

Gateway News

American Institute of Aeronautics and Astronautics, St. Louis Section

<http://www.aiaa.org>

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

April 2002

APRIL MEETING

The Future of Aerospace in St. Louis

With

**The Honorable
Todd Akin**

United States Congress
Second District of Missouri



AIAA Dinner Meeting - Thursday, April 18, 2002

- A call for higher R&D funding
- R&D investment
- Seed corn development
- Need to be aggressive in R&D investment

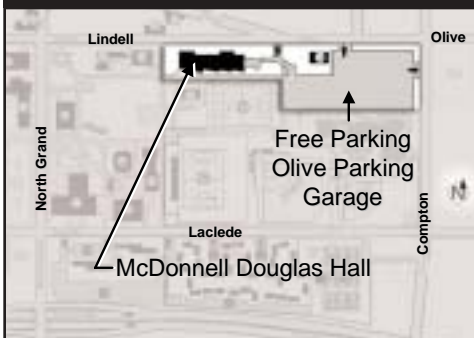
McDonnell Douglas Hall
St. Louis University
(Reception in the Rotunda)

| | |
|-----------|---------------|
| Reception | 6:00 - 6:45PM |
| Dinner | 6:45 - 7:45PM |
| Program | 7:45 - 8:15PM |

The AIAA St. Louis Section and International Council on Systems Engineering are pleased to feature **The Honorable Todd Akin**, representing the **Second District of Missouri** in the **United States Congress**, at our next dinner meeting. Mr. Akin was elected to the 107th Congress in 2000. He was subsequently elected as Vice President of the freshman Class, and currently serves on the Armed Services, Science, and Small Business Committees.

Featuring the University Students representing the AIAA Region V Sections from Iowa, Rocky Mountain, St. Louis, Twin Cities, and Wichita.

St. Louis University Campus Map



Ticket Prices

\$20.00 for members
\$25.00 for nonmembers
\$15.00 for students
\$1.00 for Presentation only
(\$2.00 at door)
(Purchase After Apr 12, Add \$5.00)

Interested in Joining AIAA?
Contact Joe Stemler (232-3362)
for free ticket information.

Call for Tickets

Retirees and Public

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Mike Swartwout .314-935-6077

Parks College of

St. Louis University

Kay Bopp314-977-8240

University of Missouri - Rolla

Fred Nelson573-341-4613

AMERICAN AIRLINES TOUR

A small group of AIAA & INCOSE members had the opportunity to tour the American Airlines Training Center at Lindbergh and Natural Bridge. The brown stone building at the west end of the runway is the training center for line pilots and cabin personal. Retired AA/TWA employees guided the group through the compact training facilities and exercise. A full size MD-80 cabin served as a realistic airline crash and evacuation simulation. Rumbling airframe, flashing lights, and smoke added to the simulated evacuation exercise. Survival equipment was inflated and water evacuation procedures explained. Tour members were allowed to sit in the CPT (Crew Procedure Trainer) for each type aircraft flown by American Airlines. These static trainers allow new crews to become familiar with the aircraft type, basic flight procedures, switch positions, and communications. The nerve center of the airline operation is the dispatch area. A dispatcher explained the operations and how they are able to communication with all the company aircraft in flight. Dispatchers advise pilots of weather, favorable routes, check departure times and essentially keep things running smoothly. The dispatcher demonstrated how he could monitor basic airline traffic around the country and display all airborne traffic if necessary. The all-motion flight simulators were in use so we could only view them from afar. The tour seemed to end all too quickly with only a passing glance at displays of crew uniform evolution.

Note: The tour was overbooked and another is planned for September 2002 to accommodate the remaining members and new arrivals.



Keep your career moving!

Earn your Master's Degree in Manufacturing Engineering.

Bradley University brings the classes to you!



Bradley University has offered an accelerated M.S. degree in Manufacturing Engineering at The Boeing Company in St. Louis since 1998. Students who are enrolled in the current cohort will graduate in December of 2002.

With sufficient enrollment, Bradley will start a third MSMFE cohort in August of 2002.

This program is open to Boeing employees and the St. Louis community at large. Applicants who have an undergraduate degree in manufacturing, mechanical or related engineering disciplines are encouraged to enroll.

Why Bradley University?

- M.S. in Manufacturing Engineering offered since 1989.
- B.S. in Manufacturing offered for approximately 30 years.
- One of the few universities in the U.S. with both undergraduate Manufacturing Engineering and Engineering Technology programs accredited by ABET.
- Among the first universities in the U.S. to offer a course of "Japanese Manufacturing and Productivity Concepts" and "Design for Manufacturability."
- Successfully delivered off-campus engineering programs for over 15 years.
- Delivered the MSMFE degree off-campus in St. Louis since 1998.

For more information... Attend an informational meeting in St. Louis at The Boeing Company

Building 100 Auditorium (intersection of McDonnell Blvd. & Airport Rd.)
April 25, 2002 3:30 - 5:30 p.m.

Contact: Sue Manley, Program Director
Continuing Education

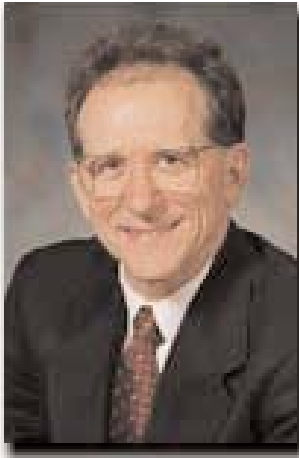
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PERSPECTIVES ON THE FUTURE OF BOEING ENGINEERING

Dr. Robert F. Krieger

Vice President/General Manager - Engineering
Military Aircraft and Missile Systems
The Boeing Company

Mr. Krieger was the featured March meeting speaker and addressed the group about an engineering career as reflected in his own experiences. He reviewed his career history after joining McDonnell Douglas in 1968, with a plan of only staying 3 years. He progressed from basic research, aero configured missiles, NASP, Advanced Bomb Family, JSOW, production aircraft, and now vice president of engineering. Bob provided the audience a glimpse of his daily activity calendar, beginning with a jog at 4 a.m. He emphasized the need for engineers to be flexible as our products and tasks change. Future design efforts will be more cross functional as we seek to bring “the best of Boeing” to our customers. Design capabilities are now transferring between time zones of the multiple Boeing sites. Future engineering and product design will require more cross discipline involvement to produce world-class products in a shorter time frame.



VOLUNTEERS NEEDED FOR THE STUDENT PAPER CONFERENCE!

The Region V Student Paper Conference will be held at St. Louis University, 18 & 19 April 2002. Local volunteers are needed as a) Technical Judges, b) Presentation Judges, and c) support. Contact: Larry Brase, 314-777-5586 and get involved in the future.

THE NEW FACE OF SPACE IS TAKING SHAPE

From 10-19 October 2002 in Houston, Texas, the World Space Congress • 2002 (WSC • 2002) will show the world what space can do to improve life on Earth and highlight the advancements and business possibilities on the horizon. This is your chance to connect with over 13,000 leaders in space technology, business, government, engineering, science, and policy-making.

The WSC • 2002 combines the Scientific Assembly of the Committee on Space Research (COSPAR), International Astronautical Congress of the International Astronautical Federation (IAF), International Academy of Astronautics (IAA), and International Institute of Space Law (IISL).

The WSC • 2002 will feature over 4,000 technical and scientific research papers, over 1000 scientific posters, showcase more than 40 daily sessions and general interest plenary tracks.

The Congress space topics will cover **Science, Technology, Infrastructure, Missions, Legal & Policy, Business & Applications, and Education & History**. Special plenary themes will examine: **International Space Station Utilization, Space Commercial Applications for Other Industries, Life Sciences and Biomedicine, and a Vision for the Next 25 Years of Scientific Investigations in Space**.

Selected plenary sessions being considered include:

Satellite and On-the-Ground Earth Observations

Humans Beyond Earth Orbit

Space Research

Space Business in the Early 21st Century

Improving Access to Space

Future Telecom, Earth Observation, Meteorology, and Navigation

Breakthroughs

The State of the International Space Station

A number of associated and other events will occur in Houston during the WSC • 2002 and will complement the core scientific and technical Congress of COSPAR, IAF, IAA, and IISL. The Congress offers delegates a dynamic social program, scientific and technical tours of the facilities, laboratories, and corporations in the Houston area. For more information about any of the events described below, please visit

<http://www.aiaa.org/WSC2002/special.cfm>.





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(Internet-based program)
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Fall semester begins August 20

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Aviation and Space Trivia Night

20 April 2002

Doors Open At 6:00 p.m.
Round 1 Begins 6:30 p.m. Sharp!

Hazelwood Community Center
White Birch Park
1186 Teson Road

[Directions: I-270 to McDonnell Blvd, North to Teson Road]

This fund-raiser will help pay for upcoming programs and events to celebrate the Centennial of Manned Flight. Go to website <http://www.flight100.org/> for more information.

The General Trivia Game will have an aviation slant, but with categories and questions for all. Example C: "Movies" Q: "What is the call sign for Val Kilmer's character in the film "Top Gun"?" A: *Iceman*

General Trivia Game
\$80 / Table \$10 / Individual
Maximum of 8 people per table
10 Rounds / 10 Questions
First Place Team wins \$160
Second Place Team wins \$80

Reserve your table today!

Call Karen at (636) 272-6340
or (314) 234-5742
e-mail at kkcopper@aol.com

*You are welcome to bring
snacks & drinks
(Hall Rules: Beer & wine are OK)*



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**Gather your Team &
Challenge your Colleagues!!**

Checks payable to AIAA

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Paper Airplanes & More

Paper Airplane Contest

Featuring

Ken Blackburn

Author and Guinness World Record Holder

Saturday, 27 April 2002

9:00 a.m. – 2:00 p.m.

Ladue Jr. High School
9701 Conway Road



- **FREE**
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Materials Provided**
- **Lunch Provided**

*An adult must accompany children

Pre-registration Required

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



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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.

Single insertion advertising rates are: Full page \$150 Half page \$100 Third page \$75 Sixth page \$50

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

COMMENTARY

Is the JSF Development Schedule Realistic?

By “Andy” Anderson

On October 26, 2001 the Defense Department selected Lockheed Martin’s XF-35 as the winner of the competition to develop the Joint Strike Fighter. A limited number of aircraft are now authorized to start Engineering, Manufacturing, and Development (EMD) with the initial operational aircraft to be delivered in 2008.

Although the program guidelines request a large percentage of commonality (80 to 90%), the aircraft as desired for the Air Force, Navy and Marines are still three separate structural airframes which will require detailed testing and validation before operational aircraft are a reality. The Navy aircraft, with larger wings, accommodations for carrier operations, (beefier landing gear, launch bar, tailhook etc.) will need a dedicated Test and Evaluation (T&E) program. The Air Force and Marine aircraft will reportedly have similar external shapes and planforms. However, the Short Takeoff & Vertical Landing (STOVL) features for the Marines will again require a large, separate T&E program.

If one considers the start of full scale development (FSD) to be October 2001, when the contract was awarded to Lockheed Martin, and the Initial Operational Capability (IOC) in 2008, the completion of the production design and tests for all three aircraft within seven years (2001 to 2008) is certainly a formidable task for Lockheed Martin and the Pentagon.

As each new fighter aircraft design in the past few decades has gone through the development phase from FSD go-ahead to IOC the programs have gotten longer primarily due to expanded design requirements. For example, the F-14, F-15, F-18A, and AV-8B were approximately six years in development. The F-18E/F took eight years, and the F-22 is now past 10 years. To presume essentially the two versions for the Air Force and Navy, plus a third (STOVL) version for the Marines, can complete EMD in 8 years assumes few development “surprises.”

Andy Anderson worked for McDonnell/Douglas/Boeing for 40 years, before retiring in 2001. His wide range of experience includes aerodynamics development on many of the heritage-McDonnell Aircraft tactical aircraft projects (F-4, F-15, F-18, and AV-8B), advanced design studies (F-4V, F-4VS, F-14, Space Shuttle, NASP, AX, NATF) and innumerable IRAD efforts. Andy still lives in the St. Louis area.

“The opinions expressed are those of the individual contributors and not necessarily those of AIAA, The Gateway Chapter, or this newsletter”. Additional comments are welcome and will be published on a space available basis.

**PARKS COLLEGE OF ENGINEERING
AND AVIATION
St. Louis University**

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St. Louis, Mo 63101



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| | Rudy Yurkovich | MC S106-7126** | 233-2563 | 777-1328 | rudolph.n.yurkovich@boeing.com |
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| Arrangements | Walt Reschke | MC S064-3449** | 777-4038 | | walter.j.reschke-jr@boeing.com |
| Attendance | Andrew Cary | MC S106-7126** | 234-1830 | | andrew.w.cary@boeing.com |
| Career Enhancement | Steve D'Urso | MC S064-2374** | 233-5441 | | steven.j.durso@boeing.com |
| Education | Marty Ferman | 1452 Old Farm Dr. St. Louis, MO 63146 | 977-8437 | 977-8403 | fermanma@slu.edu |
| EducationHistorian | Fred Roos | MC S102-1431** | 234-9935 | 233-2918 | frederick.w.roos@boeing.com |
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| Strategic Planning | Larry Brase | MC S064-2355** | 777-5586 | | lawrence.o.braser-jr@boeing.com |

** Boeing Address: The Boeing Company, P.O. Box 516, St. Louis, MO 63166



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APRIL 2002

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“The Future of Aerospace in St. Louis”



Guest Speaker

**The Honorable
Todd Akin**

United States Congress
Second District of Missouri

18 April 2002

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Saturday, 20 April 2002

Hazelwood Community Center

6 PM to 9 PM

Paper Airplane Contest



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9 AM to 2 PM