

# The Skyscraper

Vol. 33 no. 12

The monthly publication of



Amateur Astronomical Society  
of Rhode Island

47 PeepToad Road  
North Scituate, RI 02857

[www.theskyscrapers.org](http://www.theskyscrapers.org)

**President**

Dave Huestis

**1<sup>st</sup> Vice President**

Glenn Jackson

**2<sup>nd</sup> Vice President**

Ted Ferneza

**Secretary**

Mercedes Rivero-Hudec

**Treasurer**

Allen Schenck

**Members at Large**

Jerry Jeffrey

Jim Brenek

**Trustees**

Richard Arnold

Tracey Haley

**Librarian**

Tracey Haley

**Editor**

Jim Hendrickson

See back page for directions to  
Seagrave Observatory.

**Submissions**

Please submit items for the newsletter  
by December 15 to Jim Hendrickson, 1  
Sunflower Circle, North Providence, RI  
02911 or email to [jim@distantgalaxy.com](mailto:jim@distantgalaxy.com)

**Email subscriptions:**

To receive The Skyscraper by email, send  
email with your name and address to  
[jim@distantgalaxy.com](mailto:jim@distantgalaxy.com). Note that you  
will no longer receive the newsletter by  
postal mail.

© 2006 Skyscrapers, Inc.

# The Skyscraper

December 2006

## December Meeting & Holiday Party

FRIDAY, DECEMBER 2ND AT NORTH SCITUATE COMMUNITY CENTER

### DR. WILLIAM SULLIVAN "THE SECRETS OF THE INCAS"

Dr. William Sullivan will present "The Secrets of the Incas, Myth, Astronomy and the Race Against Time" Dr. Sullivan presents completely new evidence taken from Inca myth that is nothing less than a dire warning of an impending event that predicted the future ruin of the Incas. Dr. Sullivan also finds the characteristics of the Andean planetary gods are identical to those of the Greeks, Scandinavian, Hopi, Polynesians and so on. The single most urgent question raised by Dr. Sullivan's research is not how this idiosyncratic way of looking at the skies was carried to every corner of the globe but why was it so readily accepted.

**DIRECTIONS TO THE COMMUNITY CENTER:** From Seagrave Observatory: North Scituate Community Center is the first building on the right side going south on Rt. 116, after the intersection of Rt. 6 Bypass (also Rt. 101) and Rt. 116, in N. Scituate. Famous Pizza is on the corner of that intersection. Parking is across the street from the Community Center.

## DECEMBER 2006

<b>2</b> SATURDAY	<b>7:30PM</b>	<b>December Meeting</b> North Scituate Community Center. No Public Observing at Seagrave Observatory during the meeting.
<b>9</b> SATURDAY	<b>7:00PM</b>	<b>Public Observing Night</b> Seagrave Observatory, weather permitting
<b>16</b> SATURDAY	<b>7:00PM</b>	<b>Public Observing Night</b> Seagrave Observatory, weather permitting
<b>23</b> SATURDAY	<b>7:00PM</b>	<b>Public Observing Night</b> Seagrave Observatory, weather permitting
<b>30</b> SATURDAY	<b>7:00PM</b>	<b>Public Observing Night</b> Seagrave Observatory, weather permitting

## IN THIS ISSUE

PRESIDENT'S MESSAGE Dave Huestis	<b>2</b>
GEMINID METEOR SHOWER Dave Huestis	<b>2</b>
PROPOSAL TO RESTORE THE FLYBALL GOVERNOR OF THE CLARK TELESCOPE Allen T Hall	<b>3</b>
E-BOARD MEETING NOTES Dave Huestis	<b>4</b>
NOVEMBER MEETING NOTES Mercedes Rivero-Hudec	<b>5</b>
TREASURER'S REPORT Al Schenck	<b>6</b>
MARTIAN DEVILS Dr. Tony Phillips	<b>7</b>

## President's Message

*Dave Huestis, President*

The year is quickly coming to an end, and with it Skyscrapers will hold a holiday party at our December monthly meeting on Saturday, December 2. For both new and seasoned members, please be reminded that this meeting will be held at the North Scituate Community Center.

Our guest speaker for our holiday meeting will be Dr. William Sullivan who will present a talk on Myth, Astronomy and the War Against Time, "The Secrets of the Incas" .

Our speaker will begin promptly at 7:30 pm.

Following Dr. Sullivan's lecture we will break for our holiday party. Many of our members have made contributions to insure there are plenty of refreshments for

our celebration.

Following the party I wholeheartedly encourage everyone to remain for Gerry Dyck's recitation of "A Child's Christmas in Wales by Dylan Thomas".

After Gerry's presentation we will proceed with the business meeting. There are two motions that will need to be discussed and voted on under old business. If you didn't attend the November meeting, you can review the motions in the secretary's report in this issue of the Skyscraper.

Come share the holiday spirit with your fellow Skyscrapers.

Happy Holidays to you all.

## Geminid Meteor Shower

*Dave Huestis*

Stargazers will receive an early holiday gift this December 13-14, provided the skies remain clear. On that night the Geminid meteor shower will reach its peak of activity. This very consistent and productive shooting star display will only be slightly bothered by moonlight, so it will definitely be worth your time to set aside a few hours to catch many meteors as they blaze across the sky.

While most meteor showers perform better after midnight, the Geminids are one shower that can be productive before that hour. Why? These meteors radiate out from a point in the constellation Gemini near the stars Castor and Pollux. And during December Gemini is well up in the eastern sky before midnight. So if you need to get some sleep, you can observe perhaps one meteor per minute at a reasonable hour.

However, if you can forego a few hours of shut-eye, wait until Gemini reaches zenith (a point directly overhead) at around 2:00 am. Then you may possibly observe from 100 to 120 Geminid meteors per hour. But if you can, stay outside even later, for some forecasts call for the peak activity to occur around 6:00 am EST.

A waning crescent Moon, just past last quarter, doesn't rise until around 1:00 am, and at that time will brighten the sky a bit. Try to block it from view. This action will increase your chances of observing more shooting stars. Geminids are fairly bright and

moderate in speed, hitting our atmosphere at 21.75-miles per second. The Geminids are characterized by their multicolored display (65% being white, 26% yellow, and the remaining 9% blue, red and green). They also have a reputation for producing exploding meteors called fireballs.

Good luck with the December Geminids.

And finally, the Winter Solstice occurs at 7:22 pm on December 21. Notice how far south the Sun arcs across the sky on this day.

Please note that Seagrave Observatory will be closed on Saturday, December 2nd. Check our web site to see if the observatory will be open on the Saturday nights just before Christmas and New Years (12/23 & 12/30). Also refer to the web site at <http://www.theskyscrapers.org> for snow cancellations.

Happy holidays and clear skies to you all.

# Proposal to Restore the Flyball Governor on the Clark Telescope

*Allen T Hall*

As many of you may know, I have been researching the old clock drive for the 8 1/4 Clark.

Recently, with contributions from George East, Dennis DiCicco and John Briggs, I was able to piece together the remaining bits of information required to restore the drive to it's original condition.. The major components that were missing from the drive system were: the "Flyball" Governor, RA slow motion controller, and the weight system.

I believe that we have found the original weights, or at least some of them in the basement of the observatory. Additionally, we have all of the parts related to the winding mechanism. Unfortunately, the Flyball Governor was lost forever when it was destroyed by vandals in the 1970's. I have one of the original gears that were part of the Slo-Motion controller.

I would like to get permission from the E-Board to complete the restoration effort on the Clark by fabricating the missing components, and installing them on the telescope.

Based upon photographs that George East was able to supply, showing details of the governor , (See Attached photos) , I was able to scale the dimensions and produce a CAD model of the governor. After talking with Dick Parker and John Briggs, I am confident that we have arrived at an accurate design / replica of the original governor.

When completed, this new governor will be able to control the speed of the telescope's tracking quite accurately. I expect that the value of this unit will be between \$6000-\$8000 dollars based upon the time that will be required to do the fabrication.

Dick Parker has volunteered to help me with the fabrication, as my shop is not in working order. I also have access to equipment at work.

I will be more than happy to donate the shop

equipment time and my personal time to complete this project, however, I was hoping that I could get a re-imbusement from Skyscrapers for the raw material stock that I will need to finish the job. I expect that the total for all of the materials required to replicate the governor will be approximately \$250-\$300..

The breakdown is approximately as follows:

Brass Plate & Bar stock \$150, Gears, \$100.00, eventually we'll need a new chain,, approximately \$50.00.

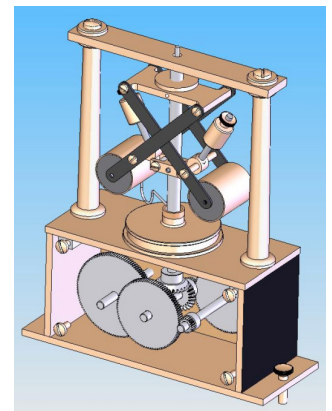
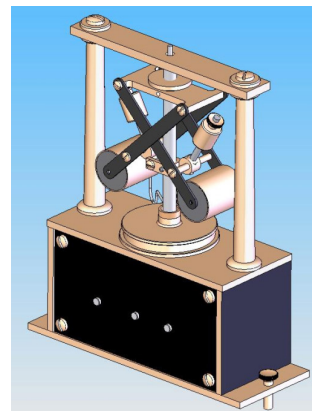
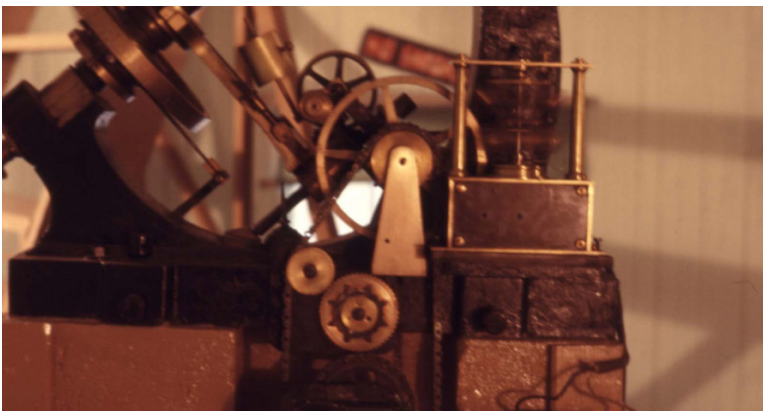
John Briggs and Ken Launie of the Antique Telescope Society both feel that this a very worthy project, and even though the governor will be a replica, it will still add great value to the telescope as a whole.

Once the flyball governor is completed, I will need to make a bracket/ shelf to mount it to the telescope. The slow-motion controller will be the last item I tackle. Additionally, there are a couple of small missing pieces; Vernier Magnifiers, etc... that I will need to make.

I have learned a great deal about these old telescopes during my research into this drive system, and am looking forward to seeing this project completed. I hope that all of the members of the board, as well as the majority of the membership feel the same way.

The Old Clark needs to be restored to it's original condition. This telescope was never meant to be a photographic instrument, and in fact now that we have the 16" telescope, there really is no need to try and " Upgrade/ RUIN ", the Old Clark's drive. It will be a much more impressive and valuable instrument if we can present it in it's original configuration.

Regards & Clear Skies All:



Executive Board Meeting - October 27, 2006 - Seagrave Memorial Observatory

President Dave Huestis called the meeting to order at 7:30 pm.

Marian Juskuv resigned as Trustee and member of Skyscrapers for personal reasons. President Dave Huestis thanked Marian for his 1½ years service in the position of trustee and for his and Maria's support as members.

**AstroAssembly:** Second Vice President Ted Ferneza gave a Powerpoint presentation recapping our successful AstroAssembly convention. Skyscrapers netted \$2519.47 through Ted's hard work and dedication. A well deserved round of applause resounded from those in attendance.

**December Holiday Meeting:** Our December meeting and Holiday party will be on December 2 (Saturday) at the North Scituate Community Center starting at 7:30 pm. Dolores Rinaldi is accepting monetary donations for the holiday party refreshments. Please make checks payable directly to her and mail to 17 Pembroke Drive, Johnston, RI 02919. Our guest speaker will be Dr. William Sullivan, who will speak on Myth, Astronomy and the War Against Time, "The Secrets of the Incas".

**Winter Meetings:** Our January, February and March monthly meetings will be held at the North Scituate Community Center.

**Trustees:** A decision will be made at a later date as to the trustee vacancy. The trustees will notify Jim Hendrickson to put a notice on our web site should snow/ice force us to close on any Saturday night.

**Clark telescope:** Master optician Paul Valeli cleaned the Clark objective on the Friday of AstroAssembly. He does not recommend removing the flint/crown from the cell for cleaning for at least 25 years.

**Trash:** We can no longer dump trash in the dumpsters at Famous Pizza.

**Treasurer:** Al Schenck gave a brief report on our finances. The books have been reconciled. A question was raised by Glenn Jackson regarding putting some of our money in a money market account to get a better return on our savings. Some discussion ensued. Glenn and Al were appointed to a committee to research this topic.

**Membership Database:** Mercedes Rivero-Hudec has made much progress on maintaining our database. It is the most accurate it has been in years.

**Speakers:** Glenn Jackson announced a special meeting on Friday, November 24, at the Village at Waterman Lake, to host Mars Rovers lead scientist Jim Bell. A wine and cheese reception will be held.

\$100 was pledged from the presidential discretionary fund. Glenn at first suggested that we might ask the membership in general for donations. President Dave Huestis noted that we traditionally ask the membership for donations for the December Holiday Party and that we shouldn't ask them to contribute for the Bell meeting. It was tentatively decided that Glenn would ask for private donations. Another \$80 - \$100 was pledged from officers in attendance. Glenn also talked about providing a "taste" of chowda and clam cakes. (Bell used to live in Warwick, RI, and misses that and Dells!) Information will be sent to the membership. We are trying to procure copies of Jim Bell's new book, Postcards from Mars, for sale.

**Al Hall Proposal:** President Dave Huestis read a proposal from member Al Hall to fabricate a replacement governor for the Clark refractor at a cost of no more than \$300. Al provided written details and a proposed design prior to the meeting. The executive board approved Al's proposal unanimously. Al will make a motion at the November monthly meeting under new business to expend the funds. This is a non-budgeted item and must be brought to the membership for an up or down vote.

**ETC:** President Dave Huestis noted the upcoming transit of Mercury on November 8. He will ask members to email him with locations where they will be observing this event. Dave will then notify the membership of these locations. Dave briefly recapped the first 75th anniversary brainstorming meeting. Plans and further research are well underway. Dave asked about the executive board members to think about the publishing of members email addresses (privacy issues). This topic will be discussed at a later time.

The meeting was adjourned at approximately 9:30 pm.

The minutes of this meeting were taken by President Dave Huestis due to the late arrival of the secretary.

# November Meeting Notes

Mercedes Rivero-Hudec, Secretary  
September 1, 2006, Seagrave Observatory

Featured speaker:  
Ronald F. Dantowitz,  
director of the Clay  
Science Center's  
observatory (Dexter  
and Southfield Schools,  
Brookline, Massachusetts)  
was September's  
featured speaker. Marek  
Kozubal, Ron's long-  
time collaborator, was  
also present. Ron's



presentation, entitled Adventures in High Resolution Imaging, covered several astrophotography-related topics, including Mercury and SpaceShipOne; a very important lesson we took home: always use a #25 red filter!

Business meeting:

Call to order: The business meeting was called to order by President Huestis at 9:25 p.m. • President Huestis thanked Glenn Jackson for having invited Ron Dantowitz.

Secretary's report: Approved as posted in the newsletter.

Treasurer's report: Approved as posted in the newsletter.

Trustees' report: Tracey Haley announced to the membership that Trustee Marian Juskuv resigned as Trustee and as member of The Skyscrapers. • There will be an election for a new Trustee in January. Jerry Jeffrey is heading the nominating committee (appointed by President Huestis). Regular elections will take place in April. Tracey Haley will be Senior Trustee.

Other: Damaged outdoor lamps are being repaired. • Evidence of a small vehicle driving on the grass. • Port-a-john: lock is missing; some cans were found inside.

Monthly speaker: The December meeting's speaker will be Dr. William Sullivan. • Dr. James F. (Jim) Bell, III (Cornell University) will give a presentation on November 24. President Huestis thanked Glenn for inviting Dr. Bell and making the arrangements for his presentation.

75th anniversary (May 5, 2007): Kathy

Siok informed us that a number of ideas are being considered to celebrate Skyscrapers's 75th anniversary: • To invite William S. Penhallow as a speaker.

• To present historical perspectives at the July cookout and at AstroAssembly. • To have commemorative items such as hats, T-shirts, sweatshirts. • Gerry Dyck is putting together a presentation with music and photos. Each movement of Hayden's 75th symphony will be matched to a photo category. He needs photographs of: Skyscrapers with their telescopes, unusual club activities, something special to us, something we have photographed. Gerry would like to receive those via e-mail during the next couple of weeks.

Librarian's report: Tracey Haley mentioned that Jerry Jeffrey, Jim Brenek and the Audubon Society made donations to the library.

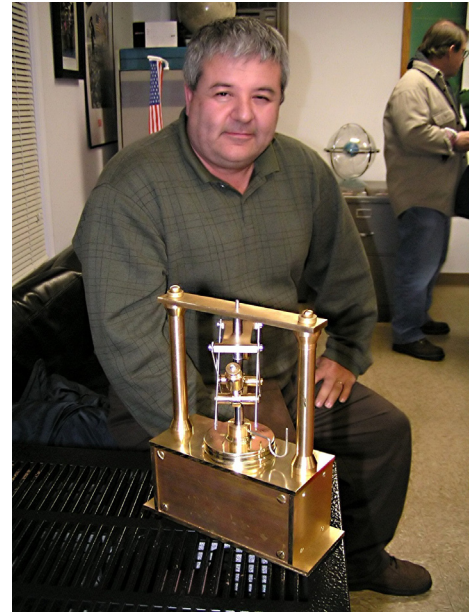
Historian's report: No report at this time.

AstroAssembly: Theodore (Ted) Ferneza gave a detailed report on Astro Assembly and thanked everyone who helped. Thank you, Ted!

Old business: Tilo Angiolilli, Peter and Jane Bonacich, Lloyd Merrill, Ray Schmidt and the Shein family were voted in.

New business: The following new applicants were introduced to the membership: Todd Kozikowski, John Briggs (former member), Ed Zarenski, Mark Knowles, Ralph Fletcher, and Noah Szosz. They will be voted in next month under old business. • Steve Hubbard made the following motion: • Skyscrapers to provide up to \$300.00 to cover the costs related to Jim Bell's presentation on November 24. Keep track of those members who have already made donations and may wish to be reimbursed. The motion was seconded by Robert Horton and will be discussed and voted on under "Old Business" at the next meeting. • Al Hall has researched and already done lots of work towards restoring the Clark's drive. Al will donate his time and tools towards the restoration. Al had asked President Huestis for the Skyscrapers to allocate funds for

materials - the Executive Committee already approved the request. The membership also approved the request. A discussion followed on how many original telescope governors are still in place.



Good of the organization: • Dan Lorraine donated two books: one about dark matter, and the other about digital astrophotography. Dan also brought a book (for sale) about the Newport Tower; member William S. Penhallow wrote the book's astronomy section. (The Newport Tower has been a topic of interest to NEARA (New England Antiquities Research Association)). • John Briggs announced a talk by Dr. Andrew Steele, an astrobiologist, at the Clay Science Center on November 9. • Skyscrapers thanked Jim Hendrickson for a great website. • Dolores Rinaldi and Ted Ferneza led a star party for Women Wilderness Weekend of Rhode Island at URI's Alton Jones campus on October 21. Women Wilderness Weekend of Rhode Island made a \$75.00 contribution to Skyscrapers. • Dolores Rinaldi will be accepting donations for the December's holiday party.

President's announcements: • President Huestis asked the Skyscrapers to think about their e-mail preferences: listing of all recipients of a message vs. blank copies.

Adjournment: The business meeting was adjourned at 10:30 p.m.

Skyscrapers, Inc. Actual vs. Budget  
 Mid-term Report  
 Fiscal Year 2006-2007  
 April 1 thru October 31, 2006

Expenses		
	Actual	Budgeted
Category	2006-2007	2006-2007
Electric	\$ 128.17	\$ 150
Propane	\$ 49.86	\$ 120
Printing(non AA)	\$ 8.98	\$ 120
Newsletter postage	\$ 8.58	\$ 55
Domain Name	\$	\$ 25
Subscriptions	\$ 60	\$ 70
Grass Mowing	\$ 140	\$ 150
Incorp. Fee	\$ 20	\$ 20
Trustee Expense	\$	\$ 500
Refreshments	\$ 245.48	\$ 450
Property Insurance	\$	\$ 2537
Other	\$	\$ 50
Pres. Discretionary Fund	\$ 25	\$ 150
Cookout	\$ 503.13	\$ 650
Meade Insurance	\$	\$ 0
Permanent Port-a-John	\$ 100	\$ 270
Astro Assembly	\$2667.68	\$ 4007 *
	-----	-----
	\$3956.88	\$ 9324
Income		
	Actual	Budgeted
Category	2006-2007	2006-2007
Dues	\$ 4092	\$ 3550
Astro Assembly	\$ 5187.15	\$ 4807 *
Star Party Donations	\$ 350	\$ 650
S&T sales	\$ 11	\$ 0
Other Donations	\$ 187.57	\$ 150
Cookout	\$441	\$ 455
non budgeted interest income	\$43.91	
		-----
	10312.63	\$ 9612

\* These numbers were derived using scenario #2 (110 attendees) of Ted Ferneza's proposed Astro Assembly budget, which will be introduced at the May meeting. The expense and income for the Grille and Banquet are included in these projections.

# Martian Devils

By Dr. Tony Phillips

Admit it. Whenever you see a new picture of Mars beamed back by Spirit or Opportunity, you scan the rocks to check for things peeking out of the shadows. A pair of quivering green antennas, perhaps, or a little furry creature crouched on five legs...? Looking for Martians is such a guilty pleasure.

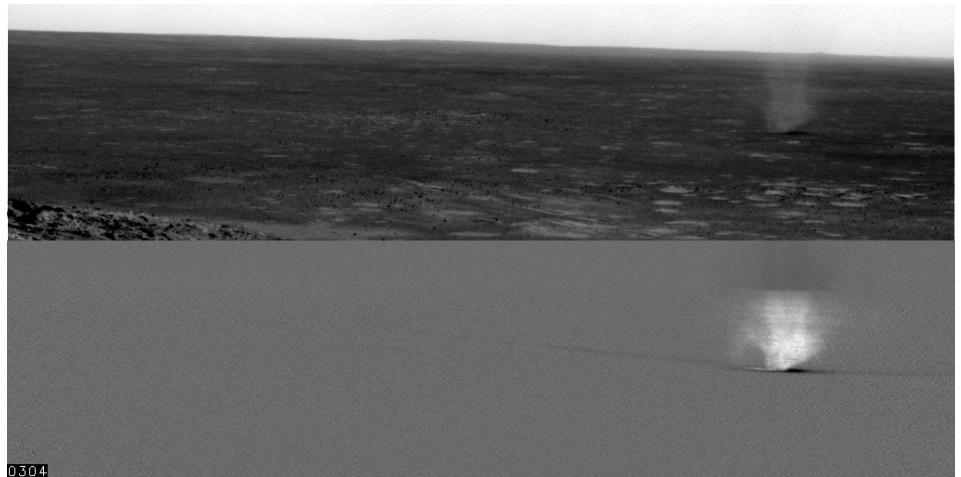
Well, you can imagine the thrill in 2004 when scientists were checking some of those pictures and they did see something leap out. It skittered across the rocky floor of Gusev Crater and quickly disappeared. But it wasn't a Martian; Spirit had photographed a dust devil!

Dust devils are tornadoes of dust. On a planet like Mars which is literally covered with dust, and where it never rains, dust devils are an important form of weather. Some Martian dust devils grow almost as tall as Mt. Everest, and researchers suspect they're crackling with static electricity – a form of "Martian lightning."

NASA is keen to learn more. How strong are the winds? Do dust devils carry a charge? When does "devil season" begin – and end? Astronauts are going to want to know the answers before they set foot on the red planet.

The problem is, these dusty twist-ers can be devilishly difficult to catch. Most images of Martian dust devils have been taken by accident, while the rovers were looking for other things. This catch-as-catch-can approach limits what researchers can learn.

No more! The two rovers have just gotten a boost of artificial intelligence to help them recognize and photograph dust devils. It comes in the form of new software, uploaded in July



The top half of this image is part of a series of images of a passing dust devil on Mars caught by Spirit. In the bottom half, the image has been filtered to remove everything that did not change from one image to the other. Notice the faint track left by the dust devil. Credit NASA/JPL/Mark T. Lemmon, Univ. of Arizona Lunar and Planetary Laboratory.

and activated in September 2006.

"This software is based on techniques developed and tested as part of the NASA New Millennium Program's Space Technology 6 project. Testing was done in Earth orbit onboard the EO-1 (Earth Observing-1) satellite," says Steve Chien, supervisor of JPL's Artificial Intelligence Group. Scientists using EO-1 data were especially interested in dynamic events such as volcanoes erupting or sea ice breaking apart. So Chien and colleagues programmed the satellite to notice change. It worked beautifully: "We measured a 100-fold increase in science results for transient events."

Now that the techniques have been tested in Earth orbit, they are ready to help Spirit and Opportunity catch dust devils – or anything else that moves – on Mars.

"If we saw Martians, that would be great," laughs Chien. Even scientists have their guilty pleasures.

Find out more about the Space Technology 6 "Autonomous Sciencecraft" technology experiment at [nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft\\_tech.html](http://nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft_tech.html), and the use of the technology on the Mars Rovers at [nmp.nasa.gov/TECHNOLOGY/infusion.html](http://nmp.nasa.gov/TECHNOLOGY/infusion.html). Kids can visit [spaceplace.nasa.gov/en/kids/nmp\\_action.shtml](http://spaceplace.nasa.gov/en/kids/nmp_action.shtml) and do a New Millennium Program-like test at home to see if a familiar material would work well in space.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*

# Directions to Seagrave Memorial Observatory

## **From the Providence area:**

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

## **From Coventry/West Warwick area:**

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

## **From Southern Rhode Island:**

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

## **From Northern Rhode Island:**

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

## **From Connecticut:**

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

## **From Massachusetts:**

Take Interstate 295 South (off Interstate 95 in Attleboro.) Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 PEEPTOAD ROAD  
NORTH SCITUATE, RI 02857