American Institute of Aeronautics and Astronautics (AIAA)
Design Engineering Technical Committee (DETC)
AeroSpace Architecture Subcommittee (ASASC)

Meeting Minutes

Submitted by Ted Hall.

2006 January 10, 13:00-16:30 PST
Reno Hilton Hotel, Room 1251
Reno, Nevada, USA

Present members (11): Serkan Anilir, Silvano Colombano, Marilyn Dudley-Rowley, Tom Gangale, Ted Hall (ASASC Chair), Scott Howe (DETC Vice Chair for AeroSpace Architecture), Susmita Mohanty, Ted Nathanson, David Nixon, Brent Sherwood (ASASC Vice Chair), Adam Wapniak.

Observers (2): Ping Chia, Rodrigo Rada.

1. ICES

Action items:

- Kurt Micheels: Organize manuscript reviews.
- All: Review manuscripts, March 10 – April 10.
- Volunteer needed: Serve as ICES host in Norfolk – contact Elvin Ahl <e.l.ahl@larc.nasa.gov>.
- Conference Working Group: Long-range conference planning.

Discussion:

Kurt Micheels is the chair. He has received 7 abstracts from 6 authors. The originally planned 3 sessions on aerospace architecture (46, 47, 48) will be consolidated into 1 session. Which one is to be determined.

We need 21 manuscript reviews (7 papers times 3 reviews per paper) between March 10 and April 10 (approximately).

This is the second time (2 for 2) that the Space Architecture Symposium has made it very difficult to keep a foot in the door at ICES. We can't attract enough material for two venues in one year.

We discussed the reasons for not hosting the Symposium at ICES: how does the Symposium differ from our usual participation at ICES? There was a vague memory that a previous attempt to host the Symposium at ICES met with too many constraints on time and space.

It was suggested that we should investigate rotating our participation among different conferences on a regular schedule – ICES, AIAA Space, ASCE Space, Habitation, etc. We might aim at ICES especially during its "international" years. Use our selection of venues to spread our influence.

We need a long-range-planning working group for conference planning. (Forward reference: Item 4 – Subcommittee Organization and Membership.)

We need a member to act as our ICES "host" in Norfolk. The principal responsibilities are to investigate and suggest a restaurant for dinner, local tours, or other social activities beyond our technical sessions and business meetings. DETC member Elvin Ahl <e.l.ahl@larc.nasa.gov> lives in the Norfolk area and, though not a member of the ASASC, has generously offered to assist us.

2. Space Architecture Symposium at AIAA Space 2006

Action items:

- Marc Cohen (Chair): Liaise with AIAA Space Conference and NASA Ames, seek AIAA funding for publicity flyer, brochure, and workshop facilities at NASA Ames.
- Serkan Anilir (Vice Chair): Organize abstract reviews; plan panel on "Infra-Free Architecture".
- Tom Gangale (Vice Chair): Assist in AIAA conference administration system.
- Adam Wapniak (Vice Chair): Assist liaison with authors and reviewers.
- All: Review abstracts, January 13 – April 7; review manuscripts, June.
- Susmita Mohanty: Organize design review panel session, seek assistance from Barbara Imhof, Brent Sherwood, Ted Nathanson, Ted Hall, Scott Howe.
- Silvano Colombano: Follow up facility reservation for workshop at NASA Ames.
- Brent Sherwood: Organize "Workshop on the Practice of Architecture in the Aerospace Engineering Environment," seek assistance from Constance Adams, Maijinn Chen, Annalisa Dominoni, Matt Herman, Susmita Mohanty, Ted Nathanson, Ruthan Lewis, "JSC people," and others with similar professional experience.
- Rodrigo Rada: Design A3-size publicity flyer for distribution in March.

Discussion:

Marc Cohen is the chair. Serkan Anilir is the first vice chair. Marc has requested at least one more vice-chair and ten session chairs. He has indicated that he prefers to focus on liaison issues with the AIAA Space conference organization and NASA Ames (the venue of the AeroSpace Architecture Workshop following the AIAA Space conference). He has delegated Symposium technical content organization to Serkan.

There was discussion regarding the roles of the chair, vice chairs, and session chairs. Additional vice-chairs could assist in operating the AIAA web-based conference administration system, matching abstracts and manuscripts with reviewers, organizing accepted manuscripts into sessions, and liaising with authors and reviewers to insure that work is submitted on schedule. Session chairs are responsible for conducting the sessions at the Symposium: introducing speakers, keeping presentations on schedule, and moderating question-and-answer periods.

Several more members volunteered. The Symposium organization status is now:

Chair: Marc Cohen (AIAA and NASA Ames liaison).

Vice Chairs (3): Serkan Anilir (overall technical content), Tom Gangale (assisting with AIAA conference administration system), Adam Wapniak (assisting liaison with authors and reviewers).

Session Chairs (9): Marilyn Dudley-Rowley, Maria Joao Durao, Tom Gangale, Jim Pass, Annalisa Dominoni, Shahzad Khaligh, Brent Sherwood, Susmita Mohanty, Ted Nathanson.

As a first guess, we might use the five general topics in the Call for Papers as session titles, with perhaps 2 sessions each: Theory and Preparation; Design for Differential Gravity Regimes; Human, Multicultural and Social Factors in Space Architecture; Space Living and Working Environments; Surface and Orbital Construction. We'll have a better idea after the abstracts are collected and reviewed.

With 10 sessions, and 4 sessions per day (2 in the AM, 2 in the PM), that accounts for 2.5 days. The other 0.5 day could be panels: a design project review (as at ICES 2004); and an author panel.

Serkan reported that 19 abstracts had been received so far (prior to January 10). The number is expected to grow significantly in the final days before the January 13 deadline. If we receive 35 or more abstracts (as hoped), we will need more than 100 abstract reviews (3 reviews per abstract) between January 13 and April 1 (approximately).

The AIAA conference organization schedule doesn't include a review of full manuscripts. Marc had suggested that should occur in May. But, because the increment from abstract to full manuscript is greater than the increment from first to final manuscript, there was a general consensus that June was better.

The AIAA Space 2006 web site states that the deadline for final manuscripts is August 24, but the AIAA author kit says that the deadline for electronic proceedings is the day before the conference – i.e., September 18.

Susmita Mohanty agreed to contact Barbara Imhof regarding the organization of the Design Review Panel. Brent Sherwood, Ted Nathanson, Ted Hall, and Scott Howe indicated willingness to assist.

Serkan Anilir suggested an author panel on "Infra-Free Architecture" – architecture that does not depend on site infrastructure.

Brent Sherwood volunteered to lead organization of the "Workshop on the Practice of Architecture in the Aerospace Engineering Environment" scheduled to follow the AIAA Space conference. He will seek participation from other members and non-members with relevant professional backgrounds, including: Constance Adams, Maijinn Chen, Annalisa Dominoni, Matt Herman, Susmita Mohanty, Ted Nathanson.

Silvano Colombano will follow up on facility reservation at NASA Ames. There will be a cost of $300 to $400. We will have to arrange funding from AIAA or workshop registration fees.

David Nixon suggested a publicity campaign aimed at the architectural world:

- flyer (A3 size, one fold) and ads in publications as soon as abstracts are reviewed and we have a sense of the content – March or April;
- brochure with symposium program details – June or July.

Rodrigo Rada agreed to work on the flyer design. (Rodrigo is not yet a member but has been corresponding with Scott and has expressed interest in joining. He is a recent graduate in architecture, working toward licensure.)

Funding for the flyer and brochure should be solicited from the AIAA and other sources.

3.   Outreach

3.1   Liaison

Action items:

- Constance Adams: Liaise with NASA-JSC.
- Serkan Anilir: Liaise with AIAA Space 2006, JAXA, UIA.
- Oscar Arenales: Liaise with CNSA.
- Olga Bannova: Liaise with IAA/IAF/IAC, IAC Delhi 2007.
- Marc Cohen: Liaise with AIAA Space 2006.
- Silvano Colombano: Liaise with AIAA Space Automation & Robotics Technical Committee, NASA-ARC.
- Marilyn Dudley-Rowley: Liaise with AIAA Life Sciences & Systems Technical Committee, AIAA Public Policy Standing Committee.
- Pablo Flores: Liaise with INPE, RSA/Roskosmos/Energiya/Khrunichev.
- Tom Gangale: Liaise with AIAA Space Colonization Technical Committee, AIAA Public Policy Standing Committee.
- Scott Howe: Liaise with AIA, AIAA Exploration Program Committee.
- Barbara Imhof: Liaise with ESA.
- Shahzad Khaligh: Liaise with AIAA Space 2006.
- Susmita Mohanty: Liaise ESA, IAA/IAF/IAC, IAC Delhi 2007, ISRO.
- Ted Nathanson: Liaise with AIA.
- David Nixon: Liaise with ESA, RIBA.
- Brent Sherwood: Liaise with AIAA Space 2006, ASCE, IAA/IAF/IAC, NASA-JPL.

Discussion:

There was a request to spell out acronyms for the benefit of new members:

AIA	American Institute of Architects
AIAA	American Institute of Aeronautics and Astronautics
ARC	Ames Research Center
ASASC	AeroSpace Architecture Subcommittee
ASCE	American Society of Civil Engineers
CNSA	China National Space Administration
ESA	European Space Agency
IAA	International Academy of Astronautics
IAC	International Astronautical Congress

IAF	International Astronautical Federation
ICES	International Conference on Environmental Systems
INPE	Instituto Nacional de Pesquisas Espaciais (Brazil)
ISRO	Indian Space Research Organisation
JAXA	Japan Aerospace Exploration Agency
JPL	Jet Propulsion Laboratory
JSC	Johnson Space Center
NASA	National Aeronautics and Space Administration
RIBA	Royal Institute of British Architects
RSA	Russian Space Agency
SAE	Society of Automotive Engineers
UIA	Union Internationale des Architectes

To spread awareness of our activities and possibly organize joint ventures, members have offered to liaise with the following organizations:

- AIA: Scott Howe, Ted Nathanson.
- AIAA Exploration Program Committee: Scott Howe.
- AIAA Life Sciences & Systems Technical Committee: Marilyn Dudley-Rowley.
- AIAA Public Policy Standing Committee: Marilyn Dudley-Rowley, Tom Gangale.
- AIAA Space Automation & Robotics Technical Committee: Silvano Colombano.
- AIAA Space Colonization Technical Committee: Tom Gangale.
- AIAA Space 2006: Marc Cohen, Serkan Anilir, Brent Sherwood, Shahzad Khaligh.
- ASCE: Brent Sherwood.
- CNSA: Oscar Arenales.
- ESA: Susmita Mohanty, Barbara Imhof, David Nixon.
- IAA/IAF/IAC: Brent Sherwood, Susmita Mohanty, Olga Bannova.
- IAC Delhi 2007: Susmita Mohanty, Olga Bannova.
- INPE: Pablo Flores.
- ISRO: Susmita Mohanty.
- JAXA: Serkan Anilir.
- NASA-ARC: Silvano Colombano.
- NASA-JPL: Brent Sherwood.
- NASA-JSC: Constance Adams.
- RIBA: David Nixon.
- RSA/Roskosmos/Energiya/Khrunichev: Pablo Flores.
- UIA: Serkan Anilir.

There was a general consensus that geographically-based liaisons are unimportant: who you know is more important than where you live.

3.2 Recruitment

Action items:

- All: Recruit new members.

Discussion:

Focus on the international community of professionals interested in aspects of space architecture.

3.3   Mentorship

Action items:

- Ted Hall: Investigate transition of publications list to a searchable XML database.
- Education Working Group: Organize topic-based resources, reviews of published material (it's not all good), review of space architecture curriculum.
- All: Retain copyright to your papers if possible (option B on the AIAA copyright clearance form) and submit a PDF to the SpaceArchitect.org web site for free download.

Discussion:

Susmita Mohanty proposes collections of resources for selected topics. Currently the SpaceArchitect.org publications page includes 310 publications sorted alphabetically by author. Users must rely on the browser's simple built-in search capability (e.g., "Edit / Find in This Page") to search for key words such as "Lunar" or "Mars". The list has grown to the point that it should be reorganized by topic areas or enhanced with a search feature.

Tom Gangale discussed with Ted Hall the transition to an XML database and application for searching and extracting bibliographic records.

Brent Sherwood suggests an on-going review of space architecture publications that have not already passed our peer review. Provision of such content reviews could be another ASASC "product."

Ted Hall reminds all authors to retain the copyright to their papers if possible (option B on the AIAA copyright clearance form) and submit a PDF document to the SpaceArchitect.org web site for free download. This can save students significant time and money in obtaining the resources they need to support quality research and design work.

3.4   Publicity

Action items:

- Rodrigo Rada: Design A3-size publicity flyer for distribution in March. (Backward reference: Item 2 – Space Architecture Symposium.)

Discussion:

Most of our publicity discussions focused on the Space Architecture Symposium.

The SpaceArchitect.org home page includes a "gallery" link that remains "under construction". We should develop and maintain a gallery of images and short text descriptions in HTML or PDF for easy browsing.

The last two pages of the 2002 SAS brochure that David Nixon produced may serve as an example. The document is available at:

http://www.spacearchitect.org/pubs/SAS2002-Brochure.pdf

A logo is important to our publicity efforts. (Forward reference: Item 5 – Logo Design.)

4.   Subcommittee Membership and Organization

4.1   Attendance Requirements

Scott Howe and Clark Briggs (DETC Vice Chair for Design Engineering) report an interpretation from the AIAA TC Chair Training that teleconferences may count toward the attendance requirement.

There was some discussion that face-to-face meetings are still important. There should still be a requirement for physical attendance: perhaps once per year for regular members and once every two years for international members.

Instead of expelling inactive members, it may be preferable to merely label them as inactive, or demote them to associate rank, to provide them an opportunity to become active again. Some members are inactivated by conditions beyond their control. It would be preferable to be able to reactivate them without repeating the AIAA bureaucracy involved in joining a TC.

Approved definitions of AIAA-DETC-ASASC ranks, based on the AIAA ranking system, are:

- Regular Member: A US resident who is qualified to practice in their particular field (architecture, engineering, industrial design, ergonomics, human factors, psychology, life science, etc) as defined by adequate work experience or professional licensure, and who has published in a peer reviewed ASASC-organized venue (or equivalent). A regular member can vote on ASASC issues, function as session or conference chair, and act as a peer reviewer for papers that fall within their professional qualification. Regular Members must attend ASASC meetings twice a year to remain active.

- International Member: A foreign resident whose qualifications and privileges are identical to Regular Members. International Members must attend ASASC meetings once a year to remain active.

- Associate Member: A person who is interested in the field of aerospace architecture, but has not yet received qualification in their respective field. An associate member cannot vote on ASASC issues, and does not qualify to act as peer reviewer, whether or not they have already published with the ASASC. An associate member is under no obligation to have regular attendance at ASASC meetings.

One of the reasons for having the rankings is to assure a dedicated, active base among qualified professionals for the purpose of continuing ASASC business. Therefore it is also proposed that the spacearchitect.org webpage list only active Regular and International members in their current form, and list Associate members at the bottom without photos or

CVs. This will provide an incentive for the Associate members to achieve Regular or International status.

4.2   Work Group Assignments

Action items:

- All: Join one or more working groups, or you will be removed from the active membership of the ASASC.
- Working Groups: Organize, elect chairs, write mini charters.

Discussion:

Scott Howe suggested that the ASASC should organize its working groups along the lines recommended by AIAA for TC subcommittees. (When the ASASC ascends to TC status, its working groups will ascend to subcommittee status.)

Ted Hall noted that the existing ASASC working groups correlated well with the AIAA recommended subcommittees, needing only a name change.

Brent Sherwood suggested that we categorize the working groups as inward-looking (i.e., aimed at managing our affairs) or outward looking (i.e., interacting with other groups outside the ASASC), designated by I/O in the table below, and that each member should be involved in both inward and outward activities.

Ted Hall volunteered to maintain the space-architects spreadsheet that Marc Cohen e-mailed. This includes 534 entries – many more than the ASASC membership. These are targets for outreach and recruiting.

The new working group structure is initially as follows, assuming membership as currently listed on the SpaceArchitect.org web site plus other specific volunteers. The membership of each group is subject to change:

New Name	Old Name	I/O	Membership
Steering	—	I	DETC Vice Chair for AeroSpace Architecture (Scott Howe), ASASC Chair (Ted Hall), ASASC Vice Chair (Brent Sherwood), David Nixon, Susmita Mohanty. [But see the minutes from Jan. 11, included below.]
Awards	—	I	—
Membership	Membership	I	Ted Hall.
Liaison	—	I	Liaisons with other committees. (Backward reference: Item 3.1 – Liaison.)
Technical	Research & Design	O	Constance Adams, Serkan Anilir, Marc Cohen, Annalisa Dominoni, Ted Hall, Scott Howe, Ted Nathanson.
Publications	Public Relations, Web	O	Alice Eichold, Ted Hall, Scott Howe, Kurt Micheels, David Nixon.

New Name	Old Name	I/O	Membership
Education	Education	O	Constance Adams, Serkan Anilir, Annalisa Dominoni, Donna Duerk, Ted Hall, Scott Howe, Andreas Vogler, Adam Wapniak.
Conference	Activities	O	Permanent liaisons with conference organizations act as event Chairs, delegate administrative duties to Vice Chairs as needed per event. (Backward reference: Item 1 – ICES; Item 2 – SAS.)
Standards	—	O	Marc Cohen, Paola Favatà.
Public Policy	—	O	Marilyn Dudley-Rowley, Tom Gangale.

In addition to working group assignments, all regular and international members are obligated to serve as technical paper reviewers.

5.   Logo Design

Action items:

- All: Submit Space Architecture logo designs for before March 1.
- Officers: Delegate an ad-hoc logo competition committee.

Discussion:

The guidelines for a versatile logo emerged from e-mail by Constance Adams, Andreas Vogler, Scott Howe, and Ted Hall:

- Avoid dependence on language (think international) or acronyms (subject to change as we evolve from a subcommittee to a technical committee).
- Use a scalable vector-based encoding, such as Encapsulated PostScript (EPS), rather than a bitmap encoding. (Bitmaps don't scale well.)
- Provide a black and white version.
- Provide a grayscale version.
- Provide a color version.
- Show letterhead usage (provide an MSWord template).
- Show envelope usage (provide an MSWord template).
- Show webpage usage.
- Show T-shirt or polo-shirt usage.
- Show mission patch usage.
- Show business card / membership card usage.

David Nixon noted that the letterhead and envelope usage are a priority for fund raising.

It would also be good if Rodrigo Rada could incorporate it into the SAS flyer design. (Backward reference: Item 2 – Space Architecture Symposium.) That sets an early March deadline.

6.   Readiness for Split

The target date for the split of ASASC from DETC remains 2007, late August or early September, at the AIAA Space 2007 conference.

Our organization is in place, assuming our members stay active.

The DETC Chair and Vice Chairs need to manage the AIAA procedures for the split.

We need to partition the DETC bank account. A proportionate division has been suggested, calculated on the basis of Design Guide sales and non-aerospace-architect dues on one hand, and aerospace-architect dues on the other hand.

7.   Follow-up Meeting

The subcommittee rejoined the DETC at 16:30. The DETC agenda allocated the following morning (January 11) to further subcommittee meetings as required. The ASASC meeting time and place were announced as 08:30, Reno Hilton Hotel, Room 1251.

2006 January 11, 08:30-10:30
Reno Hilton Hotel, Room 1251
Reno, Nevada, USA

Present members (5): Ted Hall (ASASC Chair), Scott Howe (DETC Vice Chair for AeroSpace Architecture), Susmita Mohanty, Brent Sherwood (ASASC Vice Chair), Adam Wapniak.

We initially collected in room 1251. To avoid disturbing another DETC subcommittee meeting there, we moved to Brent's room, where we continued to discuss a subset of the previous day's agenda items.

4. Subcommittee Membership and Organization (continued from previous day)

4.1 Membership Rank and Attendance Requirements

We should periodically reevaluate members' ranks (regular, international, associate) with regard to AIAA policy, our Charter, and the members' qualifications and activities. Rather than expelling inactive members, it may be preferable to merely label them as inactive, or demote them to associate rank, to provide them an opportunity to become active again.

Associate members are not qualified to serve as technical reviewers, but proficient English writers might serve as editorial reviewers. The mechanics of the review system don't accommodate such a distinction – it would have to be handled off-line.

4.2 Work Group Assignments

Action items:

- Ted Hall: Distribute current working group table as Excel spreadsheet.
- Scott Howe: Set up on-line survey to collect members' working group preferences.
- All: Join one or more working groups, or you will be removed from the active membership of the ASASC.
- Working Groups: Organize, elect chairs, write mini charters.

Discussion:

Upon further discussion of the nature of the Steering Working Group, it was determined that it should consist of the ASASC Chair and Vice Chair, and the other 9 Working Group chairs. Therefore, this is not a working group that members can directly volunteer for. Members join the Steering group by virtue of chairing one of the other groups. This is in accord with the AIAA guidelines for technical committee organization.

Each working group should self-organize, choose a chairman, and organize its own communications.

Scott Howe volunteered to set-up an on-line survey to register members' working group preferences. Members will have the opportunity to choose which working groups they want to join.

The Conference Working Group should keep a permanent liaison for each venue (AIAA Space, ICES, ASCE, Habitation). The permanent liaison acts as event Chair and delegates administrative duties to Vice Chairs as needed per event. Susmita Mohanty has prepared an Excel spreadsheet for conference liaisons.

Next Encounters

Action items:

- Brent Sherwood: Confirm teleconference hosting by NASA-JPL.
- Susmita Mohanty: Collect member teleconference phone numbers.
- All: Mark your calendars for a teleconference, tentatively scheduled for 2006 February 15, 22:00 GMT.

Discussion:

Brent Sherwood volunteered to look into hosting the next ASASC telecon from NASA-JPL.

Susmita Mohanty volunteered to collect member teleconference phone numbers.

The dates for the next telecons were tentatively scheduled:

- 2006 February 15, 22:00 GMT
- 2006 March 15, 22:00 GMT
- Quarterly thereafter