

ARISS International Meeting  
August 1, 2005  
University of Surrey  
Guildford, England

Attending:

Frank Bauer, KA3HDO – ARISS Chair  
Gaston Bertels, ON4WF – ARISS Vice Chair  
Rosalie White, K1STO – ARISS Secretary-Treasurer  
Daniel Lamoureux, VE2KA – Canadian delegate  
Kenneth Ransom, N5VHO – Johnson Space Center  
Louis McFadin, W5DID – US Hardware Team  
Graham Shirville, G3VZV  
Robin Haighton, VE3FRH – Canadian delegate  
Carlos Eavis, G0AKI/EN63J6  
Mark Steiner, K3MS – Deputy  
Masanobu Tsuji, JH2PRZ – Japanese delegate  
G. Miles Mann, WF1F – SSTV Team  
Jan Poppeliers, ON7UX  
Jim Heck, G3WGM  
Stan Symons, G3DSS AMSAT-UK Treas  
David Clark, G6XYA  
Wolf-Henning Rech, DF9IC  
Phil Cohen, GM3LKY  
John Heaton, G1YYH  
Yoshiji Sekido, JJ1OEY – sitting in for Keigo Komuro  
Christophe Mercier – sitting in as a European delegate  
Sergey Samburov, RV3DR - Russian delegate  
Dave Mann, G8ADM  
Olga Frumkin, Interpreter

*Welcome and Introductions*

ARISS Vice Chairman Bertels welcomed everyone on behalf of ARISS-Europe and AMSAT-UK, and began moderating the meeting. He asked delegates to introduce themselves.

ARISS Chair Bauer welcomed everyone on behalf of ARISS international, and asked that we remember our colleagues who are now Silent Keys: Ron Broadbent, Roy Neal, Thomas Keiselbach and Pam Mountjoy.

*ARISS-Europe Report*

Gaston, as the European ARISS delegate, spoke about school activities, including those involving Skype. GB4FUN is used as the back-up station for ARISS QSOs in UK (an ARISS requirement is to have a back-up station). Gaston updated meeting attendees on ARISS-Europe relations with ESA, and on future activity involving ESA astronauts, and the licensing of them. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/01\\_ARISS\\_Europe\\_Report.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/01_ARISS_Europe_Report.pdf)

#### *ARISS-Canada Report*

Robin reported on Canadian activity, and passed along a message from Wayne Harasimovitch, VE3WPH, about progress with IRLP, including distributing audio from 13 school QSOs. Daniel spoke about school QSOs that took place since our last meeting, and about procuring a message in the French language from a student for SuitSat. Daniel said that Ken Pulfer sends his regards, and would have liked to be at our meeting. To view the ARISS Canada report, see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/02\\_ARISS\\_August\\_1\\_2005.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/02_ARISS_August_1_2005.pdf)

To view the IRLP report, see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/03\\_ARISS\\_IRLP\\_ActivityReport.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/03_ARISS_IRLP_ActivityReport.pdf)

#### *ARISS-USA Report*

Rosalie and Frank spoke about our recent meeting at NASA Hq. We have a new point of contact at NASA HQ's Education Office, and this person is learning about ARISS. There is also a new NASA head administrator, Mike Griffin, who is a ham radio operator. When the time is right, we will try to ensure he thoroughly understands ARISS. It should be expected that most people in NASA leadership positions will change as the new administrator gets settled in his job. This will require that we continue to educate NASA people about the ARISS program, and it may be useful to meet in person later this year.

Any newsworthy information from ARISS teams, or PR items done about ARISS, or informational writings for the historical archives, should be shared with Carol Jackson, who handles all coordination of these types of things.

Funding in recent past years for ARISS has come from the NASA Hq Education Office and the Space Operations (shuttle program) Office. Much of the funding from the latter was depleted in recent months due to expenses for the space shuttle "Return to Flight," and also for President Bush's "Moon Mars and Beyond" initiative. This resulted in ARISS not having enough money for the rest of 2005, and also for early 2006. But Frank and Mark worked with the head of Goddard Space Flight Center Education Office, Bob Gabrys, who was able to replenish ARISS funding for the rest of 2005 and part of early 2006. In return, ARISS mentors must ask teachers to provide details about 1) students who become interested in math and science careers, 2) details about math or science

lessons that were used in the classroom, and we must ensure teachers fill out the NASA evaluation forms. We have set up a partnership with the NASA Explorer Schools (NES) program, and we met with Peg Steffen, the head of that program. Several NES school contacts have been planned or will be planned in the future as part of this partnership. Also, the US ARISS Team coordinated an in-service, week-long workshop for NES teachers. The US continues to have a backlog of schools – 36 schools, with the oldest being from 2001. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/04\\_ARISS\\_USA\\_Report.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/04_ARISS_USA_Report.pdf)

Meeting attendees gave a hearty round of applause for our overseas telebridge volunteers, including Tony Hutchison and Gerald Klatzko, who are, or have been, very dedicated to ARISS.

### *ARISS-Russia Report*

Sergey Samburov reported that his team has been quite busy with SuitSat, and he thanked the US Team for their help in completing the project. Both the Russian space agency and NASA had many requirements to be met, and our deadline was short. We hope for a September launch of SuitSat. Sergey reported on Russian school QSOs; he said youths never like to act excited about anything, but they felt these QSOs were a miracle, and all said they wanted to become cosmonauts.

### *ARISS Japan Report*

Masanobu gave the group Keigo's regards, as he could not attend our meeting. Yoshi Sekido, who was attending in Keigo's place, was introduced. A list of Japanese and Australian schools was displayed on the projection screen, and details about their status were shown as to whether the school QSO was completed or is yet to be scheduled. Masanobu shared a map of the locations of the schools. Frank asked that Satoshi be thanked for his work as a mentor, and the group thanked Kenwood and Yaesu for equipment donations for the ISS and SuitSat. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/05\\_Status\\_report\\_Japan\\_2005\\_Surrey.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/05_Status_report_Japan_2005_Surrey.pdf)

### *QSL Card Report*

Rosalie summarized delegates' votes from the recent past on the QSL card photo and the text. Delegates had given their opinions on types and sizes of information boxes, and Rosalie displayed a sample of what they agreed to in previous months. Gaston will ensure that the price list from Europe is still current, and the delegates will compare it to the Russian print prices. Gaston reported that the artwork is included in the European cost. Sergey showed a special RS0ISS QSL card that was developed. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/06\\_ARISS\\_QSL05.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/06_ARISS_QSL05.pdf)

During the noon break, the group went to the GB4FUN van with Carlos as host, to monitor an ARISS pass.

#### *Report of the Hardware Committee*

Kenneth presented a report about status of on-orbit hardware, and about operations done recently by crew members. Sergey added his comments. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/07\\_ARISS\\_Intl\\_Mtg\\_Jul-Aug\\_2005\(operations\).pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/07_ARISS_Intl_Mtg_Jul-Aug_2005(operations).pdf)

Lou gave his Power Point presentation on the Phase II hardware systems, and talked about cables. Sergey gave an update on hardware items. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/08\\_Hardware\\_Open\\_Items.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/08_Hardware_Open_Items.pdf)

Miles reported on the latest with his SSTV project. There are many options on what the system can do, but we will choose things that are simple for the crew. Some ideas and concerns were expressed and discussed. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/09\\_SpaceCamFreq.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/09_SpaceCamFreq.pdf)

#### *Report of the Operations Committee*

Bob Bruninga was tied in to the meeting via telephone to talk about MISSE-5 / PC-SAT2, and answered questions from attendees.

Wayne Harasimovitch and Scott Stevens were also patched in to discuss VOIP and IRLP. Dieter Schliemann, ZS6BBH, was teleconferenced into the meeting to talk about Echolink. The group IRLP/Echolink team was given a round of applause for their hard work.

#### *Report of the ARISS Educational Outreach / School Selection Committee*

Rosalie gave a review of the activities of the last few months of meetings of the ARISS Educational Outreach / School Selection Committee. Carlos mentioned that some European school applications don't contain enough information, in particular, he doesn't get good details about obstacles that can prevent a quality RF link. Frank suggested that schools could be asked to send digital photos of the surrounding horizon. The ARISS region volunteers can decide how to best handle the problem in their region. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/10\\_ARISS\\_edrpt\\_Rev2.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/10_ARISS_edrpt_Rev2.pdf)

*Report of the Project Selection & Use Committee*

\*Gaston gave an extensive report on progress with the radio system for the *Columbus* module, including the feedthroughs, cables, and patch antennas. These antennas will be the first patch antennas to be built to follow the shape of a space module. The antennas will be on the nadir side near the port cone. One of the final actions to be completed for the antennas is installation to the cables, and currently, this is scheduled for February 2006. *Columbus* is to be delivered to NASA Kennedy Space Center for flight in Spring 2007. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/11\\_Columbus\\_Project.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/11_Columbus_Project.pdf)

and see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/12\\_ARISS\\_antenna\\_1260-2400.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/12_ARISS_antenna_1260-2400.pdf)

Gaston also spoke about decisions on the type of equipment for *Columbus*, and the work schedule for it. He has accumulated basic and broad rules for what can fly on *Columbus*. The Europe team's thoughts are for it to have video capability.

Gaston described some of the costs that will have to be covered for the antenna development and installation, and the corresponding funding that has to be raised.

[ACTION ITEM] He asked the delegates to approve a project team to be set up to make engineering decisions and a project team to make education decisions. To view this *Columbus* report, see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/13\\_Columbus\\_general.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/13_Columbus_general.pdf)

An issue for the education team is that we will have to learn where hams are located who have L/S band equipment, such as those equipped with AO-40 hardware, to help with schools. The *Columbus* module engineering team should consider TV, voice, beacon, and data. We need to review the old hardware proposals, such as the television proposals that we have received before we ask for any new proposals. L-band equipment has to be used for the uplink. S-band equipment could be the uplink and the downlink. We don't have much time (a year) to get a system ready, tested, certified and so on. So we should review old proposals for short-term goals, and also consider new projects for future goals. Our plans must ensure that crew time needed to do installation is kept at a minimum, since crew time is a premium and is rarely available for ARISS responsibilities.

Gaston presented a program from Paolo Pitacco on general proposals for the *Columbus* module. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/14\\_AMSAT-Italia\\_Proposal-to-ARISS-EU\\_July-2005.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/14_AMSAT-Italia_Proposal-to-ARISS-EU_July-2005.pdf)

Wolf-Henning gave a lengthy presentation on D-ATV for the ISS. See:  
[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/15\\_ARISS\\_UoS\\_DATV\\_2005.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/15_ARISS_UoS_DATV_2005.pdf)

Graham introduced Dave Mann, G8ADM, who described TV equipment for the committee to consider. See:  
[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/16\\_datvblock.gif](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/16_datvblock.gif)

[ACTION ITEM] The ARISS delegates voted unanimously to have a project committee set up by ARISS-Europe. This committee will develop within the next six months, a strategy, and they will present proposals regarding hardware systems for the *Columbus* module. Status updates will be given by the committee at each ARISS-I monthly teleconference.

Sergey showed a presentation from the Shadow Satellite Experiment group. This experiment would determine the radio frequency interference of “cold” plasma to communications. This could be critical for future missions using electric propulsion, especially exploration missions to the planets. Hams on the ground would participate by communicating with the packet system and monitoring the ability to communicate.

Sergey has software for this experiment. See:  
[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/17\\_project\\_ke1.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/17_project_ke1.pdf)

The group watched a DVD of Sergei Krikalev explaining the Shadow equipment, along with footage of him describing an ARISS QSO to the Russian news media.

[ACTION ITEM] The ARISS delegates voted unanimously to allow the ARISS PR Team and delegates to publicize information about the Shadow experiment, and the tie ARISS has to it. This publicity should include ham radio media, the general public, and to mediums that reach schoolteachers. We can do this once Sergey distributes a news release with details from the Shadow group. This information should include test dates and times and the purpose of the test. The test would be in November-December-January time frame. Scott’s PR Committee could publicize the story to the general media and to media that is aimed at schoolteachers.

An update on SuitSat was given by Frank, Lou and Sergey. Lou reported that the three boxes of hardware were built by four different groups in different locations. This included a team in Florida, one in Arizona and one in Maryland in the USA and the Energia team in Russia. When the three boxes were integrated together, they worked the moment they were turned on. Meeting attendees listened to some of the SuitSat recordings. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/18\\_Suitsat.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/18_Suitsat.pdf)

Frank gave an update on the strategic vision (distant future) of Amateur Radio in space, and how we must begin to think more seriously about planning. [ACTION ITEM] The ARISS delegates voted unanimously that a project committee must be set up to study ARISS' involvement in the future space exploration program. This committee will develop a strategy, and then present proposals within the next six months. Status updates will be given by the committee at each ARISS-I monthly teleconference. All ARISS regions will send names of volunteers to Rosalie for compilation.

To view Miles' presentation, see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/19\\_ToTheMoon.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/19_ToTheMoon.pdf)

To view Frank's presentation, see:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/20\\_ARISS\\_Moon\\_Mars.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/20_ARISS_Moon_Mars.pdf)

Scott gave a report on the PR Committee, and he was thanked by the delegates for his work.

Frank began a discussion about when and where our next meeting should be held. We considered holding our meeting in conjunction with the San Francisco AMSAT-NA meeting in October 2006. This would be the 10<sup>th</sup> year anniversary of ARISS. Delegates felt this timeframe would work; other delegates should let us know if this will not work for them. See:

[http://www.amsat.org/amsat/ariss/Meetings/2005\\_Surrey/Presentations/21\\_FutureMeetingPlansBauer.pdf](http://www.amsat.org/amsat/ariss/Meetings/2005_Surrey/Presentations/21_FutureMeetingPlansBauer.pdf)

Masanobu was asked to think about whether JAXA or a university in Japan might be able to host our meeting for 2007. Also, Sergey might consider a meeting in September or October 2007 in Kaluga. 2007 represents the 50<sup>th</sup> anniversary of the launching of the Sputnik satellite, a very historic time and a great opportunity for the ARISS team. ESRIN, the Italian branch of ESA in Frascati, southeast of Rome (the location of the official ARISS club station in Italy), is also a possibility for the future.

Attendees were asked to give final comments before the meeting closed. The group thanked AMSAT—UK, Sir Martin Sweeting in particular, as well as the RSGB, for their outstanding support to our meeting. The team also thanked the RSGB for enabling Carlos to staff the GB4FUN van for the ARISS meeting and for viewing by the general public. We must remember that the *Columbus* module needs money for future project. And that the funding that has come from NASA in the past, may not be available in the future – so we may want to organize a finance committee. We have demonstrated that we are a strong team, and meetings like this allow us to solidify our international friendships at the same time. Gaston closed the meeting and everyone looked forward to the next one.

#### **DELEGATE-APPROVED ACTION ITEMS:**

The ARISS delegates voted unanimously to set up a project committee to study ARISS' involvement in future space exploration. This committee will develop a strategy, and then present proposals to ARISS delegates within the next six months. Status updates will be given by the new committee at each ARISS-I monthly teleconference.

The ARISS delegates voted unanimously to set up a strategic planning committee for Columbus module hardware systems. This committee will develop, over the next six months, hardware systems proposals. Status updates will be given by the committee at each ARISS-I monthly teleconferences.

The ARISS delegates voted unanimously to approve the setting up of a project team to make education decisions for the *Columbus* module hardware.

The ARISS delegates voted unanimously to allow the ARISS PR Team and delegates to publicize information about the Shadow experiment, and the tie ARISS has to it. This publicity should include ham radio media, the general public, and to mediums that reach schoolteachers. Sergey Samburov will distribute a news release with details from the Shadow group, including test dates and times, plus the purpose of the test.

Respectfully submitted,

Rosalie White  
ARISS-I Secretary-Treasurer