRIN)
- 15:10 OLCI calibration and characterization (Ludovic Bourg, ACRI-ST)
- 15:20 GOCI calibration and characterization (Seongick Cho, KIOST, Korea)
- 15:30 MODIS calibration and characterization (Gerhard Meister, NASA GSFC)
- 15:40 SGLI calibration and characterization (Hiroshi Murakami, JAXA, Japan)
- 15:50 Break
- 15:55 GSICS (Tim Hewison, EUMETSAT)
- 16:05 IOCCG Calibration Task Force (Ewa Kwiatkowska, EUMETSAT)
- 16:15 Discussion on future cooperation, summary of this session

17:15 **POSTER SESSION (1 hr 30 min)** — Registration area

19:00 **TOUR OF EUMETSAT FACILITIES FOR INTERESTED PARTICIPANTS** — EUMETSAT headquarters

20:00 **CONFERENCE DINNER** — EUMETSAT headquarters

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WEDNESDAY 8 MAY

8:30	**KEYNOTE ADDRESS 4 - STEWART BERNARD (45 min)** Issues related to ocean colour in coastal zones and inland waters	Spectrum A
9:15	**AGENCY REPORTS, CONTINUED (80 min)** 9:15 KIOST: GOCI status and GOCI-II plan (Joo-Hyung Ryu) 9:35 JAXA: Update on GCOM-C1/SGLI (Hiroshi Murakami) 9:55 CNES: Ocean program status: perspectives for ocean colour (Juliette Lambin) 10:15 China: Ocean colour remote sensing and application in China (Pan Delu)	Spectrum A
10:35	**COFFEE BREAK (40 min)**	
11:15	**SESSION REPORTS, CONTINUED (1 hr)** 11:15 Splinter Session 5 report 11:30 Splinter Session 6 report 11:45 Splinter Session 7 report 12:00 Splinter Session 8 report	Spectrum A
12:15	**LUNCH BREAK (75 min)**	
13:30	**KEYNOTE ADDRESS 5 - CHARLES R. McCLAIN (45 min)** Past observations and future challenges for ocean colour remote sensing	Spectrum A
14:15	**SESSION REPORTS, CONTINUED (1 hr)** 14:15 Splinter Session 9 report 14:30 Splinter Session 10 report 14:45 Splinter Session 11 report 15:00 Splinter Session 12 report	Spectrum A
15:15	**COFFEE BREAK (30 min)**	
15:45	**GENERAL DISCUSSION (75 min)** General discussion on the session topics addressed during the three days, on future directions for ocean colour satellite remote sensing science	Spectrum A
17:00	**CONCLUDING REMARKS, AOB (30 min)**	Spectrum A
17:30	**CONFERENCE ADJOURNS**	