

**PEOPLE** on the **MOVE****Human Resources reports the following personnel changes:****Additions to the Workforce**

*Ann Whitener* joins the Human Resources Management Branch, Human Resources Office, as a human resources representative.

*Louis Cancino* joins the Command, Control/Planning Systems Development Branch, Advanced Operation/Development Division, Mission Operations Directorate, as a computer engineer.

*David Swartwout* joins the Laptop Production and Development Branch, Flight Avionics Division, Mission Operations Directorate, as a computer engineer.

*James Duncan* and *Stephen Hart* join the Medical Operations Branch, Medical Sciences Division, Space and Life Sciences Directorate, as medical officers.

**Promotions**

*Sharon Evans* was selected as a student programs specialist in the Education and Student Programs Branch, Human Resources Office.

*Sharon Williams* was selected as the secretary for the Biomedical Hardware Development and Engineering Office, Engineering Directorate.

**Reassignments to Other Directorates**

*John Fields* moves from the Safety, Reliability, and Quality Assurance Office to the Mission Operations Directorate.

*Barry Boswell* moves from the International Space Station Program to the Engineering Directorate.

*Terry Gobert* moves from the Mission Operations Directorate to the Safety, Reliability, and Quality Assurance Office.

**Retirements**

*Herbert Noakes* of the Safety, Reliability, and Quality Assurance Office.

*Travis Brice* of the International Space Station Program.

**Resignations**

*Hal Aldridge* of the Engineering Directorate.

*Sharon Halprin* of the Information Systems Directorate.

*Scott Schoenherr* of the EVA Project Office.

**NASA BRIEFS****NASA'S CHANDRA CAPTURES TELLING GAMMA-RAY AFTERGLOW**

The Chandra Observatory's sharp-eyed X-ray vision has detected something never before seen. The discovery may help find the origin of what many researchers believe are the most powerful explosions in the universe.

The clues are found in the afterglow of a gamma-ray burst (GRB), and could strengthen the case for a "hypernova" model, where massive collapsed stars generate these mysterious blasts of high-energy radiation.

An international team of scientists used Chandra to observe iron emission lines from ejected material surrounding one such burst known as GRB991216. This is the first time emission lines associated with GRBs have been unambiguously detected and their properties precisely measured at X-ray wavelengths.

"The discovery of iron lines in the X-ray spectrum is an important clue to our understanding of GRBs," said Luigi Piro, lead author of the paper that appears in the journal *Science*. "Studying the immediate area around the GRB tells us a great deal about the origin of the GRB itself."

Astronomers have long debated how GRBs originate. One theory contends that GRBs result when two "compact objects," that is, neutron stars or black holes, collide and coalesce. Another theory speculates that a "hypernova," a gigantic star collapsing on itself under its own weight, could cause these extremely energetic outbursts.

A shift in the wavelength, or energy, of the detected iron line emission, relative to what would be seen in a laboratory, tells researchers the distance to the GRB. The Chandra team determined it has taken six billion years for the X-rays from GRB991216 to reach Earth.

From the distance and the intensities of the detected X-ray emission lines, the investigators deduced the properties of the ejected material and its relationship to the GRB. The team was able to determine the mass of the medium within a light day or two of the GRB as approximately equivalent to at least one-tenth that of the Sun. By analyzing the widths of the detected spectral lines, the researchers found that the material surrounding GRB991216 is moving away nearly 10 percent the speed of light.

"Our data helps rule out the scenario where two neutron stars or black holes collide," Piro said. "We think GRBs result from something similar to a supernova explosion, but much more powerful."

Scientists speculate that the initial shedding of material, perhaps the outer envelope of a hypernova, is followed by an event at the core of that hypernova – most likely a collapse to a black hole. Energy released by the fireball of the resulting GRB would then heat up the ejected material, producing optical and X-ray afterglows, lasting days or weeks.

**HUBBLE SEES LONE NEUTRON STAR STREAKING ACROSS GALAXY**

Several hundred million of them may be found in our galaxy, but the world's most powerful telescope has captured the one thought to be closest to Earth. NASA's Hubble Space Telescope has caught up with a runaway neutron star believed to be 200 light years away.

The object known as RX J185635-3754 is expected to swing by the planet at a safe distance in about 300,000 years. A neutron star is the remnants left behind after a supernova explosion, as the material at the core collapses into a dense mass of neutrons. The star has the mass of the sun packed into an area about 12 miles in diameter.

Precise observations made with the Hubble telescope confirm the isolated interstellar traveler is now located in the southern constellation Corona Australis. Since the object has no companion star that would affect its appearance, this discovery will allow future astronomers to more easily confirm stellar theories against a variety of its physical properties such as size, inherent brightness and true age.

**DATES & DATA****December 1**

**Chess Club Meets:** The Space City Chess Club meets each Friday from 5:30 p.m. - 9 p.m. at the Clear Lake United Methodist Church, 16335 El Camino Real, room 423. All skill levels are welcome. For more information, please call James Mulberry at x39287 or James Termini at x32639.

**December 4**

**NSS meets:** The Clear Lake area chapter of the National Space Society meets at 6:30 p.m. at the Parker Williams Branch of the Harris Co. Library at 10851 Scarsdale Blvd. For more information contact Murray Clark at (281) 367-2227.

**December 5**

**Quality Society meets:** The Bay Area Section of the American Society for Quality meets at 6 p.m. at Franco's Italian Restaurant. For details contact Ann Dorris at x38620.

**December 6**

**Astronomy seminar:** The JSC Astronomy Seminar Club will meet at noon December 6, 13 and 20 in Bldg. 31, Rm. 248A. For more information contact Al Jackson at x35037.

**Spaceteam Toastmasters meet:** The Spaceteam Toastmasters meet at 11:30 a.m. December 6, 13 and 20 at United Space Alliance, 600 Gemini. For more information contact Patricia Blackwell at (281) 280-6863.

**December 7**

**Communicators meet:** The Clear Lake Communicators, a Toastmasters International club, meets December 7, 14 and 21 at 11:30 at Wyle Laboratories, 1100 Hercules, Suite 305. For more information contact Allen Prescott at (281) 282-3281 or Richard Lehman at (281) 280-6557.

**Warning System Test:** The site-wide Employee Warning System performs its monthly audio test at noon. For more information contact Bob Gaffney at x34249.

**December 8**

**Astronomers meet:** The JSC Astronomical Society meets at 7:30 p.m. at Space Center Houston. For more information contact Chuck Shaw at x35416.

**December 12**

**Aero Club meets:** The Bay Area Aero Club meets at 7 p.m. at the Houston Gulf Airport clubhouse at 2750 FM 1266 in League City. For more information contact Larry Hendrickson at x32050.

**IAAP meets:** The Clear Lake/NASA Chapter of the International Association of Administrative Professionals meets at 5:30 p.m. in the Colonial Room at Grace Community Church, 14325 Crescent Landing. Cost is \$12.

**NPMA meets:** The National Property Management Association meets at 11:30 a.m. at the Gilruth Center. For more information contact Ray Whitaker at (281) 212-6030.

**December 13**

**MAES meets:** The Society of Mexican-American Engineers and Scientists meets at 11:30 a.m. in Bldg. 16, Rm. 111. For more information contact Laurie Carrillo at (281) 244-5203.

**December 14**

**Airplane club meets:** The Radio Control Airplane Club meets at 7 p.m. at the Clear Lake Park building. For more information contact Bill Langdoc at x35970.

**JSC Holiday Extravaganza and 'Toys for Tots' coming in December**

**C**elebration of the holiday season at JSC, with a "Toys for Tots" collection, is tentatively scheduled from 11:30 a.m. to 12:30 p.m. daily from December 1-20 in the Bldg. 3 cafeteria.

The U.S. Marine Corps "Toys for Tots" program kickoff date will be determined. This program makes holiday wishes come true for needy children. Barrels will be placed in the Bldg. 3 cafeteria to receive toy donations to show our support of such a worthwhile endeavor.

As part of the JSC Holiday Extravaganza, music and entertainment for the holiday season will be performed each day by such

groups as For The Lord, J. Frank Dobie High School's JFD Chamber Choir, Sheldon Intermediate Choir, Forest Brook Choir, JSC Child Care Center, Clear Lake High School "Soundwaves," Sterling High School "Silvertone," JSC FMD Singers, and SR&QA Carolers, just to name a few.

All employees are encouraged to attend these performances and express our appreciation to these entertainers who have graciously agreed to come share their musical talents with us! Look for more information, such as flyers and table tents in the cafeterias, as we get closer to the event. ■

**SPACE CENTER Roundup**

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Editor ..... William Jeffs ..... william.p.jeffs@jsc.nasa.gov  
Assistant Editor ..... Nicole Cloutier ..... nicole.cloutier1@jsc.nasa.gov

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