Section News

Night Pod Images Bring Earth to Light from Space Station

There is a reason the phrase "shooting in the dark" refers to things that are difficult to do -- and night photography is no exception. To account for low-light image scenarios, a photographer needs a steady tripod, but aboard the International Space Station, a traditional tripod isn't going to cut it. Thankfully, the European Space Agency, or ESA, developed NightPod for the crew's cameras.

This astronaut photograph of Liège, Belgium, at night was taken using the NightPod camera mount aboard the space station. The mechanism allows astronauts to capture images of the Earth at night with greater clarity and control than previously possible from orbit...

Above: This image, taken on December 8, 2012, with the ESA NightPod camera mount, shows the city of Liège, Belgium, as it appears at night from the vantage point of the ISS. Image credit: ESA/NASA.

Association Aéronautique et Astronautique de France (3AF)

Sister Section of AIAA Houston Section since 2007
Jumelée avec AIAA Houston Section depuis 2007

3AF Association Aéronautique Astronautique de France
Midi-Pyrénées

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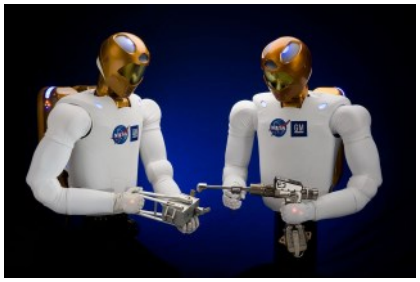
AIAA 2013 Space Automation and Robotics Award

Please see our back cover for a few more details from NASA about this 2013 AIAA award.

Section News

February 3, 2013- The AIAA Houston Section proudly wishes to congratulate the Robonaut2 team on this exciting award. Robonaut2 continues to inspire the youth and adults around the world, and is a prime example of high technology and a strong model for how governmental research entities can partner with industry in a mutually beneficial manner. Their team has overcome great challenges and rose to the occasion in ways that us outside their team may never fully understand, but will strive to duplicate in the future. Congratulations, the AIAA Houston Section is very proud of their achievements and this wonderful recognition of their efforts.

Sincerely,
Daniel Nobles, Chairman, AIAA Houston Section 2012-2013



Left: JSC2009-E-155295 (28 July 2009) --- NASA and General Motors have come together to develop the next generation dexterous humanoid robot. The robots – called Robonaut 2 – were designed to use the same tools as humans, which allows them to work safely side-by-side humans on Earth and in space. Image credit: NASA.

The American Institute of Aeronautics and Astronautics (AIAA)

AIAA Houston Section
Since 1962

P.O. Box 57524
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July 01, 2012 - June 30, 2013

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Downloaded February 17, 2013

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Student Section News

Rice University AIAA Student Section Advisor:
Professor Andrew Meade, *meade[at]rice.edu*
713-348-5880, www.ruf.rice.edu/~meade/

Above: Image credit: Rice University.

Above: A recent panel discussion at Rice University was led by George Abbey of the James A. Baker III Institute for Public Policy. A Rice news link provides a short biography for each of the following panelists: Mark Albrecht, Leroy Chiao, Joan Johnson-Freese, Neal Lane, Eugene Levy and John Logsdon. The video was placed online. Eric Berger commented on this panel discussion later in the Houston Chronicle.

Above: Image credit: Rice University.

Student Section News
Please send inputs to Dr. Gary Turner, our College and Co-Op Chair. His e-mail address is: *collegecoop2012[at]aiaahouston.org*
His backup for this task is Editor Douglas Yazell: *editor2012[at]aiaahouston.org*
We publish most bimonthly issues at www.aiaahouston.org by the last day of each even-numbered month, and the submissions deadline is three weeks earlier. The November / December issue is an exception. It is published by December 10, not December 31.

Student Section News

The Texas A&M University AIAA student section started work on its web site for the new year as of August 10, 2012: http://stuorg-sites.tamu.edu/~aiaa/

Faculty advisor: Professor John E. Hurtado, *jehurtado[at]tamu.edu*, 979-845-1659.

Brian Freno '08 Chair	Bob Cline '13 Speaker Chair	Chris Greer Graduate Representative
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Erica Lovig '13 Treasurer	Nick Page '16 Publicity Chair/ Webmaster	Logan Hodge '15 Sophomore Class Representative
		Jacob Shaw '16 Freshman Class Representative

Above: Nick Page of Tampa, Florida is the new (web site viewed on February 22, 2013) Publicity Chair / Webmaster. Image credit: Texas A&M University AIAA Student Section web site.

Above: In 1997, the school became home of the George Bush Presidential Library. Image credit: Wikipedia.

A view of the main campus, looking north from Kyle Field. At the center is the Academic Building with its copper dome.

Above: Statue of Lawrence Sullivan "Sul" Ross located in front of the Academic Building. Image credit: Wikipedia.

Student Section News

Please send inputs to Dr. Gary Turner, our College and Co-Op Chair. His e-mail address is: *collegecoop2012[at]aiaahouston.org*
His backup for this task is Editor Douglas Yazell: *editor2012[at]aiaahouston.org*
We publish most bimonthly issues at www.aiaahouston.org by the last day of each even-numbered month, and the submissions deadline is three weeks earlier. The November / December issue is an exception. It is published by December 10, not December 31.

Section News

AIAA Houston Section Annual Technical Symposium (ATS 2013)
Notes about a Few of the Submitted Abstracts
Event Date: Friday, May 17, 2013

Astrodynamics

DR. ALBERT A. JACKSON IV, TC CHAIR

AIAA Houston Section Astrodynamics Technical Committee Chair Al Jackson will organize a session as usual.

He will also submit an abstract about the Horizons series of reprints, Man Will Conquer Space Soon! This famous series of space articles appeared in the weekly magazine Collier's in eight issues from 1952 to 1954. The contributors included the organizer, Wernher von Braun. Horizons is the first to reprint this page by page in high resolution. We are reprinting these eight sets of articles in the original order in eight consecutive issues of Horizons. The fourth of these eight sets of articles starts on a later page in this issue of Horizons.

Al Jackson is also one of the organizers of the Skylab sessions for this event. These sessions celebrate Skylab's 40th anniversary. Skylab launched on May 14, 1973. One of the Skylab presenters will be Ken Young.

Climate Change

DR. GERALD R. NORTH, TEXAS A&M UNIVERSITY

Dr. Gerald R. North will make a presentation of at least 45 minutes about the essential story of climate change. He will include time for questions and answers at the end of his presentation. A few biographical notes from the university web site:

North and his research group are interested in climate change and the determination of its origins. We work with simplified climate models which lend themselves to analytical study, estimation theory as applied to observing systems, and the testing of all climate models through statistical approaches. Often all three themes are combined for a particular application.

Over a period of 30 years, North and associates have studied a hierarchy of simplified models known as Energy Balance Climate Models (EBCMs). Both linear, nonlinear, and stochastic versions of these models have been shown to be good analogs to the real climate of the surface temperature field including the two dimensional seasonal cycle and the field of fluctuations. These models have very interesting properties from mathematical as well as physical points of view. For instance, multiple solutions occur for the present external conditions and their stability properties are amenable to analysis. Stochastic versions of the models are useful analogs to more comprehensive models making them a useful laboratory for preliminary analyses before expensive experiments are performed.

INCOSE

INTERNATIONAL COUNCIL ON SYSTEMS ENGINEERING

The local INCOSE Chapter did a great job last year with two 75-minute morning sessions and two 75-minute afternoon sessions, filling that entire track for the day's event. They might not have quite that many presentations this year.

Skylab 40th Anniversary

KENNETH A. YOUNG AND OTHERS

Ken Young's NASA-related oral histories and biography are online. ATS 2013 penciled in two afternoon 75-minute sessions for the Skylab 40th anniversary presentations. The first Skylab launch date was May 14, 1973.

Analysis of Voyages: Charting the Course for Sustainable Human Space Exploration

DR. KUMAR KRISHEN, NASA/JSC

The future of human presence in space beyond Earth orbit has been the focus of NASA strategic planning efforts for more than four decades. In the recent past, a report titled "Voyages, Charting the Course for Sustainable Human Space Exploration" was issued by NASA. This report identifies cis-lunar space, near-Earth Asteroids (NEAs), the Moon, and Mars and its moons as the destinations for future human exploration. The strategy for this exploration is based on capability-driven approach. This approach is used to identify capabilities that need to be developed to enable multiple human missions. This presentation will summarize the highlights of the NASA report. It will critically examine the implications of the destinations on technology development and capability enhancement. The objective is to show what developments should receive priority in the future to enable safe and affordable human space missions. It will identify a set of questions that can lead to a successful prioritization of the technology development. In this context each destination and technology identified in this report will be discussed and rationale for the technology prioritization provided. (Views expressed in this presentation are not necessarily those of NASA.)

Above: Launch date December 19, 2012. Soyuz TMA-07M crew patch. Image source: collectSPACE. Image credit: NASA / Roscosmos / Soyuz crew of TMA-07M.

Above: Launch date October 23, 2012. Soyuz TMA-06M crew patch. Image source: collectSPACE. Image credit: Roscosmos / Evgeny Tarelkin.

Who's on ISS now? (February 25, 2013)

Expedition 34, November 2012 - March 2013

- Oleg Novitskiy
- Kevin Ford (Commander)
- Evgeny Tarelkin
- Roman Romanenko
- Chris Hadfield
- Tom Marshburn

Right: The crew members of the Expedition 34 mission put together the following description of their patch: "The outer border of the Expedition 34 patch takes the mold line of a crew transfer or generic resupply vehicle which will form our bridge to the orbiting outpost throughout the second half of its operational lifetime. Inscribed inside in gold is a craft symbolizing future extra-terrestrial landers that will someday open other celestial destinations to human exploration. Our Sun, which enables the miracle of the only known life in our universe, radiates above the rich and colorful orb of Earth. Its 15 rays represent the countries of the International Space Station (ISS) Partnership whose foresight and sacrifice have enabled the first small steps into our universe. The ISS in flight represents the dedication, ingenuity, and cooperation amongst the thousands and thousands of workers around the globe who have successfully designed and built a wonder of our modern world. The distant stars, like those visible in our night sky, beckon us to come further into the depths of space. 'Off the Earth. . . For the Earth' - Our acknowledgement of the responsibility and commitment to work diligently for all inhabitants of planet Earth." Image credit: NASA / Expedition 34 crew.