

AIAA Microgravity and Space Processes Technical Committee Meeting Minutes
40th AIAA Aerospace Sciences Meeting & Exhibit
Reno, Nevada
14-17 January 2002

Welcome

The MSPTC meeting was held on Monday evening, January 14th, and chaired by Dr. Henry Nahra. The attendees are listed in Attachment 1, and the agenda is included as Attachment 2. In addition to the topics cited therein, two other informational briefings were given; one by Mr. Paul Looney of the AIAA Public Policy Committee at the meeting's onset, and one by Mr. Dick DeLombard of NASA Glenn Research Center just before the meeting's adjournment.

Mr. Looney of the AIAA Public Policy Committee briefed the attendees on the importance of participation in the annual AIAA sponsored Congressional Visit Day. It is scheduled for March 20th and 21st of this year. He announced that a workshop was to be held at the conference on Wednesday evening for those interested.

Introductions followed with several new members in attendance (Steve Del Basso, Jeffery LaCombe, Olav Smistad, and Stephen Tse) and international guests from the Canadian and Italian space agencies (Catherine Casgrain and Raimondo Fortezza, respectively).

New/Future AIAA Conferences

AIAA staff member, Ms. Eleanor Aldridge's discussion of new/future AIAA conferences focused on "Space 2003". She introduced Mr. Steve Trejo of the Boeing Company who highlighted the conference's emphasis topics that included major missions and markets and their key enablers. Mr. Trejo requested technical committee involvement to assure its success. The AIAA Space 2002 conference is to be held in Long Beach, California, September 23rd through the 25th.

ISRU New Committee

Dr. Eric Rice announced that he would be leaving the MSPTC to chair the newly approved AIAA Space Colonization Technical Committee. Mr. Rice described its scope to include exploration, in-situ resource utilization, colonization, tourism, and the socio-political ramifications of each. He mentioned that getting colonization back into the NASA charter is one of its foremost short-term goals, as well as, the staffing of its sub-committee and advisory council structure.

Review of Old Action Items

Dr. Henry Nahra reviewed the status of action items from the September 5, 2001 telecon and the October 14, 2001 meeting at the ISS Utilization Conference at KSC. The below table summarizes the review.

Action Item	Description	Actionee	Status	PTOC	O/C
1/9.05.01/	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	No response from legal counsel to date. Obtain status.	3/15/02 10/5/01	OPEN
2/9.05.01/	Contact John Marrone of CSA to solicit his interest in joining MSPTC.	Nahra	No response to previous attempt by Ramachadran.	3/15/02 9/21/01	OPEN
3/9.05.01/	Provide Diane Linne with contact info and submit bio and photo to John Hochstein.	LaCombe	Completed per Linne & Hochstein.	9/14/01	CLOSED
4/9.05.01/	Visit the MSPTC website and check correctness of contact info, and add bio and photo (if they wish).	All	Completed per Linne.	10/8/01	CLOSED

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Action Item	Description	Actionee	Status	PTOC	O/C
1/10.14.01/	Determine if Alex Ostrogorsky would like to continue as chair of Education and Outreach subcommittee.	Nahra	Mr. Ostrogorsky will continue as chair.	12/31/01	CLOSED
2/10.14.01/	Update all membership lists.	Nahra, Motil	Completed per Nahra.	12/31/01	CLOSED
3/10.14.01/	Request subcommittee chairs to pulse members to confirm they want to continue on subcommittee and review goals of each subcommittee.	Doherty	Request of subcommittee chairs made. Completed per Doherty.	12/31/01	CLOSED
4/10.14.01/	Identify people or groups to target during CVD. Also, Email thoughts on a position paper.	Barker, Lupulescu	Dr. Afina Lupulescu as new chair of Congressional Liaison subcommittee assumes responsibility.	3/1/02 12/31/01	OPEN
5/10.14.01/	Put article "Going With the Flow: Microgravity Fluid Physics", on MSPTC website.	Gustafson	Sent to Hochstein, thus completed, per Gustafson.	12/31/01	CLOSED

Subcommittee Reports

Executive – Nahra

The Executive subcommittee met in July "01" and generated the Three-Year plan. The plan is dynamic and is deficient in some areas due to lack of subcommittee chair participation. The plan should evolve from subcommittees' mission/vision statements. The subcommittees are requested to generate such mission/vision statements by the end of January "02". The subcommittee chairs are requested to approach committee members to solicit interest and commitment from members, and to solicit ideas on how to achieve the mission statement. The Three-Year plan should then be updated accordingly.

Education and Outreach – Ostrogorsky

Dr. Alex Ostrogorsky presented the Education and Outreach subcommittee report. He pointed out the achievements of this subcommittee which included the creation and maintenance of the TC web, the organization of session MSSP-12 for Microgravity Young Professionals, the education and outreach activities during the second Pan Pacific Workshop and the education and outreach activities related to the RPI facility for remote control and monitoring of experiment. Attachment 3 contains the presented material.

Publication – Gustafson

A new mission statement was developed and circulated to the subcommittee membership for review. The subcommittee was responsible for two Aerospace America articles in 2001 (Going With The Flow: Microgravity Fluid Physics – Singh, Kohl, and Alexander, and Microgravity and Space Processes Year End Review – Ramachandran). For 2002, there are two articles in the pipeline for Aerospace America in addition to the year-end review summary. The 2002 topics are In-Situ Resource Utilization by Sanders, Rice, and Gustafson, and Biotechnology by DeLucas. Discussion also arose with regard to the publication of a year-end newsletter patterned after the Ground Testing Technical Committee version that was available to all Aerospace Science Conference attendees. It was decided that a "trial" MSPTC newsletter should be attempted for 2002, capitalizing on other available publications.

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Membership – Linne

Membership reported that a full complement of 36 members are on file, however, some have not been active in the last year or two. The inactive members will be queried to determine if they want to continue as members of the technical committee, if not, they will be dropped and the position opened for new membership. There was also a vote on the dissolution of the Membership Subcommittee itself and transferring its function to a “Membership Officer”. This motion passed and Diane Linne will serve as the “Membership Officer”. The “Membership Officer” is to: (1) keep a master list of member attendance at meetings and telecons; (2) identify to the committee Chair the inactive members that should receive a letter regarding their continued interest in the committee; (3) maintain a current roster with addresses and emails; (4) maintain the organization chart; and (5) gather bios from new members for the web site (in conjunction with the webmaster). It was agreed that the duty of recruiting new members when spots are available rests with the entire committee.

Technical Committee Liaison – Doherty

The subcommittee’s mission statement, membership, goals, activities and progress were briefed. Attachment 4 contains the presented material. The MSPTC Chair suggested that this is a good template for other subcommittees to use when reporting their mission statement and status.

Commercial – Barker

No report. Discussion arose on the need to revitalize the subcommittee. An action was taken to contact the NASA Space Product Development Program Office responsible for Commercial Space Centers as a first step in this direction.

Awards – Kohl/Sacksteder

Best Paper and Best Presentation Awards from the 39th Aerospace Science Meeting’s Microgravity and Space Processing Technical Sessions were announced and presented. AIAA 2001-0764, “Effective Interfacial Tension Induced Convection (EITIC) In Miscible Fluids”, Chekanov, Dumont, Masere, Pojman, Volpert, and Wilke, won best paper, and AIAA 2001-0770, “Testing Microgravity Flight Hardware Concepts On The NASA KC-135”, Suan Motil, won best presentation. The criteria for the biennial Space Processing Award was also reviewed and voted upon. The proposed criteria allocates 40% for “Impact of Accomplishments”, 40% for “Leadership”, 10% for “Dedication”, and 10% for “Years of Service”. The criteria and grading procedures discussed were approved and will be applied to the 2004 Award.

Nomination and Election – Nahra

Michael Doherty will begin his two years as Chair of the MSPTC in May “02”. Nominations for Vice Chair are requested from members so that an election can be held in April “02”. It is preferred that the Vice Chair be from industry, academia, or a NASA center other than GRC to broaden the MSPTC officer background base. A motion was introduced that nominated Brian Motil for Secretary, and was approved. Congratulations Michael and Brian!

Conferences and Meetings – Nahra

Next year’s Aerospace Sciences symposium chair and vice-chair are Dave Chato and Ram Ramachandran. This year’s chair and vice-chair, Afina Lupulescu and Dave Chato, were congratulated by the MSPTC Chair, on behalf of the entire committee, for their hard work and for a job well done in organizing the symposium. The session chairs were also thanked for soliciting interest, inviting speakers, and organizing the sessions.

New Business

Consideration was given to the formation of a “Microgravity Environment” subcommittee. It was decided to defer further discussion until a proposed mission statement and charter are submitted for review.

The Education and Outreach subcommittee was given an action to establish a process, in coordination with the Awards subcommittee, to award the modest TC funding available to undergraduate and master level graduate students to support their conference participation.

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The committee agreed to hold telecons in April and September, and to conduct the second 2002 physical meeting at the IAF World Space Congress in Houston in October.

Discussion arose as to what the committee could do to help the current NASA funding situation, and a member volunteered to draft a congressional advocacy letter that is to be reviewed by the Publications and Congressional Liaison subcommittees prior to release to the full committee.

Mr. Dick Delombard then briefed the committee on the NASA Glenn Research Center (GRC) "DIME" (Dropping In a Microgravity Environment) program. High school teams submit proposals to NASA GRC to use the GRC 2.2 second microgravity drop tower facility. In 2002 up to six teams of 4 will be selected from the six state neighboring Ohio region for an expense paid trip to perform the test. In 2003, the program is to expand to include national participation.

Action Item Review

Action Item	Description	Actionee	Status	PTOC	O/C
1/9.05.01/	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	No response from legal counsel to date. Obtain status.	3/15/02 10/5/01	OPEN
4/10.14.01/	Identify people or groups to target during CVD. Also, Email thoughts on a position paper.	Barker, Lupulescu	Dr. Afina Lupulescu as new chair of Congressional Liaison subcommittee assumes responsibility.	3/1/02 12/31/01	OPEN
1/01.14.02/	Contact potential CSA representative, John Marrone, for membership commitment or referral.	Nahra		3/15/02	OPEN
2/10.14.02/	Develop subcommittee mission/vision statement.	Subcomm. Chairs		1/31/02	OPEN
3/10.14.02/	All members to re-evaluate subcommittee memberships and activities. Identify and contact the subcommittee chair that you want to participate in.	All		2/15/02	OPEN
4/10.14.02/	Report updated subcommittee memberships to Diane Linne.	Subcomm. Chairs		2/28/02	OPEN
5/10.14.02/	Develop trial 2002 year end newsletter.	Ramachandran		12/01/02	OPEN
6/10.14.02/	Check with Ground Test TC on year-end newsletter publication cost and process.	Linne		3/31/02	OPEN

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Action Item	Description	Actionee	Status	PTOC	O/C
7/10.14.02/	Contact Mark Nall of the NASA Space Product Development Program Office for Commercial Space Centers	Ramachandran		2/28/02	OPEN
8/10.14.02/	Submit nominations for vice chair to current chair for April vote.	All		2/28/02	OPEN
9/10.14.02/	Submit mission statement for Microgravity Environment subcommittee to chair and vice chair for further consideration.	Del Basso		2/28/02	OPEN
10/10.14.02/	Establish process to award undergraduate and master level graduate students the modest TC funding to support their participation. Coordinate with the Awards subcommittee.	Ostrogorsky		3/31/02	OPEN
11/10.14.02/	Draft congressional advocacy letter to support microgravity science research and submit to Publications and Congressional Liaison Subcommittees.	Banish		2/15/02	OPEN
12/10.14.02/	Review membership participation and contact inactive members to see if they want to continue or withdraw from the committee.	Nahra & Linne		3/31/02	OPEN
13/10.14.02/	Contact Peter Gabriel of the AIAA to assure that the Space Processing Award standards are clearly maintained on the AIAA web site.	Sacksteder		2/15/02	OPEN

Submitted by:
Steve Del Basso, substitute for Brian Motil, MSPTC Secretary

Attachments:

1. Attendance List
2. Agenda
3. Education and Outreach Subcommittee Presentation
4. TC Liaison Subcommittee Presentation

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ATTACHEMENT 1 Attendance List

Name and Affiliation	Member Since	<i>Reno – Jan 2002</i>	<i>KSC – Oct., 2001</i>	<i>Telecon – Sept 2001</i>	<i>Telecon – April, 2001</i>	<i>Reno – Jan 2001</i>	<i>Telecon – Sept 2000</i>	<i>Vancouver – May, 2000</i>	<i>Telecon – March 2000</i>	<i>Reno – Jan 2000</i>	<i>Telecon – Sept, 1999</i>	<i>Cleveland – May 1999</i>	<i>Telecon – March, 1999</i>	<i>Reno – Jan 1999</i>	<i>Telecon – Nov 1998</i>	<i>Cleveland – Aug 1998</i>	<i>Washington – Mar 1998</i>	<i>Reno – Jan 1998</i>	<i>Madison – Aug 1997</i>	<i>Wash D.C. – Mar 1997</i>	<i>Reno – Jan 1997</i>	<i>MSFC – Sept 1996</i>	<i>KSC – April 1996</i>	<i>Reno – Jan 1996</i>	<i>Huntsville – Sep 1995</i>	<i>Cleveland – Apr 1995</i>	<i>Reno – Jan 1995</i>	
Basil Antar – U. of Tenn	87						x				x		x	x				x			x	x		x	x			x
Gordon Bakken – Wylie Labs	89																			x	x	x			x			
Michael Banish – U. of A., Huntsville	99	x						x	x				x															
Karen Barker – Lockheed-Martin	99		x			x	x				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																		
Lai-Chen Chien – Academia Sinica	94	x				x				x															x			
Steve Del Basso – Boeing	01	x		x																								
Larry DeLucas – U.A.B.	96													x						x	x				x			
Michael Doherty – NASA GRC	98	x	x	x	x		x				x	x	x	x	x	x												
George Dulikravich – Penn State	93													x			x											
Edwin Ethridge – NASA MSFC	97				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		
Robert Gustafson – Orbitec	96	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x	x	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	x

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Name and Affiliation	Member Since	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	MSFC – Sept 1996	KSC – April 1996	Reno – Jan 1996	Huntsville – Sep 1995	Cleveland – Apr 1995	Reno – Jan 1995	
Mathew Koss – Holy Cross U.	98					x	x	x			x			x		x												
Jeffrey LaCombe – U. Nevada-Reno	01	x		x	x	x																						
Diane Linne – NASA GRC	96	x		x		x	x		x	x	x	x	x	x	x	x		x	x			x						
Afina Lupulescu – RPI	00	x	x	x			x			x																		
Jeff Marchetta – U. Memphis	00	x				x	x			x																		
Brian Motil – NASA GRC	00		x		x	x	x		x																			
Henry K. Nahra – NASA GRC	98	x	x		x	x	x		x	x	x	x		x	x	x												
Aleksander Ostrogorsky – UAH	95	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										
Narayanan Ramachandran – USRA	97	x		x	x	x	x							x	x	x	x	x			x							
Eric Rice – Orbitec	92	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												
Jerry Sanders – NASA JSC	00	*			x		x			x																		
Olav Smistad	01	x	x		x	x																						
Srini Srinivas – SSSI	98			x	x										x													
James Tien – Case Western Res. U.	94							x				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																						
Dale Watring – NASA MSFC	98													x	x	x												
John Williams – Morgan Research	86										x		x									x	x	x	x	x	x	x

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

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ATTACHEMENT 2
Agenda

**AIAA Microgravity and Space Processes Technical
Committee Meeting Agenda**

40th ASM and Exhibits
Reno, NV 2002

Monday, January 14, 2002

Time	Activity	Participant(s)/Presenter
6:00-6:40	<i>Dinner, welcome, Introduction</i>	Everyone-Bon appetit/Nahra
6:40-6:45	<i>New/future AIAA Conferences</i>	Eleanor Aldrich
6:45-7:00	<i>ISRU New Committee</i>	Eric Rice
7:00-8:30	<i>Subcommittee Vision/Mission Statement and Three-Year Activity Plan</i>	
9 min	Education and Outreach	Ostrogorsky
9 min	Publication	Gustafson
9 min	Membership	Linne
9 min	Congressional Liaison	Ramos/Fisk
9 min	TC Liaison	Doherty
9 min	Commercial	Ramos
9 min	Awards	Kohl
9 min	Nomination and Election	Gustafson
9 min	Conferences and Meetings	Nahra/Lupulescu/Chato
9 min	Executive Committee	Nahra
8:30-9:00	<i>General Discussion on:</i>	All
	-- Three-Year-Plan	
	-- Revision of MSPTC Mission Statement	
9:00-9:15	<i>Awards</i>	Fred Kohl
	-- Presentation of Best Paper Award	
	-- Best Presentation Awards	
9:15-9:30	<i>Nominations for Vice Chair and Secretary</i>	Bob Gustafson
9:30-9:50	<i>Action Item Review</i>	Volunteer/Nahra
9:50	Adjourn	

ATTACHEMENT 3

Education and Outreach Subcommittee Report

1. TC website: John I. Hochstein, "web curator"

<http://www.me.memphis.edu/msp-tc/index.html>

- Welcome
- People
- Organization
- Calendar
- Publications
- Links

2. Jeff LaCombe: MSSP-12 Session Microgravity Young Professionals, Education and Outreach
 - NASA's Biological and Physical Research Enterprise Education and Outreach Program: Opportunities for Collaboration, D. Woodard
 - "Down to Earth Microgravity Experiments: A Study to Determine the Benefits of Classroom-Based Drop Experiments", B. Zoltowski, N. Carter, K. leard, K. Budzinski, C. Watters, and W. Ainsworth, Univ. of Southern Mississippi --- John A. Pojman


Education and Outreach Subcommittee Report, cont.

3. Outreach effort at the 2nd pan Pacific Basin Workshop on Microgravity Sciences in Pasadena, May 2001. Details are in the Microgravity News. Ram Ramachandran served as the workshop chair- the outreach was coordinated by John Emond at HQ.
4. Outreach session at the Materials Science meeting at MSFC, June of 2002. Ram Ramachandran is involved in the planning.
5. RPI: remote control/monitoring of μ g experiments
 - 1996 M. Glicksman, M. Koss, A. Lupulesku
 - SUBSA – MSG investigation, May to September 2002


Our investigation SUBSA will take place from May 2 to September 2002.

We will engage(a) undergraduate students (RPI) and (b) local high school students

ATTACHEMENT 4 TC Liaison Subcommittee Presentation




Microgravity Science Division
Space Directorate




**AIAA Microgravity and Space Processes TC
TC Liaison Subcommittee
Mission, Members, Activities**

1/13/02
Michael P. Doherty
TC Liaison Subcommittee Chair
Glenn Research Center



Microgravity Science Division
Space Directorate



Outline

- Mission Statement


- Members

- Goals

- Activities/ Progress


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Space Program
at Glenn Research Center


Microgravity Science Division
Space Directorate



Mission Statement


"The TC Liaison subcommittee of the AIAA Microgravity and Space Processes Technical Committee (MSPTC), envisioning the overall value of cross fertilization with other AIAA Committees, will endeavor to build contacts with Committees having common interests with the MSPTC for the purposes of enhancing their mission and likewise our mission."

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Space Program
at Glenn Research Center

Microgravity Science Division
Space Directorate



Members

- Mike Doherty


- Ana Lupulescu

- Dave Chato


- Steve DeBasso

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Microgravity Science Division
Space Directorate




Goals

- Work with the AIAA Life Sciences and Systems Technical Committee (LS&STC) in planning a jointly organized session *Applications of Fluid Physics to Life Support Systems* at the International Conference on Environmental Systems (ICES) to address issues and recent developments related to managing fluids in life support systems. (Doherty)


- Query other AIAA and non-AIAA organizations to see what developing technologies/methods they are focused on that could be applied to microgravity measurement, data transfer, and simulation modeling to improve environment knowledge for researchers and environment control for engineers. (DeBasso)

- Build relationships with the AIAA Liquid Propulsion Committee for the purposes of cross-fertilization on significant application areas to direct microgravity fluid physics research. (Cato)

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Microgravity Science Division
Space Directorate



Activities/Progress

Mike Doherty is working with Cindy Martin-Brennan of the LS&STC to setup a joint session at the 32nd International Conference on Environmental Systems (ICES), to be held in San Antonio, Texas, July 15-18, 2002

Steve DeBasso has started to talk with Mr. Fox of Conopus who chairs the AIAA Sensor Systems Technical Committee to determine if there are new measurement products and data transfer techniques that could make microgravity measurements "better, faster, cheaper"

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