

Did You Know?

14 Sep 2001 -- Las Cruces RV Fly-in, Las Cruces, NM,
Info: (505)524-2762

29 Sep 2001 -- Sedona Airport Day and Car Show, Info:
Al Comello, Sedona Airport Supporters Association,
(520)451-0033 or sedonaal@sedona.net

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Did You Know is a new column -- if you have anything to share with the membership about your line of work, local happenings, interesting science facts or tidbits, aviation related activities, etc., please submit them to:

tucson_aiaa@yahoo.com

and they will be printed in the newsletter for all to read and enjoy.

Tucson Section Officer Roster 2001-2002

Chair: Kevin Kremeyer
Secretary/Treasurer: Kelly Sinnock
Membership: Rina Fulcher
Webmaster: Brent Hampton
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Education Chair: Rajka Corder
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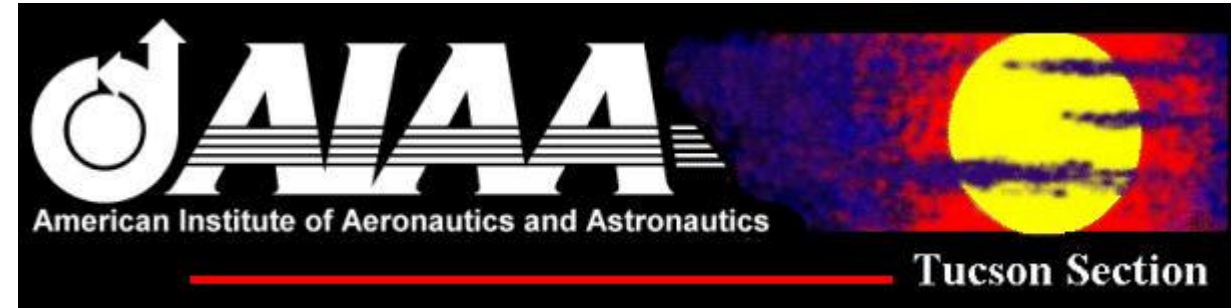
Raytheon Electronic Systems

**Missile Systems
Tucson, Arizona**



American Institute of Aeronautics and Astronautics

**Tucson Section
P.O. Box 42551
Tucson, AZ 85733**



Newsletter

**Volume 16
Number 1
August 2001**

Calendar of Events 2001-02

17-18 Sep 2001 -- SPIE Opto-Southwest Conference,
Tucson Convention Center (details below)

20 Sep 2001 -- Global Hawk Luncheon, with Hermann
Altmann of Teledyne Ryan. At Ft. Huachuca, 11:30 am,
followed by UAV facility tour (details below)

20 Sep 2001 -- Global Hawk Dinner, with Hermann
Altmann of Teledyne Ryan. At Raytheon, Building 800,
6:00 pm (details below)

27-28 Oct 2001 -- Desert Thunder Air Fest Airshow, Ft.
Huachuca, details TBA.

Nov 2001 -- Tour of Barry Goldwater Range (Ajo, date
TBD)

Nov 2001 -- ASQ/SRE/AIAA joint dinner (520)621-6120

Feb 2002 -- UAV Facility Tour (Sierra Vista, date TBD)

21-22 Mar 2002 -- University/Industry Forum

25 Apr 2002 -- Year End Dinner/Awards Meeting

Welcome back to another year!

by Kevin Kremeyer

Last year finished up with a bang, as our University/
Industry R&D Forum came to fruition. Throughout the day,
we had presentations by VPs/Directors from Raytheon,
Motorola and Boeing.



University/Industry R&D Forum

photo courtesy of James Howell of Raytheon

Mayor Walkup addressed the Forum, as did UA President
Peter Likins, and the following day of tours was kicked off
by the Chief Scientist of the Ballistic Missile Defense
Organization, Charles Infosino.

We also achieved our goal of having the attending
Industry/University R&D groups strike up new
collaborations among themselves. Overall, it was a very
fulfilling experience for everyone involved!

Our education outreach program also continued to ramp
up, as Kelly Sinnock and Rina Fulcher closed our Kids
Club season at the Pima Air and Space Museum by
guiding the participants in designing and building a model
airport. Who ever thought there were so many
considerations in something as common as an airport?

This year, we plan to continue not only our events,
outreach, and activities to nurture research/business, but
also our collaboration with other organizations. The current
plans include:

- Further building ties with Ft. Huachuca by having an AIAA booth at their air show and setting up tours and student projects on base, throughout the year
- Sharing our year's first speaker with the Association of Old Crows (an Electronic Defense organization) in Sierra Vista.
- Holding joint meetings with the Society of Reliability Engineers (SRE) and the American Society for Quality (ASQ)
- And helping organize the SPIE's Opto-Southwest Conference at the TCC on September 17 and 18, as well as setting up an AIAA booth there.

In addition to relations with other organizations, we also intend to bolster our interaction with various companies. Raytheon employs the most AIAA members in our section and we will be holding our first dinner meeting there on September 20th. This issue of the newsletter is also the first to be printed courtesy of Raytheon, which will help our budget significantly. Hopefully, this will be the beginning of a tighter bond with all of our corporate members and local aerospace companies.

The key to making our section as useful as possible is to let it serve the many needs of our science, engineering, and aerospace communities. Hopefully, this year, we will take off more globally and get participation all across Southern Arizona!

As part of our transformation, you'll see the newsletter begin to take new form. One of our additions is an aerospace interest article. We're hoping to get contributions from our Tucson membership, to add local color and help us get to know the community, and we are also open to contributions from other sources.

You'll see us asking for your participation in our outreach programs and activities, and these newsletter articles will be another way for you to participate. If there is something you feel would be of interest in the newsletter, please submit it.

Similarly, if there is something you'd like to see in the newsletter or as an event, please ask. As always, the best way to contact us, regardless of the reason is at our email address: tucson_aiaa@yahoo.com

We're always glad to hear from you, and we're looking forward to another great year!

Global Hawk Extravaganza

by Kevin Kremeyer

Speaker: Hermann Altmann

Hermann Altmann spent his first 20 years with General Dynamics/Convair Division. He worked on a variety of projects from wind tunnel testing to 6-DOF simulations, and ultimately as the Chief Engineer for LRSOM and MSOW cruise missiles intended for NATO.

At Boeing Military Plane Division, he was the Chief Engineer for the Advanced Technology Demonstrator (ATD), which formed the basis for the winning Boeing JSAF design. His work has also included underwater-launched Tomahawks, air-launched ALCM, warhead/penetrator developments, combat fighters, and reentry vehicles.

He is currently the Chief Engineer for Teledyne Ryan's Global Hawk, as well as Engineering Director. His education includes an MSAE from San Diego State University and an MBA from National University.

Abstract: Global Hawk

Teledyne Ryan Aeronautical in San Diego, California, as the prime contractor, is developing the Global Hawk High Altitude Endurance Unmanned Aerial Reconnaissance System.

This affordable new system, which can conduct surveillance of large geographic areas for extended periods of time, will enable the warfighter in the field to obtain high-resolution imagery in near real time. Thus, it will support the warfighter's aim to achieve dominant battlefield awareness.

With a 116-foot wing span, the jet-powered Global Hawk is designed to fly at up to 65,000 feet, above the reach of most air defenses. The Global Hawk can loiter for up to 42 hours or fly 14,000 miles -- halfway around the world.



Global Hawk
US Air Force Photo

The airplane will collect information with high-resolution cameras, infrared sensors, and cloud-penetrating radar and relay it back instantly via satellites. An integrated communication system will permit command and control of the air vehicle and its sensor suite at all times anywhere in the world.

Global Hawk Event

The Global Hawk event will be held in the building 800 overflow room at Raytheon's airport site. This event is open to any US citizen.

For those of you who are not Raytheon employees, please RSVP by 13 September to tucson_aiaa@yahoo.com or to Kelly at 574-7383. We will provide the list of attendees to the security office and a visitor's badge will be waiting for you at the 807 lobby.

If you are a Raytheon employee, please RSVP by 17 September so that we can have an accurate head-count for the caterer.

Directions:

To get to Raytheon's airport site, from the corner of Nogales Highway (BUS 19) and Valencia Road (about 2-3 miles East of I-19), proceed South on Nogales Highway to the light at Aero Park Blvd. Turn East onto Aero Park Blvd and continue to the end of the street where you will see the entrance to Raytheon. As you enter the parking area, turn to the left and you will see building 807.

The security guard at the Aero Park Blvd entrance can provide directions if necessary. Please plan on arriving at the 807 lobby by 5:40 pm so that you can be escorted to the meeting site.

Upcoming Events

by Kevin Kremeyer

Our first event of the year will be our booth at the SPIE's (Society of Photo-Optical Instrumentation Engineers) Opto-Southwest Regional Meeting on Optoelectronics, Photonics, and Imaging. This will be a day of technical presentations and industry exhibits from Arizona, Texas, New Mexico, Colorado, Utah, and Oklahoma. The conference will be held at the TCC on Monday and Tuesday, September 17-18, and you can find further information at:

<http://www.spie.org/info/sw/>

We're hoping to see a large number of our members come by our booth, as many of the sessions are right up the AIAA's alley, notably "Astronomical Optics," "Defense System Optics," and "Integrated Optics and Micro-Optics." Please stop by and visit us, and check out all of the interesting talks and vendors/products you never thought you could find.

Right after this, on Thursday, September 20, we'll hold our "Global Hawk Extravaganza!" Teledyne Ryan's Chief Engineer on Global Hawk will come to us as a distinguished lecturer, and will give a luncheon presentation at La Hacienda on the Fort Huachuca Army Base, followed by a tour of the UAV facilities there.

We'll then shuttle our speaker back to the Raytheon Airport Site in Tucson for the year's opening dinner meeting. We're really looking forward to this exciting day, as well as the tour and the great presentations by our speaker.

For details on the Fort Huachuca presentation/tour, please contact us, and also be certain to follow the directions for the Raytheon presentation. Only US citizens can be accommodated, and you'll need to RSVP. An additional highlight will be a display of most of Raytheon's product lines.

Kids Club and Other Educational Outreach Activities

by Rajka Corder

Last year's "Kids Club" was a pilot educational program instructed by AIAA members and held at PASM. The program was prepared for children between ages 8 and 12 and had eight sessions. We received excellent evaluations from the children, as well as their parents. Parents were very excited that their children could learn new things related to math and science.

What did we learn last year through "Kids Club?" The answer is: a lot! Most of us are used to teaching at the university or college level, but very few of us have

experience teaching kids. It is always easier to write down equations and describe salient points.

But when you want to explain a simple principle to children, who don't know PDEs or ODEs, then you realize that you still have many lessons to learn. Also, you realize that kids of this age want to play, and if you can come up with activities that are partially a game and partially a scientific experiment, then you've reached your goal -- happy kids, who have learned something new. The key is hands-on activity!

This year, we are planning to keep many of the same elements, and expand with yet more innovative ideas. We'll give you all of the new Kids Club details in our next newsletter!

In a separate effort, Chad Wassmuth is designing simple scientific demonstrations and visiting classrooms to technically support local science teachers. He does this on his free Raytheon Fridays, and is organizing a larger network of volunteers.

We also have access to a University resource room with a variety of demonstrations, which are all ready to go. Chad would love to get some help and involve more people in this very important activity. We are looking for support from all of our members, including retirees and parents of elementary and high school students.

We always need volunteers. Only a few of us are organizing and coordinating the activities and actual session material, so any infusion of effort or ideas in this area is very welcome. Also, we need volunteers who are willing to teach, and volunteers who can be assistants to the instructors teaching sessions.

One of the simplest opportunities to get involved is to help out with a Kids Club session. It's simple, fun and only takes a few hours on a Saturday morning -- it's also a good way to meet the rest of the group. If you would like to join us in this activity or as an instructor, please contact me at rajka@msn.com or tucson_aiaa@yahoo.com.

Welcome (Back), New Members!

by Rina Fulcher

Theodore Armijo	Anne Marie Avetissian
Franklin Baker	Timothy Caber
Paul Diamond	Martin Green
Richard Heiman	Debbi Howard
Frank Lam	Taber MacCallum
Douglas Rathburn	Robert Skylar
Richard Snyder	Martin Ulehla
Carolyn McCarthy	Pinghua Zhao