

# Gateway News



American Institute of Aeronautics and Astronautics, St. Louis Section

<http://www.aiaa.org>

<http://www.me.wustl.edu/ME/orgs/aiaast/>

APRIL 2001

## CHAIRPERSON'S REMARKS

INSIDE THE SECTION

Our next dinner meeting will be co-sponsored with Boeing St. Louis Leadership Association (BSLLA) & International Council on Systems Engineering (INCOSE) on 26 April 2001 (Thursday) at the Airport Marriott. Michael D. Marks, Vice President/General Manager of USAF Fighter and Bomber Programs and Weapons Programs, will provide the introduction.

The speaker will be Sheila Widnall, former Secretary of the Air Force (1993-97). Her presentation is titled "The Future of Aerospace and the Role of Professional Societies." She is currently a professor of Aeronautics & Astronautics at MIT and the president of AIAA. Since returning to MIT, she has been active in the Lean Aerospace Initiative, a topic that she will include in her discussion. We are very fortunate that she was available to speak to us, and it should be a memorable event. In the March 2001 issue of Aerospace America, Ms. Widnall, in her January Board of Directors Meeting Comments, states, "Our industry has been through a transi-

tion, and this affects the way we interact with individual engineers. Our industry and government sectors have streamlined, merged, and downsized. This clearly impacts the individual engineer and the resources available for traditional professional society activities and travel to meetings. We find membership increasingly difficult to sustain. Fortunately we are a bit ahead of the curve in recognizing that electronic transformation of information may help in dealing with the changing nature of the role of professional societies vis-à-vis their individual members."

Our current St. Louis Section Council has recently commissioned a Strategic Planning Committee to study this same issue of sustaining membership. We need your input to help develop a five-year plan, which will be presented to the 2001 - 2002 Council in September.

Don't forget that nominations for Associate Fellow are due on 15 April and references by 15 May.

*Larry Brase*

AIAA DINNER MEETING

### Ticket Prices:

Members: . . . . .	\$20.00
Nonmembers: . . . . .	\$25.00
Students . . . . .	\$15.00
Presentation only . . .	\$1.00
Presentation only at the door . . . . .	\$2.00
(Purchase After Apr. 20 <sup>th</sup> , Add \$5.00)	

### Ticket Sellers:

John Mohr . . . . .	567-3398
Public and Retirees	
Mike Swartwout . . .	935-6077
Washington University	
Kay Bopp . . . . .	977-8240
Parks College of St. Louis University	
Fred Nelson . . . . .	341-4613
University of Missouri-Rolla	

### Dinner Menu

- Salad
- Entree
- Dessert
- Coffee/Tea

## MARCH DINNER MEETING

Ms. Carolyn Griner, retired Deputy Director of NASA Marshall Space Flight Center, was the featured March dinner meeting speaker. She presented a thought provoking talk of how management can be the grease in the gears of an organization vs. the grit. She began with a brief history of NASA Marshall and the leadership style of its founding director Dr. Werner von Braun. The early management was classic authoritarian German style originating from the top down. This was acceptable in the early formative days; however, things have changed today. In those early days knowledge was centered at the top of the organization, whereas today, knowledge is spread throughout an organization. With this premise, she proceeded to give examples of where NASA management had provided the grit to many failures in the recent past. Not listening and asking questions had led to the failure of the Mars Climatic Orbiter. A simple unanswered e-mail about the correct measurement units and no follow-up resulted in a missed orbit. JPL's focus on experimental science vs. telemetry and health monitoring had left investigators without clues as to the failure of another Mars probe. On the positive "grease" side, NASA has attempted to reorganize and develop work teams. This new organizational philosophy has opened the lines of communication and increased the flow of vital ideas and information.

Today, management is not the challenge; you can teach management. However, leadership is the challenge. Leaders have certain traits:



- Have a vision and can express the objective and direction
- See unexpected connections between diverse facts
- Leaders are true to themselves
- Leaders often work outside their comfort zone
- Leaders learn continuously
- Leaders listen, managers sometimes do not

As deputy director at MSFC, Ms. Gainer directed the reorganization of the 10,000 employees, in six months, into an effective team that was ISO 9000 qualified. To help ferret out difficulties at Marshall, she interviewed employees and asked three simple questions; a. What do you like about your job?, b. What don't you like about your job?, and c. What would you change if you could? These simple questions served as the basis of team organization and reorganization thrusts. To top off the enthusiasm of the events, she and her teams orchestrated the physical moving of 3,000 workers in three days. The move culminated in each worker having a set up work area with operating computer, telephone, note from the team, and a treat.

NASA and industrial managers today must develop and support people and teams.

- Understand and control risks
- Deliver better technology
- Improve communications

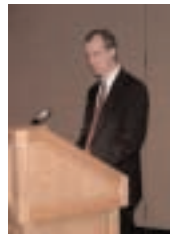
One interesting suggestion have your children travel to foreign lands to better understand different cultures and the new global community.

Suggested reading;  
 "Leading Change" John P. Kotter  
 "Circle of Innovation" Tom Peters



## YOUNG PROFESSIONAL AWARD

David Andreshak was recipient of the AIAA Young Professional Engineer award at the March dinner meeting. David is a strength engineer at Boeing involved with the Joint Strike Fighter. He was one of the first members of the St. Louis X-32 forebody team entrusted with learning the Seattle design technical background. He was the sole strength representative on the forebody team which developed the mid-fuselage interface and wing attachment. The X-32 forebody program has been an outstanding success, exceeding cost, schedule, and weight goals. David contributed greatly to preliminary design, sizing composite skins, and metallic substructure, plus support of forebody assembly in St. Louis and Palmdale. Congratulations David!



## TRIVIA NIGHT

The first annual AIAA trivia night took place Saturday, 31 March, at the Hazelwood community center. Ten tables of eight contestants each represented a variety of groups; St. Louis University, Washington University, lean manufacturing, secretaries, etc. Fred Roos and Bob Dowgwilllo acted as scorekeepers and judges. Ten groups of ten questions were presented in the following categories; 1. Silver Screen, 2. Small screen, 3. Out-of-this-world, 4. Music, 5. Nicknames, 6. Quotations, 7. Airport & locations, 8. Early flights, 9. Wright stuff, and 10. Miscellaneous. Door prizes, from sponsors like Hooters, Rams, and City Museum were presented throughout the evening. The highest scoring team was table 2. In addition to team trivia, a Lightning Round was held as an extra test. The Lightning Round was won by Michael Bland. To test your knowledge, some sample questions appear on page 3 plus sample Lightning Round questions.

Decision of the Judges was final



Washington University table



Fred & Bob tallying scores



Parks College table



# TRIVIA QUESTIONS

## The Silver Screen

1	Tom Hanks played the role of which astronaut in "Apollo 13"?
2	Jimmy Stewart, Glynnis Johns and Marlena Dietrich starred in this 1951 aviation nailbiter, name the movie or the name of the airplane.
3	Pilot Chuck Yeager made a cameo appearance in the film "The Right Stuff" playing what role?

## Tube City

1	In the "Star Trek: Voyager" series, actress Kate Mulgrew played the first female captain. Name her character.
2	What future Star Trek Officer starred in a classic Twilight Zone episode about a mental patient flying home. Name the actor and what he saw on the wing of the airplane.
3	What sitcom father was an aeronautical engineer and during the run of the show moved his family from the midwest to California?

## Out of this World

1	Who was the first US astronaut to walk in space?
2	Who was the first female Space Shuttle commander?
3	Name 4 of the Original Mercury 7 astronauts?

## Music

1	Who performed "Rocket Man"?
2	Name the group that performed "Stairway to Heaven"
3	What was the year that "the music died" referred to in the song "American Pie" when The Big Bopper, Buddy Holly and Ricky Valens died in an airplane crash?

## What is the commonly known name or nickname of the following aircraft?

1	F-16
2	F-111
3	A-10

## Quotes

1	"Houston, we have a problem"
2	"So I accept these awards on behalf of the cake bakers and all of those other women who can do some things quite as important, if not more important, than flying, as well as in the name of women flying today"
3	"Never in the field of human conflict has so much been owed by so many to so few."

## Where in the World?

1	Floyd Bennett Field was the first U.S. airport, in what city was it located ?
2	Where did the Hindenberg disaster occur?
3	Where was the first regularly scheduled airline service conducted?

## The Wright Stuff

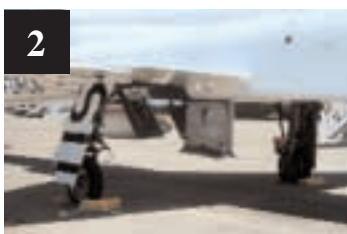
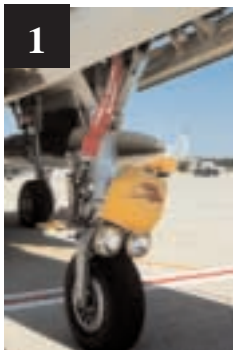
1	How did the brothers decide who would attempt the first flight?
2	What year was the first flight made?
3	Where was the Wright Brothers bicycle shop located?

## Records

1	Name the first successful self-propelled, heavier than air manned aircraft to fly?
2	Who was the first human to fly in a self-propelled, heavier than air aircraft?
3	What was the first fighter airplane to have a gun that could fire through the propeller without hitting it?

## Miscellaneous

1	What is the name of the organization you would be eligible to join if you survived an emergency bail out from a disabled aircraft?
2	We're sure 1-800-CALL-ATT wasn't used when this person made the first phone call to the moon. Name the person.
3	Douglas Corrigan earned what nickname when he landed in Ireland?



## TRIVIA ANSWERS

<b>The Silver Screen</b>	
1	Jim Lovell
2	"No Highway In The Sky" and airplane "Reindeer"
3	Bartender at the "Happy Bottom Riding Club"

<b>Tube City</b>	
1	Captain Kathryn Janeway
2	William Shatner, saw a gremlin
3	Steve Douglas, "My Three Sons"

<b>Out of this World</b>	
1	Ed White
2	Eileen Collins
3	Glenn, Carpenter, Shepard, Slayton, Schirra, Grissom, Cooper

<b>Music</b>	
1	Elton John
2	Led Zeppelin
3	1959

<b>What is the commonly known name or nickname of the following aircraft?</b>	
1	Fighting Falcon or Lawn Dart
2	Aardvark
3	Thunderbolt II or Warthog

<b>Quotes</b>	
1	Jim Lovell, Apollo 13
2	Amelia Earhart
3	Winston Churchill

<b>Where in the World?</b>	
1	New York
2	Lakehurst, NJ
3	St. Petersburg, FL

<b>The Wright Stuff</b>	
1	flipped a coin
2	1903
3	Dayton, OH

<b>Records</b>	
1	Wright Flyer
2	Orville Wright
3	Fokker Eindecker (E1-IV)

<b>Miscellaneous</b>	
1	The Caterpillar Club was established in the early 1920's and is named for the silkworm, which produces the material used to make parachutes.
2	President Richard M. Nixon
3	"Wrongway" Corrigan

- |                      |                                   |
|----------------------|-----------------------------------|
| 1 F-105 Thunderchief | 4 Curtiss X-99 Ascender           |
| 2 T-38 Talon         | 5 McDonnell Little Henry          |
| 3 SR-71 Blackbird    | 6 Visionaire Vantage Business Jet |

American Institute of Aeronautics and Astronautics, St. Louis Section



# “Paper Airplanes & More”

**Saturday, 5 May 2001**

**9:00 AM - 1:45 PM**

**Ladue Jr. High School  
9701 Conway Road**

**AIAA Presents**

***Ken Blackburn***

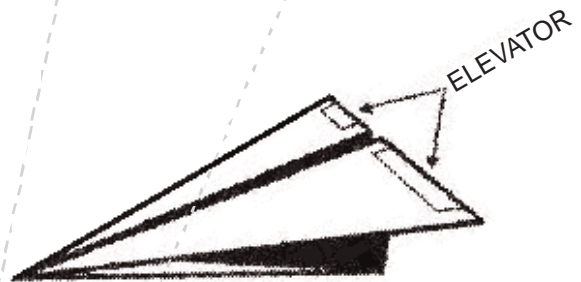
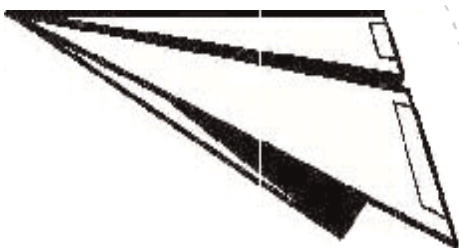
*Guinness World Record Holder*



Visit Ken's website at  
<http://www.geocities.com/kblackbu/contest.html>  
for map to the school and contest rules

## **Flight Schedule:**

- 09:00 - 09:15 Registration & Welcome
- 09:15 - 09:30 Ken's Design Pitch
- 09:30 - 10:00 Paper Plane Production
- 10:00 - 11:30 Time Aloft Fly-Off
- 11:30 - 12:15 Lunch/Free Flight
- 12:15 - 01:15 Distance Fly-Off
- 01:30 - 01:45 Awards Ceremony



***Free Family Fun !!!***

***Prizes !!!***

***Learn about Flight !!!***

**Preflight Registration**

**Karen Copper**

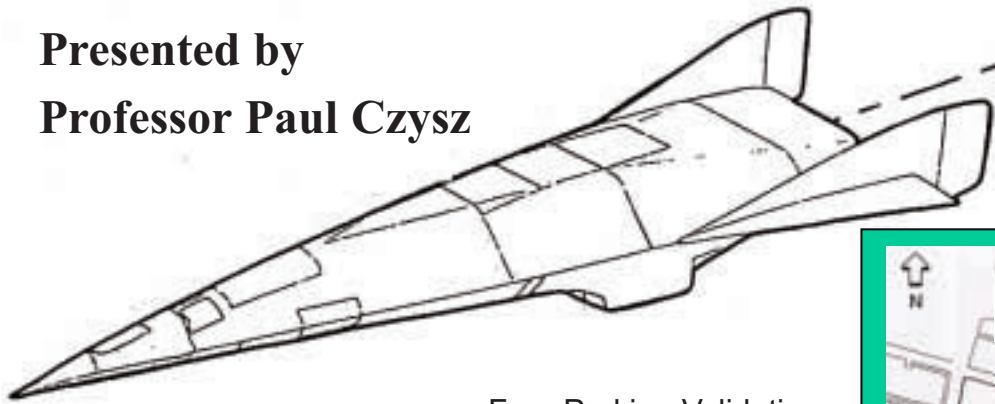
**636-272-6340 or 314-234-5742**

**mailto:karen.k.copper@boeing.com**

# AIAA Technical Specialist Meeting

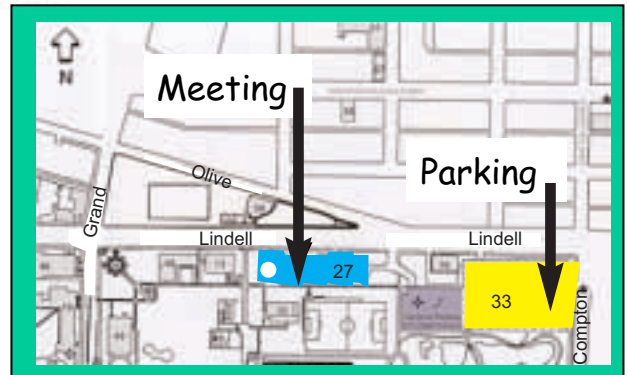
## History of Hypersonics in St. Louis

Presented by  
**Professor Paul Czysz**



Free Parking Validation  
 Available for Attendees

17 April 2001, 6 pm to 7 pm  
 Room 001, McDonnell Hall,  
 St. Louis University  
 Lindell at Olive



### – Student Activities – WASHINGTON UNIVERSITY

Washington University has sponsored and flown the Aria-2 experiment canister aboard the latest Space Shuttle, STS-102, mission. Aria-2 engineering and manufacturing is the responsibility of more than twenty Washington University undergraduate students from a wide range of departments.

Aria-2 is an educational project allowing K-12 students in the St. Louis area to design, build, and fly experiments in space. The purpose is to encourage students in science, engineering, and technology by allowing them the opportunity to be involved in hands-on space science before making long-term career decisions. The Aria-2 carried 124 passive science experiments from over 1,700 K-12 students. Nineteen St. Louis area schools, plus one from Washington D.C. and Palo Alto California provided flight articles. Students prepared hypotheses, designed experiments, collected materials, prepared the flight articles, and will analyze the post-flight results. The experiments are "fly and compare" between a flight article and ground specimen. Comparisons will try to determine the effects of micro gravity, radiation, magnetism, and other space environmental factors on the test specimens. Some of the experiment samples include; seeds of various plants, polymers, springs, metal strips, soil, photographic film, shampoo, Play-Doh, Jell-O crystals, Alka-Seltzer, popcorn, hair samples, etc.



### ADVERTISING OPPORTUNITIES

Advertising rates for a single insertion are:

Full page	\$150	One Third page	\$ 75
Half page	\$100	One Sixth page	\$ 50

Rates for other advertising space and multiple insertions will be provided on request. All inquires concerning advertisement should be directed to the editor at the indicated phone or e-mail address.

The AIAA Gateway News is a publication of the St. Louis Section of the American Institute of Aeronautics and Astronautics. The newsletter is published monthly except for June, July, and August. Circulation is approximately 900 members in the St. Louis area. Submission of articles to be published should be addressed to the editor. Items will be published on a space available basis and may be edited as necessary.



**New address??** Forward newsletter address corrections to; David E. Morgan, Boeing m/c S106-7250, 314-234-1919, <mailto:david.e.morgan@boeing.com>

**Newsletter and meeting announcements late??** The St. Louis section is working to cost-effectively speed announcements to our members. If you have an external Boeing e-mail address, please forward that to : <mailto:dianne.chong@boeing.com> and <mailto:david.e.morgan@boeing.com>. We are compiling an e-mail list for timely meeting announcements.



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Young Members				
Young Professional Awards	Ron Smith	MC S106 2103 **	232-4671/ 232-1454	ronald.e.smith@boeing.com

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**Charlie Saff**

# AIAA FUTURE EVENTS

## APRIL DINNER MEETING

**Dr. Sheila Widnall**

Abby Rockefeller Mauze  
Professor of Aeronautics  
Massachusetts Institute  
of Technology

Thursday, 26 April 2001

Airport Marriott Hotel

Social 5:00 - 6:00 PM

Dinner 6:00 - 7:00 PM

Program 7:00 - 9:00 PM



## AIAA Awards Meeting

Thursday, 24 May 2001

Airport Marriott Hotel



## FAMILY DAY PAPER AIRPLANE CONTEST

Saturday, 5 May 2001

Ladue Middle School, Clayton Rd.



## HISTORY of HYPERSONICS in ST. LOUIS

Presented by **Professor Paul Czysz**

Tuesday, 17 April 2001

Room 001, McDonnell Hall,

Lindell at Olive

St. Louis University Campus