

**From the Flight Deck***Chuck Heightland, Outgoing Section Chair*

As we move into a new fiscal year, I believe that the greatest challenge ahead is motivating the membership. This past year has been both rewarding and frustrating. Interest and participation of the general membership are very low, possibly the lowest in the history of the San Diego Section. But, student enthusiasm for the Aerospace Profession is high, both at SDSU and UCSD. Additionally, I believe that many San Diego high school and Jr. high school students show not only interest in science, engineering and mathematics, but also have considerable talent, lacking only the knowledge gained from a formal education and experience. I only wish that we could be of more help to all of them. Not just monetarily, but through mentoring to provide them with a better grasp of the profession, both technically and career-wise. Our universities do a fabulous job of providing the basics, but as all of you know, this is only the beginning.



Although San Diego Section is still classified by AIAA National as a 'Large Section', regrettably, aerospace is on the decline throughout the county. New technologies are arriving; high-tech hardware and software, and telecommunications will fuel the future labor market. This of course is the crux of our dilemma.

Yet, I have enjoyed my term as Section Chair, and thank all of those on the council that have worked so very hard to make this year a success. Many, many thanks for your diligence and effort. I would also like to welcome Mr. Phil Rose as the incoming Chair for the Council. As he takes up the responsibilities associated with the office, I wish him the best luck and pledge my help in making the coming year as successful as possible. My official tasks on stepping down will now revolve around being liaison to AIAA Region VI, where I will continue to work for the betterment of the Section.

So, before leaving lets tally-up the score for this past year by highlighting some of our activities.

Students & Education

- We very successfully expanded and redoubled our efforts to capture the attention of San Diego's high

school seniors with our Reuben H. Fleet Scholarship program.

- We continued our support for the nations future scientists and engineers through our support, awards, and participation in the San Diego Science Fair.
- We encouraged and aided our university student branch members with our mentoring and financial aid.

One sterling example is Mr. Chad Berman, a SDSU senior. Mr. Berman is a member of Tau Beta Pi, the National Engineering Honor Society, and I welcome him and salute him for his efforts. Not only that, but he has been a two time recipient of the San Diego AIAA RHF Scholarship award. This past spring he also received first place at the AIAA Region VI student conference for his study of 'Propeller Design'. Mr. Berman will soon be leaving us to start a career in Naval Aviation. I would like to wish him the best of luck and good hunting.

Community At-large

- We hosted the AIAA Young Ambassadors, who were selected by AIAA National from the Nations high school students as part of the celebration of the 'Centennial of Flight'. These young people were selected on the basis of scholarship, interest, aptitude, and being graduates of the Class of 2003. During their several day visit to San Diego, we provided them an introduction to the San Diego professional aerospace community that featured several tours of the government and private business sector in the area.
- We continued our co-sponsorship with San Diego Aerospace Museum of the 'Aerospace Lecture Series'. This past spring, the series featured the seventy-fifth anniversary of the Charles Lindbergh *Spirit of St. Louis* flight, and the now past commemorative flight by his grandson, Eric Lindbergh.

Professional Community (AIAA & Other Societies)

- We have assembled and co-sponsored with the SDSU student branch an exhibit of photographs and memorabilia of aviation pioneer, Mr. Larry Bell. The exhibit was viewed at the National Engineers Week Banquet last February, where it was very well received. As part of the Celebration of Flight we are currently seeking to display this aviation pioneer and

others at various locations throughout San Diego during the coming year.

- We have sponsored and promoted a technical symposium for the San Diego Aerospace community. The event was held at the SDSU campus and featured eleven local aerospace engineers and a summary of their recent technical efforts and interests.

We hosted an 'All Societies' evening with Major General Charles Bolden, former astronaut, nominee for Deputy Director of NASA, and current Commanding General, 3rd Aircraft Wing, Marine Corp Air Station-Miramar. The evening included remembrances by General Bolden of his shuttle flights, personal observations, and future plans for the Wing.

Membership News

Jim Peterson, Membership Chair

Section membership stands at 434 as of May 1st. We would like to welcome the following members to the San Diego Section:

New Members

Grant Ager	Composite Optics
Brad Bergman	
Emory Chenoweth	DynCorp Systems & Solutions
Thomas Clarkson	
Douglas Fronius	Northrop Grumman
Robert Miller	Information Systems Labs
Steven Palm	Alturdyne
Mark Pryor	Composite Optics
Leonard Schiff	Qualcomm
Matthew Whitney	ATA Engineering

Transfers-in

LCDR Keith Beals	General Atomics
Lt Gen Donald Cromer	USAF-Retired
Dr. Eugene Fitzgerald	

If you have changed your mailing address or have a new E-mail address, please call the **AIAA Headquarters Customer Service Center at 1-800-NEW-AIAA** and provide them with the current information. Remember – the mailing labels are printed using the information in the AIAA database. You may renew your membership via telephone at the same phone number, using a credit card. If you have become unemployed or retired, you may renew your membership at a lower rate.

If you have any questions about membership or advancing your membership grade, please contact Jim Peterson at (858) 279-1940, or email to: jdpete@pacbell.net.

AIAA San Diego Bylaws Approved

Bill Chana, History & Bylaws Chair

The revised Section Bylaws were submitted to Region VI Director Joe Morano on March 20. At the Regional

Advisory Committee (RAC) meeting in Los Angeles on May 4, Joe announced the Regional and Section Activities Committee (RSAC) approved the new Section Bylaws. This constitutes AIAA National approval.

The amended Bylaws were approved by the Section Council on March 13 and ratified by our members in accordance with the Bylaws dated September 24, 1992. Amendment announcements were included in the November 2001 and February 2002 issues of this newsletter.

Our thanks to the History and Bylaws Committee's Ad Hoc Bylaws Revision Committee (Chuck Heightland, Jim Peterson, Tracie Okada, Jim Robinson, Chris Root, and Bill Chana, Chair) for their dedicated effort over nine months reconstructing the Section Bylaws.

A copy of the Bylaws can be obtained by calling the new Section Secretary, Lee Bolt, at (619) 281-0216 or email him at leebolt@worldnet.att.net.

Annual Awards Banquet Held

The Section Annual Awards Banquet and Officer Installation was held May 30, 2002 at the Best Western Seven Seas Hotel. After welcomes by the outgoing Chair and Honors and Awards Chair, and dinner, the following awards were presented for the June 2001 – May 2002 Council year:

Outstanding Contribution to the Section

Hans Weber

Outstanding Contribution to AIAA Region VI

George Faulkner

Outstanding Contribution to Aerospace Management

Christine Probett

Outstanding Contribution to Aerospace Engineering

Allied Aerospace Industries

Also presented at the Banquet were six \$1,500 Reuben H. Fleet college scholarships and two \$100 San Diego Science Fair awards. For details on these awards, see the next articles.

Following the awards presentations, AIAA Honorary Fellow Robert C. Truax gave the keynote address, speaking about his experience starting in 1932 as a pioneer in the missile, rocket, and space fields. The Banquet concluded with the installation of the Council officers for the new year. For a complete list of the 2002-2003 Council officers and their contact information, see the back of this newsletter.

20th Annual Reuben H. Fleet Scholarships

Bill Chana, History & Bylaws Chair

At its annual Banquet, the AIAA San Diego Section awarded up through its 69th Reuben H. Fleet Scholarship. Mrs. Lori Fleet Martin, great granddaughter of Reuben H.

Fleet, presented a \$1,500 college scholarship award to each of six deserving local students.



Reuben H. Fleet Scholarship Awardees

Standing L-R: Chuck Heightland, Section Chair; Lori Fleet Martin, representing the Reuben H. Fleet Fund; Jameel Khalfan, San Pasqual High School; Doug Armstrong, Section Honors & Awards Chair; Leonel Rios-Reyes, SDSU; Timothy Lo, SDSU; Chad Berman, SDSU. **Seated L-R:** Kirstin Harper-Smith, Coronado High School; Thao Tran, SDSU.

The Scholarship Program was founded in 1983 by Preston M. "Sandy" Fleet, the son of Reuben Fleet. In the past 20 years, a total of \$81,000 has been awarded. University student awardees must be members of an AIAA Student Branch, and the High School students must be graduating seniors admitted to an accredited university. Applications are graded by a selection committee of AIAA professional members on academic achievement, interest in AIAA's purpose, leadership and personality, and financial need. This year's awardees are shown in the above photograph.

Reuben H. Fleet, who died in 1975, was the founder of Consolidated Aircraft Corporation, which later became a division of General Dynamics. He was National President of the Institute of Aeronautical Sciences, the predecessor to AIAA, in 1944-1945.

Scholarship funds are provided by the Reuben H. Fleet Fund, administered by the San Diego Foundation, and through donations from San Diego Section AIAA members. The Reuben H. Fleet Fund Advisory Committee is made up of the following Fleet descendants: Sandra Fleet Honnen, Suzan Fleet Welsch, Sally Fleet Johnson, Sheri Johnson Russell, Lori Fleet Martin, and Danny Fleet.

San Diego Science Fair AIAA Awards

Bill Chana, History & Bylaws Chair

The Section presented two students with \$100 awards for their aerospace-themed science projects submitted to the 48th Annual Greater San Diego Science and Engineering Fair. Quentin Goss, COL, USAF (ret.), Community Relations Chair, led the team of judges from the Section which selected the recipients. The Senior Division winner was Halley Ann Brown of Central High School, for her project titled "Effect of Gravity on Rocket Flight". The winner in the Junior Division was Kristy Marie Elbel of

Rancho Del Rey Middle School, for her project "Effect of Height or Length on Rocket Flight".

Sponsoring a Reuben H. Fleet Scholar

Tom Chandik, Program Arrangements Chair

The purpose of the Reuben H. Fleet Scholarship is to encourage capable students interested in engineering and science to pursue/continue a college education towards a career in the aerospace field. As part of the application requirements, each applicant must have an AIAA member sponsor. I had the privilege of sponsoring a high school senior for this year's Program.

Functions of a sponsor include: helping to clarify and review the application process and requirements with the applicant and to answer any additional questions he or she may have; providing a letter of recommendation addressing four specific factors addressed in the selection process; reviewing the submittal package to ensure forms and required documents are complete; ensuring the application package is postmarked no later than the deadline, which was March 31 this year.

I approached this task by first reviewing the Scholarship Program procedures and requirements, and then scheduled a personal interview with the applicant. Mutual convenience yielded a Sunday afternoon interview at the applicant's home, with parents in attendance. This provided a more relaxed setting for all and allowed me to better understand the career objectives, school records and extracurricular activities. The determination to pursue and succeed in engineering and science studies in the aerospace field was clearly demonstrated.

The sponsorship process provided insight into this student's goals and inherent success-oriented approach toward the college environment. Obvious was the 110% support from the family throughout high school, and the pride they have in the honors program awards and GPA attained, as well as in the career path chosen. Incidentally, I contacted the candidate's high school career counselor to clarify ranking in the senior class, class size, GPA definitions, and universities to which applied and admitted.

I was presented outstanding candidate for sponsorship for the Program. I believe the approach to applicant screening inherent in the duties of a sponsor was very successful. It minimized time required by both applicant and sponsor during a time when students are preparing for finals, applying to college, making other scholarship applications, and in some cases, graduating. It can be a very stressful time of the year for the student and parents. This was truly a MOST REWARDING EXPERIENCE for me! Try it members, you'll like it to. Plus, the more applications, the merrier the competition.

P.S. If most of our members donated as little as 10 tax-deductible dollars a year, we could give perhaps 2 more students a jump-start on an aerospace education and career.

New Addition to Aerospace Museum

A new addition has been made to the San Diego Aerospace Museum. May 18 marked the arrival of the Global Hawk High Altitude Endurance (HAE) Unmanned Air Vehicle, as the Northrop Grumman Corporation's Unmanned Systems Integrated Product Team (IPT), headquartered at Rancho Bernardo Ryan Aeronautical Center site, presented a half-scale model of the UAV for display in the rotunda. It is hanging above the Spirit of St. Louis, representing the evolution of Ryan designs and commemorating the 75th anniversary of Charles Lindbergh's historic flight across the Atlantic. Congressman Randy "Duke" Cunningham was keynote speaker at the dedication. Also speaking, from Northrop Grumman, were Duke Duffresne, Air Combat Systems (ACS) Vice President and UMS IPT leader, and Bob Mitchell, ACS VP for Advanced Systems Development, and former president of Ryan Aeronautical during the early development phase of Global Hawk. Global Hawk is currently operational in Operation Enduring Freedom.



Global Hawk UAV Half-scale Model in Museum Rotunda

Mitchell Receives Prestigious AIAA Award

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Robert A. K. Mitchell, vice president of Advanced Systems Development at Northrop Grumman in El Segundo, accepted the prestigious Reed Aeronautics Award for 2002 from the American Institute of Aeronautics and Astronautics (AIAA) at the organization's Global Air and Space Conference in Arlington, Va.

"This was made possible because of the efforts of the dedicated men and women of the Global Hawk team who have helped make our company a world leader in unmanned systems," said Mitchell, who received the award "for the development and international deployment

of the Global Hawk system." In 1995, he led the team that won the original Global Hawk contract and subsequently guided the program through its development, flight test, and demonstration phases until last year, when he was appointed to his current position at ASD.

The award, named for Dr. Sylvanus A. Reed, an early aeronautical design engineer, is the Institute's highest honor for achievement in the field of aeronautical science and engineering.

"We congratulate Bob on his selection for this award, which recognizes his contributions to the development of unmanned systems, an area in which Northrop Grumman enjoys a leadership position in our industry," said Gary Ervin, sector vice president for Air Combat Systems. "Those contributions were instrumental in the transformation of unmanned systems from an unproven technology to one that plays a significant role in our nation's strategic defense planning."

Mitchell joined Northrop Grumman in 1999 after the company's acquisition of Ryan Aeronautical in San Diego, Calif., where he had served as president since 1988. Previously, he directed the Space Programs division of Teledyne Brown Engineering in Huntsville, Ala. He holds a bachelor's degree in aeronautical engineering from the Royal Air Force College in Cranwell, England, and a master's degree in astronautical engineering from the U.S. Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio.



Northrop Grumman UAV Development Programs Under Bob Mitchell's Leadership

At Edwards AFB, L-R: Navy X-47A Unmanned Combat Air Vehicle (UCAV-N); USAF RQ-4A Global Hawk HAE UAV; Navy RQ-8A Fire Scout Vertical Takeoff and Landing Unmanned Air Vehicle (VTUAV).

UCSD Students Win AIAA Design-Build-Fly

John Kosmatka, Professor, UCSD

The annual AIAA Design-Build-Fly (DBF) competition for AIAA college student members was held in April. San Diego university student branches were represented by two teams from UCSD and one from SDSU. There were

among 35 teams from the U. S. and around the world competing. One UCSD team (TLAR 3.0), won the competition and a \$2500 first place prize based upon a formula that includes flight times, technical report, design innovation, and rated aircraft cost. The second UCSD team (TLAR 3.5) designed and developed a flying wing aircraft that was one of the most innovative designs there, as well as the most risky. It had an outstanding rated cost score and flew well, but during the very windy competition conditions it crashed. This was UCSD's 3rd year competing, placing 6th the first year and 4th last year.

USC finished second, followed by Illinois. Other notable aerospace schools that also competed included: Georgia Tech, Maryland, Texas, Arizona, UCLA, Oklahoma, SDSU, Cal Poly, and MIT.



UCSD TLAR 3.0 DBF Winning Entry



UCSD TLAR 3.5 Flying Wing DBF Entry

There were nearly 30 UCSD aerospace and mechanical engineering students involved with the project, starting with the design last fall, producing the technical report in winter, and building the planes this spring. Ten students went back for the competition in Wichita by either flying or driving in a van with the planes. Primary sponsors were General Atomics Aeronautical Systems, UCSD Jacobs School of Engineering, and the Silent Electric Flyers of San Diego (SEFSD) Club. The students are indebted to Steve Manganelli and Steve Neu of SEFSD. Both volunteered a tremendous amount of time teaching the students in the areas of competition model airplane design, propulsion, power management, and fabrication. Moreover, both went back to Kansas for the competition, offering technical, tactical, and moral support. Steve Neu did an outstanding job flying both planes during the competition.

The AIAA design, build and fly competition is a well-known capstone competition where student teams design, fabricate, and demonstrate the flight capabilities of an unmanned, electric powered, radio controlled aircraft which can best meet the specified mission profile. The goal is a balanced design possessing good demonstrated flight handling qualities and practical and affordable manufacturing requirements, while providing a high vehicle performance. The aircraft were required to fly three different sorties: (1) unloaded aircraft fly two fast laps (approximately 70-100 mph); (2) aircraft lands and students load a payload of between 10 and 24 softballs, loaded aircraft takes-off and flies two laps; and (3) aircraft lands, students unload balls, unloaded aircraft takes-off and flies two fast laps.

SDSU Students Take 6th In Design-Build-Fly

The SDSU student branch also competed this year in the April DBF competition and took 6th place. Northrop Grumman Corporation's UMS IPT helped sponsor the team. The following are pictures of the SDSU aircraft following assembly and during flight test, before traveling to Wichita.



Section Events Calendar 2002-2003

The new Council will develop the Section events calendar over the next several months. Information will be posted here and on the Section web site as it becomes available. The Section web site is accessible through the National site, via a menu selection on the home page, or at this address: <http://www.aiaa.org/sections/sd/default.htm> Please feel free to contact any Council member listed on the roster at the back of this newsletter with ideas for Section events. The Council is also looking for volunteers to fill the noted vacant appointed chair positions.

Position	Name/Company	Work Phone	Email Address
Chair	Phil Rose, Goodrich Aerospace	(619) 691-2592	Phil.rose@goodrich.com
Vice Chair - Planning	VACANT		
Vice Chair - Technical	Tom Chandik, General Dynamics (ret.)	(619) 276-8961	
Secretary	Lee Bolt, General Dynamics (ret.)	(619) 281-0216	LeeBolt@worldnet.att.net
Treasurer	Colin Etheridge, Solar Turbines	(619) 544-5136	Etheridge.Colin_J@solarturbines.com
Program Arrangements	VACANT		
Field Trips	Eric Heining, Pyramid Space, Inc.	(858) 554-1140	Eheining@Heining.com
Newsletter	Mike Lazar, Northrop Grumman Corp.	(858) 618-4208	mlazar@ryanero.com
Flyers	Angie Crenshaw, Naval Aviation Depot, NI	(619) 545-7962	CrenshawA@navair.navy.mil
Internet Webmaster	John Ogden, Weldmac Engineering		engineering@weldmac.com
Public Policy	VACANT		
History & Bylaws	Bill Chana, W. F. Chana Associates, Inc.	(858) 488-7183	
Region VI Delegate	Chuck Heightland, THG Engineering	(760) 728-9249	heightlandc@thg-engr.com
Membership	Jim Peterson, General Dynamics (ret.)	(858) 279-1940	Jdpete@pacbell.net
Honors & Awards	Keith Glassman, Naval Aviation Depot, NI	(619) 545-3736	GlassmanKF@navair.navy.mil
Professional Society Liaison	Warren Johnson, BFG Aerospace (ret.)	(858) 278-1317	Wmjohanson2@earthlink.net
Young Professionals & EOF	Chris Root, Naval Aviation Depot, NI	(619) 545-0626	RootCB@navair.navy.mil
Pre-College Outreach	Quentin Goss, USAF (ret.)	(858) 451-6213	Qgoss@worldnet.att.net
SDSU Faculty Advisor	George Faulkner, SDSU	(858) 270-6604	DJFJR@aol.com
SDSU Student Chair	Tim Lo, Dept. of Aero. Engineering	(619) 698-7560	Swnssn774@hotmail.com
UCSD Faculty Advisor	R. de Callafon, UCSD MAE		decallafon@mae.ucsd.edu
UCSD Student Chair	TBD		
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