Our Vision

Expand humankind’s understanding and appreciation of planet Earth, the Solar System, and the universe beyond.
Message from the Director

Excite. Explore. Discover. These words describe our efforts in both science research and education. In fact, they define the essence of our mission: to integrate world-class research with an innovative education program within a single institution. The SSI Board of Directors, with its experience and expertise in a range of business, science, and educational areas, provides guidance and vision to our enterprise. They – along with our senior management – have created an environment that continues to draw world-class scientists to the Institute and enables us to develop education and outreach programs that benefit millions of people worldwide. This past year SSI has grown from $4.8M to over $5.8M in grant and contract funding – an increase of more than 20% – most of which comes from NASA and the National Science Foundation (NSF).

SSI has a robust scientific Research Branch with scientists participating in robotic missions such as the Mars Exploration Rovers, in flight missions such as Cassini and the Spitzer and Hubble Space Telescopes, and in ground-based observation programs using facilities located all over the world. SSI researchers have been awarded numerous research and analysis grants, and also serve on a number of scientific boards and committees helping to plan future missions.

SSI’s Flight Operations branch is home to the Cassini Imaging Central Laboratory for Operations (CICLOPS). CICLOPS is the center for uplink and downlink operations for the imaging science experiment on the Cassini mission to Saturn. The Cassini mission continues to revise our view of the Saturn System. In 2007, Cassini images graced the pages of scores of magazines and websites around the globe. The mission continues to generate exciting science and exquisite imagery such as the data that provided conclusive evidence that the jets of Enceladus – which collectively create a towering plume of water ice particles and vapor over the moon – originate from the hottest parts of the linear fractures that score the moon’s south polar region.

In 2007, SSI’s Education branch conducted numerous workshops for formal and informal educators. The 5,000 square-foot MarsQuest and the 500 square-foot Destination Mars exhibits ended their national tours and were sold to the Museum of Discovery and Science in Florida and the Catawba Science Center in North Carolina, respectively. The 3,000 square-foot Alien Earths exhibition is still on tour. The 3,500 square-foot Giant Worlds traveling exhibition is nearing the end of its development and will begin its national tour in 2008. SSI continues to enhance its documentary film production capabilities (e.g. the Radiation and Weightless Flights of Discovery projects) and develop applications of internet and multimedia technologies to facilitate social learning experiences.

Our headquarters located in Boulder, Colorado enables us to maintain strong collaborations with a number of the major players in the research, education, and aerospace industries, including the University of Colorado, NOAA’s Space Weather Predictions Center, the National Center for Atmospheric Research, Lockheed Martin, and Ball Aerospace. However, our impact goes far beyond Colorado. We seek and encourage strong ties to corporations, foundations, and institutions in Colorado and elsewhere.

The upcoming year is one of great promise. New scientific discoveries will be made and new education programs will be launched that engage the public and excite their imaginations about the wonder and beauty of the universe. Come join our voyage of discovery.

With warmest regards,

Paul B. Dusenbery, Ph.D.
Executive Director
SSI’s Research Branch scientists participate in a broad array of space science activities. Our research program (both on-site and off-site) includes earth science, planetary science, and astrophysics. Our research team’s expertise continues to expand, and now includes investigations of phenomenon on the Earth, in atmospheres and on surfaces of other bodies in our Solar System, in our galaxy – including the early stages of the life cycles of stars and nascent planetary systems around other stars – and beyond: quasars and other distant galaxies.

SSI researchers are closely connected to the operations of current space facilities such as the Spitzer and Hubble Space Telescopes, and are deeply engaged in future space science projects including the James Webb Space Telescope. SSI is also home to the central laboratory for imaging science for the Cassini mission to Saturn – the current flagship planetary mission for both the American and European planetary exploration programs.

Many SSI researchers continue to focus on Mars research, with participation in the Mars Reconnaissance Orbiter mission, which successfully entered Mars orbit in March 2006. Their work with the Mars Exploration Rover mission is ongoing, as Spirit and Opportunity continue their close-up examination of the Red Planet. Our researchers are also actively engaged in developing future Mars exploration missions.

SSI’s off-site and on-site researchers form a network of entrepreneurial scientists who are supported by numerous grants. Our structure allows dynamic, collaborative efforts among fields of research that are typically separated in academic institutions. We continue to search out other new and creative opportunities to increase the health and vitality of our Research Branch.
SSI’s Off-Site Research Option

SSI has been a pioneer in remote employment, a mode that is both family – and environmentally – friendly. The long-distance nature of most scientific collaborative research is conducive to remote employment, since interactions can be readily accomplished via the internet and phone, and supplemented by occasional travel. Access to fast computers no longer requires large institutional support, and most journals are fully accessible over the internet, mitigating the need for institutional libraries. Instrument development, which does require large institutional support, can be done in collaboration with existing facilities such as those at Lockheed Martin and Ball Aerospace. The map below shows where SSI’s researchers are located in the United States.

SSI’s off-site option continues to be one of our fastest-growing areas. SSI management is aware of the potential challenges of rapid growth. We continue to develop our administrative support in ways that will enable our institution and our researchers to grow and thrive.
SSI Senior Research Scientist Dean C. Hines (New Mexico Office) and colleagues have spotted a moth-like structure with a 22-billion-mile wingspan hovering out in space. But no need for a galactic-sized can of Raid®. This giant is actually a cloud of dust surrounding a nearby, young star. Such circumstellar disks typically look like a flattened round oval. An image of “HD 61005” (now dubbed the “Moth” by astronomers) – taken using the Hubble Space Telescope – illustrates that such dust “disks” can take on unexpectedly unusual shapes. HD 61005 appears to be plowing through a local patch of higher-density gas in the interstellar medium, causing material within HD 61005’s disk to be swept behind the star. Starlight scattering off the dust illuminates the wing-like shape. While it is uncertain what effect such a collision might have on a nascent planetary system forming around HD 61005, it is interesting that our own Solar System has experienced similar collisions in the past.
The Dark Side of the Rings of Uranus

SSI Senior Research Scientist Heidi B. Hammel (Connecticut Office) and her colleagues have obtained Keck images of Uranus in the past few years showing an unusual side view of its rings. Due to some very special viewing geometry in May 2007, the team captured an even rarer glimpse of the dark (not illuminated) side of the rings. In this unusual alignment, optically-thick rings disappear due to inter-particle shadowing, but optically-thin rings brighten as sunlight filters through the rings to emerge on the dark side. Detailed analyses of the Keck images show dust permeating the ring system, but the dust is not associated with any known narrow rings nor with embedded dust belts imaged by the Voyager spacecraft in 1986. These results suggest variations occur on much larger scales and more rapidly than previously expected. Such Uranus ring-plane crossings occur every 42 years; the last – in 1965 – was prior to the rings’ 1977 discovery, and the next will not occur until 2049.

Martian Chronicles

Both Opportunity and Spirit survived a severe global Martian dust storm in the past year. SSI Senior Scientist Mike Wolff (Wisconsin Office) worked with the rovers’ atmospheric sciences group to help characterize the Martian atmosphere and provide updates on storm activity. This work contributed to the planning that kept the rovers alive through this perilous period.

Opportunity continued its exploration of Victoria Crater, finding layered rocks within the crater’s inner rim that provided a window into past Martian history. SSI Research Scientist Bill Farrand (Colorado Office) worked with multispectral data from Opportunity to explore color variations in these layered rocks. Color differences exposed in the walls of Victoria crater have been linked to the water alteration history of rocks in this region. Another focus of Mars research at SSI has been the compositional mapping of ancient Martian terrains. Dr. Farrand characterized the Mawrth Vallis region of Mars (one of the possible Mars Science Laboratory landing sites) using data from the Compact Reconnaissance Imaging Spectrometer for
Mars (CRISM) on the Mars Reconnaissance Orbiter, as well as other orbital instruments. The data will be used to build a better picture of the Martian climate in the past, particularly whether it might have been conducive to the development of life. Dr. Wolff and SSI Senior Scientist Todd Clancy (North Carolina Office) also worked with CRISM data to characterize the Martian atmosphere, to help with efforts to understand the past and present climate of Mars, as well as efforts to mitigate atmospheric effects on surface remote sensing.
**An Extraordinary Survey of our Own Galaxy**

SSI Senior Research Scientist Barb Whitney (Wisconsin Office) continues to work extensively with the GLIMPSE data. GLIMPSE (Galactic Legacy Infrared Midplane Survey Extraordinaire) is a survey of our own inner Milky Way Galaxy. It spans 130° in longitude (65° on either side of the center), and 2-4° in latitude.

![A GLIMPSE of our Milky Way Galaxy. Courtesy NASA/Spitzer Space Telescope/Space Science Institute.](image)

The survey encompasses a large fraction of the volume of our galaxy. The GLIMPSE image was taken using the Spitzer Space Telescope. The telescope was pointed at 111,000 different positions in the sky and snapshots were taken in four different infrared wavelengths (3.6, 4.5, 5.8, and 8 microns), creating a total of 444,000 images. GLIMPSE was followed up by another survey (MIPSGAL) with approximately 400,000 images at 24, 70 and 160 microns. These surveys have 100 times the sensitivity and over 10 times the resolution of previous surveys, allowing us to see stars and dusty objects throughout most of the Galaxy for the first time.

The GLIMPSE and MIPSGAL images were stitched together into a large mosaic that spans about 180 x 2.75 feet at full resolution (390,000 x 6000 pixels). The different colors in the mosaic highlight different physical processes, including emission from Polycyclic Aromatic Hydrocarbons (PAHs), which are small molecules excited by strong ultraviolet radiation from massive hot stars. In the GLIMPSE survey, the PAHs in these high-mass star formation regions light up like holiday tree lights, announcing their existence. We can also see ionized gas arising in high-mass star formation regions, as well as shocked emission both in supernovae remnants and in very young massive stars in their earliest stages of star formation. Thermal, (heat) emission arises mostly in dust of various temperatures (30-1600 K).

The GLIMPSE images are best viewed in a zoomable web browser ([www.alienearths.org/glimpse](http://www.alienearths.org/glimpse)) developed by SSI education software developers Dr. James Harold and Evaldas Vidugiris (both of the Colorado Office). In the images at that site, you can see galactic features at distance scales ranging from <1 light year up to 100,000 light years. The site will ultimately be made available in both Spanish and English for display in science centers and libraries.
The Cassini Imaging Central Laboratory for OperationS (CICLOPS) is located at SSI’s Boulder, Colorado office. CICLOPS is the center for uplink and downlink operations for the imaging science experiment on the Cassini mission to Saturn. All images produced by the two powerful telescopic cameras onboard Cassini (the Imaging Science Subsystem) make their way across more than a billion and a half kilometers (1 billion miles) of space to be archived in databases at CICLOPS and made available to imaging team members across the globe.

The Cassini-Huygens mission continues to change our view of the Saturn System. Since arriving at Saturn in the summer of 2004, the intrepid spacecraft has completed numerous close flybys of Saturn’s moons, providing new perspectives and a wealth of data about this unique collection of objects. Cassini has monitored powerful lightning-generated radio outbursts and cloud activity produced by giant storms on Saturn that dwarf those on Earth. The Huygens probe landing on haze-shrouded Titan and Cassini’s continuing survey of this moon from space have provided tantalizing glimpses of a world that is at once remarkably earth-like yet also frigid and alien. The startling revelation that Saturn’s small, icy moon Enceladus may possess underground reservoirs of liquid water has widened the range of environments that might be hospitable for life.
Images taken by Cassini are selected for release to the public at CICLOPS. Chosen images and movie sequences are processed to ensure quality, including the best possible color. The final products are posted to the CICLOPS website (http://ciclops.org) for distribution to the waiting world. Also posted on the CICLOPS site are imaging news stories, upcoming mission events, public discussions, Saturn-inspired artwork, and more.

Cassini’s landmark exploration of the ringed planet, its mysterious moons, stunning rings, and complex magnetic environment will continue through at least July 2010, and perhaps beyond. CICLOPS and the Cassini mission scientists and engineers have been hard at work planning for the extended two-year tour (July 2008 - July 2010). Many discoveries – and many sights – remain to be seen. And discussion is now underway for a second extension that may last through northern summer solstice on Saturn around 2017.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency, and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA’s Science Mission Directorate, Washington, D.C.

Cassini / Saturn Research

Led by Cassini Imaging Team leader Dr. Carolyn Porco, CICLOPS came to SSI in August 2003. Fourteen scientists from the United States and Europe comprise the imaging team that uses Cassini’s cameras to investigate many unique features of the Saturn system.

The Imaging Team continues to publish findings from their investigations, deepening our knowledge about Saturn and the processes by which planets - and whole planetary systems - form and develop with time.

In 2007, Cassini images graced the pages of scores of magazines and websites around the globe. The mission continues to generate exciting science and exquisite imagery from the Saturn frontier.
Origins of the Ring Moons

Cassini images of the small, irregularly shaped moons that orbit near the outer rings of Saturn have led to a new understanding about how these bodies came to be. The moons have extremely low densities, and imaging scientists have shown that they may have begun as leftover shards from larger bodies that broke apart and filled out their “figures” with the debris that made the rings.

Enceladus Hotspots Pinpointed

Cassini imaging data provided conclusive evidence that the jets of Enceladus – which collectively create a towering plume of water ice particles and vapor over the moon – originate from the hottest parts of the linear fractures that score the moon’s south polar region.

Imaging scientists identified eight source locations on the surface by triangulating jet positions in Cassini images. The researchers also predicted the locations of other hot spots to be found by future Cassini observations.

Bottom: Jets of ice particles, water vapor, and trace organic compounds stream from the fractures on Enceladus. Courtesy NASA/JPL/Space Science Institute.
Iapetus Revealed!

Cassini returned the first high-resolution images of the bright trailing hemisphere of Iapetus. The moon’s strange two-toned appearance has been a mystery for over 300 years: one hemisphere is as dark as asphalt, the other is as bright as snow. The images strongly implicate differential warming by the Sun in creating the unusual look of Iapetus. And small bright craters within the dark material tell scientists that it is a blanket no more than a few meters thick.

Hyperion’s Strange Appearance

Imaging scientists determined that Hyperion’s unusual, sponge-like appearance can be attributed to the fact that it has a very low density for such a large object, giving it weak surface gravity and making it highly porous. The researchers found that impacts tend to make craters by compressing the surface material, rather than blasting it out. And Hyperion’s weak gravity means that what little material is blasted out of craters has a good chance of escaping the moon altogether, rather than coating the moon and covering up its many potholes.

SSI’s Education Branch is involved in a variety of innovative projects that promote inquiry and science literacy. We foster collaboration between scientists and educators to bring the knowledge and excitement of scientific discovery to audiences across the country. In addition, our programs help cultivate a greater appreciation and understanding of science in the general public. They span a range of audience needs and delivery methods, including traveling museum exhibitions; award-winning educational films, videos, and websites; hands-on teaching resources and activities; educator workshops; outreach to underserved audiences, such as girls’ groups, Hispanic, Native American and rural communities; and successful partnership building between scientists and educators. SSI is committed to evaluating its projects and conducting educational research in order to improve what we do and to better understand the impact we are having on a national scale.

**Guiding Principles**

- Plan strategically for continued innovation
- Integrate science research and science education
- Contribute significantly to educational research
- Ensure scientific accuracy in all activities
- Evaluate all products and disseminate results
- Cultivate mutually beneficial partnerships in science and education communities
- Excite learners of all ages, ethnicities, and learning modalities with the thrill of scientific discovery
Education Program Impacts for 2007:

- 280,000 visitors to SSI museum exhibits
- 360,000 visitors to SSI educational websites
- 250 participants in educator workshops, virtual workshops, and conference presentations
- 37,000 downloads of SSI educational materials, activities, and resources distributed online

SSI’s educational projects include large-scale, institutional-level efforts supported by the National Science Foundation and NASA (e.g., the STEPS project funded by NSF; Giant Worlds funded by both agencies), as well as smaller-scale programs that focus on individual scientists seeking educational support for research projects (e.g., an asteroids project called Finding NEO with SSI Senior Research Scientist Al Harris (California Office)). This strategic approach allows SSI to leverage the needs and effectiveness of both kinds of endeavors and allows our staff to explore new educational methods and effectively “scale up” those that show promise.

In keeping with that strategy, SSI is pursuing new directions for educational programming: the continued development of documentary film production capabilities; an innovative Twenty Ninth Street Mall public outreach project in Boulder’s newest pedestrian mall; an emerging partnership with the American Library Association to pilot small exhibits in various types of libraries in Colorado and beyond; and applications of internet and multimedia technologies to facilitate social learning experiences. SSI and its partners are leading the way to a new generation of educational innovation, which bridges the worlds of science research.
2007 Education and Public Outreach Highlights

Journey to the Outer Solar System

Beyond Mercury, Venus, Earth and Mars are four colossal planets that dwarf the inner, terrestrial planets. The Solar System’s giant planets – Jupiter, Saturn, Uranus and Neptune – present some fascinating mysteries: enormous hurricanes that last for centuries; moons that harbor vast oceans below an icy surface; and magnetic environments that can generate massive storms of charged particles. Since Galileo first glimpsed the rings of Saturn in 1610, the beauty of the outer Solar System’s giant planets has captivated us. Now scientists are seeing beyond their beauty to gain a deeper understanding of their importance.

The new science exhibition, Giant Worlds: A Voyage to the Outer Solar System will begin its national tour in February 2008 at the Orlando Science Center in Florida. It is funded by the National Science Foundation and NASA and produced by the Space Science Institute in Boulder, Colorado (PI: Paul Dusenbery, Colorado Office). NASA’s Cassini and Juno missions are project partners. The 3,500 square-foot exhibit will give visitors an out-of-this-world experience as they learn about the role that the giant planets played in making Earth habitable. The exhibit is intimately linked to the progress and discoveries of NASA’s outer planets missions, and it provides an engaging, real-life context for learning about science, math and technology. The Association of Science-Technology Centers (ASTC) will manage the national tour.
Giant Worlds invites visitors of all ages to explore our amazing Solar System. They learn about Galileo’s early telescope to a bus-sized spacecraft that orbits Saturn, a billion miles away. The exhibit is filled with interactive experiences, models and spectacular murals that reveal the grandeur of these amazing planets. Visitors can learn about gravity by becoming a part of Saturn’s spectacular ring system, where model ring particles actually interact with a visitor’s shadow. They can design and launch a virtual probe into Jupiter’s crushing atmosphere and see how far their probe gets before it is destroyed. Visitors can also experiment with the properties of visible and infrared radiation and learn how scientists use light to probe phenomena like Jupiter’s Great Red Spot.

SSI is collaborating with project partners to create an education program to accompany the exhibit that consists of workshops for museum educators and teachers. SSI is creating an interactive exhibit website for the project that extends the exhibit’s scope and reach. It will also provide support and follow-up for the education program (www.giantworlds.org).

Giving Wings to Science Education

Across the country, there is a growing concern regarding the number of students entering science and technology careers. We know that one way to reverse that trend is to make science and math fascinating and relevant for students. And, in order to engage students, we need educators who are excited about what they do and can bring unique learning opportunities into their classrooms. In order to address this concern, the Northrop Grumman Foundation has teamed with the Zero Gravity Corporation to develop the Weightless Flights of Discovery program. This program is designed to inspire students to pursue science and technical careers by inspiring their teachers first.
Practicing and future middle school teachers have the opportunity to participate in hands-on science workshops and perform an experiment in a parabolic or “zero-gravity” aircraft flight that creates temporary weightlessness comparable to what humans would experience during space travel to the Moon and Mars. It also mimics how astronauts train for space flight. The 2007 Weightless Flights of Discovery program will give 480 teachers and future teachers in eight different communities the opportunity to participate in this incredible program.

In 2007, SSI partnered with Northrop Grumman and Acme Industrial Imagination to produce a feature length documentary about this exciting program. Funded by the Northrop Grumman Foundation, SSI’s Education Associate Brad McLain (Colorado Office) is the project PI. The film will examine the state of science education in America, track several teachers from around the country as they participate in the Weightless program, and uncover the results of their extraordinary experience for their students.

**Space Faring: The Radiation Challenge**

Mr. McLain’s video project, called Space Faring: The Radiation Challenge, neared completion in 2007. The project was funded by NASA’s Exploration System Mission Directorate. Two versions of the film (one for middle school and one for high school) focus on the subject of radiation and human spaceflight. Set in the future, a pair of young astronauts enroute to Mars encounter a space weather emergency, requiring them to learn about cosmic rays, solar particle events, implications for human health, and shielding strategies and technology.

The project pushed SSI production capabilities into new domains with the use of extensive green screen compositing and digital special effect techniques. It also marked our first foray into high definition. The project included the participation of radiation and human spaceflight experts from around the country working on NASA’s “Moon, Mars, and Beyond” vision for space exploration.

Made in partnership with Marshall Space Flight Center and Ames Research Center, the videos are to be accompanied by complementary hands-on classroom activities created by NASA. The videos will be launched in mid-2008 on DVD and Blu-Ray as well as online.
SPACE IS NOT EMPTY

SPACE FARING: THE RADIATION CHALLENGE


Produced with the assistance of NASA's Office of Public Affairs. 

NASA's Office of Public Affairs. 

(Logo) NASA
### Summary Statement of Financial Position as of December 31, 2007 and 2006

#### Assets

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>$503,209</td>
<td>$439,073</td>
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<tr>
<td>Accounts receivable</td>
<td>841,463</td>
<td>673,211</td>
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<tr>
<td>Prepaid expenses and deposits</td>
<td>60,857</td>
<td>64,868</td>
</tr>
<tr>
<td>Net furniture, equipment, and property</td>
<td>131,570</td>
<td>172,708</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$1,537,099</strong></td>
<td><strong>$1,349,860</strong></td>
</tr>
</tbody>
</table>

#### Liabilities and Net Assets

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued liabilities</td>
<td>$453,755</td>
<td>$247,267</td>
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<tr>
<td>Capital lease obligations</td>
<td>-</td>
<td>269</td>
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<tr>
<td>Deferred revenues</td>
<td>424,151</td>
<td>502,354</td>
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<tr>
<td>Line of credit</td>
<td>351,300</td>
<td>405,000</td>
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<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td><strong>1,229,406</strong></td>
<td><strong>1,154,890</strong></td>
</tr>
<tr>
<td>Unrestricted</td>
<td>251,105</td>
<td>121,921</td>
</tr>
<tr>
<td>Temporarily restricted</td>
<td>56,588</td>
<td>73,049</td>
</tr>
<tr>
<td><strong>Total net assets</strong></td>
<td><strong>307,693</strong></td>
<td><strong>194,970</strong></td>
</tr>
<tr>
<td><strong>Total liabilities and net assets</strong></td>
<td><strong>$1,537,099</strong></td>
<td><strong>$1,349,860</strong></td>
</tr>
</tbody>
</table>

### Summary Statement of Activities for the years ended December 31, 2007 and 2006

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants, contracts, and cooperative agreements</td>
<td>$5,696,201</td>
<td>$4,791,240</td>
</tr>
<tr>
<td>Contributions</td>
<td>16,000</td>
<td>-</td>
</tr>
<tr>
<td>Exhibit income</td>
<td>113,294</td>
<td>81,682</td>
</tr>
<tr>
<td>Interest income</td>
<td>225</td>
<td>330</td>
</tr>
<tr>
<td>Other income</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gain/(Loss) on disposal of equipment</td>
<td>(9,445)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total support and revenue</strong></td>
<td><strong>5,816,275</strong></td>
<td><strong>4,873,252</strong></td>
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<tr>
<td>Program services</td>
<td>5,756,638</td>
<td>4,833,629</td>
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<tr>
<td>General and administrative</td>
<td>(53,086)</td>
<td>76,700</td>
</tr>
<tr>
<td><strong>Total expenses</strong></td>
<td><strong>5,703,552</strong></td>
<td><strong>4,910,329</strong></td>
</tr>
<tr>
<td><strong>Change in net assets</strong></td>
<td><strong>112,723</strong></td>
<td><strong>(37,077)</strong></td>
</tr>
<tr>
<td>Net assets, beginning of year</td>
<td>194,970</td>
<td>232,047</td>
</tr>
<tr>
<td><strong>Net assets, end of year</strong></td>
<td><strong>$307,693</strong></td>
<td><strong>$194,970</strong></td>
</tr>
</tbody>
</table>

The summary financial information does not include sufficient detail or disclosure to constitute presentation in conformity with accounting principles generally accepted in the United States of America. If the omitted detail or disclosure were included, they might influence the user's conclusions about the Organization's financial position, changes in net assets, and cash flows. Accordingly such information should be read in conjunction with the Organization's audited financial statements for the years ended December 31, 2007 and 2006, from which the summarized information was derived. A copy is available upon request.
R. Todd Clancy

PROFESSIONAL ORGANIZATIONS & SERVICE

American Geophysical Union, Member
AAS Division of Planetary Sciences, member
MEPAG Science Analysis Group (SAG), Goals and Objectives for the Human Exploration of Mars (HEM)
Mars Science Orbiter (MSO) Science Definition Team (SDT), member

PUBLICATIONS


MEETINGS AND CONFERENCE PROCEEDINGS


Conference: Exploring Venus as a Terrestrial Planet, Key Largo, FL, Feb 13-16, 2006
Paul Dusenbery

PROFESSIONAL ORGANIZATIONS & SERVICE

Proposal Reviewer, National Science Foundation
Proposal Reviewer, National Aeronautics and Space Administration
Journal of Geophysical Research
Member, 29th Street Wonder of Science Project
Member of AGU, AAS, DPS, NSTA, and ASCD

MEETINGS AND CONFERENCE PROCEEDINGS

Dusenbery, P. and B. McLain, ASP-Project Astro Group Meeting, Space Center Houston, May, 2007
Dusenbery, P., NASA Education Forum Meeting, Cocoa Beach, FL, June, 2007
Dusenbery, P., Curtis, L., Harold, J., SSI booth, ASTC Annual Meeting, Los Angeles, CA, October 2007

PUBLICATIONS


William Farrand

PROFESSIONAL ORGANIZATIONS & SERVICE

Geological Society of America, Member
American Geophysical Union, Member
American Society of Photogrammetry and Remote Sensing, Member
Institute of Electrical and Electronics Engineers, Member

PUBLICATIONS


Clark, B. C., R. E. Arvidson, R. Gellert, R. V. Morris, D. W. Ming, L. Richter, S. W. Ruff, J. R. Michalski, W. H. Farrand,


MEETINGS AND CONFERENCE PROCEEDINGS


Joseph M. Hahn

PROFESSIONAL ORGANIZATIONS & SERVICE

American Astronomical Society (AAS), member
AAS Division for Planetary Science (DPS), member
AAS Division on Dynamical Astronomy (DDA), member

PUBLICATIONS


MEETINGS AND CONFERENCE PROCEEDINGS


Hahn, J.M., The Evolution of the Outer Solar System During the Cluster Era, poster given at the 2007 DDA meeting in Ann Arbor, MI.

INVITED TALKS

“The Kuiper Belt, the Early History of the Outer Solar System, and Extra-Solar Kuiper Belts”, given on October 23, 2007 at the Center for Space Research (CSR) in Austin, TX.
OTHERACTIVITIES

Sorted abstracts and arranged the program for the upcoming 2008 AAS meeting Austin, TX. I also organized for this meeting a Special Session titled “DDA: The Dynamics of Astrophysical Disks”.

Heidi B. Hammel

PROFESSIONAL ORGANIZATIONS & SERVICE

American Astronomical Society (AAS), Division for Planetary Science (DPS), Member
AAS George Van Biesbroeck Prize Committee (2006 - present), current Chair
DPS Prize Subcommittee (2005 - 2007)
DPS Web Site Developer, Administrator (1995 - 2007)
American Association for the Advancement of Science, Member
Council (2008 – present)
Elected Member-at-large for Section D (Astronomy) (2002 - 2007)
International Astronomical Union, Member
American Geophysical Union, Member
Association for Women in Science, Member
AURA, Board of Directors (2003-present)
The Planetary Society, Board of Directors (2005-present)
Advisory Committees
Outer Planets Assessment Group – “OPAG” (2008 - present)
NASA Astrophysics Subcommittee (2006 - 2008)
NASA Science Investigations
Team Member, Science Working Group, AURA/NOAO Giant Segmented Mirror Telescope development project (2007 - present)
Interdisciplinary Scientist, James Webb Space Telescope (2002 - present)
Organizing Committees for Scientific Meetings, both Science (SOC) and Local (LOC)
SOC, Planetary Atmospheres, Baltimore, MD, November 2007

PUBLICATIONS


MEETINGS AND CONFERENCE PROCEEDINGS


PROFESSIONAL ORGANIZATIONS & SERVICE

American Geophysical Union (AGU), Member
American Astronomical Society (AAS), member
AAS Division of Planetary Sciences (DPS), member
AAS Division for Dynamical Astronomy (DDA), member
International Astronomical Union (IAU), member
American Association for the Advancement of Science (AAAS), Fellow
Society for Astronomical Sciences (SAS), member

PUBLICATIONS


MEETINGS AND CONFERENCE PROCEEDINGS


Dean Hines, Ph. D

PROFESSIONAL ORGANIZATIONS & SERVICE

NASA Science Investigations: NICMOS/HST Instrument & Science Team; MIPS/Spitzer Instrument and Science Team; FEPS Legacy Program Data Lead, PI, Co-I on HST & Spitzer GO Programs
Spitzer Science User Panel (2005 – present)
NASA Infrared Telescope Facility (IRTF) TAC Member (2006, 2007)
Spitzer TAC Panel Member (2006, 2007)
Grand Awards Judge, Intel International Science Fair, May 2007

PUBLICATIONS

Author/coauthor of 109 refereed publications on spectro- and imaging polarimetry, infrared astronomy, space-based instrumentation, quasars and other ultraluminous galaxies, evolved stars, and planetary debris disks (12 in 2007).

MEETINGS AND CONFERENCE PROCEEDINGS

Synthesis from the XMM-Newton and Spitzer Surveys,” American Astronomical Society Meeting Abstracts, 211, #12.20

Philip James

PROFESSIONAL ORGANIZATIONS & SERVICE
American Physical Society (Fellow);
American Geophysical Union,
PUBLICATIONS


Malin, Michael C.; Calvin, Wendy M.; Cantor, Bruce A.; Clancy, R. Todd; Haberle, Robert M.; James, Philip B.; Thomas, Peter C.; Wolff, Michael J.; Bell, James F.; Lee, Steven W. Climate, weather, and north polar observations from the Mars Reconnaissance Orbiter Mars Color Imager. Icarus 194 (in press).

MEETINGS AND CONFERENCE PROCEEDINGS

Seventh International Conference on Mars Polar, July 9-13 2007, Pasadena, CA:

James, P.B.; Calvin, W.M.; Lee, S.W.; Thomas, P.C., MARCI Observations of Spring Recession of Martian South Polar Cap

Thomas, P.C.; James, P.B.; Wolff, M.; Malin, M.C.; Cantor, B.; Edgett, K.; Calvin, W. Residual South Polar Cap of Mars: Continuing Changes and Their Significance

Calvin, W.M.; Pocock, J.M.; James, P.B.; Lee, S.W.; Thomas, P.C.; Murchie, S.L.; Seelos, F.; Langevin, Y.; Titus, T.N.; McGuire, P.. The Nature and Mobility of Bright Patches in the North Residual Ice Cap from MARCI, CTX, OMEGA and CRISM

Benson, J.L.; Glenar, D.A.; James, P.B.; Wolff, M.J.. Properties of Mars Aphelion Volcano Clouds from Combined Mars Global Surveyor MOC and TES Measurements


James, P.; Calvin, W.; Thomas, P.; Wolff, M.. Residual South Polar Cap of Mars: MY28 MARCI Observations

Calvin, W.M.; Pocock, J.M.; Seelos, F.P.; Lee, S.W.; James, P.B.; Thomas, P.C.; Murchie, S.L.. Seasonal Changes in the Martian North Polar Region from CRISM, MARCI and CTX

Clancy, R.T.; Wolff, M.J.; Cantor, B.A.; James, P.B.; Haberle, R.M.; Malin, M.C.. MARCI Observations of Mesospheric Cloud Trails and Their Association with Extreme Vertical Ascent within Localized (10’s of km), Short Duration (1-2 days) Dust Lifting Events

38th Lunar and Planetary Science Conference, March 11-12, League City, TX:

Malin, M. and MARCI/CTX Science Team.. Initial Observations by the MRO Mars Color Imager and Context Camera
Glenar, David A.; Benson, J.; James, P.; Wolff, M.; Grundy, W. M. Small-scale Properties Of Mars Aphelion-season Volcano Clouds, From Combined MGS MOC and TES Measurements

Carolyn Porco

PROFESSIONAL ORGANIZATIONS & SERVICE

Co-Leader, Enceladus Focus Group, 2006-

PUBLICATIONS


“Cassini: The First One Thousand Days”. American Scientist, July/August 2007. Reprinted in France, Brazil,

INVITED TALKS


“Cassini Explores the Saturn System”. Invited presentation to the Monterey Bay Aquarium Research Institute (MBARI), March 3, 2008.


“Traveling Saturn”. Invited presentation at SpaceFest, Phoenix, AZ, August 18, 2007.

“In the Land of Enchantment”. Invited presentation to the annual meeting of the Council for the Advancement of Science Writing, Spokane, WA, October 23, 2007.


“At Saturn: Tripping the Flight Fantastic”. Invited public lecture held in conjunction with the American Astronomical Society’s Division on Dynamical Astronomy meeting, Boulder, CO, April 28, 2008.

“Our Place in the Cosmos”. Invited presentation to a global audience on Pangea Day, May 10, 2008 (http://www.pangeaday.org/). Sponsored by TED (the Sapling Foundation) and other companies.

OTHER ACTIVITIES


Isaac Asimov Science Award, American Humanist Association.


Three proposals submitted by CICLOPS to NASA

Ten Press Releases on Cassini’s results

Brad Sandor

PROFESSIONAL ORGANIZATIONS AND SERVICES
MEETINGS AND CONFERENCE PROCEEDINGS


Michael L. Sitko

PROFESSIONAL ORGANIZATIONS AND SERVICE

Cincinnati Observatory Center: Board of Directors & Education Committee
Referee for The Astronomical Journal, Icarus,

PUBLICATIONS


MEETINGS AND CONFERENCE PROCEEDINGS


**Gorden Videen**

**PROFESSIONAL ORGANIZATIONS & SERVICE**

Co-Chair: 10th Conference on Electromagnetic and Light Scattering by Nonspherical Particles: Theory, Measurements, and Applications held in Bodrum Turkey, June 2007.

Guest Editor: Journal of Quantitative Spectroscopy and Radiative Transfer, Special issue on Optics of Biological Particles (2007)


Thesis Committee, Maxim Yurkin, University of Amsterdam, December 11, 2007.

**PUBLICATIONS**


MEETINGS AND CONFERENCE PROCEEDINGS

G. Videen, “Building Bridges...,” Keynote address at European Sciences and Humanities Symposium, March 1, Heidelberg, Germany.

PROFESSIONAL ORGANIZATIONS & SERVICE
American Astronomical Society
IAU
Science Organizing Committee, for meeting on “EXTRAGALACTIC JETS: THEORY AND OBSERVATION

Ann Wehrle

35 :: Space Science Institute :: Publications & Activities
FROM RADIO TO GAMMA RAY
GLAST User Committee

PUBLICATIONS
\bibitem[Unwin et al.(2008)]{2008PASP.120...38U} Unwin, S.~C., et al.\ 2008, \pasp, 120, 38

MEETINGS AND CONFERENCE PROCEEDINGS
Wehrle, Ann E. and Unwin, Stephen C. “Prospects for Observing quasar jets with the Space Interferometry Mission- Planetquest”, in Vol. CS 386 EXTRAGALACTIC JETS: THEORY AND OBSERVATION FROM RADIO TO GAMMA RAY eds. Travis Rector and Dave De Young

Barbara A. Whitney

PROFESSIONAL ORGANIZATIONS & SERVICE
American Astronomical Society (AAS), Member
AAS Division of Planetary Sciences, member
AAS Employment Committee
Answered queries to publicly available radiative transfer codes, used worldwide
Answered queries to publicly available model grid and data fitter, used worldwide
Supervised 4 students

PUBLICATIONS
L. V. Gramajo, B. A. Whitney, S. J. Kenyon, M. Gomez, & K. M. Merrill, High Spatial Resolution Near-Infrared


MEETINGS AND CONFERENCE PROCEEDINGS

B. A. Whitney, What Radiative Transfer Modeling can Tell Us About Star Formation, 4rth Spitzer Science Center Conference, Pasadena, CA, Dec. 2-5, 2007, invited review.


Blum, R. D., et al. 2007, A SAGE View of the Mass Losing Sources in the Large Magellanic Cloud, IAU Symposium, 241, 319


Michael Wolff

PROFESSIONAL ORGANIZATIONS & SERVICE

American Astronomical Society (including Division of Planetary Science)
American Geophysical Union
Mars Data Analysis Review Panel Atmospheres (Chair)

PUBLICATIONS


