



JCET NEWS

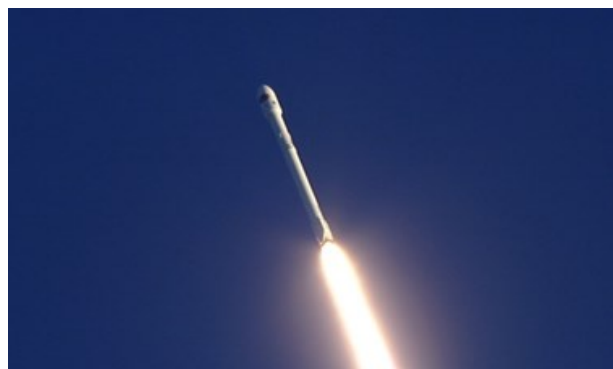
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Seeing Earth from a new vantage point

Dr. Jay Herman is the EPIC (Earth Polychromatic Imaging Camera) Instrument Scientist for the newly launched DSCOVR mission (Deep Space Climate Observatory), a joint NASA-NOAA-Air Force mission that will look at the Earth and solar wind.

Dr. Herman has been involved since the very beginning starting in 1998 when the mission was called "TRIANA" and suggested by then Vice President Al Gore. The satellite was put into clean storage starting in 2001 and refurbished starting in 2010. It has now been launched under the name of DSCOVR on February 11, 2015 by a SpaceX Falcon rocket.



DSCOVR launched aboard a SpaceX rocket from Cape Canaveral, Florida, February 11, 2015. (Photo: NASA)

DSCOVR is now on its way to a special region between the Earth and the Sun called "L1" or Lagrange 1, about 932,000 miles away from the Earth. Dr. Herman describes the expected view, being able to see the whole sunlit earth at all

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JCET Celebrates 20 years with Climate Symposium

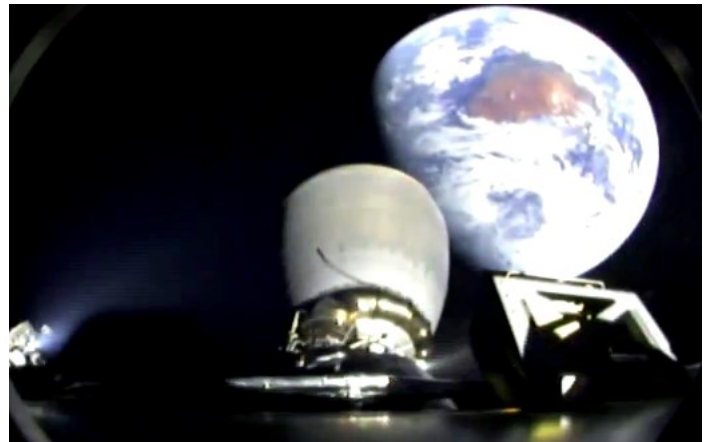


Mark your calendars! On April 20, 2015, JCET will hold "Communicating Climate: Celebrating 20 Years of Climate Research through JCET," featuring a panel of scientists moderated by Joe Witte, NASA GSFC Climate Communicator and including Dr. Terri Adams-Fuller (Howard Univ.), Dr. Antonia Gambacorta (STC), Dr. Thorsten Markus and Dr. Steve Platnick (NASA GSFC). The event will culminate in a live musical multimedia performance by Kenji Williams, followed by hands-on activities, poster session and a reception. For more information visit:

<http://jcet.umbc.edu/?id=50606>

times: “As the Earth rotates beneath you (north pole to your head), on the left side you would see sunrise, on the right side you would see sunset, and in the center would be noon, all of the time. Both the imagery and science of the Earth may be transformative, just like the first view of Earth from the Moon by the Apollo astronauts.”

Once at LI, there are two instruments onboard that face the Earth. Herman’s part of the team is looking at spatially resolved (about 20 km²) images taken by the EPIC instrument. EPIC will measure Earth’s atmosphere, specifically Ozone, Sulfur Dioxide, aerosols (smoke, dust, volcanic ash), and cloud amounts in terms of reflectivity of the Earth, cloud height from the O2 A- and B-bands, and vegetation indices. Clouds are bright against the Earth, especially in the UV wavelengths, so the instrument will be able to detect their reflection and help tell us Earth’s energy budget to know how much the Earth is reflecting sunlight away from the planet (critical to understanding global warming) and how much infrared radiation is blocked by the clouds. Part of this climate calculation will depend on EPIC’s measurements of cloud height and vegetation. The other climate instrument is NISTAR (NIST Advanced Radiometer) composed of cavity radiometers capable of measuring the total radiation reflected and emitted by the Earth in the direction of LI. Other instruments on the sun side



Falcon 9 second stage carrying DSCOVR, with Earth in background. (Photo: SpaceX)

of the spacecraft will measure the solar wind properties and magnetic field providing an early warning system for magnetic storms, important to smooth communications on Earth including aviation and GPS, as well as power grids.

DISCOVER arrives to LI on June 7, 2015. Then the door to the Earth Cameras will open. Within a few days, EPIC will obtain the first pictures of the Earth from LI. It is an exciting time for the DISCOVER team, and we look forward to seeing the first images of Earth from this new perspective.

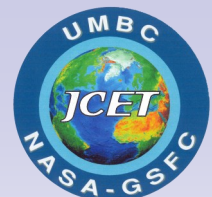
To learn more and follow the mission, visit: <http://www.nesdis.noaa.gov/DSCOVR/>

Congratulations!

Dr. Petya Campbell is being awarded a NASA Earth Science Technology Office (ESTO) Award as Principal Investigator: “Next Generation UAV Based Spectral Systems for Environmental Monitoring.”

JCET Faculty on the Move...

- Dr. Glenn Wolfe has been promoted to Assistant Research Scientist.
- Dr. Scott Rabenhorst is taking a new position with NRL.
- Dr. Elena Georgieva has taken a NASA Civil Service position.
- All of JCET wishes Dr. Hoff the very best on his retirement in June!



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