

# The Canaveral Flyer

November 2006

*A Newsletter of the Canaveral Section of ASME International*



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jvangild@harris.com

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Chris Epler  
eplerce@usa-spaceops.com

### FSEC Representative

Dave Chasar  
dchasar@fsec.ucf.edu

## *Greetings Canaveral Section members,*

Our last event regarding energy for disaster provided an enlightening view of how solar energy can help in times of crisis. Bill Young displayed portable solar energy units and discussed their use in the efforts to aid those after hurricane Katrina in lower Mississippi. He also discussed the various zero energy homes that exist right here in Florida that are powered purely by solar energy, running all appliances and AC without the worry of power outages during a storm. It was a very interesting topic enjoyed by all. Our thanks go out to Bill Young for putting on an excellent presentation.

Colonel Joe Smyth USAF will be giving us an overview of EADS' Tanker Program. Joe is VP of the European Airbus Tanker Program working with Northrop Grumman in Melbourne on the Air Force Tanker replacement proposal in competition with Boeing. It has been reported that this program may be the largest the Air Force will have ever awarded. And, it is said, it will last so long some of the pilots who will fly the planes have not yet been born! This event will be held November 8<sup>th</sup> at the Florida Solar Energy Center. Please RSVP through Jack Wiles by the 7<sup>th</sup>. (See the event calendar on the following page for further details)

Sincerely,

J.D. VanGilder  
Canaveral Section Chair

## Schedule of Upcoming Events

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>RSVP Date</u>	<u>Contact</u>
Nov 8	Colonel Joe Smyth USAF, VP of European Airbus' Tanker Program working with Northrop Grumman in Melbourne. 6 PM – Social 6:30 PM – BBQ and drinks, \$6/person, please RSVP 7 pm - Presentation	Florida Solar Energy Center	Nov 7	Jack Wiles 321 455-2893
Dec 6	Mark Kemper of Engineering and Mfg Services, Inc., will be demonstrating a new 3D Scanner and 3D Color Printer from Z Corp	Florida Solar Energy Center	Dec 5	Chris Epler 321 433-1209
Jan	Annual ASME Section Awards Dinner	TBD	TBD	TBD
Feb 18 - 24	Eweek, Nominations for Tal Web Awards	TBD	TBD	TBD
Mar 14	*tentative* Phil Scarpa, Astronaut Physician at KSC	FSEC	TBD	TBD
Apr 27, 28, 29	*tentative* Space Congress – focusing on the young engineers of tomorrow	TBD	TBD	TBD

### Space Coast Business Activity

#### Phase 2 Awards

Three Central Florida firms recently were awarded Phase 2 funding from NASA's Small Business Innovation Research (SBIR) program. More information on the program can be found at <http://www.sba.gov/SBIR/>.

- Soneticom Inc. in West Melbourne received a grant to develop its system of range surveillance using radio interferometry. The system would use sensors to detect unusual radio activity, such as from boaters entering the area off the Florida coast that is kept clear during shuttle launches. It also has military applications, such as detecting attempts to intercept or jam signals.
- Mainstream Engineering Corp. in Rockledge received an award for its vibration-free cooling cycle pump. The pump, which was designed for the International Space Station, will increase reliability and efficiency by reducing vibration. It could also be used in the Crew Exploration Vehicle that is being designed to replace the space shuttle.
- Light Processing & Technologies Inc., which does business as OptiGrate in Orlando, received an award for its high-resolving-power, volume-diffractive gratings, which are based on patented technology for producing elements of photo-thermo-refractive glass. OptiGrate has an exclusive license for this technology from the University of Central Florida. The gratings allow the glass to filter light in a predetermined range, which can allow detection of specific chemical agents. It also has applications in remote sensing, targeting and range finding.

#### Space Florida is Underway

Space Florida is a state agency recently created from three separate agencies promoting the development of Florida's Space Industry. The board of Space Florida met for the first time on October 20<sup>th</sup>, and announced that approximately half of its \$8.5 million FY 2007 budget will be spent on economic development and incentives to attract new aerospace business to Florida.

#### RFP for Aerial Refueling Tanker Contract due in December

The Request For Proposal (RFP) for the replacement for the aging KC135 aerial is due out from the Air Force in December. Boeing is a main contender, having provided the KC-135 and variants to the government since the 1950s. The European Aeronautic Defense & Space Company (EADS) NA is partnering with Northrop Grumman to propose the next-generation tanker based on the Airbus (EADS' parent company) A380 airframe. Although EADS has intention of building a manufacturing facility in Mobile Alabama, Northrup's presence in Melbourne may contribute to an increase in engineering employment if they win the contract. Colonel Joe Smyth of EADS will expand on the latest developments of the activity at our Nov 8<sup>th</sup> meeting at FSEC.

## Section News

### Treasure Coast S.E.A.

Kelly Mather has informed us that they do have a program this year due to an illness in one of their key people. We wish them improved health and hope that next year their program will be up and running.

### What's Happening at Florida Tech:

If you have any questions about Student Section events or meetings contact J.D. VanGilder at [vangilderj2@asme.org](mailto:vangilderj2@asme.org)

## Diving into Rapid Prototyping

Rapid Prototyping has come of age in today's mechanical engineering environment. The ability to quickly produce parts and assemblies for early design-cycle discussions with other engineers, customers, manufacturing personnel, vendors, management, and others has proved to be a valuable tool for many firms. There are a number of technologies that can produce prototypes of various size, shape, resolution, materials/properties, and costs, in either additive or subtractive processes. There are an even larger number of companies that provide RP solutions based on these technologies. If your department or firm is considering using RP, understanding the options is important to get the most for your money.

There are a number of resources to get information on the RP technology options. Trade magazines are a good start, and typically showcase a particular technology or product. The ASME Digital Store (<http://store.asme.org/>) offers many excellent conference papers (for a small fee) providing an overview on available technologies, as well as topics on new prototyping concepts that have yet to be commercialized.

Another great source for info, of course, is the web. One of the most comprehensive industry RP reports is available from Terry Wohler (<http://www.wohlersassociates.com/2006info.htm>), although the \$495 price tag is a bit stiff for many firms. If you're on a budget, checkout Castle Island's Worldwide Guide to Rapid Prototyping (<http://home.att.net/~castleisland/>). This unassuming website offers comprehensive and what appears to be unbiased information on RP technologies and vendors, all for free.

Once you've got a feel for the various offerings / benefits, your next step is to try using rapid prototyping on a current project. RP Service Bureaus, 3<sup>rd</sup> party firms that own one or more RP machines, are easily located on the web, and can provide consultation and prototypes. Cost depends on technology, and is usually a function of volume of materials used. Many sites offer instant, electronic quotes, which are based on the part volume in the \*.STL file or other 3D-defining file you have uploaded.

Once you've used rapid prototyping for one or more projects, it may be that owning a RP machine is the way to go, if you're firm can afford the capital expense. Some of the major RP companies will provide a free evaluation part, if they believe you are serious about buying their RP equipment. Remember, the more information and experience you can obtain on the various technologies and industry offerings, the more you and your company will benefit from Rapid Prototyping.



Florida Solar Energy Center  
Located at the SW corner of  
Michigan Ave and Clearlake  
Road in Cocoa

**Links to Useful Websites**

ASME Canaveral Section:

<http://sections.asme.org/canaveral/>


Southern Field Office:

<http://www.asme.org/regions/sro/>

Canaveral Council of Technical Societies (CCTS):

<http://www.canaveralcts.org/>

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**KEN BRACE**  
1335 Gateway Drive, Suite 2016  
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(407) 563-1261 (Office)  
info@proaerotechnology.com  
www.proaerotechnology.com

ProAero Technology, LLC  
641 Nightingale Dr.  
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