

**Subject:** RE: RE : RE : Rough draft text

**From:** Bonnal Christophe <[christophe.bonnal@cnes.fr](mailto:christophe.bonnal@cnes.fr)> (Add as Preferred Sender)

**Date:** Tue, Oct 11, 2016 10:33 am

**To:** "Oltrogge, Daniel" <[doltrogge@agi.com](mailto:doltrogge@agi.com)>, "rhodah(at)verizon.net" <[rhodah@verizon.net](mailto:rhodah@verizon.net)>, Norman Fitz-Coy <[nfc@ufl.edu](mailto:nfc@ufl.edu)>, Cazaux Christian <[Christian.Cazaux@cnes.fr](mailto:Christian.Cazaux@cnes.fr)>, "rhodah1234(at)gmail.com" <[rhodah1234@gmail.com](mailto:rhodah1234@gmail.com)>, Rene Laufer <[Rene\\_Laufer@baylor.edu](mailto:Rene_Laufer@baylor.edu)>, Alex da Silva Curiel <[A.daSilvaCuriel@sstl.co.uk](mailto:A.daSilvaCuriel@sstl.co.uk)>

**Cc:** "Liou, Jer-chyi (JSC-XI411)" <[jer-chyi.liou-1@nasa.gov](mailto:jer-chyi.liou-1@nasa.gov)>, ARNAUD Michel <[arnaud.mc@free.fr](mailto:arnaud.mc@free.fr)>, Myriam Morabet <[myriam.morabet@iafastro.org](mailto:myriam.morabet@iafastro.org)>

Dear colleagues,

On behalf of J-C. Liou, co-chair with me of the Space Debris Symposium,

Thanks to your joint efforts, we think we have now a nice definition of a joint session between B4 small sats and A6 space debris for Adelaide.

Before finalizing it to IAF, we would like to know if you have some constraints in terms of time slot for this session. We don't know yet whether we will have this as additional session (meaning running in parallel with one of our 9 other ones) or replacing one, but this a priori impacts only A6 and is independent from what you B4 may wish to do. We nevertheless need to know what are your constraints in terms of calendar during the IAC week.

On A6 side, we would appreciate avoiding the Wednesday morning, as it is the slot where we hold the IADC meeting, but otherwise we are quite open.

It could well be on Friday afternoon: traditionally, there are less technical sessions meaning significantly more attendance, but you can propose another slot.

We agree on the title of the session: Joint Small Satellite/Space Debris session to promote the long-term sustainability of space

The short definition could be (hoping it is not too long...): This session facilitates bilateral discussions between Small Satellite and Space Debris communities for shared understanding of the challenges/issues and to promote practical small satellite solutions for the long-term sustainability of space. It will include topics such as:

- \* Orbital debris mitigation solutions for small satellites and mega constellations
- \* Small satellite orbital debris mitigation lessons learned, best practices and expected norms of behavior (including minimization of post-mission orbit lifetime, trackability)
- \* Orbital debris mitigation compliance statistics and monitoring methods (for both small and large satellites)
- \* Stakeholder education (bilateral)
- \* Collision and warning risk assessment techniques and resulting estimates
- \* Mitigation of risks to other operational spacecraft (ISS, etc.)
- \* Small satellite propulsive requirements, methods and technology
- \* Small satellite orbit regulation concepts
- \* Small satellite deorbit technologies and lessons learned
- \* Small satellite mission assurance, reliability and lessons learned
- \* Small satellite deployment best practices and lessons learned
- \* Tracking organization and small satellite operator interplay
- \* Orbit, maneuver, and scenario data exchange

Michel and Myriam, do you agree with this organization, and do you have some constraints? We would like to freeze the organization for Adelaïde asap.

Thanks to you all,  
Best regards,  
Christophe

Christophe BONNAL

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-----Message d'origine-----

De : Oltrogge, Daniel [[mailto:doltrogge\(at\)agi.com](mailto:doltrogge(at)agi.com)]

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À : [rhodah\(at\)verizon.net](mailto:rhodah(at)verizon.net); Bonnal Christophe

Cc : Norman Fitz-Coy; Cazaux Christian; Liou, Jer-chyi (JSC-XI411);

[rhodah1234\(at\)gmail.com](mailto:rhodah1234(at)gmail.com); Rene Laufer; Alex da Silva Curiel

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Christophe and Rhoda:

We have achieved consensus amongst Alex, Norman, Christian and myself.

We are now handing this proposed text over to you to figure out when to schedule this event for at Adelaide.

Here is the agreed-upon text:

// Dan Oltrogge

// SDC Program Mgr & Sr Research Astrodynamist // 719-482-4552 |

[oltrogge\(at\)agi.com](mailto:oltrogge(at)agi.com)

> On Sep 29, 2016, at 15:58, Alex da Silva Curiel <[A.daSilvaCuriel\(at\)sstl.co.uk](mailto:A.daSilvaCuriel(at)sstl.co.uk)>  
wrote:

>

> Title: Joint Small Satellite/Space Debris session to promote the

- > long-term sustainability of space
- >
- > Theme of joint session: This session facilitates bilateral discussions
- > between these communities for shared understanding of the
- > challenges/issues and to promote practical small satellite solutions
- > for the long-term sustainability of space
- >
- > Format: A panel discussion between representatives from each stakeholder group followed by a mix of technical papers (15 min each).
- >
- > Included Topics of Interest:
- >
- > \* Orbital debris mitigation solutions for small satellites and mega constellations
- > \* Small satellite orbital debris mitigation lessons learned, best practices and expected norms of behavior (including minimization of post-mission orbit lifetime, trackability)
- > \* Orbital debris mitigation compliance statistics and monitoring methods (for both small and large satellites)
- > \* Stakeholder education (bilateral)
- > \* Collision and warning risk assessment techniques and resulting estimates
- > \* Mitigation of risks to other operational spacecraft (ISS, etc.)
- > \* Small satellite propulsive requirements, methods and technology
- > \* Small satellite orbit regulation concepts
- > \* Small satellite deorbit technologies and lessons learned
- > \* Small satellite mission assurance, reliability and lessons learned
- > \* Small satellite deployment best practices and lessons learned
- > - Post-deployment separation and recontact analyses
- > - Bridging the gap between launch COLA and on-orbit CA screening
- > \* Tracking organization and small satellite operator interplay
- > \* Orbit, maneuver, and scenario data exchange
- > - Pre-launch sharing of launch and deployment and early orbit
- > - Operations phase
- > - Deorbit and disposal phase
- > - Reentry