

## Launch Update: Shuttle Schedule

The following is a brief listing of the next five space shuttle launches planned through May 1991:

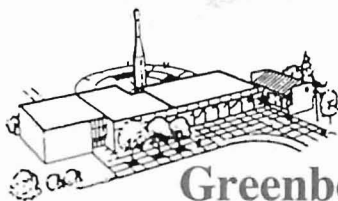
**STS-38/Atlantis:** As this issue of Goddard News goes to press, this mission, which is solely for the Department of Defense, is expected to launch on November 15.

**STS-35/Columbia:** The next planned mission following the STS-38 launch will be Astro. Two of the four instruments, the Ultraviolet Imaging Telescope (UIT) and the Broad Band X-ray Telescope (BBXRT) were developed and are managed by Goddard. Columbia completed a successful hydrogen/oxygen tanking test on October 30. Pending the outcome of the Flight Readiness Review, the launch is expected to take place in late November or December.

**STS-39/Atlantis:** Scheduled for February 26, 1991, STS-39 will carry the Infrared Background Signature Survey (IBSS) payload. It is also a mission for the Department of Defense.

**STS-37/Atlantis:** Launching in April 1991, STS-37 is carrying Goddard's Gamma-Ray Observatory (GRO). GRO's mission is to study gamma-ray sources including supernovae, pulsars and quasars. Goddard was involved in the development of the Energetic Gamma-Ray Experiment Telescope (EGRET). Goddard is managing the entire GRO project and providing ground system and various supporting elements and personnel.

**STS-40/Columbia:** With a proposed launch date of May 1991, STS-40 will carry the Spacelab Life Science (SLS-1) payload.



## Greenbelt Visitor Center Events for December

The Visitor Center is open every Wednesday through Sunday from 10:00 a.m. to 4:00 p.m., closed all federal holidays. All events are free. For more information about Visitor Center programs, please call (301) 286-8981.

## NASA Pipeline

**LEWIS RESEARCH CENTER, Cleveland, OH**—Scientists in Lewis' Structures Division are working with medical specialists at Case Western Reserve University to design prosthetic devices which can be custom fitted to patients, increasing by three times the expected life of the prosthesis. Lewis scientist Dr. Christos Chamis is modifying computer programs designed for aerospace analysis to assist in the design of prosthetic knee joints.

**MARSHALL SPACE FLIGHT CENTER, Huntsville, AL**—Government and industry engineers met recently at Marshall to discuss low cost manufacturing concepts for the proposed joint Department of Defense-Air Force/NASA/Advanced Launch System. Discussion at the conference touched on a variety of topics, including use of high-temperature metallic plasmas to manufacture combustion chamber structural elements, the use of powder metallurgy in manufacturing hot-gas liners and the reduction of the number of steps needed to manufacture thrust chamber components.

**HEADQUARTERS, Washington, DC**—The 1990 George M. Low Trophy, until recently known as the excellence award, was presented to Rockwell International, Space Systems Division, Downey, CA, and Marotta Scientific Controls, Inc., Montville, NJ. The George M. Low Trophy recognizes NASA prime contractors, sub-contractors and suppliers for outstanding achievement in quality and productivity improvements and total quality management. NASA Deputy Administrator J.R. Thompson, Jr., announced the selection October 24 at the Seventh Annual NASA/Contractors Conference, Grenelefe, FL. Nominees were judged on performance achievements and improvements in customer satisfaction, quality and productivity levels.



PHOTO: D. McALLUM

**A FUN RUN, RIGHT TO THE FINISH**—Left to right, Scott Glubke, Code 713.2, Fred Shuman, Code 401.1, Frank Reeves, Code 562.6, and Richard Weiss, Code 410, poured it on in the home stretch during the Goddard Inter-center two mile Fun Run. More than 500 employees of the Goddard Space Flight Center shed wing tips and heels October 10, in favor of athletic shoes to take part in the NASA semi-annual inter-center run. The event, which pits NASA centers against each other in friendly competition, involves a complicated system tallying the number of participants and winning times to determine the top center. Winning the men's division at Goddard, was Mark Baugh, Code 727, with a time of 9:36, the women's winner was Robin Kinna Cuddahee, Code 408, with a time of 13:36.

**Launch Site Goddard** — Sunday, December 2 and 16, 1:00 p.m. Join in the excitement and fun of model rocketry. Enjoy the day with the family at the Visitor Center by bringing a rocket, or just watch the fun.

**Saturday Videos** — Saturday, December 8, 1:00 p.m. View "The San Marco Project," the story of an Italian/American satellite project. Its objective is to explore the possible relationship between solar activity and meteorological phenomena.

**Know and Tell** — Sunday, December

23, 1:00 p.m. "What is SAMPEX?" — Gil Onlon, mission manager for the Solar, Anomalous and Magnetospheric Particle Explorer (SAMPEX) of Goddard's Small Explorer Projects Division, will give a presentation about the spacecraft. The SAMPEX mission is to conduct studies during the declining phase of the solar peak cycle, detect solar energetic particles, interplanetary particles and galactic cosmic rays. It is to be launched on a Scout rocket in 1992 and several different experiments are planned during the mission.