

## AIAA Microgravity and Space Processes Technical Committee Meeting Minutes

August 6, 2003

### Welcome and Introductions

Michael Doherty, MSPTC Chairperson welcomed everyone to the telecon.

See attachment 1 for the agenda.

See attachment 2 for list of attendees. Liz Stagg attended in Ron Schlagheck's place. There was one visitor, Ben Simmons from University of Memphis.

### Review of Old Action Items

Nancy Ma reviewed the status of open action items from the April 30, 2003 telecon. The table below summarizes the review.

| Action Item                                    | Description   | Actionee                   | Status  | PTOC                            | O/C    |
|--|---|----------------------------|---|---------------------------------|--------|
| <b><i>Action Items Prior to April 2003</i></b> |   |                            |   |                                 |        |
| 1/09.05.01                                     | Contact GRC legal counsel and exact a once-and-for-all ruling on federal employee participation in CVD and formal letter writing activities that would serve as a guideline to government employee committee members in the future. | Sacksteder                 | GRC legal has provided memo to K. Sacksteder. He will email to TC.  | <del>03/15/02</del><br>01/6/02  | CLOSED |
| 2/07.31.02                                     | a) Publish "biotech" article in AIAA<br>b) determine due dates for ISRU and summary article   | Gustafson                  | Biotech article will be dropped. ISRU will not be published by MSPTC. Summary article accepted by M. Koss under new action item.          | 12/31/02<br>10/10/02            | CLOSED |
| 1/10.15.02                                     | Submit nominations to AIAA for the Space Processing Award for Reno, 2004.   | All                        | 5 nomination packages have been submitted   | 07/01/03                        | CLOSED |
| 2/01.07.03                                     | Contact JSC about advertising to students to present results of the KC-135 student flight program at the AIAA conference.   | LaCombe                    | S. Collicott will work with J. LaCombe. PTOC extended.  | <del>03/01/03</del><br>09/15/03 | OPEN   |
| <b><i>Action Items from Apr. 30, 2003</i></b>  |   |                            |   |                                 |        |
| 1/04.30.03                                     | Submit nominations for Best Paper and Best Student Presentation to K. Sacksteder.   | All Reno 03 session chairs | PTOC extended.  | <del>06/01/03</del><br>08/30/03 | OPEN   |
| 2/04.30.03                                     | Volunteer needed to work with Ram on yearly newsletter.   | All                        | Mike D. volunteered.  | 05/30/03                        | CLOSED |
| 3/04.30.03                                     | Volunteer needed to work with Ram to author MSPTC Year In Review article  | All                        | S. Collicott volunteered.   | 05/30/03                        | CLOSED |
| 4/04.30.03                                     | Identify members who have not attended meetings/telecons and send letters.  | Motil/<br>Doherty          | Mike D. identified and notified 2 members who have been inactive for more than two years that participation is a must over the next year. | 05/30/03                        | CLOSED |

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### **ACTION ITEMS**

- Kurt Sacksteder will distribute the letter from GRC legal counsel after he receives the signed copy. Government employee committee members may participate in CVD if they do not identify themselves as associated with their government affiliation and if government funds are not being used to pay for their travel to CVD.
- Bob Gustafson stated that the biotech article in its present form is too long to publish in Aerospace America. He and Mike Banish have discussed how to edit it but neither feels they can do an adequate job. Also, the biotechnology program is in a state of flux. Therefore, it was decided that we would drop this action item. Bob Gustafson reported that the ISRU article is being worked on by the Space Colonization TC. Therefore, we have also dropped this as an action item for our TC. Matt Koss reiterated his interest in writing a summary/ historical perspective article for the Aerospace America series and plans to produce this article by December 10, 2003.
- Jeff Lacombe and Steven Collicott will work on contacting JSC about advertising to students to present results of the KC-135 student flight program at future AIAA conferences and have set target date September 15, 2003.
- All Reno 2003 session chairs should submit nominations for Best Paper and Best Student Presentation Awards to Kurt Sacksteder by August 30, 2003. Kurt has not received any nominations yet.
- Ram reported that a disciple scientist in Fluid Physics has agreed to write an article for the newsletter on new directions in microgravity fluids. Ram would like to get 1-page articles on new directions in materials and biotechnology. Ram and Mike D. will work on the TC's newsletter for 2003. Mike D. has volunteered to take on this task for 2004. Steven Collicott volunteered to help Ram with the Year-In-Review article.
- Mike D. identified two people who have not attended a telecon or meeting in over two years. He contacted them inquiring about their interest in staying on the TC. They expressed an interest to continue their membership. If they do not participate within the next two telecons or meetings, then their membership will be terminated in order to make room for new members.

### **EXECUTIVE - BANISH**

Mike Banish reported that he and Afina L. have formulated plans to approach legislators with the message of the importance of microgravity science. He is trying to gather PIs in materials science and combustion and may attempt to contact PIs in fluid physics as well. He will email the TC members with details.

### **COMMERCIAL LIAISON - BARKER**

Karen Barker reported that she is going to be working for DARPA. She remains interested in the TC and will continue to maintain her connections. She anticipates that she will find new connections within DARPA that will be useful for the TC's mission.

### **TC LIAISON - NAHRA**

Mike D. spoke in place of Henry Nahra. Mike D. said that we have an invitation to partner with the Life Sciences and Systems TC in a joint session at the ICES conference (summer of 2004). Mike has asked Henry to take the lead on this to determine whether and how we would participate.

### **MEMBERSHIP - MA**

Nancy Ma reported that we currently have 36 members, 2 international members and 9 alumni.

### **CONFERENCES AND MEETINGS - RAM**

For the meeting in Reno in 2004, Ram reported that there are currently 67 papers in 9 sessions from Monday through Thursday. (See attachment #3.) All session chairs have expressed interest in going to the meeting so that they should be present to facilitate the sessions. Ram also reported that he has submitted a proposal for \$10,000 to Code UG in order to support participant costs. He has not yet heard anything about the proposal.

### **AWARDS - SACKSTEDER**

- Kurt has not yet received most of the nomination packages from AIAA for the Space Processing Award. He would appreciate it if the nominators could forward a copy of the packages directly to

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him. Kurt will then forward the information onto the Awards Subcommittee to evaluate and score. AIAA needs a final decision by the end of September.

- The TC has been considering changing the name of the Space Processing Award to the Columbia Space Research and Technology Award. Ram made a motion to table this issue. Matt Koss seconded the motion. The motion did not pass. Mike D. made a motion to vote on the name change. Dave Chato seconded the motion. The motion was passed. Mike Doherty will forward the award name change request to George Nield (Space and Missiles Group chair) for George to present and request approval at the AIAA Technical Advisory Committee (TAC) meeting on 8/14/03.

**GENERAL - DOHERTY**

As we had run out of time, Mike D. stated that we would not be able to discuss our TC's potential joint statement with the Life Sciences and Systems TC on the value of human enabled space research. Mike asked the committee members to review the considerations he had provided via email on 8/6/03. This has been made an action item.

Nothing was established regarding the timeframe for the next formal teleconference. It is planned for there to be at least one telecon between August and the Reno meeting.

**New Action Items**

| <b>Action Item</b> | <b>Description</b>   | <b>Actionee</b> | <b>Status</b> | <b>PTOC</b> | <b>O/C</b> |
|--------------------|--|-----------------|---------------|-------------|------------|
| 1/08.06.03         | Publish summary article in AIAA  | Koss            |               | 12/10/03    | OPEN       |
| 2/08.06.03         | Review 8/6/03 email message from the Chair on considerations related to a public statement by the TC in support of human enabled space research, and provide comments. | All             |               | 8/14/03     | OPEN       |

Submitted by:  
Nancy Ma, MSPTC Membership Officer

**Attachments:**

1. Agenda
2. Attendance
3. Final program for the 18th Microgravity and Space Processing Symposium, Jan. 5-9, 2004, Reno, NV

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Attachment #1

AIAA Microgravity and Space Processes Technical Committee-MSPTC  
Agenda - August 6, 2003 Teleconference

Wednesday, August 6, 2003

| Time                                | Activity   | Participant(s)/Presenter |
|-------------------------------------|--|--------------------------|
| <b><u>Eastern Daylight Time</u></b> |  |                          |
| 11:30-11:35a                        | <i>Welcome, Introduction of Guests</i>                             | M. Doherty/Chair         |
| 11:35-11:45                         | <i>Review of Old Action Items</i>                                  |                          |
| 11:45-12:20                         | <i>Subcommittee Reports</i>  |                          |
| 3 min                               | Executive  | M. Banish                |
| 3 min                               | Publications   | B. Gustafson             |
| 3 min                               | Education and Outreach   | R. Schlagheck            |
| 3 min                               | Congressional Liaison  | A. Lupulescu             |
| 3 min                               | Commercial Liaison   | K. Barker                |
| 3 min                               | TC Liaison   | H. Nahra                 |
| 1 min                               | Nominations and Elections  | H. Nahra                 |
| 1 min                               | Membership   | N. Ma                    |
| 5 min                               | Conferences and Meetings   | Ram                      |
|                                     | - Reno '04 session makeup  |                          |
| 10 min                              | Awards   | K. Sacksteder            |
|                                     | - Motion to Rename the Space Processing Award                      |                          |
| 12:20-12:50                         | <i>General Discussion/New Business</i>                             | M. Doherty/All           |
|                                     | - Joint statement with LS&S TC on value of human enabled research? |                          |
|                                     | - Future meetings/ telecons  |                          |
|                                     | - Other  |                          |
| 12:50-1:00p                         | <i>Action Item Review</i>  |                          |
| 1:00p                               | <b>Adjourn</b>   |                          |

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Attachment #2

| Name and Affiliation             | Member Since | Telecon – Aug. 2003 | Telecon – April 2003 | Reno – Jan. 2003 | Houston – Oct. 2002 | Telecon – July 2002 | Telecon – April 2002 | Reno – Jan. 2002 | KSC – Oct. 2001 | Telecon – Sept. 2001 | Telecon – April 2001 | Reno – Jan. 2001 | Telecon – Sept. 2000 | Vancouver – May. 2000 | Telecon – March 2000 | Reno – Jan. 2000 | Telecon – Sept. 1999 | Cleveland – May 1999 | Telecon – March 1999 | Reno – Jan. 1999 | Telecon – Nov. 1998 | Cleveland – Aug. 1998 | Washington – Mar. 1998 | Reno – Jan. 1998 | Madison – Aug. 1997 | Wash D.C. – Mar. 1997 | Reno – Jan. 1997 |   |
|----------------------------------|--------------|---------------------|----------------------|------------------|---------------------|---------------------|----------------------|------------------|-----------------|----------------------|----------------------|------------------|----------------------|-----------------------|----------------------|------------------|----------------------|----------------------|----------------------|------------------|---------------------|-----------------------|------------------------|------------------|---------------------|-----------------------|------------------|---|
| Basil Antar – U. of Tenn         | 87           |                     |                      |                  |                     | x                   |                      |                  |                 |                      |                      |                  | x                    |                       |                      |                  | x                    |                      | x                    | x                | x                   |                       |                        |                  |                     |                       |                  | x |
| Michael Banish – U. of Alabama   | 99           | x                   | x                    | x                | x                   | x                   | x                    | x                |                 |                      |                      |                  |                      |                       | x                    | x                |                      |                      | x                    |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Karen Barker – Lockheed-Martin   | 99           | x                   | x                    |                  | x                   | x                   | x                    |                  | x               |                      |                      | x                | x                    |                       |                      |                  | x                    | x                    | x                    | x                |                     |                       |                        |                  |                     |                       |                  |   |
| Richard Boling – SHOT            | 03           |                     | x                    | x                |                     |                     |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Catherin Casgrain - CSA          | 02           | x                   | x                    |                  | x                   |                     | x                    |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| James Casler – Veridian          | 00           |                     |                      |                  |                     |                     |                      | x                | x               | x                    | x                    |                  | x                    |                       |                      | x                |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Dave Chato – NASA GRC            | 99           | x                   | x                    | x                | x                   | x                   | x                    | x                |                 | x                    | x                    |                  |                      |                       | x                    | x                | x                    |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Lai-Chen Chien – Academia Sinica | 94           |                     |                      | x                | x                   |                     |                      | x                |                 |                      |                      | x                |                      |                       |                      | x                |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Steven Collicott – Purdue U.     | 02           | x                   | x                    | x                |                     | x                   | x                    |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Steve Del Basso – Boeing         | 01           |                     |                      | x                | x                   |                     | x                    | x                |                 | x                    |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| Larry DeLucas – U. of Alabama    | 96           |                     | x                    |                  |                     |                     |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  | x                   |                       |                        |                  |                     |                       | x                | x |
| Michael Doherty – NASA GRC       | 98           | x                   | x                    | x                | x                   | x                   | x                    | x                | x               | x                    | x                    |                  | x                    |                       |                      |                  | x                    | x                    | x                    | x                | x                   | x                     |                        |                  |                     |                       |                  |   |
| Edwin Ethridge – NASA MSFC       | 97           |                     |                      |                  |                     | x                   |                      |                  |                 |                      | x                    |                  | x                    |                       |                      |                  | x                    |                      |                      | x                | x                   |                       |                        |                  |                     | x                     |                  |   |
| Michael Fiske – Morgan Research  | 92           | x                   |                      |                  |                     |                     |                      |                  | *               |                      | x                    |                  |                      |                       | x                    | x                | x                    | x                    | x                    | x                |                     |                       |                        | x                |                     | x                     | x                | x |
| Richard Grugel – NASA MSFC       | 93           | x                   |                      |                  | x                   |                     | x                    |                  |                 |                      | x                    |                  | x                    |                       |                      |                  | x                    |                      | x                    |                  | x                   |                       |                        |                  |                     |                       |                  | x |
| Robert Gustafson – ORBITEC       | 96           | x                   |                      |                  |                     | x                   | x                    | x                | x               | x                    | x                    | x                | x                    | x                     |                      | x                |                      | x                    | x                    | x                | x                   | x                     | x                      | x                | x                   | x                     | x                | x |
| Charles Hays – JPL               | 03           |                     | x                    | x                |                     |                     |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |   |
| John Hochstein – U. Memphis      | 93           | x                   | x                    | x                | x                   | x                   | x                    | x                |                 |                      | x                    | x                | x                    |                       | x                    | x                | x                    | x                    | x                    | x                | x                   | x                     |                        | x                | x                   | x                     | x                | x |
| Merrill King – NASA HQ           | 94           | x                   | x                    |                  | x                   |                     |                      | x                |                 |                      |                      | x                | x                    |                       | x                    | x                | x                    | x                    | x                    | x                | x                   | x                     |                        | x                | x                   | x                     | x                | x |
| Fred Kohl – NASA GRC             | 87           |                     | x                    | x                | x                   | x                   | x                    | x                | x               |                      | x                    | x                | x                    |                       | x                    | x                | x                    | x                    | x                    | x                | x                   | x                     | x                      |                  |                     |                       | x                | x |
| Mathew Koss – Holy Cross         | 98           | x                   | x                    | x                |                     | x                   | x                    |                  |                 |                      |                      | x                | x                    | x                     |                      |                  | x                    |                      |                      |                  | x                   |                       |                        |                  |                     |                       |                  |   |

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|----------------------------------|--------------|---------------------|----------------------|------------------|---------------------|---------------------|----------------------|------------------|-----------------|----------------------|----------------------|------------------|----------------------|-----------------------|----------------------|------------------|----------------------|----------------------|----------------------|------------------|---------------------|-----------------------|------------------------|------------------|---------------------|-----------------------|------------------|--|---|
| Jeffrey LaCombe – U. Nevada-Reno | 01           | x                   |                      | x                |                     |                     | x                    | x                |                 | x                    | x                    | x                |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Afina Lupulescu – RPI            | 00           |                     | x                    | x                | x                   | x                   | x                    | x                | x               | x                    |                      |                  | x                    |                       |                      | x                |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Nancy Ma – N.C. State            | 02           | x                   | x                    | x                | x                   | x                   | x                    |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Jeff Marchetta – U. Memphis      | 00           | x                   |                      | x                | x                   |                     | x                    | x                |                 |                      |                      | x                | x                    |                       |                      | x                |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Brian Motil – NASA GRC           | 00           |                     | x                    | x                | x                   | x                   | x                    |                  | x               |                      | x                    | x                | x                    |                       | x                    |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Henry K. Nagra – NASA GRC        | 98           |                     | x                    | x                | x                   |                     | x                    | x                | x               |                      | x                    | x                | x                    |                       | x                    | x                | x                    | x                    |                      |                  | x                   | x                     |                        |                  |                     |                       |                  |  |   |
| Aleksander Ostrogorsky – RPI     | 95           |                     | x                    | x                |                     | x                   | x                    | x                |                 |                      |                      | x                |                      |                       | x                    | x                |                      |                      |                      | x                |                     |                       |                        | x                |                     |                       | x                |  |   |
| Masood Parang – U. of Tenn.      | 91           |                     |                      |                  |                     | x                   |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      | x                |                     |                       |                        | x                |                     |                       |                  |  |   |
| John Pojman – U. Southern Miss.  | 98           | x                   |                      |                  |                     |                     |                      | x                |                 | x                    | x                    | x                | x                    |                       |                      | x                | x                    |                      |                      |                  |                     |                       |                        | x                |                     |                       |                  |  |   |
| Narayanan Ramachandran – USRA    | 97           | x                   | x                    | x                | x                   | x                   | x                    | x                |                 | x                    | x                    | x                | x                    |                       |                      |                  |                      |                      |                      | x                | x                   | x                     | x                      | x                |                     |                       |                  |  | x |
| Kurt Sacksteder – NASA GRC       | 98           | x                   | x                    | x                | x                   |                     | x                    | x                |                 | x                    | x                    | x                | x                    |                       |                      | x                |                      |                      |                      | x                | x                   | x                     | x                      |                  |                     |                       |                  |  |   |
| Ron Schlagheck – NASA MSFC       | 02           | *                   |                      | x                | x                   | x                   |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| Srini Srinivas – SSSI            | 98           |                     |                      |                  | x                   |                     | x                    |                  |                 | x                    | x                    |                  |                      |                       |                      |                  |                      |                      |                      |                  |                     | x                     |                        |                  |                     |                       |                  |  |   |
| Jose Torero – U. of Maryland     | 98           |                     |                      |                  |                     |                     |                      |                  |                 |                      | x                    | x                | x                    |                       |                      | x                | x                    | x                    |                      |                  | x                   |                       |                        | x                | x                   |                       |                  |  |   |
| Stephen Tse – Rutgers U.         | 01           |                     |                      | x                |                     |                     | x                    | x                |                 | x                    | x                    | x                |                      |                       |                      |                  |                      |                      |                      |                  |                     |                       |                        |                  |                     |                       |                  |  |   |
| John Williams – Morgan Research  | 86           |                     |                      |                  |                     |                     |                      |                  |                 |                      |                      |                  |                      |                       |                      |                  | x                    |                      |                      |                  | x                   |                       |                        |                  |                     |                       |                  |  |   |

x -> attended meeting  
 \* -> a representative attended meeting

August 6, 2003  
Attachment #3

2004 AIAA Aerospace Sciences Meeting and Exhibit  
Reno Hilton, Jan 5-8, 2004  
18<sup>th</sup> Microgravity and Space Processes Conference

Conference Chair: Dr. N. Ramachandran  
BAE Systems Analytical Services Inc./NASA MSFC

AM sessions: 8:00 am – 12 noon (max. of 8 papers, 25 mins + 5 min. Q/A)  
PM sessions: (except Tuesday) 1:30 – 5:30 pm (max. of 8 papers, 25 mins + 5 min. Q/A)  
Tuesday pm: 2:00 – 6:00 pm (Awards day banquet at noon)  
(Timings subject to change, see Final printed program at Conference )

## Sessions

|   |   |
|---|---|
| <b>Monday AM</b>                                  | <b>1. Current Trends in Microgravity and Space Processing</b> (8 papers)<br>Chairs: F. Kohl, NASA GRC and A. Whitaker, NASA MSFC              |
| <b>Monday PM</b>                                  | <b>2. Science in Space: STS-107 and ISS Increment 6</b> (8 papers)<br>Chairs: K. Sacksteder, NASA GRC and R. Geveden, NASA MSFC               |
| <b><u>Tuesday AM</u></b>                          | <b><u>3. Technology Research Opportunities on the ISS Express Pallet</u></b> (8 papers)<br>Chairs: J. D. Bartoe, NASA JSC                     |
| <b><u>Tuesday PM</u></b><br><b><u>papers)</u></b> | <b><u>4. Microgravity Materials Science I</u></b> (7 papers)<br>Chairs: M. Glicksman, RPI and R. Schlagheck, NASA MSFC                        |
| <b>Wed. AM</b>                                    | <b>5. Strategic Research and Microgravity Environment</b> (8 papers)<br>Chairs: H. Nahra, NASA GRC and R. DeLombard, NASA GRC                 |
| <b>Wed. PM</b>                                    | <b>6. Microgravity Combustion</b> (7 papers)<br>Chairs: D. Tse, Rutgers Univ., and K. Sacksteder, NASA GRC                                    |
| <b>Wed. PM</b>                                    | <b>7. Microgravity Fluid Physics I</b> (8 papers)<br>Chairs: M. Kassemi, NCMR and N. Ramachandran, BAE Anal. Systems                          |
| <b>Thurs. AM</b>                                  | <b>8. Microgravity Fluid Physics II</b> (8 papers)<br>Chairs: J. Hochstein, Memphis Univ., and I. Alexander, CWRU                             |
| <b>Thurs. PM</b>                                  | <b>9. Microgravity Materials Science II &amp; Space Hardware</b> (6 papers)<br>Chairs: A. Ostrogorsky, RPI and R. Grugel, NASA MSFC           |
| <b>Thurs. PM</b>                                  | <b>10. Outreach and Microgravity Fluid Physics III</b> (7 papers)<br>Chairs: J. LaCombe, Univ. of NV, Las Vegas and S. Collicot, Purdue Univ. |

[67 papers in 9 sessions (not counting the EXPRESS rack special session on Tuesday AM)]