# Canadian Atmospheric Science Community Workshop

# **The Future of Canadian Atmospheric Science from Space**

Telecon 3 – Wednesday 8 November

Please sign in by sending an email to info@csa-asac.ca

# Agenda

- Plans for Workshop
- Review of Agenda
- Content for Consortia Presentations
- Discussion Areas / Questions for Longer-term Planning
- Q&A
- Workshop Reminders

# Plans to Workshop

- Goal for workshop is to provide a “menu” of options to CSA that have been endorsed by the community for their planning
  - Range of ideas on different themes and with estimates of cost/effort/impact magnitude
  - Proactive approach so that options are readily available to CSA when opportunities arise

- Need to get new atmospheric projects into the federal government budget exercise for this and coming years
  - Want to provide input as soon as possible – hence the workshop next week

# CSA Perspective

# Definitions for Workshop

- Goal to **develop** both short- and longer-term strategies for **Canadian atmospheric measurements from space**
- These will include, but not restricted to, ideas for:
  - Missions
  - Instruments
  - Observing systems
  - International collaborations
  - Other mission-related concepts (e.g. data assimilation systems, validation sites and instruments, etc.)

# Definitions for Workshop

- Time scale definitions
  - **What can we do now?** (short-term ~0-5 years)
    - Some work has already been done on instrumentation or mission development
  - **Where do we want to go?** (longer-term ~5-20 years)
    - New ideas or concepts that need development
  - Have added a separate time-scale for **Infrastructure**
    - This is the infrastructure needed to support mission development, validation and operations
    - This must be factored into mission / instrument planning rather than assuming that it will exist!

# Agenda – Day 1

**16 November 2017 – Focus on short-term ideas – "What can we do now?"**

| | |
|---|---|
| 08:00-08:30 | **Registration and gathering** |
| 08:30-09:00 | Vision for workshop and short-term discussions |
| 09:00-09:15 | Welcome from CSA |
| 09:15-10:40 | Presentations by consortia (Raven, $CH_4$-SHS, AIM-North) |
| 10:40-11:10 | **Break** |
| 11:10-12:30 | Presentations by consortia (CASS, TICFIRE, CanACT) |
| 12:30-13:30 | **Lunch** |
| 13:30-13:55 | Presentations by consortia (Ozone/Dynamics) |
| 13:55-14:15 | Space Advisory Board perspective |
| 14:15-15:30 | Discussion of ideas for short-term |
| 15:30-16:00 | **Break** |
| 16:00-16:30 | Finish discussions |
| 16:30-17:00 | CSA presentation |
| 17:00-17:30 | Summary of discussions and consensus recommendations |
| 18:00 | **End of day** |

# Agenda – Day 2

**17 November 2017 – Focus on longer-term/infrastructure ideas – "What do we want to do?**

| | |
|---|---|
| 08:00-08:30 | **Registration and gathering** |
| 08:30-09:00 | Vision for longer-term and infrastructure discussions |
| 09:00-10:40 | Presentations by consortia<br>(CASSAVA, CODAAC, HAWC, Raven-EE10) |
| 10:40-11:10 | **Break** |
| 11:10-12:30 | Discussion about longer-term direction and opportunities |
| 12:30-13:30 | **Lunch** |
| 13:30-15:00 | Discussion continues |
| 15:00-15:30 | **Break** |
| 15:30-16:00 | CSA perspectives on workshop |
| 16:00-17:00 | Summary and next steps |
| 17:00 | **End of Workshop** |

# List of Consortia – Short-term Ideas

**AIM-North** – The Atmospheric Imaging Mission for Northern regions

(PoC: Ray Nassar, ECCC)

**CanACT** – Canadian Association of CATS + TEMPO

(PoC: Chris McLinden, ECCC)

**CASS** – The Chemical and Aerosol Sounding Satellite

(PoC: Kaley Walker, University of Toronto)

**$CH_4$-SHS** – A miniaturized, low-mass payload to probe tropospheric and stratospheric composition

(PoC: Chris Sioris, ECCC)

# List of Consortia – Short-term Ideas (cont.)

**Ozone/Dynamics** Mission

(PoC: William Ward, University of New Brunswick)

The **Raven** Mission

(PoC: Doug Degenstein, University of Saskatchewan)

**TICFIRE** – Thin Ice Clouds in Far IR Experiment

(PoC: Jean-Pierre Blanchet, UQAM)

# List of Consortia – Infrastructure/Longer-term

**CASSAVA** – Canadian Anchor Sites for SAtellite Validation

(PoC: Kimberly Strong, University of Toronto)

**CODAAC** – A Canadian OSSE Data Assimilation facility for Atmospheric Composition satellite missions

(PoC: Dylan Jones, University of Toronto)

**HAWC** – High-resolution Aerosol, Water and Cloud

(PoC: Jean-Pierre Blanchet, UQAM)

The **Raven EE-10** Mission

(PoC: Doug Degenstein, University of Saskatchewan)

# Consortium Presentation Contents

- The presentations of **no more than 25 minutes including 5 minutes for questions**. They can have one or multiple presenters.
- **All consortia** are to cover these topics but the discussion can be balanced as each consortium wishes:
  - Title of Consortium, Present Membership/Roles
  - Science Questions/Goals, Instrumentation/Implementation
  - Outcomes, Timeline/Mission Duration
  - Relevance to Government Department(s), Relevance Internationally
  - ROM/WAG Budget Breakdown (e.g., instrument(s), spacecraft, launch, ground segment, science; including assumptions made, e.g., contingency etc.)
  - Readiness, Heritage, Team Experience
  - Relevant Studies, Papers and Reports, References
- In addition, the **longer-term/infrastructure consortia** should include Development Needs in their discussion

# Discussion

- We have planned for discussion of both the short-term and infrastructure/longer-term ideas during the workshop

- For the short-term ideas, a “menu” of ideas will be created that has the endorsement of the community
  - These will have a range of themes and funding levels required for the CSA to use for upcoming opportunities
  - **We will not be providing a list of priorities to CSA**

# Some Short-term Questions

- Would this mission make a significant contribution to our understanding of the atmosphere?
  - E.g., air quality, climate change, ozone recovery
- Is this idea really short-term?
- Is it mature enough to begin implementation (of all components)?
- What is missing (e.g., component, concept)?
- What is the relevance of this idea to the Government of Canada? Is there support for it?

# Longer-term/Infrastructure Discussion Themes

For the longer-term and infrastructure discussion, we are going to add these questions to the discussion:

- What should Canada be doing in space for atmospheric science?
- How do we ensure that Canada is an active leader in atmospheric science from space in the next 20 years?
- How do we maintain and grow the atmospheric science community to support future space-based and related activities?

# Questions?

# Reminders for Workshop

- Remember to sign in for this meeting by sending an email to info@csa-asac.ca
- You should have received an email confirming your registration for the meeting on Friday 3 November
  - Contact us at info@csa-asac.ca if you did not!
- Remember to bring your government issued identification for security at CSA (on the first day you arrive)
  - Keep in mind that this may take some time for all attendees so plan accordingly!
- See you next week in Saint-Hubert!
  - If your plans change, let us know as soon as possible