**ST5-26 team primed for 36-hour sim**

The crew of the next Space Shuttle flight and the JSC Mission Operations team are scheduled to launch the 36-hour STS-26 Long Duration Simulation on Tuesday — an exercise that may be watched by millions of Americans.

On Thursday, only 21 days before launch, the usual internal scrutiny, this sim will be under the watchful eyes of some 40+ NASA staff, news producers, correspondents, engineers and technicians preparing the real-time telecast program on NASA.

The Shuttle exercise is scheduled to run from 9 a.m. March 29 from the launch-minus-9 (1.9) minute readiness countdown to more than 36 hours of mission elapsed time.

“We’re looking forward to this sim as the next to the last long sim prior to our flight,” said STS-26 Commander Rick Hauck. “We’ll be watching very closely at the lift-off and post-insertion times and are anxious once more to exercise all the interfaces between the Orbiter and the MCC (Mission Control Center), Sunnyvale and White Sands as we get ready for the flight.”

The exercise will include the support of a simulated Mission Management System, the integration support complex at Onizuka Air Force Base and White Sands.

(Continued on page 2)

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**Manifest update swaps missions, uses new Orbiter**

NASA’s new mixed fleet manifesto for Space Station Freedom and expendable launch vehicles (ELVs) swaps two missions, adds a mission to the Long Duration Exposure Facility (LDEF) and retains on Aug. 4 return to flight.

Interchanging the STS-29 and STS-28 missions eases the Orbiter processing flow and enables NASA to maintain the required launch windows for two interplanetary mis-

**Three Space Shuttle crews get nod for 1989 flights**

(Continued on page 2)

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**Small business researchers to sign contracts**

By Beverly Green

JSC’s Small Business Innovation Research (SBIR) Office will manage contracts to be awarded next month to 12 companies that will build prototypes of potential hardware for upcoming space projects.

Specifically, we are looking for companies that presented ideas at NASA’s Small Business Conference or for innovative approaches that could solve an existing problem. Organizations are invited to contact the JSC SBIR office.

Contracts will be for 10 to 24 months with a period of performance of 24 to 36 months.

To apply for a contract, interested organizations must submit a proposal no later than April 29.

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**Scientists hear about future’s bottom line**

Key technological developments in NASA’s science program can mark an appropriate path for mankind’s exploration of our solar system, but legislative decisions made this year will determine whether the Congress sees this as a mission.

The decisions to be made this year may have decisions of historical proportions,” said Dr. Leonard Fisk, NASA’s associate administrator for Space Science and Applications.

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**ST5-61A (Spacelab D-1) in October 1985**

Springer also selected by NASA in 1980 for his first space flight.

Bach will make his first space flight since his selection in 1981. He was born February 22, 1952, in Colorado Springs, Colorado.


Grabe will make his second space flight also. He flew as pilot on STS (Continued on page 2)
By Brian Welch

Three new flight directors have been appointed to the Mars Observer Mission Operations Directorate at the Johnson Space Center.

The three, all of whom are former flight operations controllers, are Robert E. Castle, Jr., Wayne Hale, Jr., and Robert M. Keislo.

Mission Operations Director Eugene K. Kranz also announced that Michele A. Brekke, a flight operations officer, has been named as a position as a payload integration manager in the National Space Science and Technology Institute.

For more information, flight directors lead the large cadre of operators within the Mission Control Center who are responsible for monitoring spaceflight system and operations. Flight directors have overall responsibility for the group's real-time decision making as mission events unfold.

Castor, head of the Communications Sections, Systems Division, has served as Instrumation Communications Systems Officer, or INCO, for several Shuttle mis- sions. He began his career at JSC in June 1976 as a summer intern and is the recipient of a group achievement and performance award. He was a payload control officer as well as a member of the NASA's Payload Systems Section, Systems Division, and has also served as head of the Mission Control Center and as a senior propulsion systems flight controller on Shuttle missions. He has been with JSC since June 1978 and has received numerous government and performance awards.

Hale, head of the Propulsion Systems Section, Systems Division, has served as a payload flight controller on several Shuttle missions and has been with JSC since June 1977. He has also been with JSC since 1977 and has received numerous government and performance awards.

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### Space Shuttle Expendables

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<tr>
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<th>Launch Vehicle</th>
<th>Orbit</th>
<th>Launch Site</th>
<th>Payload</th>
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<td>SMR</td>
<td>San Marco-DL</td>
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<td>WSMC</td>
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* Not before this date. ** For NASA planning purposes.

### Glossary

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<th>Project/Program</th>
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<tr>
<td>ASTRO</td>
<td>Ultraviolet Astronomy Telescope</td>
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<tr>
<td>ATLAS</td>
<td>Atmospheric Laboratory for Applications and Science</td>
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<tr>
<td>BBXRT</td>
<td>Broad Band X-ray Telescope</td>
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<td>BIRDS</td>
<td>Cryogenic Infrared Radiance Instrument for Shuttle</td>
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<tr>
<td>CRRES</td>
<td>Combined Radiation Renzve Experimental Satellite</td>
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<td>CRRES</td>
<td>Department of Defense</td>
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<tr>
<td>CIRIA</td>
<td>Escape Orbit</td>
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<td>DOD</td>
<td>Eastern Space and Mission Center</td>
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<tr>
<td>ESMC</td>
<td>European Space and Mission Center</td>
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<tr>
<td>EURECA</td>
<td>European-Retrievable Carrier System</td>
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<tr>
<td>GALEO</td>
<td>Jupiter Probe</td>
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<tr>
<td>GOES</td>
<td>Geostationary Operational Environmental Satellite</td>
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<td>GPS</td>
<td>Global Positioning System</td>
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<tr>
<td>GRO</td>
<td>Gamma Ray Observatory</td>
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<tr>
<td>GSO</td>
<td>Geosynchronous Orbit</td>
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<tr>
<td>GTO</td>
<td>Geosynchronous Transfer Orbit</td>
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<td>HST</td>
<td>Hubble Space Telescope</td>
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<td>IBSS</td>
<td>Infrared Background Survey Satellite</td>
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<td>IMJL</td>
<td>International Microgravity Laboratory</td>
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<td>INMAR</td>
<td>International Maritime Satellite System</td>
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<td>ITVS</td>
<td>Inertial Experiment Vehicle</td>
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<tr>
<td>IUS</td>
<td>Inertial Upper Stage</td>
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<td>JPL</td>
<td>Laser Geodynamics Laboratory</td>
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<td>LEOS</td>
<td>Long Duration Exposure Facility</td>
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<td>NASA</td>
<td>United States Department of Commerce</td>
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<td>Advanced Space Technology Program</td>
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<td>NOVA</td>
<td>Advanced Nuclear Propulsion Program</td>
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<tr>
<td>PAM</td>
<td>Payload Assist Module</td>
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<td>Rosett Science Laboratory</td>
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<td>SAN MARCO</td>
<td>NASA/Italian Earth physics satellite</td>
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<td>SKYNET</td>
<td>United Kingdom military communications satellite</td>
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<td>S-L-J</td>
<td>Space Laser Radar System</td>
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<td>SRL</td>
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<tr>
<td>TESS</td>
<td>Turned Satellite System</td>
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<tr>
<td>UARS</td>
<td>Upper Atmosphere Research Satellite</td>
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<tr>
<td>ULASYS</td>
<td>United States Army Space and Missile Command</td>
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<tr>
<td>WAMDIIN</td>
<td>Wide Angle Microwave Instrument for Defense Imaging</td>
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<td>Wallops Flight Facility</td>
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<td>Western-Space and Missile Center</td>
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<td>Low Earth Orbit</td>
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<td>MAGELLAN</td>
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**Space News Roundup**

Mar. 25, 1988
Wanted

Want Ham transceiver for mobile installation, pay up to $50. Chuck. 484-4025. bbb. 476-0500. Want to roommates to share 3-2-2 house in CCL, no-smoker only, plus $1/2 utilities, $450/mon.

Wanted

Want Used World or Britannica Encyclopedia (5), $40-50. Futaba electric trains, Don. 386-9625 or 445-1245. Want to roommates to share 3-2-2 in League City. W6/M; microwave, car, $255/mon. $115/mon. Want insulator or Barnwell instrument wind scoop, Bob, x239.

Need sound engineer for newly formed rock band, must have own equipment, P.A. mixer, etc. Allen, 282-3968 or 476-3207.

Want to buy Coperta parts, $90-100 pair. 67-70-230 or 464-0816. Will pay extra for highest-quality items. History "The New World", from private collection, $500 plus transportation, Jon. 483-3276.


Household

Kenmore sewing machine, extra $305; wooden drafting table, extra $150. Two unused 23K lbs., 120-150$h, finest chrome nickel steel, storage case, $500. Lowery C-50 electronic organ, ex. cond., $295. Bose 802 speakers and box, 2 yrs. old, $50. Scott, x8244.

Fender Stratocaster, 12-string, $350. Balderson, x2765. Hammond full size organ, keyboard and rhythm machine, additional sound modules, $600. OBO. 337-5018.

Photographic

Minolta XG-1, 35mm camera, f/1.4 50mm lens, carry case, 28 exposures, $135, wide angle, tele, medium format, $200. Joni, 280-2053.

1000 minute telephone photo lens, two lips for spotting, can adapt to any cameras or lenses. 4 exposures. Joni. 280-2053. Ansonar, x2865.

Ham-radio triax, 6-in-1 when extended, galvanized $172.

Wildlife documentary, Sony linencorder, 30 hours, $350. Jack, x2866.

Registered Appliance Galley, 14 hands, x3012.

South American grey faced, medium-sized dog, black with white markings, $80. Trotter, x3218. 50 lb. dog, furn. 1 bedroom, 1 bath, $425. Sam, x2740.

Audiovisuals

Video camera JVC, GX-NT14, portable VCR, 8000$ 200$ tuner, $1400 video cassette recorder, $850. VC700 4000$ tuner, extra. $1900. Video cassette recorder, ex. cond.

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