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ASTRONAUT GROUP PROVIDES INTERFACE WITH SPACE SHUTTLE CUSTOMERS

Astronauts at NASA's Johnson Space Center, Houston, have created an Astronaut Science Support Group to provide direct interaction with prospective experimenters on Space Shuttle and Space Station missions.

Group members and their specialties are Franklin Chang-Diaz, plasma and space physics; Mary Cleave, biological materials processing; Bonnie Dunbar, materials processing; Jeff Hoffman, astrophysics and remote sensing; Jerry Ross, extravehicular activity, satellite servicing and space construction; and Rhea Seddon, life sciences.

The group focuses on increasing scientific and engineering flexibility of experiments in space without violating Shuttle operational guidelines.

Based on experience gained from Space Shuttle missions, the group believes that increasing crew involvement in the design, development and operation of experiments will improve their data return and simplify equipment repairs in space. This is particularly important in maximizing the scientific return from each experiment.

The group considers its primary goals to be:

* Transmitting Shuttle operational experience to the science and technology user community to optimize its use of Shuttle orbiters as test beds for scientific and engineering research.

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* Utilizing the crew as a critical element, both on the ground and in flight, in more efficient experiment operation while giving the experiment an added degree of flexibility for real-time repair and fine tuning.

* Serving as advisors to the National Space Transportation System and the Space Station programs on science and technology issues.

* Maintaining a group of scientists and engineers to do research and interact with potential experimenters in a wide variety of areas.

Since many Shuttle experiments are being designed for possible use on the Space Station, the group is working with the Space Station program to ensure proper transition from one to the other. To do this, the group is working with NASA organizations responsible for manifesting and integrating science and technology payloads including the Payload Integration Office, Crew Integration Office, Space Station Office and Flight Training Branch.

To enhance scientific return by balancing automation with crew involvement in Shuttle experiments, the group meets with potential customers and principal investigators in three formats:

First, a highly informal and interactive one which meets once a week and focuses on specific Shuttle-related experiments seeking to identify operational issues early in the design process.

Second, a bi-monthly astronaut science colloquium which involves multiple presentations and scientific exchanges with invited lecturers from particular disciplines. This is a more formal two-way exchange lasting half a day.

Third, a 30-minute film developed by the group entitled "Shuttle Science Operations: Lessons Learned" is used by astronauts during speaking engagements and other presentations to scientific and technical groups.

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