

Calendar of Events 2002-03

2002

26 October -- Picnic Saturday, ...Swing by any time!
TRCC Flying Field

Nov – Jan – Exciting activities to be determined
2003

Feb March -- tour Kitt Peak Telescopes
(details TBD)

Apr – May Engineeris week and Awards Banquet
(details TBD)

Chair's Corner by Kevin Kremeyer

Dear Tucson,

Well, here we are, with cooler weather and the excitement of another rocky start. Over the summer, we made the transition of a nearly full change in the officer board. We had some holes in the roster, but the key positions were filled. On a somber note, Eric Wood had taken the positions of Communications and Membership Co-Chairs, and he has recently been stricken by serious health problems. If you are able, please send him your wishes for recovery. To partially fill the openings left by Eric's illness, John Madden has taken over the newsletter position. We are very lucky to have him here, as he has been very active in the AIAA for decades. He comes to us after having served as the Region IV Director for several years. Matt Angiulo is taking on the role of Secretary, and is the person behind our section email "tucson_aiaa@yahoo.com". He also serves as our continued lifeline to the student chapter. Jodi Horton has taken over the position of K-12 Outreach Chair, and is doing a marvelous job with the section's Kids Club. She has also taken on yet greater duties as the Region VI Deputy Director for K-12 Outreach. Her creativity and flexibility are helping the AIAA on many different levels. Forming a tight team with Jodi, as this year's Education Co-Chair, is Steve Lubliner. Steve is joining the officer core, after several years of AIAA collusion in his position at SARA (the Southern Arizona Rocketry Association). He has been helping consistently with the Kids Club, and will become yet more involved by helping nurture projects at the University level. To help in this endeavor, Don Lacey will take on several University projects, and administer them through our local section. Both Don and Steve are endowed with a contagious enthusiasm for their technical fields, as well as with the ability to pass their skills and enthusiasm on to others. We are very much looking forward to seeing what happens when they work together with this year's students and student projects. A listed team member who will not be changing this year is Ed Palanek. Although, not an official board member, Ed is our military liaison, coordinating AIAA efforts with the bases, such as visits to the Goldwater gunnery range, Ft.

Huachuca, and the annual airshows. We are extremely grateful for his unwavering support! This year, he has also offered to hold a special tour for the AIAA, of several telescopes at Kitt Peak. The preferred time-frame is February or March, and we will keep you posted on the details.

The former officers have not fully jumped ship, but are graciously fading from the forefront (three years is quite a long time, as anyone can attest). Rina Fulcher is off traveling the Arctic, and we expect post-cards every 6 months. Rajka Corder is helping with the transition of the Kids Club duties as well as her personal presentation.

Frank Manning serves as our final newsletter defense, in case of emergency, but is most excited about continuing to help with the University projects. His micro-processor and robotics talents outshine even his skill in building radio-controlled air vehicles. Kelly Sinnock, my absolute right hand for the last three years, will continue to help with the "AIAA University/Industry R&D Forum", which we will be holding once again in the Spring. The University of Arizona has asked to help in this endeavour, and we are very grateful for their offer. In addition to Kelly, Jodi, and myself on the organizing team, we will be joined by Alaina Levine from the College of Science.

In addition to our core-group's changes, the Phoenix section lost its incoming Chairperson to the East Coast. Tyra Rivkin took a job at Pratt & Whitney, and Ron Roden was luckily able to jump in and fill the position for a second year to cover the gap. Despite her absense, Tyra has contributed her write-up of last year's AIAA Congressional Visits Day, with the hope of inspiring participation for the 2003 CVD.

I must apologize for my long-windedness, but you'll have to indulge an old man's desires. The described group has been working for several years, to turn the Tucson AIAA around from its grave, and the section's pulse is beating more strongly every year. I have great respect for them, and feel compelled to sing their praise, at very least in our newsletter.

The section owes them all a great deal, and I am looking forward to a wonderful year with both new and old. I am also looking forward to stronger participation on the part of our membership. As you'll see in the included flyer, your first opportunity presents itself with the October 26th picnic. I do hope to see you there, and when you come by with friends and family, to join in the fun and networking, be sure to thank Don Lacey for organizing, not only the field, but all of the activities, as well! Ω

Tucson Section Officer Roster 2001-2002

Chair: Kevin Kremeyer

Secretary: Matt Angiulo

Treasurer: Kelly Sinnock

Membership: Rina Fulcher

Education Chair K-12: Jodi Horton

Education Co Chair: Steve Lubliner

UA Faculty Advisor: Larry Scott

Military Liaison: Ed Palanek

Newsletter Editor: John Madden

Web site: http://www.geocities.com/tucson_aiaa

Congressional Visits Day, 2002 (by Tyra Rivkin)

This year's Congressional Visits Day, March 20-21, was a tremendous success by all accounts. The Arizona delegation included myself and Kevin Kremeyer from the Tucson Section. For our visits we were joined, by Dr. Frank Chavez from Iowa State University. As stated on the AIAA website, "Congressional Visits Day is an annual event sponsored by AIAA that serves to educate Congressional representatives and staff on the technical and public policy issues affecting the aerospace community, and provides AIAA members with an opportunity to directly impact the decision-making process. The CVD program is designed to bring AIAA members to key congressional members and staff to discuss face-to-face critical industry issues relevant to civil aeronautics, civil astronautics, and defense." I was fortunate enough to have the opportunity to participate in this year's event and learned firsthand that the benefits of the trip are well worth the investment of time.

Our 2-day adventure in Washington, D.C. included many special events and highlights including presentations by the Chairman of the Presidential Commission on the Future of the U.S. Aerospace Industry, Bob Walker, NASA's Chief of Staff and White House Liaison, Courtney Stadd, AIAA Executive Director, Court Durocher, and AIAA Vice President for Public Policy, Marty Kress. The high ranks of all of our speakers, and a number of the CVD participants, lends evidence to the claim that CVD is important not just to AIAA but to all of the major aerospace organizations in the public sector. All four gentlemen emphasized the importance of the visits we were making to each of our many congressional offices, and the importance of participating in public policy activities at the state and local levels to facilitate communication between AIAA members and their congressional representatives.

The importance of establishing these lines of communication with various congressional offices became more apparent as we proceeded with our visits to Capitol Hill. Kevin, being the only returning Arizona CVD veteran, led and organized the visits throughout the day, and his experience proved essential to a successful day of political activism. We visited with Legislative Assistants in the offices of Senators Jon Kyl and John McCain, and in the offices of Representatives Jim Kolbe (Southern AZ/5th District), Ed Pastor (Southern AZ/2nd District), Jeff Flake (Phoenix/1st District), and John Shadegg (Scottsdale/4th District). As each delegate is aligned with different committees and subcommittees within the government,

each office has specific agendas or areas of concern that they address to support their constituency. As a result, we received very valuable feedback on the various issues that AIAA chose to address in 2002. The overall response to our visits was very encouraging as each office displayed a genuine interest in the aerospace-specific issues we presented to them.

These issues brought forth from AIAA National through all of the CVD participants included five main topics developed by cooperation from AIAA Technical Committees. The first topic deals with Workforce Issues and addresses the current lack of young Americans pursuing careers in science and engineering; AIAA suggests the formation of a National Science and Technology Corps, akin to the existing ROTC programs, to encourage more students to choose technological fields. The second topic deals with Technology Readiness issues created by the existing funding policies concerning continuity of funds beyond basic research; AIAA suggests an in-depth review of current policies aimed at providing more support at the validation and verification level. The third topic calls for a focused response from the Commission on the Future of the United States Aerospace Industry (mentioned previously) addressing funding concerns for aviation programs; AIAA suggests a national vision involving support from all key players including the government, academia and industry. The fourth topic highlights the current problem of technical and research resource management of government assets; AIAA suggests a comprehensive investigation and prioritization of all existing government test facilities to evaluate cost-effectiveness and research necessity. The fifth topic identifies the disconnect between the multiple facets of the aerospace community; AIAA suggests the formation of an Aerospace Coordination Council to represent congressional, commercial and public interests at the executive level to better manage the aerospace resources in the United States.

As we are fortunate enough to live in a state that is widely perceived as being "aerospace friendly" the importance of getting involved with public policy initiatives on behalf of our industry is more poignant. With the current state of the industry being perceived as weakened and uncertain, participation in these types of activities can only serve to demonstrate that the aerospace community, particularly in Arizona, is stronger than ever and looking forward to an exciting voyage through the 21st century.

For more information about the 2003 Congressional Visits Day, please contact Paul Looney (paull@aiaa.org). W

Career Development Panel (By Steve Hamann)

On April 14, Kevin Kremeyer managed to assemble a diverse group of panelists, who were toured through the Tomahawk production line at Raytheon by Laura McGill. They were then led through a two hour discussion by Laura and Kevin in front of an audience, composed primarily of young scientists and engineers, keen to glean insight on a wide range of career issues. The panel included experts from a wide range of areas within aerospace and defense, including NASA, military, Government, academia, industry, entrepreneurship and consulting. They were asked to share their experiences about what makes a satisfying and successful career, in order to give junior scientists a more global perspective of their own career paths. Emphasis was placed on handling the tensions between job satisfaction and

money or security, between home-life and work-life and between people skills and technical skills. The panelists were encouraged to reveal their unique struggles and approaches to these balancing acts. Despite their diverse backgrounds and interests, the panelists all shared certain traits. They were highly motivated individuals who achieved success in multiple areas, largely due to the energy, interest and excitement that they brought to their work. All were willing to move onto new things and talked about their past jobs in a way that revealed overall enjoyment. In fact, there was general agreement among the group about what makes a successful career: the importance of family and private life; and how to interact with employees. It would take too long to list all the accolades of the panelists but, briefly, the panel comprised: **Dave Jones**, who co-founded the Tomahawk project and later was a division head at McDonnell Douglas; **Ed Palanek**, a retired Air Force test pilot who worked with the Los Alamos weapons program; **Chuck Brown**, who was a flight test engineer for Fairchild-Hiller, director of facilities at NASA/Dryden and was the lead on shuttle landings; **Bart Wilburn**, who worked at Fort Huachuca, the National Security Agency, the University of Arizona Optical Sciences Center and currently owns a signal processing company; **Dr. Mike Parker**, who obtained an academic background in radio astronomy and eventually founded Rincon Research in Tucson; and finally **Spike Wolfensberger**, who has been a career engineer with General Dynamics, Hughes, and Raytheon, working on Atlas Rockets and the F-111 and continuing to provide key systems engineering support for Tomahawk to this day.

The panelists were first asked to relate their most and least fruitful work experiences and to give advice on how to maximize the good aspects of a career and minimize the bad. Generally, the panelists indicated that their most fruitful experiences came when they were able to work on an idea that was fun and exciting, in which they really believed, and which they themselves had often suggested or pushed, i.e. when they really took ownership of a project and were able to bring about a successful outcome. Least fruitful experiences were related to working on projects where they had little input and didn't truly find the work exciting or challenging. Advice for a successful career included many aspects: Find good, competent, motivated people to work with, who complement your skills...also find a niche where your own skills are most useful; Find a mentor and always learn; Seek out and get to know the people who really know what's going on and who make a difference...be sure to learn from them; Don't be afraid also to learn from your own mistakes; If you are in a position of authority, assemble a good team of people around you and delegate authority; Take responsibility, but let people be creative; Try to find people who know things you don't know; Don't be threatened by people who have skills you don't have; Be a team player whose goal is the success of the project not personal glorification; Be willing to accept some "dirty work" for the benefit of the project and the group; Realize that sometimes you may have to work at things you don't enjoy so much for a time; We all have to "pay our dues" at some point along the way; If you are working on a job where you feel you are not making a contribution or difference, or if you are so unhappy that you are losing sleep, it is time to look for something else; Whether the job is fulfilling or not, work hard, be efficient, finish projects and try to literally "work yourself out of a job"; Don't try to hold onto a job for the sake of having a job; Realize that if you do good work, and finish

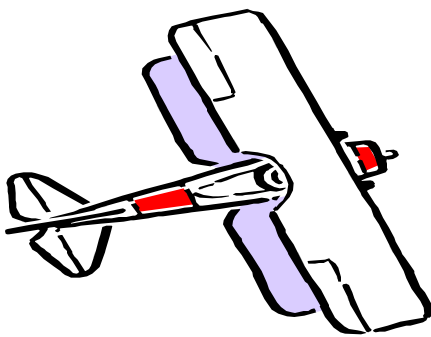
projects, more interesting things and opportunities will come along; For the longer term, know yourself and discover what you really enjoy doing and pursue that; Have long term plans and clear goals to get where you want to be; Have confidence in yourself; Sell yourself but also listen carefully to the advice of mentors and experienced colleagues. (Some panelists described waiting years, before they were allowed to pursue projects they had suggested, but completing these projects gave them some of their greatest moments of satisfaction.); Don't be afraid to pursue goals and even take risks, but make sure they are measured risks and that you fully understand the complexity of a project before undertaking it.

The second question was "Have you seen programs evolve differently than expected and can you recommend action or attitudes to optimize long term success of a program?". Again the panelists had numerous insights which included the following comments and opinions: There was general agreement that projects tend to be organic and problems usually arise. Advice was to always be prepared for and expect unforeseen problems. As far as achieving success in a large project, the panelists had the following recommendations:

Planning is crucial. One interesting quote was, "If you fail to plan, then plan to fail". Fully understand the project including possible problems before undertaking it. Use well defined technologies, when possible, to keep costs and uncertainty down. However, there needs to be a balance between a conservative approach to a project and allowing creativity in development, particularly with regard to new technologies or problems. Evaluate new ideas or approaches carefully and be willing to allow others to work creatively on new ideas. Let others do what they do well and be receptive to their insights while using caution with untested ideas. Customers tend to have preconceived notions about what the outcome of a project should be. Be prepared for opposition to new approaches you suggest for a project, but don't back down too easily; be prepared to explain why your ideas are an improvement. With regard to working with others on a project the panelists had several comments: Team work is absolutely essential. Projects are too big for any one person to "do it all". Assemble a team of people with good intentions and positive attitudes. There needs to be a free exchange of ideas, and an environment to encourage this, in order to properly solve problems. As a leader, it is important to motivate people, accomplished in part by listening to their ideas and making them feel valuable to the project. It is also important for a leader not to be self serving but to give credit where it is due within the group. Realize that serving the project will be to the benefit of all involved. Engender a reputation for honesty and straight dealing and people will be more likely to approach you with ideas or problems. As a leader, utilizing people's talents and encouraging them with proper recognition will lead to a successful outcome and make you look good. Hire people smarter than yourself. As was mentioned, "A rising tide floats all boats". It's also important to know why your job is important, not just how to do it. An interesting quote was, "He who knows how to do a job will always have a job. He who knows why a job is being done will always be the boss." (It is also useful to know why your co-workers' jobs are important). In an open environment, don't be afraid to admit mistakes, as well as when you need help...then let your co-workers help you. On the personal side, the panelists suggested paying attention to the "human aspects" of the project. Take a balanced approach to the

needs of the project and the people involved. Allow yourself and others to have outside interests. Take classes other than engineering and physics. One panelist eventually took classes in business and psychology which he found very useful in dealing with people on large technical projects. Take time to rest when needed and return to the project with a fresh start.

The final question was "within the context of a rewarding and successful career, how important are: formal academics/degrees; connections, networking and professional societies; a strong team and loyalty within the company; and making enough time for family life?" Among the panelists there was general agreement that academics was important to give you the tools required to be able to do the job you would like to do, but that in the long run, a degree itself is not enough. One must work hard, strive to stay active and always learn new things and remain flexible to new directions and new opportunities. Connections and networking are also important because, as one panelist put it, "Not much is done in isolation nowadays. There aren't many Edisons". Connections can help you identify a person who can solve a problem for you or possibly create an opportunity for you to make an interesting career move. In any case, communication with colleagues was considered to be fertile ground for the exchange of ideas. Not surprisingly, based on answers to the questions above, a strong team and loyalty were highly prized, although there was recognition that people with technical skills tend to move around more nowadays. But loyalty to a project and the people working with you, doing your best while working on a project, and always acting with integrity, were all considered very important to having a satisfying career. Finally, making time for family life was taken as a given by the panelists as crucial to a happy life. However, the panelists tended to work more than forty hours a week for much of their careers and did have to deal with some tension to keep a balance between family and work. Some also admitted that marriage might not be for everyone nor are working a lot and taking positions of responsibility. In any event, it is important to understand yourself and what you want, as well as the sacrifices you might have to make based upon your life choices. Ω



The Tucson Professional Section of AIAA
Proudly Sponsors the

Student/Faculty/Industry
Picnic

Saturday, October 26th ...Swing by any time!
TRCC Flying Field

Activities, Food, Beverages...Everything is free.

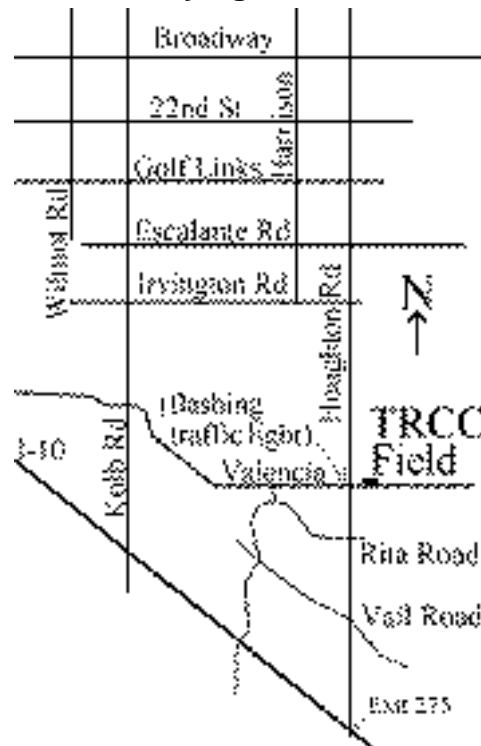
Everyone (especially family) is welcome!
9:00 AM - 11:00 AM: **Build an R/C Plane Competition** us vs. them; novices and experts welcome; Demo and supplies provided.

11:00 AM - 12:00 AM: **R/C Barnstormers Show** R/C flight demonstrations will include bombing/strafing runs and acrobatics.

12:00 AM - 1:00 PM: **Buddy-Box Flying** "Buddy-boxes" will provide non-R/C'ers a chance to safely try their hand at flying.

1:30 PM - 3:00PM: **Build-Competition Flyoff** The us vs. them planes will compete in endurance (Time Aloft) and combat.

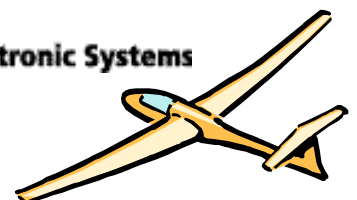
Map to TRCC Flying Field



The field is located 1/2 mile east of Houghton on Valencia. Valencia is a dirt road east of Houghton but it is a well maintained --no 4 wheel drive is necessary

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