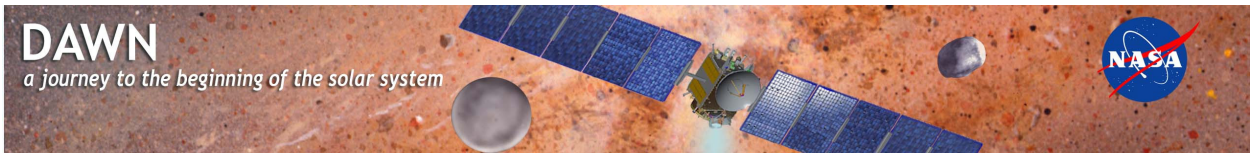

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Dawn Mission Outreach E-News, 15th Edition **June 2007**

The Pre-Launch Issue

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DAWN MISSION UPDATE: NEW LAUNCH DATE SET, XENON LOADED, OPERATIONS REHEARSALS CONDUCTED

Because of delays in assembling Dawn's rocket at Cape Canaveral, Dawn's new launch date is July 7, with a five-day launch period. Xenon propellant for the ion propulsion system was loaded into the spacecraft. Meanwhile, the mission operations team conducted additional simulations of launch and early flight activities.

Excitement is mounting as the Dawn mission progresses toward launch. This pre-launch issue of the Dawn E-Newsletter is chock-full of mission news, current events, educational materials, and public engagement opportunities, as it is likely to be the last e-newsletter before launch. Look for the next Dawn Mission Outreach E-News shortly after launch. In the meantime, we invite you to stay up-to-date by visiting the Dawn mission Web site at: http://dawn.jpl.nasa.gov

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CHECK OUT THE LATEST DAWN SPACECRAFT IMAGES FROM THE CAPE

From attaching the spacecraft's solar arrays to loading the Xenon gas for the ion propulsion system to mounting the rocket boosters on the Delta II launch vehicle, Dawn's final preparations for launch are chronicled in a series of images at: http://dawn.jpl.nasa.gov/multimedia/index.asp

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TRACK VESTA WITH DAWN'S AMATEUR OBSERVERS' PROGRAM

Vesta came to opposition on May 30th—coincidentally, the same day the Dawn project held its flight readiness review. In addition, Vesta will be at perihelion on 16 June. So Vesta is close and bright with an apparent magnitude range of 5.6–6.0 from now until the end of June. It's an evening object about 12 degrees north of Jupiter. With such optimal circumstances for observing, there's no excuse (except weather) to not go out and see Vesta for yourself!

To help track Vesta, use the star charts located on the Dawn Amateur Observers' Program Web site at: http://dawn-aop.astro.umd.edu

While you're there, visit the Gallery and browse through the images, animations, and sketches sent in from observers around the world who have been following Vesta in the night sky. See the results of their efforts at: http://dawn-aop.astro.umd.edu/gallery/index.shtml

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MEET DAWN'S LEAD SPACECRAFT SYSTEM ENGINEER

Dawn's Lead Spacecraft System Engineer Paul Fieseler describes his job as "oversee[ing] the team that 'flies' the spacecraft." Since Dawn is a robotic mission that is controlled remotely, Paul faces the challenge of "writing computer instructions that tell the spacecraft what it should do, and testing those instructions to make sure they will work." Learn more about Paul Fieseler and discover what he finds most fascinating about the Dawn mission by reading his interview at:
http://dawn.jpl.nasa.gov/people/fieseler_p/interview.asp

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AN INSIDE PERSPECTIVE OF THE DAWN MISSION

As Dawn's launch nears, many of the exciting updates are captured in the Dawn Journal by Dr. Marc Rayman, Dawn's Project System Engineer.

The June 2nd entry recounts the events and milestones the Dawn spacecraft has experienced since its arrival in the Cape Canaveral area. Dr. Rayman notes, "One of the major accomplishments at Astrotech Space Operations was the successful completion of the final set of comprehensive performance tests (CPTs)." To learn more, go to: http://dawn.jpl.nasa.gov/mission/journal_6_07.asp

In the June 10th Dawn Journal entry, after describing why Dawn's launch window shifted to July 7th, Rayman explains, "The extraordinary capability of its ion propulsion system gives Dawn much greater flexibility in when it can launch than interplanetary missions that use conventional chemical propulsion have." To read this entire journal entry, go to: http://dawn.jpl.nasa.gov/mission/journal_6_10_07.asp

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FEATURED PUBLIC ENGAGEMENT: DAWN MISSION PLANNER

Test your knowledge of the science and technology related to the Dawn mission and learn something new in the process with this online interactive quiz. Successfully answer all the questions to earn a printable certificate. The Dawn Mission Planner quiz game is available at: http://www.nasa.gov/externalflash/MissionPlanner/MissionPlanner.html

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SUMMER FUN WITH DAWN KIDS

Solve a puzzle, build a paper model spacecraft, illustrate a story, play a Web-based interactive game, and more! Dawn Kids offers a host of activities to fill young space enthusiasts' summer days with fun.

What's more, kids can add the excitement of the Dawn mission to their summer reading with two captivating stories. *The Aster's Hoity-Toity Belt,* a compelling tale set in the Great Carousel of the Skies, tells of two friends, the gentle giant Ceres and feisty Vesta. There's also *Professor Starr's Dream Trip: Or, how a little technology goes a long way*, a story set in clever rhyme that reveals how NASA's New Millennium Program makes a scientist's dreams come true. With a fictionalized main character based on Dawn's Principal Investigator Chris Russell, the story shows how the innovation of the ion propulsion system has helped make the Dawn mission possible. Activities and stories may be accessed from: http://dawn.jpl.nasa.gov/DawnKids/index.asp

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CREATE YOUR OWN DAWN MISSION ATTIRE

Get ready for launch by creating your own Dawn mission T-shirt. Dawn Kids offers two different styles: a humorous depiction of an asteroid belt or the official Dawn mission iron-on patch. All you need is a T-shirt, iron-on transfer paper, and a printer. Dawn Kids provides the fun designs and instructions for creating the unique mission attire at: http://dawn.jpl.nasa.gov/DawnKids/index.asp

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YOUNG ENGINEERS VISIT DAWN BOOTH AT JPL OPEN HOUSE

The Dawn team was pleased to meet hundreds of young engineers at the Jet Propulsion Laboratory's Open House on May 19–20, 2007. To view the expanded gallery, visit http://dawn.jpl.nasa.gov/getInvolved/young_eng/ye_entries_jpl1.asp

Interested in becoming one of Dawn's Young Engineers? To join, build a spacecraft model, snap a picture, and send it. Engineers and their spacecraft will be featured on the Dawn mission Web site. For more details, go to: http://dawn.jpl.nasa.gov/getInvolved/index.asp

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UPCOMING EDUCATION AND PUBLIC OUTREACH (E/PO) EVENTS

Science educators from across the country and around the globe will meet in Cape Canaveral on June 28–30 for the Dawn Educator Conference. This three-day conference features a behind-the-scenes tour of Kennedy Space Center, informative sessions with mission scientists, and a host of hands-on activities for use in elementary, middle, and high school classrooms as well as informal science education settings. The Dawn E/PO team thanks all the registered participants and looks forward to meeting you all in Florida at the end of this month. While registration is now closed for this conference, information about the schedule of events is available at: http://dawn.jpl.nasa.gov/education/educ_conf_dl.asp

Educators can learn about NASA missions to the Moon, Mercury and the asteroid belt during a two-day workshop titled *Exploring New Worlds* that will be held June 28–29 at the Center for Educational Technologies® at Wheeling Jesuit University in West Virginia. The workshop will focus on NASA's Dawn spacecraft and its launch into the heart of the asteroid belt. Participants will connect via videoconference June 29 with the Dawn educator workshop originating from Kennedy Space Center in Florida. Cost is $25, which includes lunch and snacks. Participants will come away with resources, activities, and lesson plans they can easily incorporate into their teaching. Registration information is available in the "Current Events" section at: http://dawn.jpl.nasa.gov/education/index.asp

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DAWN ANIMATIONS FEATURED ON NASA PORTAL

A series of animations that illustrate portions of the Dawn mission to Vesta and Ceres are now available in Quicktime. To view, visit: http://www.nasa.gov/mission_pages/dawn/multimedia/animation.html

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FOLLOW THE DAWN MISSION FOR YEARS TO COME

The Dawn Mission Events Calendar is a six-year wall calendar that spans the years 2007 through 2012 and highlights major events of the mission. Access the 11" x 17" printable version of this calendar at: http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Dawn_Mission_Events_Calendar.html

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HOST YOUR OWN DAWN LAUNCH EVENT

Are you planning a summer science event? Join a number of informal science facilities—a public library, a meteorite outreach program, and science centers—who are hosting Dawn Launch Events this summer. Review Dawn's educational materials and choose the most suitable activities for your event:

- *Find A Meteorite* http://dawn.jpl.nasa.gov/Meteorite/index.asp
- *Career Connections* http://dawn.jpl.nasa.gov/people/careers/index.asp
- *Dawn Kids* activities http://dawn.jpl.nasa.gov/DawnKids/index.asp
- *Clickworkers* http://dawn.jpl.nasa.gov/clickworkers/index.asp
- *The History and Discovery of Asteroids* module http://dawn.jpl.nasa.gov/DawnClassrooms/1_hist_dawn/index.asp
- *Structure and Properties of Matter: Ion Propulsion* module http://dawn.jpl.nasa.gov/DawnClassrooms/2_ion_prop/index.asp
- Materials from the Amateur Observers' Program http://dawn-aop.astro.umd.edu/

If you provide feedback, you will receive a special thank-you gift! To sign up, contact Lisa Maxfield at lmaxfield@mcrel.org

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ASK A SCIENTIST

Have a question about the Dawn mission and want to communicate directly with a member of the Dawn mission team? Click on the "Ask a Scientist" link located at the bottom of the Dawn Web site or simply go to: http://www.dawn-mission.org/ask_scientist/mailToDawnScientist.asp

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TELL US WHAT YOU THINK

Continually seeking ways to improve the mission Web site, Dawn Education and Public Outreach is eager to receive your feedback. Please share your thoughts by completing a brief survey at:
http://survey.mcrel.org/scripts/qweb.cgi?4CFEF46

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SUBSCRIPTION INFORMATION

Please forward this e-mail to others interested in NASA missions. New subscribers may join the Dawn mission e-news mailing list on our Web site at:
http://dawn.jpl.nasa.gov/DawnMedia/e_news.asp

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Dawn Mission Outreach E-News features information about the mission, its outreach Web site, and products, services, and materials available from the Dawn Education and Public Outreach (E/PO) team. Dawn is the ninth Discovery mission in NASA's Science Mission Directorate and is a collaborative partnership made up of the University of California, Los Angeles; Jet Propulsion Laboratory; Orbital Sciences Corporation; Los Alamos National Laboratory; German Aerospace Center; Max Planck Institute for Solar System Research; Italian Space Agency; and Italian National Institute of Astrophysics. Dawn outreach materials are developed under contract by Mid-continent Research for Education and Learning (McREL), Denver, CO.