



April 2013

Update

A free email newsletter of the Oklahoma Space Alliance

**Oklahoma Space
Alliance**

A Chapter of The
National Space Society

President's Message:

Stephen Swift

This is a time for remembering and a time for celebration. On April 12, fifty-two years ago humanity first ventured off planet Earth with Yuri Gagarin's orbital flight aboard his Vostok spacecraft. Shortly after, on May 5, aboard the Mercury Freedom 7 spacecraft Alan Shepard became the second human to experience space travel. The following February 20, John Glenn orbited the earth three times in his Mercury Friendship 7 spacecraft. We pause to remember the accomplishments of these pioneers, and we celebrate their first steps toward humanity's future in space.

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Next OSA Meeting

Saturday, April 13

2:30 PM

Denny's Restaurant

1617 SW 74th

(Just NE of I240 and Penn.)

405-685-5414

Program: "What's Happening with Space" and Celebration of Space Flight.

See agenda on page 3



Elon Musk

Founder SpaceX & Tesla Motors

Quote of the Month:

"I'd like to die on Mars, just not on impact!"

Elon Musk

March 2013

**Oklahoma Space
Alliance**

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Antares News



Antares Rocket at Wallops Island

The first fully operational Antares rocket stands on Launch Pad 0-A at NASA's Wallops Island Spaceport. The first test launch is scheduled for April 17, 2013. Antares is privately developed by Orbital Sciences with the intent of providing commercial launch services. NASA awarded Orbital Sciences a Commercial Orbital Transportation Services (COTS) contract. With Orbital's Cygnus cargo spacecraft as the upper stage, Antares provides the capability to place payloads of 11,000 pounds in low earth orbit. Antares is the second commercial launch vehicle for resupply of the ISS. The first is SpaceX's Falcon 9.



XCOR News

XCOR announced the test firing of a rocket engine fueled with its full piston pump. The pump eliminates the need for heavy high-pressure fuel and oxidizer tanks. The piston pump supports kerosene, LOX, liquid hydrogen and liquid methane. XCOR claims the piston pump will greatly reduce the cost of rocket engine pumps and pump maintenance.



XCOR Piston Pump Test Fire



XCOR Three-Cylinder Rocket Engine
Crankshaft Piston Pump



ISDC 2013 Global Collaboration in 21st Century Space

The 32nd International Space Development Conference, to be held at the La Jolla Hyatt Regency, San Diego, California, May 23-27, 2013. Speakers at the ISDC will discuss many breakthroughs happening in space development. ISDC 2013 will showcase the latest developments, promote new ideas and prove fertile ground for collaboration and innovation.

ISDC will have tracks specific to the Moon, Mars, asteroids, space transportation, space solar power, business/policy and transhumanism. All of these tracks are being developed by committees to incorporate the latest information. We welcome your input on what ISDC should offer within and outside of the designated tracks. ISDC is available on Facebook, Twitter and Google + for staying abreast of the latest developments as well as providing opportunity for you to contribute.

Register at for the ISDC at the National Space Society web site:
<http://isdc.nss.org/2013/>

April 13th Meeting Agenda

2:30 PM

- 1) Review Minutes and Agenda
- 2) New mail
- 3) Treasurers Report
- 4) Report on OSIDA Meeting
- 5) Old Business
- 6) New Business

3:15 PM

- 7) What's Happening
 - a. SpaceX Grasshopper Launch
 - b. ISS Expedition 35 Commander
 - c. SBIRS Launch Video
 - d. XCOR Piston Pump
 - e. Expedition 35 Launch Video
 - f. Curiosity Interactive Panorama
 - g. Apollo 11 in 100 Seconds Video
 - h. NYC from the ISS
 - i. Canyons on MARS
 - j. Comet to pass near Mars in 2014
 - k. Antares on Launch Pad
 - l. Great Astronomy Pictures
- 8) Celebration of Space Flight With Pictures and Videos
 - a. Yuri Gagarin
 - b. Alan Shepard
 - c. Gus Grissom
 - d. Wally Schirra
 - e. John Glenn
- 9) Adjournment

President's Message:

Continued from page 1.

Yuri Gagarin became an international celebrity touring throughout the world. He received the medal Hero of the Soviet Union, the nation's highest honor. Yuri achieved the rank of Colonel of the Soviet Air Force and became deputy training director of the Star City cosmonaut training base. Yuri died in an accidental crash of a Mig aircraft at the age of 34. Though the efforts of many opened the door into space, Yuri Gagarin was the first to step through that door and lead humanity forward into the Space Age.



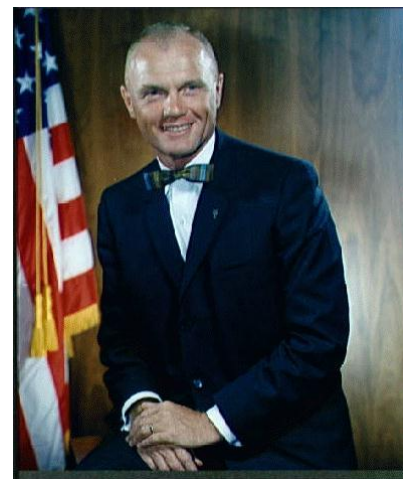
Yuri Gagarin

Alan Shepard Jr., the first American to travel in space, became a national hero, honored by parades in New York, Washington and Los Angeles. He received a Congressional Space Medal of Honor. Shepard reached the Rank of Rear Admiral in the U. S. Navy. He was Chief of the Astronaut Office, Commander of Apollo 14 and the fifth person to walk on the Moon.



Alan Shepard Jr.

John Glenn, the first American to orbit the Earth, became a national hero and received a ticker tape parade in New York City. He retired as a Colonel from the Marine Corps in 1965. He served 24 years as United States Senator from Ohio. In 1998, he became the oldest person to go into space at the age of 77 aboard Space Shuttle Discovery's STS-95 flight.



John Glenn

Minutes of March Meeting

Oklahoma Space Alliance met March 9, 2013 at the Denny's on the I-240 access road on the north side just east of Pennsylvania Avenue in southern Oklahoma City. In attendance were Steve, Karen and Brian Swift, Russ Davoren, Claire McMurray, Don Robinson, Tim Scott, Linda Shannon, Dave Sheely and Syd Henderson.

We received contact information for Don Wilson in Tulsa who joined OSA.

We now have \$799.36 on our checking account and \$267 in cash. The annual report is now in to National Space Society headquarters, being sent out on February 11 by Priority mail.

Claire received a letter critical of NASA's handling of the James Webb Space Telescope.

We can do our Celebration of Space Flight (aka Yuri's Night) on Saturday April 13 at our regular meeting.

Additional topics for meetings include the International Space Development Conference, Real and Speculative Spacecraft. Add comets as well, and what can we learn about Earth by going into space.

Paul Damphousse has resigned as NSS Executive Director.

What's happening in Space?

Quotes:

"The real spinoffs are at a higher level." Any company that seeks to build a rocket or satellite component "or who even wants to supply nuts, bolts and screws to the space industry," he said, "must work to a higher level of precision than human beings had to do before the space industry came along."—NASA Administrator Michael Griffin quoted in *The New York Times*, September 25, 2007.

"Asteroids are nature's way of asking: 'How's that space program coming along?'" Neil de Grasse Tyson.

[Apparently not original with him.]

We watched a lot of videos of the meteor that exploded over Chelyabinsk in Russia on February 15, and articles on the asteroid that buzzed the Earth later that day.

Inspiration Mars Foundation wants to send a manned expedition to Mars in 2018. The round trip would take 501 days and use the Dragon space capsule. For the story, see <http://www.space.com/19981-private-mars-mission-married-2018.html>.

SpaceX's Dragon capsule suffered a thruster glitch after its launch to the International Space Station, but recovered and was captured by the ISS on March 3, one day later than planned.

Demographics have no impact on America's confidence that humans will go to Mars.

A Russian cargo module went to the ISS. An Atlas V launched a Landsat 8 satellite. This was the first West Coast launch of an Atlas V. We watched launch videos.

Feature Presentation: Destination Mars

The first six missions to Mars failed. Mariner 4 was the first success, flying by Mars in 1965. Mariner 9, in 1971, became the first spacecraft to orbit Mars. There have been some sixty attempted or successful missions to Mars. This number includes missions that used Mars for a gravitational assist.

SpaceX can launch something to Mars within a year.

The ExoMars mission will launch in 2018,

The Mars 500 project was a 520-day simulation of a Mars mission, a joint project by the European Space Agency and the Russian and Chinese space agencies.

India will launch a Mars orbiter, *Mangalyaan*, in November.

Elon Musk wants a Mars colony of 80,000 people.

We watched a video about Mars One.

Part V of the NSS Roadmap, To Mars

Milestone 14: Robotic exploration of Mars

Milestone 15: Creation of a Logistics System for Transporting Humans and Cargo to the Martian Surface.

Milestone 16: A Continuously Occupied Multi-Purpose Base.

Milestone 17: A True Martian Settlement.

Minutes by OSA Secretary Syd Henderson

March OSIDA Meeting

The Oklahoma Space Industry Development Authority met at the Department of Transportation Building in Oklahoma City on March 13. Board members present were Jack Bonny, James Cunningham, R. Allen Goodbary, Jay Edwards and Robert Cox. There were five in the audience, including Steve Swift, Dave Sheely and Syd Henderson from Oklahoma Space Alliance. Bill Khourie, Kim Vowell and Brinda White were present for the Spaceport.

The Operation Control Center should be done around the end of the month of March. OSIDA can move in within two or three days after the building is complete. They anticipate this being during the first two weeks of April.

The Oklahoma Spaceport has been requested to host the General Aviation Fly-in on April 6.

The new runway sweeper arrived in early March.

The Oklahoma UAS [unmanned aerial systems] Summit will be at the Postal Center in Norman on March 26. Fee is \$100 in advance and \$120 at the door.

The \$15,200 STARBASE payment was approved for Fiscal Year 2013.

OSIDA is developing a new Business Development Plan. They need to get some low-hanging fruit this year.

Notes by OSA Secretary Syd Henderson