

Summary of the 2/04/2016 PACE-IOP teleconference.

Present: Mike O., Jeremy W., Cecil R., Watson G., Zhongping L., Lachlan M., Mike T., Lorraine R., Stephane M., Dariusz S., Paula B., Wayne S.

Written in the order of the agenda.

1. Updates from HQ and GSFC: presentation to Mike Freilich of PACE is coming up. Things are on track for PACE to move from Pre-phase A to phase A in April/May. ROSES 17 plan including the next PACE-ST and PACE cal/val will be planned this summer.

2. Emmanuel B. reminded participants about Antonio's request for input about coastal imager, in particular (see appendix):

Are the minimum and desired capabilities and prioritization on-target for coastal and inland waters science and application objectives?

If not, what is desired? Are the required band set and bandwidths ideal? Prioritization of additional bands? If not, what is desired? What about for aerosol and cloud science?

So far Steve A., Zhongping L., Maria T., and Bo Cai G. have joined the coastal imager subgroup.

3. Emmanuel B. reminded the group about our technology gap discussions from the first PACE-ST meeting. He will assemble a consensus document regarding technological gaps ASAP so that NASA could include it in its SBIR portfolio (or other calls).

GAPS discussed:

a. In-situ IOP sensors making measurements in the UV – ZhongPing L. and Mike T. reminded us we could estimate them from inversions of radiometrically measured quantities (e.g. Gordon et al., 2009, "Spectra of particulate backscattering in natural waters.," Opt. Express 17, 16192-16208)

b. Methodology for radiometric measurements near the surface (but in water). Particularly important in the NIR. We were reminded that above water methods to estimate water leaving radiance exist.

c. Methods to measure IOPs very close to the surface.

Input will be solicited from all PACE-ST members.

We got reminded at a recent SBIR closed in Feb. 1st where these gaps could have been addressed. Paula B. told us she does not know what is proposed and has no say in selections. However, if we see critical gaps wrt PACE science, we should pass them on so they can be addressed in future calls.

OCRT will probably take place May 2-4, 2016 in DC. Darius S. reminded us about the 'living light conference (<http://livinglight2016.com/>) that will start May 4th at SIO.

Next teleconference: 03/10/2016 at 12:15 EST (Emmanuel B. is at the IOCCG meeting on 03/03/2016).

Appendix. Desired capabilities:

Priority	Capability	Minimum Acceptable*	Preferred
1	Ground Sample Distance	≤ 150 m	≤ 100 m
2	# spectral bands ¹	8	12 or more
3	SNR ²	600 Vis; 300 NIR ³	>1000 Vis; >600 NIR
4	UV bands	none	1 or more
5	Glint avoidance	N/A	$\pm 20^\circ$
6	Gimbal to track coast	N/A	$\pm 15^\circ$ or greater
7	Bandwidth	20 nm	10 nm
8	Swath	150 km	>300 km

¹ UV-Vis bands plus two NIR bands (748 and 865 nm)

² SNR capability should scale with GSD (lower SNR at finer GSD)

³ SeaWiFS on-orbit SNR ranged from 183 in NIR to 790 in Vis (Hu et al. 2012)