AIAA SDSU Student Branch History

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The purpose of this paper is to convey the history of the American Institute of Aeronautics and Astronautics (AIAA) student branch at San Diego State University (SDSU) and to pay tribute to all those who made an impact in and on the club. The SDSU AIAA branch was founded in Spring 1963. AIAA has played a vital role in the advancement of the aerospace industry, promoting innovation, and fostering professional development and collaboration within the field. In San Diego, a city known for its rich aerospace and defense legacy, AIAA's presence has been particularly significant. Specifically, the SDSU AIAA chapter serves as a hub for students, engineers, researchers, professors, and industry professionals, supporting collaboration among members and with major aerospace companies. By organizing technical symposia, technical projects, student competitions, networking events, and educational outreach, AIAA at SDSU strengthens the region's leadership in aerospace technology and contributes to the growth of a skilled and forward-thinking workforce. This student branch has faced many challenges during its long history on campus, and this paper seeks to highlight the people, the events, and the projects that kept it going.

I. Nomenclature

AE	=	Aerospace Engineering
AIAA	=	American Institute of Aeronautics and Astronautics
SDSU	=	San Diego State University
SDSC	=	San Diego State College (later became SDSU)
SD	=	San Diego
ARS	=	American Rocket Society
IAS	=	Institute of the Aerospace Sciences
UCSD	=	University of California, San Diego
MoA	=	Memorandum of Agreement
SDASM	=	San Diego Air & Space Museum
RPV	=	Remotely Piloted Vehicle

II. Introduction

The American Institute of Aeronautics and Astronautics (AIAA) is the world's largest aerospace technical society, representing more than 30,000 engineers, scientists, and students across government, academia, and industry. It was founded in 1963 through the merger of the American Rocket Society and the Institute of the Aerospace Sciences, creating a unified platform for technical collaboration and research across the aerospace field. Since then, SDSU has been part of that journey. AIAA is deeply invested in student development. With more than 260 student branches worldwide [1], it offers opportunities for technical growth, networking, and leadership. These chapters support hands-on engineering through aircraft design competitions, rocket teams, conference attendance, and industry mentorship.

A. San Diego's Aerospace History

San Diego's contributions to American aerospace go back further than many realize. The city's aviation history began in March of 1884, when John J. Montgomery flew the first ever controlled flight in the United States from the

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rim of Otay Mesa. [2–4] In 1911, aviation pioneer Glenn Curtiss established a flying school on North Island, where he trained both Navy and Army pilots. This laid the foundation for the eventual designation of North Island as the "Birthplace of Naval Aviation." [5]

In 1927, a San Diego-based company named Ryan Aeronautical built the aircraft Charles Lindbergh flew across the Atlantic. The airplane was called "the Spirit of St. Louis." [6, 7] San Diego's aviation industry accelerated in the 1930s when Reuben H. Fleet moved Consolidated Aircraft from Buffalo, New York, to San Diego in 1935, beginning construction on the new plant two years earlier in 1933. The company later became known as Convair and played a major role in American aviation history with aircraft such as the B-24 Liberator [8]. Over the decades, San Diego evolved into a major aerospace and defense center, home to military installations such as Naval Air Station North Island and companies including Rohr Industries (now Collins Aerospace), General Atomics Aeronautical Systems, Inc., and Northrop Grumman. These institutions continue to shape the local aerospace workforce. SDSU has been closely tied to this legacy. Since 1964, its Aerospace Engineering program has trained generations of engineers who have gone on to work in both local and national aerospace sectors. [9] Organizations like AIAA help bridge the gap between university and industry by connecting students to this broader ecosystem.

B. AIAA

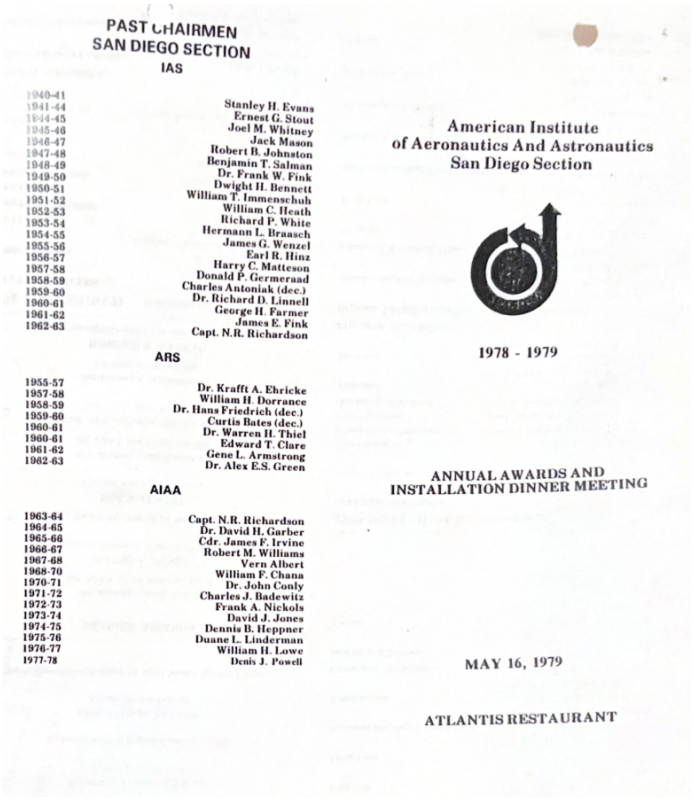
The merger of ARS and IAS in 1963 brought together expertise in aeronautics and astronautics, forming AIAA as a comprehensive professional society. In addition to advancing research and hosting technical conferences, AIAA has prioritized outreach to students through its global branch network. [1] These chapters support extracurricular engineering experiences such as Design/Build/Fly (DBF), AIAA SciTech participation, and technical workshops. Many students engage with real-world aerospace work for the first time through these programs, gaining practical skills and exposure to the professional community.

C. AIAA San Diego

The history of the AIAA San Diego Section dates back to the early 20th century. The San Diego Section of the Institute of the Aeronautical Sciences (IAS) was likely established in 1940, with Stanley H. Evans serving as its first chair. In 1955, a separate San Diego Section of the American Rocket Society (ARS) was formed under the leadership of Krafft A. Ehricke [10].

In 1944, Reuben H. Fleet, then President of IAS, led fundraising efforts that enabled the San Diego Section to acquire its own building. This space later served as a shared venue for both IAS and ARS meetings until shortly after the organizations merged to form AIAA in 1963. The building was sold soon after the merger, but the professional section continued to grow and support the local aerospace community [11].

Today, the AIAA San Diego Section continues to play a vital role in connecting academic institutions with local aerospace professionals and companies. It supports student branches at SDSU and University of California, San Diego (UCSD) by hosting technical talks, industry panels, and outreach events. The section has also provided mentorship and logistical support to SDSU's DBF and Rocket Project (RP) teams, and continues to help students engage with national-level and local AIAA activities.


PAST CHAIRMEN
SAN DIEGO SECTION

IAS

1940-41 Stanley H. Evans
1941-44 Ernest G. Stout
1944-45 Joel M. Whitney
1945-46 Jack Mason
1946-47 Robert B. Johnston
1947-48 Benjamin T. Salman
1948-49 Dr. Frank W. Fink
1949-50 Dwight H. Bennett
1950-51 William T. Immenschuh
1951-52 William C. Heath
1952-53 Richard P. White
1953-54 Hermann L. Braasch
1954-55 James G. Wenzel
1955-56 Earl R. Hinz
1956-57 Harry C. Matteson
1957-58 Donald P. Germeraad
1958-59 Charles Antoniak (dec.)
1959-60 Dr. Richard D. Linnell
1960-61 George H. Farmer
1961-62 James E. Fink
1962-63 Capt. N.R. Richardson

ARS

1955-57 Dr. Krafft A. Ehricke
1957-58 William H. Dorrance
1958-59 Dr. Hans Friedrich (dec.)
1959-60 Curtis Bates (dec.)
1960-61 Dr. Warren H. Thiel
1960-61 Edward T. Clare
1961-62 Gene L. Armstrong
1962-63 Dr. Alex E.S. Green

AIAA

1963-64 Capt. N.R. Richardson
1964-65 Dr. David H. Garber
1965-66 Cdr. James F. Irvine
1966-67 Robert M. Williams
1967-68 Vern Albert
1968-70 William F. Chana
1970-71 Dr. John Conly
1971-72 Charles J. Badewitz
1972-73 Frank A. Nickols
1973-74 David J. Jones
1974-75 Dennis B. Heppner
1975-76 Duane L. Linderman
1976-77 William H. Lowe
1977-78 Denis J. Powell

American Institute
of Aeronautics And Astronautics
San Diego Section

1978 - 1979

ANNUAL AWARDS AND
INSTALLATION DINNER MEETING

MAY 16, 1979

ATLANTIS RESTAURANT

Fig. 1 AIAA San Diego Annual Awards and Installation Dinner Meeting Brochure for the 1978-1979 fiscal year.

III. Founding & History

The AIAA student branch at San Diego State University (SDSU) took shape shortly before the Aerospace Engineering Department was founded in 1964. (Ref. III.A) The AE department was founded as part of the newly formed College of Engineering at SDSU. The available records suggest that AIAA SDSU emerged as a natural extension of SDSU's growing connection to the local aerospace industry. [12, 13] Our information was sourced from many places, notably our interviews with individuals and *the Daily Aztec* archives. [14]

A. Launch Era (1963-1980)

It is also important to note that at this time, the university's official name was San Diego State College. (SDSC) [15] In 1958, William H. (Bill) Shutts, was voted professor of the year at University of Texas at Austin. That same year, he was hired by SDSC to help usher in a new era. [16] By 1960, with help from the Rohr Aircraft Corporation, Bill Shutts masterminded the creation of the wind tunnel laboratory. This lab operated a closed circuit low-speed wind tunnel and a blow-down supersonic wind tunnel, and it was founded in the same year as the building that hosts it, the SDSC Engineering building. [13] Then, AIAA national was founded on 31 January 1963. [17] (Ref. II.B)

The oldest evidence of the AIAA student branch at SDSU that we were able to find is surprisingly from the SDSU student-run newspaper issued on 7 May 1963.[a] In that newspaper, the AIAA SDSU student branch were advertising a public showing of the film "Aeronautical Oddities." It is amusing to note that the student branch had to announce that the film was in color, though perhaps impressively that it mentioned an AIAA Auditorium in San Diego. The auditorium referred to here was likely in the ex-IAS building in San Diego that was sold in 1965. [17] The newspaper article also refers to the student branch holding a student officer election at the same event. We believe that this perfectly embodies the essence of the AIAA SDSU student branch in this early era. A student organization that focuses on professional development and building an aerospace community.

The student branch operated for one and a half school years before a major new era started at SDSC in 1964. That year, the College of Engineering was formed with four departments. The Aerospace department was founded by Chairman Bill Shutts, together with professors John Conly and Sangiah Nadar Dharmarajan. [13] The conditions were perfect and this was prime time.

Meanwhile, during the 65-66 school year, things were very much in motion for AIAA SDSU. Randy Seaver who attended SDSU from 61-66 recalls being a student officer in this year. (Ref. V.B.3) *The Daily Aztec*'s archives indicates interesting guest speaker events such as a talk by F. X. Marshall from Convair on the Lunar Landing Program[b] and Phil Bono, Assistant Program Manager for large launch systems at Douglas Aircraft Co., speaking on "Hypersonic Rocket Transportation - Beyond the SST?".[c] In the summer of 1966, undergraduate students Hermann Altmann (Ref. V.B.4) and Dwight Woolhouse (Ref. V.B.5) conducted flow field surveys over the test section, which resulted in the 1967 addition of flow conditioning screens within the tunnel settling. They were both members of the AIAA SDSU student branch. [18] Hermann Altmann recalls that he and Russ Gustin were chosen to go to Stanford University to get acquainted with their AIAA student branch. The flight was paid for by AIAA SD professional section.

The guest speakers and fun events continued. In October 1967, Alex Kiriaze of Ryan Aeronautical Co. spoke on composite materials and their aerospace application.[d] Later that same month, guest speaker Steve Tyler of General Dynamics Convair talked about "Low Speed Wind Tunnel Testing."[e] In Spring 1968, AIAA SDSU went on a field trip to design facilities at General Dynamics Convair.[f] At the end of the 67-68 school year, Bill Shutts stepped down as AE Department Chair, succeeded by John Conly. [9] John Conly was also elected the AIAA SD professional section's Vice Chairman for 1969-1970.

The Fall of 1969 was a very busy semester for these students. AIAA SD professional section's 1969-1970 monthly membership indicates SDSC student count to be 0 on May-Sep and 30 on Oct-May. An eight-person SDSU delegation of faculty and student leaders attended the AIAA Annual Meeting and Technical Display in Anaheim, CA. Wernher von Braun was a notable speaker at the event.[g] The SDSU AIAA student branch was very active that year: sending delegations to conferences, organizing technical writing contests, attending San Diego section dinners, and making field trips to aerospace plants like Edwards AFB. The faculty advisors of the student organization, John Conly and Robert

[a] *The Daily Aztec*: Volume 42, Number 119
[b] *The Daily Aztec*: Volume 45, Number 20; Issued: October 21st, 1965
[c] *The Daily Aztec*: Volume 45, Number 34; Issued: November 18th, 1965
[d] *The Daily Aztec*: Volume 47, Number 14; Issued: October 10th, 1967
[e] *The Daily Aztec*: Volume 47, Number 21-22; Issued: October 20th and 24th, 1967
[f] *The Daily Aztec*: Volume 47, Number 97; Issued: April 23rd, 1968
[g] *The Daily Aztec*: Volume 49, Number 22; Issued: October 28th, 1969

McGhie (Ref. V.A.2), emphasized how AIAA membership gave students affordable access to professional events and industry leaders, while the branch maintained close ties to the 600-member AIAA San Diego professional section. Later that year, Assistant Professor Howard H. Chang spoke about the water table.[a] In November, sixteen SDSU aerospace students and two faculty (led by Dr. Robert McGhie and assisted by Dr. Andrew Crooker) visited Edwards Air Force Base as part of the AIAA Southern California regional meeting.[b] They examined the Lockheed C-5A transport and the Boeing 747 during flight tests, noting both their unprecedented size and engineering sophistication; they also saw newer military aircraft such as the F-111 and A-7D. These students just wouldn't stop, as they came back and watched a film showcase on the General Dynamics F-111 Aardvark[c] and then another film showcase about the Boeing 747, alongside free coffee and doughnuts.[d] They sure did deserve the snacks and caffeine. It is important to mention that coffee and doughnuts appears to make up the bulk of the complimentary refreshments in this era. A guest speaker from the Pratt & Whitney Aircraft Company occurred in February, a joint event with ASME on campus.[e] The crew finished the school year strong with films of Cape Kennedy Spaceport and a general meeting to discuss club projects and activities.[f] AIAA SD professional section's 1970-1971 Monthly Membership data lists SDSC student count to be 30 during May-Oct, 31 during Nov-Feb, and 15 during Mar-May.

The next year, they hosted another speaker jointly with ASME, where the topic of "American Manned Space Exploration, Skylab/Space Shuttle" was discussed.[g] Then the students watched "Transonic Flight" and "Beyond the Speed of Sound".[h] In Spring of 1971, the Student Engineering Research Committee (SERC) at SDSU organized a successful fundraiser, thanking faculty (notably Dr. Howard Y. Chan), staff, student engineering societies (ASME, SAE, AIAA, ASCE, IEEE), and the campus community for their support.[i] They raised about $800 above the cost of the car used in the fundraiser; the proceeds were pledged for student grants and projects through SERC. The committee emphasized that the event's success was due to broad participation from faculty, students, organizations, and donors, reinforcing the culture of collaboration between AIAA and other engineering societies at SDSU. The end of the 1970-71 school year marked the succession of John Conly by Nadar Dharmarajan as AE department chair. [9]

In the year 1972, with the induction of President Brage Golding, SDSC became California State University, San Diego, and then San Diego State University (SDSU) two years after. [15] Later, at the end of the 1972-73 school year, Professor Howard H. Chang switched to the Civil Engineering department. In his time in the AE department from 1967 to 1973 [9], Dr. Chang contributed immensely to both AIAA SDSU and AIAA SD professional section. (Ref. V.A.1)

In 1974, Robert McGhie became the AE department chairman. Among Dr. McGhie's most notable accomplishments, it was during his time as chair that the AE undergraduate program at SDSU became accredited.[9] The student section seemed to once again lure students to an organizational meeting with free coffee and doughnuts again.[j] AIAA San Diego Professional Section Membership sheet from 1974 mentions SDSU faculty Dr. Robert D. McGhie (Publicity & Community Relations Officer), Dr. Balbir Narang (SDSU Facility Representative), and William H. Shutts. SDSU student members were also listed: Sergio Carrion, Tsvi Z. Gassner, Albert P. Klukas, James Newhall, William W. Wood, Wallace S. Halliday, David W. Peters, and Michael V. Stratton.

The Spring term of 1977 was eventful. *The Daily Aztec* archives show our first indication of a technical project by the club. The students even had designated work days where they would meet to work on the project.[k] The chapter undertook the task of completing a partially built wooden Turner T-40A two-seat airplane that had been donated to the department by retired aircraft mechanic Conrad Klement.[l] Students worked step-by-step under the technical guidance of Ladislao Pazmany (part-time instructor and well-known aircraft designer), adding controls, engine mounts, wings, and landing gear, with plans for later avionics and instrumentation. The project was open to all interested students (no prior aeronautical experience required-just woodworking skills and enthusiasm), reflecting AIAA's role in giving students hands-on construction and design experience beyond the classroom. This was, however, only a glimpse of the technical age of AIAA SDSU.

[a] *The Daily Aztec*: Volume 49, Number 33; Issued: November 18th, 1969
[b] *The Daily Aztec*: Volume 49, Number 40; Issued: December 3rd, 1969
[c] *The Daily Aztec*: Volume 49, Number 45; Issued: December 11th, 1969
[d] *The Daily Aztec*: Volume 49, Number 56; Issued: January 14th, 1970
[e] *The Daily Aztec*: Volume 49, Number 66; Issued: February 20th, 1970
[f] *The Daily Aztec*: Volume 49, Number 116A; Issued: May 6th, 1970
[g] *The Daily Aztec*: Volume 50 Number 30 & 31; Issued: November 6th & 10th, 1970
[h] *The Daily Aztec*: Volume 50 Number 39; Issued: November 25th, 1970
[i] *The Daily Aztec*: Volume 50 Number 91; Issued: April 2nd, 1971
[j] *The Daily Aztec*: Volume 54 Number 17; Issued: September 27th, 1974
[k] *The Daily Aztec*: Volume 56 Number 67; Issued: February 2nd, 1977
[l] *The Daily Aztec*: Volume 56 Number 71; Issued: February 9th, 1977

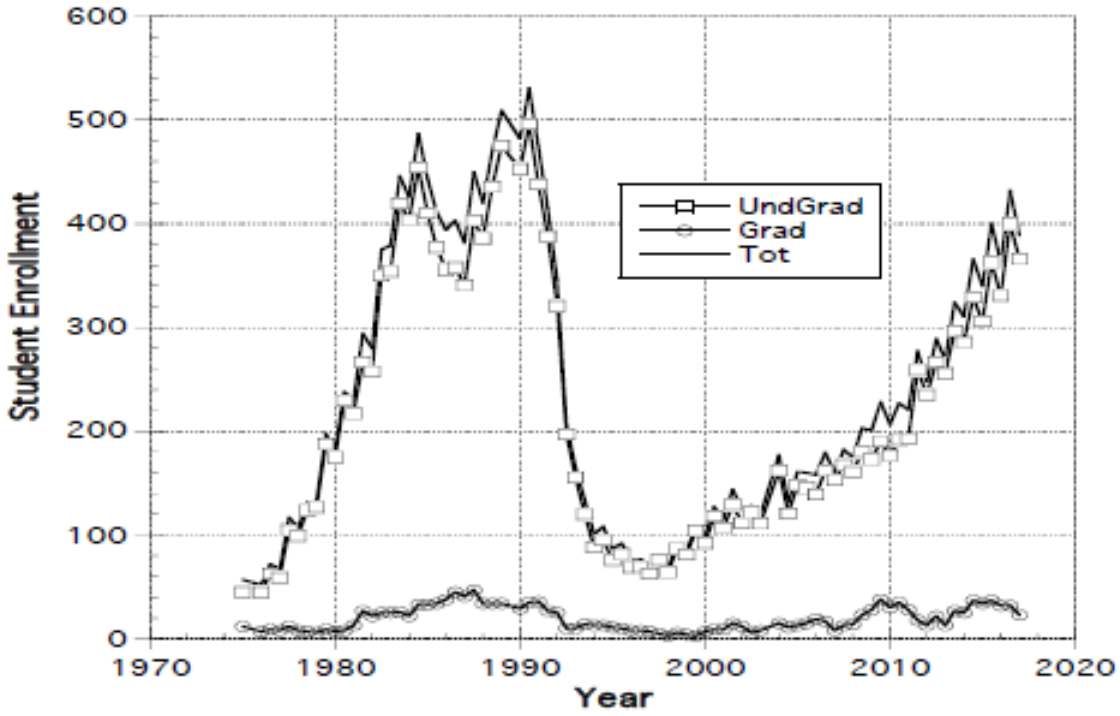


Fig. 2 Student enrollment in the AE department. [9] The 1980s was a local peak for the AE department at SDSU, which is why AIAA SDSU's participation was also bolstered. A lot of our information from this era comes from personal interviews with students and faculty who were here then.

1978 was an lively year for the AE department and their effects were felt by AIAA SDSU. John Conly returned to his role as the Department Chair in 1977. [9] Due to the number of Engineering Mechanics courses offered, the AE department was renamed to the "Department of Aerospace Engineering and Engineering Mechanics." And also notably, CAPT George Faulkner joined the department to teach Design and Flight Mechanics. Everyone we interviewed who was at SDSU while CAPT George Faulkner Jr. was here also spoke highly of him. He is a legend for AIAA SDSU and the AE department, and he deserves a proper biography. (Ref. V.A.3)

B. Altitude Ceiling Era (1980-1992)

Former AIAA-SDSU chapter member Chris Root (Ref. V.B.1) recalls that the early 1980s were filled with monthly or lunchtime student branch meetings with industry speakers. They provided critical exposure to aerospace developments before the internet era. Upperclassmen leaders like Doug Fronius (Ref. V.B.7) and Alfredo Ramirez (Ref. V.B.8) mentored younger members and helped organize events. A notable technical project is when the Sigma Gamma Tau Aerospace honors society built a 12-foot wingspan Remotely Piloted Vehicle (RPV).[a] They received direct support from NASA officials, who promised technical guidance and shared knowledge from their own RPV program. This led to students visiting Edwards AFB to see the Space Shuttle *Challenger* land and tour aerospace facilities. Alfredo Ramirez was involved in this project and Doug Fronius recalls leading the project. The project produced an AIAA paper that they presented at an AIAA conference, possibly in Los Angeles. This RPV effort is now regarded as a predecessor to SDSU's Design/Build/Fly (DBF) tradition, now known as Aztec Aerospace Design. Doug Fronius recalls that joining AIAA "seemed like the thing to do" for an engineering student interested in Aerospace. He emphasizes its economical value.

The Spring of 1983 was eventful for AIAA SDSU student branch and the SD professional section. SDSU hosted the AIAA Region VI Student Conference.[b] Roughly 80 students from CA, WA, OR, and AZ presented their research

[a] *The Daily Aztec*: Volume 64, Number 51; Issued: April 12th, 1983
[b] *The Daily Aztec*: Volume 64, Number 60; Issued: April 25th, 1983

papers. This provided opportunities for students, especially AIAA SDSU students, to network with professionals with major aerospace companies. Local AIAA chapter president Lowell Mitch highlighted how the conference gave students professional exposure, though he noted SDSU students were facing tougher job prospects and curriculum concerns. The event was co-sponsored by San Diego AIAA and industry partners (General Dynamics, Rohr, Lockheed, Rockwell, Douglas, etc.), each contributing funds. This showcased the strong student–professional–industry partnership.

At the end of the 82-83 school year, an important program started that shows us the economical value of AIAA student membership. This program was called the Reuben H. Fleet scholarship, managed by AIAA SD professional section, provided monetary benefits to students in the region maintained by AIAA SD. The program was named after San Diego Air & Space Museum (SDASM) Hall of Fame inductee and American aviation pioneer, Reuben H. Fleet. [19] It was managed by the San Diego Foundation. The earliest recipient of this award we could confirm was Ted Rechenmacher. Ted attended SDSU in 1981-1986, received the scholarship for the 83-84 school year, and graduated with a Bachelor's degree in Aerospace Engineering. The scholarship is still managed by the San Diego foundation and given out by AIAA SD professional section each year. (Full list found on Appendix C)

In the same era, AIAA SDSU also worked on a hands-on project. There is evidence of a two-seat gyro-copter project in the works. In *the Daily Aztec* of Fall 1983, Vice President Roger Thomas of AIAA SDSU was hopeful to see it completed, as it was already a multi-semester project at that point.[a] They were encouraging students from all majors to participate. Club president Remo Ottone was also promoting field trips and projects as a ways to make engineering "fun" and break stereotypes, all while connecting students with industry. That same term, AIAA hosted an unnamed guest speaker from General Dynamics to discuss Manned Military Aircraft.[b] Related to General Dynamics, this is the semester where Geoffrey Butler, then an Engineering Specialist at General Dynamics' Convair Division, started the SDSU Master's in AE program as a working professional. He recalls joining AIAA SDSU and attending guest lectures, though his heavy work commitments limited his involvement. He has since been an active AIAA member and a past chairman of AIAA's Missile Systems Technical Committee, in which he remains an active member.[20] (Ref. V.A.10)

Spring 1984 brought many new things for AIAA SDSU. The student branch held a lecture on "Potential Roles for Tethering in Space".[c] In late February '84, guest speaker Bill Chana held a lecture on General Aviation Design.[d] Bill Chana is an important figure in San Diego aeronautical history, receiving the AIAA National Distinguished Service Award in 1973 and was named an AIAA Fellow in 1993. He is honored in the SDASM Hall of Fame.[21] They seem to have finished the year off strong with guest speaker Frank Eckhart from NASA Aeronautical Research,[e] a trip to Rutan Aircraft Factory (now known as Scaled Composites) in Mojave, CA,[f] guest speaker Tom Price from Eipper Ultralight Company,[g] and an unnamed guest speaker from NASA.[h]

The fall semester of 1984 was alright as well. The semester began with an an annual "Take-off" party.[i] There were no mentions of a take-off party, but calling it annual indicates that this school year starter party might have occurred in other years. SDSU has a reputation of being a party school to uphold, and the College of Engineering clearly doesn't seem to have been lacking in that regard. There was also an unnamed guest speaker from the Lockheed Corporation in November.[j]

Dave Bradley (Ref. V.B.10) told us that when he attended SDSU from 1982 to 1988, the Aerospace department was an impacted program. Students were forced to "crash" classes due to limited scheduling systems. It wasn't all that bad though, as most people we interviewed from this era (namely Chris Root, Christine Probett, and Dave Bradley) recall Friday keggers, pizza gatherings, and burger grilling in the lot behind the Engineering building. Yet somehow, among all of this, Christine Probett (Ref. V.B.11) told us that most Aerospace students were represented by AIAA SDSU, which regularly invited "great guest speakers" to campus.

We have now reached the peak of the Cold War. The Aerospace industry is thriving, including San Diego and its Aeronautical significance. Rich Gunderson (Ref. V.B.9) recalls hearing from CAPT George Faulkner himself that he began advising the student chapter in the mid-1980s. CAPT Faulkner would regularly attend AIAA SD professional section meetings, bringing AIAA SDSU officers with him. Although AIAA SDSU was already linked to AIAA SD,

[a] *The Daily Aztec*: Volume 65, Number 29; Issued: October 6th, 1983
[b] *The Daily Aztec*: Volume 65, Number 34; Issued: October 13th, 1983
[c] *The Daily Aztec*: Volume 66, Number 8-10; Issued: January 31st-February 2nd, 1984
[d] *The Daily Aztec*: Volume 66, Number 22; Issued: February 21st, 1984
[e] *The Daily Aztec*: Volume 66, Number 37; Issued: March 13th, 1984
[f] *The Daily Aztec*: Volume 66, Number 49; Issued: March 29th, 1984
[g] *The Daily Aztec*: Volume 66, Number 63; Issued: April 26th, 1984
[h] *The Daily Aztec*: Volume 66, Number 67A; Issued: May 3rd, 1984
[i] *The Daily Aztec*: Volume 67, Number 8; Issued: September 12th, 1984
[j] *The Daily Aztec*: Volume 67, Number 48; Issued: November 8th, 1984

CAPT Faulkner tightened the relationship so well that we still feel his impact today. Around the same time, in 1985, the Aerospace department selected to hire an established fluid dynamics professor from the University of Maryland, Allen Plotkin, as the next chair. [9] Before him, traditionally, department chairs rotated internally. Dr. Plotkin was one of the first chairs hired from the outside. One year later in 1986, Joseph Katz, then a Senior Research Associate at NASA Ames, was hired as an AE professor. (Ref. V.A.7) He became not only an invaluable resource for AE at SDSU, but he has also had a huge impact on NASA, motor racing, and AIAA.

In 1987, Stig Johansson (Ref. V.A.9) was hired as the Technician for the AE department. [9] He proved be an irreplaceable asset to the university and resource for the students, being able to "design and build anything mechanical, electronic, or computer driven."[13] Also in 1987, Professor Joe Katz (Ref. V.A.7) upgraded the wind tunnel lab and with the same grant, purchased the first AE department computer. [13] The MicroVAX computer paired with the Scanivalve DAQ recorded wind tunnel data acquisition from 1988 until 2002, which proved an invaluable resource to students writing papers for AIAA at the time.

Guest speakers continue to be the highlight of AIAA SDSU's professional development opportunities in 1987. They hosted Stewart Cochran, who spoke on Experimental Aircraft Association activities.[a] Waynor Rogers, fighter aircraft pilot of the U.S. Marine Corps., was a guest speaker as well.[b] SDSU and AIAA SDSU alumni, Doug Fronius and Alfredo Ramirez returned to talk about Teledyne Ryan.[c] And for the space enthusiasts, Gregory Ruffon spoke on "The Challenge of Interstellar Flight".[d]

The late 80s were the peak of the AE department enrollment. (Figure 2) In 1988, a freshman at SDSU named Jordan P. Evans heard about AIAA SDSU in AE 123, the introduction class to professional aerospace engineering. He was a member all five years he spent at SDSU. (Ref. V.B.2) He recalls that AIAA students supported faculty projects, such as Professor Katz's ground-effect project for the Mazda GTP. They also assisted wind-tunnel instrument calibrations for America's Cup sailing competition teams. Finally, in the 89-90 school year, SDSU started the joint Ph.D. in Aerospace Engineering program with UCSD. [13]

In the early 90s, Jordan Evans recalls small cohorts of about 15-20 graduates from the AE department. The demand for Aerospace Engineering was then lowered due to the end of the Cold War. This led to a huge plummet in enrollment, noticeable in Figure 2. Only two students received job offers immediately after graduation in 1993. The AIAA SD Membership sheet mentions the following SDSU professors: Dr. Asfaw Bayene, Dr. John F. Conly, CAPT D. G. Faulkner Jr., Dr. Constantin S. Lyrintzis, Dr. Robert D. McGhie, Dr. Balbir S. Narang, Dr. Nagy S. Nosseir, Dr. Mauro Pierucci, and Prof. Kuo C. Wang.

C. "Houston We Have a Problem" Era (1992-2000)

1992 was the beginning of a rough period for the department of aerospace engineering at San Diego State University. In fact, many actually believed that it was going to be the end of our beloved department. In May of this year, it was announced that the AE department would be no more. Due to massive budget cuts, President Thomas B. Day, SDSU president of the time, alongside Dean of Engineering George Craig decided to eliminate the AE department along with 183 faculty members,[e] which included all of the AE faculty. This was supposed to take effect the following year as to allow the seniors at the time to gain enough credits to graduate. During this anxious period of waiting for the inevitable end, many started standing alongside the AE department and trying to persuade President Day to reconsider his decision. Management of the local aerospace industries and naval bases, alumni and other faculty members, AIAA national and Region VI officers, even the present mayor as well as local and state legislators supported the efforts to reverse the President's decision and keep the SDSU AE department alive. Students like Jordan Evans recall being at protests against the closure and carrying banners reading "Aerospace Will Not Fall." (Ref. V.B.2) By the end of 1992, President Day finally rescinded the layoff call and the elimination of the AE department. [13]

However, this initial decision and all the ruckus it created was truly devastating for the department. The drive and spirit of the group was dimmed and the prospect of a future elimination of the AE department was not encouraging for new students. In fact, it wasn't until 1994 that the program admitted new students. Enrollment dropped from hundreds to fewer than 100 students in the matter of a few years. Many thought that from 1994 on, the AE department would start its recovery journey and hopefully make its way back to the golden years that it once experienced. However, the college of engineering was hit with yet another hardship. August 15, 1996 would be another day to remember as it was the day

[a] *The Daily Aztec*: Volume 71, Number 43; Issued: October 28th, 1987
[b] *The Daily Aztec*: Volume 71, Number 51A; Issued: November 9th, 1987
[c] *The Daily Aztec*: Volume 71, Number 58; Issued: November 18th, 1987
[d] *The Daily Aztec*: Volume 71, Number 66-67; Issued: December 2nd-3rd, 1987
[e] Found in a letter from Dr. Nagy Nosseir to Mr. Terry Stockham

three beloved engineering professors were shot and killed by Fred Davidson, a graduate student in the ME department, who was preparing his thesis defense. [22] This tragedy affected the entire university and many families. The tragic loss of Costas Lyrintz, an AE professor, was a major setback that the department of aerospace engineering faced. Due to the 16-year hiring gap [9], he was the only junior faculty member at the time.

Throughout all of this chaos and hardship, AIAA remained. Although small due to the loss of student admittance, AIAA stood together as a close knit group and the meetings became nearly the entirety of the aerospace engineering department. Throughout these years, the student branch persevered and in fact, under the leadership of (now Dr.) Mike Vest, the SDSU branch earned an Outstanding Student Branch Award.[a] Mr. Vest even claims that AIAA served as a conduit linking students, faculty, alumni, and industry professionals to support activism, sustain morale, and provide visibility. It remained the default hub for nearly all aerospace students and truly created a community during such hard times. While it originally served as a professional/social club, during this time it served as the lifeline of the program. Continuing to foster hands-on projects and regional conferences, AIAA kept students motivated and in higher spirits. Towards the later 1990's, the department was appearing to make a recovery. Especially with the help of faculty like Dr. Katz, Dr. Plotkin, and CAPT Faulkner who remained strong mentors for students. Dr. Katz and Plotkin both taking charge and serving as the Chairs of AE and leading the aerospace department on a new path. Meanwhile CAPT Faulkner, although already retired, served as the bridge between the SD professional AIAA section and the students. By the year 2000, the efforts put in by everyone in the AE department and AIAA had rebuilt enough momentum and morale for the department to start making a recovery.

D. Recovery Era (2000-2015)

Although many people thought that the calendar turning from 1999 to 2000 would bring chaos and catastrophic events, for AIAA and the state of the AE department, the year 2000 brought new beginnings and signs of growth. We finally seemed to not only be digging ourselves out of the rut that the previous years put us in, but AIAA and its aerospace students were working incredibly hard to rebuild the SDSU AE name. This year marked the transition for AIAA from survival guide to national competitiveness. Efforts led by Rich Gunderson, student chair for 1999/2000, Chad Berman, 2000/2001 chair, and Tim Lo, 2001/2002 chair, would bring the 2001 AIAA Region VI student paper competition to Old Town, San Diego. (Ref. V.B.6, V.B.15) The second time SDSU would host such event, this was a big event for AIAA at the time as it would bring participation from schools across AIAA Region VI and provide visibility to the newly recovering aerospace department as Chad Berman stated. These students worked closely with the San Diego branch and also collaborated with the SD Aerospace museum ensuring that the ties between students and professionals be renewed. Beyond this convention that SDSU hosted, our students began to be encouraged to keep writing and submitting these AIAA papers. Many even began winning regional and national AIAA paper competitions. Including Chad Berman with first place at the 2003 AIAA Foundation International Student Conference Awards with his paper on Satic Thrust Study of an Airboat Propeller [23]. In the AIAA SD meeting notes,[b] AIAA SDSU student chair Katherine Miller states that most student activities were canceled due to the Cedar Fire. [24] Miller told the meeting that AIAA SDSU members were helping organize food and goods programs for fire victims.

It's important to mention that the early to mid 2000s was a time of active recovery. When Dr. Gustaaf Jacobs (Ref. V.A.12) and Dr. Satchi Venkataraman (Ref. V.A.11) began teaching 300-level courses, there were less than 10 students per class and only two M.S. program students. Meanwhile, Dr. Joe Katz was supervising two Ph.D. students jointly with UCSD. When the stock market crashed in 2008, the AE department coincidentally saw a surge in student enrollment. Luckily, Dr. Luciano Demasi (Ref. V.A.13) was hired that same year [9] and he helped the program further. Finally, by the time Dr. Xiaofeng Liu (Ref. V.A.14) came to SDSU in 2014, Dr. Jacobs recalls that the junior class grew to at least 40 students, as well as a "critical mass" of Master's students. The program grew exponentially, that by the time Dr. Ping Lu (Ref. V.A.15) was hired as the AE department chairperson in 2016, there were 80 junior-level students. By this time, many faculty retired (notably Dr. Nagy Nosseir in 2015), pushing the department into revitalizing the program through younger hires and championing research.

This wasn't only an era of recovery for the AE department, but it was also an era of revitalization for SDSU's DBF group. The SDSU's DBF team was founded in 1997 after the inaugural Design Build Fly competition in 1996 but after failing to make it to the 1998 competition in Wichita, the team fell into a short lull [25]. There seemed to be no team or intent to submit a design for the next couple of years. That was until Fall of 2000 when members of the AIAA Chapter at SDSU decided once again to take part in the Design Build Fly competition. Fundraising was started, designs were

[a] AIAA Region VI Awards, 1994-1995

[b] AIAA SD Minutes, November 12th, 2003

in the works, and with the help of Chad Berman, the SDSU DBF project was ensured to be competing at the next competition. This resurgence of effort truly marked the start of one of SDSU's strongest engineering clubs. The AIAA SDSU chapter invited many guests to give talks to the students. Among those were Bill Chana who talked about his Triphibian Project and Bill Dana, former X-15 pilot and astronaut. Other speakers included a Top Gun instructor pilot and NASA Engineers among others. The chapter also organized a field trip to Naval Air Station North Island and a visit to AeroVironment, Inc with emphasis on their flying wing ring drone. Motivation was high and the newfound strong leadership led the team to DBF victory in 2003. (Ref. IV)

After the addition of DBF, SDSU welcomed the founding of Rocket Project in 2003 (Ref. IV). This brought a lot of excitement for engineering students and another opportunity for hands-on experience. Alongside this new addition, SDSU had a wave of new faculty hires. While speaking with Dr. Katz and Dr. Plotkin, we learned that from 2002 to 2010 the 16 year hiring freeze was over. The school brought in Dr. Gustaaf Jacobs, Dr. Luciano Demasi, Dr. Xiaofeng Liu, and Dr. Ping Lu (Ref. V.A.15) which helped to reinvigorate courses, labs and design projects. (Ref. V.A.7, V.A.6) This was a positive counter to the recent past of the aerospace department and with that, classes that once had 8 students now had over 100 (e.g., AE 440, per faculty interviews). As AIAA membership at SDSU was nearly synonymous with being an aerospace engineering student, the new growth allowed the hub that AIAA was to flourish.

This new era brought many new awards and scholarships to our AIAA faculty and students. Notably, we can recognize Professor Plotkin who was selected to receive the 2005 John Leland Atwood Award which was co-sponsored by the AE division of ASEE and the AIAA branch and is given to a leader who has made a lasting impact and significant contributions to aerospace engineering education.[a] This school year was also a big one Mr. Nils Sedano (Ref. V.B.12), as it was the year he was sponsored by AIAA SD through the California Space Grant to visit NASA Glenn Research Center to help start the technical relationship for SDSU Rocket Project. His involvement in AIAA and Rocket Project, along with his hard work greatly attributed to this opportunity. Continuing on, multiple trips, many Technical symposiums with around 5-10 speakers, and opportunities to earn scholarships weer held. From 2000-2015, 30+ SDSU students were awarded and Reuben H. Fleet scholarship through AIAA. Onward to 2010, a team of SDSU AIAA students earned third place nationally and a $1000 award in the 2009/2010 AIAA Space Transportation Design Competition for their proposal titled Human Exploration and Reconnaissance of a Massive Extraterrestrial Space-born Object (HERA). Advised by Dr. Nagy Nosseir, the team designed a spacecraft concept that would enable astronauts to land on a nearby asteroid and return safely to Earth. Competing against top engineering schools such as Virginia Tech and Arizona State University, the SDSU students were recognized for the technical content, originality, and feasibility of their design. This was a proud achievement for not only the student but the school as well as it highlighted SDSU's growing reputation in aerospace engineering.[b]

As a result of faculty encouraging participation at AIAA Conferences in 2010, and SDSU regaining notoriety in aerospace research, the SDSU student branch was asked to once again host the AIAA Region VI student paper conference in 2011. As previously stated, the last time SDSU hosted this event was in 2000. The event was held in March 2011 and was entirely student led and run by Alejandrina Nuno, Samantha Stoneman, and Cesar Martin. SDSU AIAA continued to expand student participation by continuing to support DBF as well as Rocket Project. SDSU AIAA pursued a long-overdue refresh of hallways in the 3rd floor of the Engineering Building by partnering with Sigma Gamma Tau and painting a mural to moralize the Aerospace Engineering Department. Furthermore, community service projects were a key focus to ensure we continued to spread the importance of aerospace in STEM; notably, hosted students from under-served communities to learn about model rocketry and showcased a STEM booth at the Centennial of Naval Aviation (2011). Otherwise, student tours continued at NASA JPL, GA-ASI, NAVAIR North Island, MCAS Miramar, and Edwards AFB.

Keeping active in these student competitions, in 2012, members from the student branch earned second place nationally in the AIAA Undergraduate Space Transportation Design Competition, receiving a $1,500 award from the AIAA Foundation. The winning team—Evan Johnson, Jesse Cuevas, Tuan Luong, and project leader Samantha Stoneman was advised by Dr. Nagy Nosseir and tasked with designing a commercial space transportation system capable of carrying paying passengers to orbit in a cost-effective way. Their project, the Hydrogen Oxygen Platform Experiment (HOPE), proposed an orbital fueling station using liquid hydrogen/oxygen to extend lifetimes of spacecraft and enable future missions to the Moon or Mars..[c] This helped to reinforce the continuing success of AIAA's student organization in national competitions. Alongside these competitions, our organization continued to hold guest speaker events. One that notably took place was with former NASA astronaut Joseph Tanner at the Parma Payne Goodall Alumni

[a] 2005-2006 AIAA SD Newsletter

[b] *The Daily Aztec*: Volume 96, Number 29; October 18th, 2010

[c] *The Daily Aztec*: Volume 97, Number 68; February 6th, 2012

Center in December of 2013. Tanner, a University of Illinois graduate, began his career as a Navy research pilot before joining NASA in 1984 as a pilot and aerospace engineer. Selected as a NASA astronaut in 1992, he served until 2008, completing seven spacewalks and logging over 1,000 hours in space during his distinguished career.[a] Bringing these industry professionals to come speak to students has been the backbone of what AIAA SDSU does. It not only inspires students but often times, hearing from these professionals with amazing experience helps students realize what paths they are interested in. This is the purpose of AIAA, to provide students with the resources they need to find their passion and network.

IV. Wings of Innovation

Given the American Institute of Aeronautics and Astronautics' strong influence within the aerospace community, many specialized clubs have formed under its umbrella to focus on distinct areas of the field. This structure is mirrored at AIAA SDSU, where technical teams such as Design/Build/Fly and Rocket Project, along with professional organizations like Women of Aeronautics and Astronautics (WoAA) and Sigma Gamma Tau, operate in close connection with the student branch.

1. AIAA Lounge

Although not exactly a "wing" of innovation, AIAA has historically had a dedicated room on campus. Since at least the late 80s it was E-122A, which is located between the two wind-tunnels in the engineering building, and up until recently, it was the HQ of Aerospace Engineering students and managed by AIAA SDSU. Nicknamed the "Aero lounge", this room was great for small meetings and often served as the AIAA SDSU officer meeting location. Dr. Allen Plotkin is responsible for E-122A becoming the dedicated AIAA SDSU space. The room notably held bookshelves of donated books and reference material, and they still exist right outside of Paul Ahlers' office today. Students also had access to a refreshments for sale at a subsidized cost and in close proximity compared to other markets that were farther away. Additionally, students had access to computers and printers which would allow them to print reports or homework at the last minute prior to being due. Notably the same MicroVAX computer (Ref. III.B) mentioned earlier.

A. Design/Build/Fly (now Aztec Aerospace Design)

AIAA started a student competition in 1996 through the applied Aerodynamics, Aircraft Design, Design Engineering and Flight Test Technical Committees as an opportunity for university students to gain hands-on experience in aircraft design by allowing them to test and validate their analytical work in a practical, real-world setting. [26] This competition focuses on designing and building a radio-controlled, electric-powered aircraft based on a specific mission and rules set by the AIAA DBF Organizing Committee each year. The judging criteria has changed annually to match that year's specific mission. A final score is based on both a design report and how well the aircraft performs during the flight portion of the competition. In 1997, this competition gave rise to a student club on campus called SDSU DBF (now known as Aztec Aero). Led by Victor Hugo, AIAA SDSU student chapter president in 1997–1998, the newly formed team set out to design an aircraft for the Design/Build/Fly competition. That year's challenge required creating a plane capable of carrying 7.5 pounds of steel and completing as many laps as possible within seven minutes. The team engineered a canard-style aircraft to meet the requirements but faced challenges optimizing its center of gravity. Although the team successfully completed the aircraft, it became clear that they would be unable to travel to Wichita for the 1998 competition and would instead be evaluated solely on their design report. Despite this setback, their efforts pioneered SDSU's future involvement in the Design/Build/Fly competition and established the foundation for the program's long-standing success. [25]

In spite of the fact that the DBF team had just been formed, the following years were a lull with no official SDSU entries submitted to the national competition. This early setback, however, did not mark the end of the program. In 2000, renewed discussions about competing led to a group of students organizing fundraising efforts to secure the necessary financial backing; efforts that proved successful. When progress again stalled, Chad Berman, president of the SDSU AIAA branch in 2001–2002, stepped in to ensure the team honored its commitments to donors and ultimately made it to competition. While Victor Hugo is credited with founding SDSU's DBF program, it was Chad Berman's leadership along with Greg Marien and Andy Bechtel's determination, as well as the help of Dr. Katz, that truly set the team in motion and established the foundation for its continued success. The maiden flight resulted in a crash that significantly damaged the plane. However, that team that also included Tim Lo, Ryan Call, Thao Tran, and Leonel

[a]*The Daily Aztec*: 12/10/2013

Rios-Reyes, worked hard to overcome the many challenges. In the 2001 competition the team earned 20th place after completing the Full Monty design. Following that year, the SDSU DBF Project grew in popularity as a highlight of the AIAA SDSU Chapter, which continued to host industry events, competitions, and tours. In 2002, building on lessons from the previous competition, the team approached the project with renewed focus and higher standards. CAPT George Faulkner, an SDSU aerospace professor with ties to Northrop Grumman, connected the team with company engineers who were impressed by their work. SDSU DBF was invited to present its design in a Preliminary Design Review at Northrop's San Diego facility, earning its first industry sponsorship—a partnership that became an annual tradition for years to come. 2002 showed great success as the team earned sixth place and even greater success in 2003 when SDSU DBF received first place under the leadership of Greg Marien. (Ref. V.B.18) Following these years, DBF faced much trial and error, however they have managed to keep at it and even "...has placed within the top 25th percentile 6 times". [25]

In 2015, DBF formally separated from AIAA SDSU to become an independent Recognized Student Organization (RSO), allowing for greater financial and administrative autonomy while maintaining close ties to the department. [25] Today, under its own organization and a new name, Aztec Aero, the team continues to provide students with valuable hands-on experience through these AIAA national design competitions. The club offers students who are passionate about aeronautics an opportunity to specialize, innovate, and collaborate in a supportive learning environment. Serving as both a creative outlet and a network to industry professionals, Aztec Aero strengthens SDSU's presence in the aerospace community. Through its ongoing success and collaborative spirit, the organization continues to reflect AIAA's legacy of teamwork, design innovation, and mentorship in aerospace engineering.

B. Rocket Project

Even though San Diego State's collegiate rocketry team, Rocket Project, was not directly founded under AIAA like DBF was, they are of utmost mention as they have truly paved a way for many students to follow and gain valuable experience in the aerospace field. So to take it back to the beginning, Rocket Project roots sprouted "In 1999, [when] Dr. Steve Harrington (founder of Flometrics and an SDSU doctoral student at the time) found a Rocketdyne LR-1013 in the basement of the low-speed wind tunnel lab. An LR-101 is a liquid bi-propellant rocket engine used as a vernier thruster on NASA's Atlas and Delta rockets dating back to the 1950's". [27] Dr. Steve Harrington, began using that rediscovered LR-101 liquid rocket engine in his advanced thermodynamics lectures, sparking the interest of graduate students, but most notably Carl Tedesco. They began working together, borrowing the engine and, with support from Flometrics in Solana Beach, began developing and testing liquid-fueled rockets, an very uncommon pursuit in academia at the time. After several years of experimentation, few more students joined the effort, collaborating with Carl and Dr. Harrington to create a demonstrator rocket capable of reaching 100 miles in altitude. Their partnership and increased student interest led to the Rocketdyne LR-1013 being returned back to SDSU and the official founding of the SDSU Rocket Project in 2003 under Carl Tedasco. This marked SDSU as one of only two universities in California, alongside CSU Long Beach, with an active liquid rocketry program and sparking a spirited intercollegiate rivalry.

In September of 2003, 9 months after SDSU Rocket Project's inception, the team attempted to launch *Machezuma* from Reaction Research Society (RRS), an essential launchpad for many inspirational engineers in the Mojave desert. Although it didn't go entirely to plan, it was a foot in the right direction for the group. 6 months after *Machezuma*, *Phoenix I* was ready to launch and was taken to RRS for Rocket Project's 2nd attempt at flying a liquid rocket. This launch was considered much better than the first as it successfully made it off the launch rail. Still not a fully successful run, but yet again, another step in the right direction.

During an interview with Kevin Burns, it emerged that safety and liability concerns nearly ended the SDSU Rocket Project in its early years. CAPT George Faulkner, the AIAA SDSU advisor, grew increasingly concerned about student work with rocket propellants and stated he could not remain responsible for such activities under the student branch. To preserve the project and retain CAPT Faulkner as Advisor, Burns consulted AIAA Headquarters and met with Dean Westermo to craft a path forward. The result was a University-issued Memorandum of Agreement (MoA) [28] (Ref. E) under which the San Diego Professional AIAA Section would continue sponsorship of the Rocket Project (including accepting donations on the students' behalf), while San Diego State University accepted liability. Administratively, the project was taken out of the Student Branch, though participants remained AIAA student branch members. With CAPT Faulkner's blessing, this arrangement kept the Rocket Project alive while aligning responsibilities between the University and the AIAA San Diego Section.

Today, Rocket Project, it's own RSO as of 2015, is thriving and has successfully built 15 rockets [29]. To accomplish all that they do while also setting up many students with incredible opportunities and great technical skills is of extreme

value to SDSU. Rocket project is not only a leading force at SDSU, but it is a great addition to the entirety of the San Diego aerospace legacy. This group, throughout all years it's been established, has achieved many accomplishments and overcome numerous challenges. From failed launches to setting school records, they have truly paved a way for many students to follow and gain valuable experience.

C. Women of Aeronautics & Astronautics

Women of Aeronautics and Astronautics (WoAA) is another incredibly important group worth noting. WoAA is a committee under AIAA that was founded nationally in 2018. As for the SDSU section, whereas DBF started under the AIAA wing, our WoAA was originally under a group called Society of Women in Space Exploration, an affiliated chapter of Students for the Exploration and Development of Space (SEDS). After speaking to one of their current officers, Skyler McClain, we learned that they were founded in 2019, but just a year later transferred to WoAA and took claim as an AIAA branch. Their goal is to be "...a student organization that strives to promote and encourage women and minorities to pursue careers that support space exploration efforts." [30]

Since their founding, WoAA has done just that. They have hosted many speaker events, resume workshops, social events, and most notably, level one rocketry workshops. These activities all play a key role in supporting diversity, leadership, visibility, motivation, and support. WoAA's doors are always open to anyone who wishes to join, but this club has really built up a community for women engineers within the aerospace program at SDSU. While collaborating closely with the SDSU AIAA branch, these two organizations are able to focus greatly on mentorship, networking, and outreach rather than competition-based activities like DBF and Rocket Project. However, they work greatly alongside those two groups, complimenting one another as AIAA and WoAA offer a professional networking and social outlet rather than a technical learning opportunity. In essence, the Women of Aeronautics and Astronautics at SDSU has become a cornerstone of inclusion and community within the schools aerospace program, fostering mentorship, leadership, and visibility for women and minorities in the field. By complementing technical teams like DBF and Rocket Project WoAA represents the modern expansion of AIAA's influence, extending beyond engineering design to embrace broader professional and cultural engagement across the aerospace community.

D. Sigma Gamma Tau

Sigma Gamma Tau (SGT) [31], the national aerospace engineering honor society, has long served as a symbol of academic excellence and leadership within SDSU's aerospace community. Closely connected with AIAA SDSU throughout the 1980s, the two organizations frequently collaborated on technical talks, networking events, and professional development activities. During this era, SGT members, most notably Doug Fronius (Ref. V.B.7), led a 12-foot RPV project that resulted in an AIAA conference paper and is often seen as a precursor to SDSU's Design/Build/Fly program. However, following the aerospace department's decline in the early 1990s, Sigma Gamma Tau became inactive and was no longer present at SDSU by 1997. While there were signs of a possible revival in the early 2010s, the society has since ceased to exist at SDSU, leaving its legacy as an important chapter in the history of AIAA's academic and professional collaboration on campus.

V. Faculty and Alumni

The achievements of AIAA SDSU are closely tied to the faculty and alumni who have shaped its direction. This section offers a preliminary look at some of those individuals. Additional names and stories will be added as interviews and archival research continue.

A. Faculty Support

SDSU's Aerospace Engineering Department has benefited from faculty whose dedication helped shape both the program and its student community. Former department were also instrumental in guiding the department through key stages of its academic development. Their legacies will be explored further through planned interviews with emeritus faculty.

1. Howard H. Chang

Dr. Howard H. Chang (Born November 12th, 1939) was among the early faculty members who helped solidify the foundation of San Diego State College's Aerospace Engineering Department during its formative years. Dr. Chang

received his Ph.D. in Civil Engineering with emphasis on Hydraulics, Hydrology, and Sedimentation from Colorado State University in 1967. Joining SDSC in the same year, he was part of the department's second wave of hires alongside figures such as Robert McGhie, expanding the program's expertise into fluid dynamics and civil engineering applications. Chang's interdisciplinary background made him a key contributor to the young department's research in experimental aerodynamics and applied fluid mechanics.

Within the broader campus community, Dr. Chang was also recognized for his active support of engineering student societies, particularly through AIAA SDSU and related interdisciplinary initiatives. In January, 1969, Dr. Chang presented his paper on "A Mathematical Model for the Behavior of Thrust Reversers" at AIAA's 7th Aerospace Sciences Meeting in New York. Archival issues of The Aztec student newspaper show him participating in AIAA-linked campus events between 1969 and 1971, including a technical lecture on the water table and a student engineering fundraiser that united AIAA, ASME, SAE, IEEE, and other societies under the Student Engineering Research Committee (SERC).(Ref. III.A) His involvement reflected an early culture of faculty mentorship and collaboration across engineering disciplines, reinforcing AIAA's professional presence at SDSU.

Professor Chang departed the Aerospace Engineering Department in 1973 to join Civil Engineering (perhaps due to declining aerospace enrollments during the post-Vietnam era). [9] He's a Professor Emeritus of Civil & Environmental Engineering at San Diego State University, with university records listing his SDSU service from 1967–2003. Chang is widely recognized for work in fluvial hydraulics and river engineering. (flood-plain mapping, channel design, erosion/sedimentation, and watershed analysis) His 39-page CV indicates he authored 100+ technical papers, several river-morphology models, and the textbook Fluvial Processes in River Engineering (Wiley; later reprinted by Krieger).

Howard H. Chang's early guidance helped shape the department's applied research culture and its engagement with AIAA's mission of professional development and industry connection. AIAA SD has awarded him with: Outstanding Contribution to Aerospace Engineering Award (for research achievements in fluid dynamics and aerodynamics) in May 1970, and Outstanding Contribution to the Institute at the Sectional Level (for outstanding services) in May 1973. Dr. Chang is consistently remembered as one of the pioneering faculty who bridged disciplines and advanced the AIAA student branch's formative activities, ensuring that aerospace education at SDSU remained grounded in both theory and real-world engineering practice.

2. Robert D. McGhie

Dr. Robert D. McGhie was a pivotal figure in the development of the Aerospace Engineering program at SDSC (later SDSU), joining the department in 1967 during a formative period of growth and modernization. Hired alongside Howard Chang, McGhie introduced and established the discipline of Flight Mechanics, helping to broaden the department's focus beyond aerodynamics and structures. [9] His arrival marked the beginning of a significant expansion in both faculty and curriculum, as the department sought to meet the needs of San Diego's booming aerospace industry during the late 1960s.

McGhie served as AE Department Chair from 1974 to 1977, succeeding John Conly, and played an instrumental role in stabilizing and advancing the program through years of fluctuating enrollment and changing national priorities. His tenure coincided with the Cold War era's high demand for skilled aerospace engineers and the department's continued partnership with regional industry leaders like Rohr and General Dynamics. Beyond administration, McGhie's teaching and research in flight dynamics and control left a lasting imprint on generations of students who would go on to hold key technical positions throughout the aerospace field.

Within the AIAA San Diego Section, McGhie was deeply active, serving as Publicity and Community Relations Officer in 1974—a role that helped bridge the gap between academia and the professional aerospace community. His dual dedication to engineering education and professional outreach reflects SDSU's long-standing commitment to applied, industry-relevant instruction. McGhie retired in 1992, leaving behind a legacy of academic leadership and mentorship that helped solidify SDSU's reputation as a major contributor to the Southern California aerospace ecosystem.

Robert McGhie was also a professor of Civil and Environmental Engineering, being listed as an emeritus faculty there as well. On an obituary for Lillian Rae Powell (née McGhie) (April 26, 1930 – January 18, 2025), it is mentioned that she is preceded in death by her brother Robert D. McGhie.

3. CAPT Doc George Faulkner Jr.

Navy Captain "Doc" George Faulkner Jr. (September 15th, 1926 - October 5th, 2009) was a retired U.S. Navy pilot who became one of San Diego State University's most beloved aerospace instructors in the late 1970s–early 1990s, teaching stability & control, flight mechanics, and senior design. [9, 32, 33] Alumni remember him as "everybody's dad":

a steady mentor who organized meetings, brought in speakers, and personally nudged students toward opportunities like the Reuben H. Fleet Scholarship. He began advising the AIAA SDSU student branch around 1984–85 and, even after the aerospace major was briefly canceled in 1992, he kept volunteering as the branch's advisor.

Faulkner was the connective tissue between students, the department, and the professional AIAA San Diego Section. He's on the 1991 AIAA-SD membership rolls under "San Diego State University," and he was still listed as AIAA SDSU faculty advisor in 2003. This is an example of the practical, service-minded culture he modeled. Students referred to him as CAPT Faulkner, and Joe Katz calls that a demonstration of how students viewed the professor title compared to the Navy ranking. Alumni credit him with reinforcing a professional review cadence that later became SDSU's Northrop-backed preliminary design review tradition in Design/Build/Fly, due to his personal connections with Northrop Grumman. [25]

He cared deeply about safety and initially opposed on-campus rocketry. Years later, as an example of his pragmatic mentorship, a 2005 Memorandom of Agreement (MoA) he signed set guard-rails that finally allowed Rocket Project activities at SDSU. (Ref. Appendix E) In the broader record, AIAA histories describe him as a "full-time part-time" faculty mainstay from 1978–1992, the SDSU digital collections list him teaching through 1983–1992. After his passing in 2009, the AIAA San Diego Section created the D. G. Faulkner Scholarship (2010) and honored him with its Lifetime Achievement Award (2009). Together, those threads capture why CAPT Doc George Faulkner Jr. remains a touchstone for the AIAA SDSU community. After his passing, CAPT Faulkner's family donated his personal library to the "Aero lounge." The last class he taught was AE 123 in Fall 2005.

4. Mauro Pierucci

Dr. Mauro Pierucci is Professor Emeritus of Aerospace Engineering at San Diego State University, where he taught from 1979 to 2011 and became a pillar of the department's "good years." [9] A structural dynamics and acoustics specialist, he was also an early champion of computer-aided teaching and web-based instruction that modernized how SDSU delivered coursework in the discipline. His long tenure is reflected in faculty rosters and department histories that place him at the center of SDSU Aerospace Engineering's rise, alongside colleagues such as George Faulkner, Allen Plotkin, and Joe Katz.

In 2024, the AIAA San Diego Section honored Dr. Pierucci with its Lifetime Achievement Award, recognizing a career of sustained contributions to aerospace engineering and to the local professional community. The section promoted a campus event celebrating the award in partnership with SDSU's Aerospace Engineering Department. Even in retirement, Pierucci has continued to invest in SDSU's aerospace ecosystem. In April 2023, he provided seed funding to start an SDSU student space club [34], underscoring his ongoing commitment to hands-on learning and to cultivating the next generation of engineers.

5. Nagy S. Nosseir

Dr. Nagy S. Nosseir is an emeritus professor of Aerospace Engineering at San Diego State University whose technical lineage runs through the Southern California experimental-fluids community. He completed his doctoral work at the University of Southern California under Prof. Chih-Ming Ho, who later became prominent at UCLA for innovative work in turbulence, unsteady jets, and systems approaches to fluid mechanics [35]. Nosseir brought that training to SDSU at a moment when the Aerospace Engineering program was strengthening its laboratory base and preserving the experimental culture documented in Katz's history of the department [9]. His presence added a faculty member who could both design and operate carefully instrumented flow facilities — water tables, impinging/jet-type experiments, and student-friendly lab setups — rather than relying solely on classroom instruction.

Within SDSU, Nosseir was one of the faculty who quietly enabled the next generation. He helped assemble the "starter package" that allowed Dr. Xiaofeng Liu to join SDSU, which in practice meant there was an existing, functioning experimental environment — space, equipment lineage, and especially a water-table capability — that a new fluids/diagnostics hire could build on immediately. That kind of continuity is a recurring theme in the department's development, where modest but consistent laboratory investments kept SDSU AE attractive to students, competitive in regional projects, and visible to the local aerospace community [9]. At the same time, he was an active member of AIAA SD professional section. Nosseir maintained an active relationship with the AIAA SD section and with the SDSU student branch, leading or supporting trips and making sure that AIAA served as the connector between coursework, laboratories, and practicing engineers.

A signature element of his service was his support for AIAA national design competitions, particularly the Space Transportation Design Competition [36]. In 2010 he advised the SDSU team that was awarded for the Human Exploration

and Reconnaissance of a Massive Extraterrestrial Space-born object (HERMES) concept, showing that SDSU could execute a full, exploration-class mission study on par with much larger programs. He later guided the Hydrogen Oxygen Platform Experiment (HOPE) team, which also earned national AIAA recognition, reinforcing SDSU's reputation in student space-transportation projects. Together, HERMES and HOPE illustrate why Nosseir's AIAA connection mattered: he did not simply encourage students to enter; he structured faculty-backed, lab-informed, systems-aware entries that showcased SDSU's experimental strengths, thereby extending the department's hands-on, competition-facing culture that Katz identifies as one of its enduring advantages [9].

6. Allen Plotkin

Dr. Allen Plotkin is a distinguished figure [37] in aerospace engineering and a cornerstone of SDSU's AE Department. He received his Ph.D. from Stanford University. During a 54 year teaching career, Plotkin spent 37 years at SDSU and helped shape the department's academic identity and mentored generations of engineers. He served as the Department Chair for 12 years across four terms, guiding the program through periods of growth and transformation. [9] He received the AIAA Sustained Service Award in 2003. [38] Plotkin's scholarly reputation extends beyond SDSU: he was an Associate Editor of the AIAA's Journal of Aircraft for 24 years and received the AIAA San Diego Lifetime Achievement Award in 2019 [39], recognizing his decades of service to the field and to the Institute. Fun fact, Dr. Plotkin applied to San Diego State College (SDSC) in the mid-to-late 1960s, but they showed no interest, leading him to accept a position at the University of Maryland.

Beyond his administrative and editorial roles, Plotkin made seminal contributions to aerospace education. He co-authored the graduate-level textbook Low-Speed Aerodynamics with Joseph Katz, a work widely regarded as a standard reference for students and professionals in the field. Plotkin also played a central role in shaping SDSU's curriculum, helping introduce and refine core courses such as AE 301 (Low-Speed Aerodynamics), AE 340 (Fluid Mechanics), and AE 403 (Senior Design), which became an Accreditation Board for Engineering and Technology (ABET) model for integrating theoretical and hands-on instruction. His emphasis on experimental validation and physical intuition helped define SDSU's applied engineering culture, complementing its strong theoretical foundation. Plotkin is also co-author of *Low-Speed Aerodynamics* (Cambridge Aerospace Series) with Joseph Katz.

Throughout his career, Dr. Plotkin remained deeply involved in the AIAA at both the university and professional levels. He was instrumental in encouraging student participation in AIAA's national programs, viewing the organization as vital for professional development and technical networking. His guidance and advocacy contributed to SDSU's long-standing success in AIAA student competitions such as Design/Build/Fly (DBF), and his leadership earned him the AIAA/ASEE John Leland Atwood Award in 2005 [40], honoring his outstanding contributions to aerodynamics education and research. Dr. Plotkin's legacy endures not only in the courses he built and the students he mentored, but also in the lasting bond between SDSU's aerospace program and AIAA's professional community. Dr. Plotkin retired in the summer of 2022.

7. Joseph Katz

Dr. Joseph Katz is a distinguished Professor of Aerospace and Mechanical Engineering at San Diego State University, with a research career spanning over four decades. He has authored or co-authored 65 AIAA publications, contributing significantly to the fields of aerodynamics, fluid mechanics, propulsion, and experimental flow diagnostics. Over the years, Katz has explored an impressively broad technical portfolio, from internal combustion engine cooling and drag reduction to post-stall aerodynamics, unsteady hydrodynamics, and wind tunnel measurement techniques (including laser Doppler anemometry). He has held teaching responsibilities across thermodynamics, viscous flow, stability & control, numerical methods, and related core subjects.

Our Dr. Joseph Katz at SDSU is different than the Dr. Joseph Katz at John Hopkins University. Similar to his longtime colleague and friend, Dr. Allen Plotkin, Katz served as the department chair for 12 years. Together with Dr. Plotkin, Dr. Katz "invented" the A E 403 class specifically to ensure the department could sail through ABET smoothly by showing the integration of all courses. When exit surveys showed students complained they wanted more hands-on experience, as chair of the AE department, Dr. Katz converted the 403 class to be more hands on while 460 became more paper oriented.

Katz's impact is also recognized through major honors from the AIAA San Diego Section. In 2007 he was awarded the AIAA San Diego Outstanding Contribution to Aerospace Education (a major accolade acknowledging his influence on students). Most recently, in 2024 he received the AIAA San Diego Lifetime Achievement Award for his enduring dedication to aerospace education, research, and community service. In the SDSU engineering news release, he

is celebrated for his "outstanding dedication and passion," and cited for influencing aerospace, aerodynamics, and mechanical engineering broadly over his career. Joseph Katz is also a well-published textbook author: among his works are *Low-Speed Aerodynamics: From Wing Theory to Panel Methods* (with Dr. Allen Plotkin), *Race-Car Aerodynamics*, *Introduction to Fluid Mechanics*, and *Automotive Aerodynamics*.

Putting this together, Katz stands as both a scholar and institution builder. Beyond his published scholarship, he has chronicled SDSU's aerospace heritage in works like "The History of Aerospace Engineering at SDSU," weaving in stories of founding faculty, wind tunnel development, and institutional evolution. In doing so, he has preserved the memory of key figures (Shutts, Conly, Dharmarajan) and made sure future generations know how the SDSU program weathered fluctuations in enrollment, administrative changes, and industry cycles. The combined legacy as researcher, teacher, and historian makes Joseph Katz an iconic figure in the story of AIAA SDSU.

8. Costas Lyrintzis

Dr. Constantinos "Costas" Lyrintzis was born on 22 September 1960 in Greece, earned a Diploma in Civil Engineering from the National Technical University of Athens in 1983, and then completed his M.S. and Ph.D. degrees in Engineering Mechanics at Columbia University in 1984 and 1987 respectively. He joined the faculty of the Department of AE & Engineering Mechanics at SDSU, where he rose to the rank of Associate Professor. He became a member of the AIAA in 1987 and built a strong research program in structural dynamics, vibrations, and aero-acoustics/semi-analytical techniques. Several of his papers appeared in the AIAA Journal and the Journal of Aircraft. On 15 August 1996, Dr. Lyrintzis was tragically killed while participating in a Master's thesis defence at SDSU — his untimely death cut short a promising academic career. He is remembered by his colleagues and former students as a gentle, caring mentor always ready with a smile, and his presence is sorely missed. [41]

In his research, Lyrintzis made substantial contributions to the understanding of random parametric excitations in single-degree-of-freedom systems and applied semi-analytical methods to problems in structural vibrations and acoustics. His ability to guide both undergraduate and graduate students in these challenging fields, to teach clearly, and to foster an active research culture, left a lasting impact at SDSU and within the AIAA technical community. His life and work continue to inspire aero-mechanical engineers advancing vibration and acoustics in aerospace structures.

9. Stig Johansson

Stig Johansson (passed away in 2011) served as the San Diego State University Aerospace Engineering department's master technician and technical director from 1987 until his 2010 retirement. Hired during a pivotal growth period, he became the department's go-to problem-solver—"one of the most important hiring decisions," remembered for being able to design and build "anything mechanical, electronic, or computer-driven." Day to day, he ran the low-speed wind tunnel and small machine shop, mentored students on fabrication and testing, and supported extensive hands-on projects across aerodynamics and design. Department rosters and photos list him as "technical director Johansson," and technician rolls record his start in 1987. [9]

It is important to mention that Stig Johnasson's workspace was the "Aero Lounge" (Ref. IV) and was shared with AIAA SDSU. That space was eventually inherited by Paul Ahlers, the current technician. Johansson's influence was deeply personal for generations of students. Alumni recall him staying late to teach practical build/test skills, helping them craft models for wind-tunnel work with Prof. Katz, and even documenting department life through photography. He retired in 2010 after more than two decades of service. The following academic year he was recognized by the AIAA San Diego Section with its Outstanding Contribution to Aerospace Education award, citing his close work with students on senior projects and wind-tunnel experiments. Alumni also link him to the 1992 "Aerospace Will Not Fall" protest era in departmental history.

10. Geoffrey Butler

Geoffrey S. Butler is the Senior Director of the Office of Airworthiness at General Atomics Aeronautical Systems, Inc. (GA-ASI), where he oversees military and civil airworthiness certification activities across GA-ASI's fleet and serves as a liaison to certification authorities, including participation in the U.S. Air Force's Airworthiness Defense Industry Advisory Group (ADIAG). He brings 30+ years of experience spanning subsonic cruise missiles, single-stage-to-orbit concepts, hypersonic vehicles, and unmanned air, ground, and surface systems. Butler holds an M.S. in Aerospace Engineering from San Diego State University, an M.S. in Aerospace Systems from West Coast University, and a B.S. in Aerospace Engineering from the University of Florida. His SDSU M.S. thesis involved a CFD solution for high Mach

numbers on a specialized wing shape. Although he told us that he was not very involved at AIAA SDSU, he did attend guest speakers as a student at SDSU. Fun fact, Geoffrey Butler's son attended SDSU's Mechanical Engineering 4+1 program.

Butler's industry career began at Lockheed Missiles & Space (1981–83), where his work included launch vehicle performance analysis for the Trident D4 submarine launch ballistic missile. Then his work at General Dynamics Convair (where he worked in 1983–92) involved hypersonics, specifically addressing the engineering problem of weapon separation at Mach 10ish. He also worked at Horizons Technology (1992–95) and BAE Systems GEOINT-ISR (1995–2012) before joining GA-ASI in 2012. In parallel, he has been a longtime lecturer in SDSU's Aerospace Engineering Department (1987–91; 1996–present; The gap is due to the department troubles discussed in III.C), teaching cornerstone courses in dynamics, astrodynamics, aircraft stability & control, design, and graduate topics (e.g., AE 220/320/440/460/520/540). It is important to mention that he began his time at SDSU teaching classes while pursuing his Master's degree in the 1980s. Geoffrey Butler explained that he began officially teaching at SDSU by substituting for his boss (who worked at Convair) whenever the boss traveled. When the boss later took a job at Boeing, Geoffrey Butler officially started teaching one course.

An active AIAA member and advocate for professional engagement, Butler chaired the AIAA Missile Systems Technical Committee (2001–2003) and remains an active member; he has authored 20+ technical publications on UAV systems, mission planning, hypersonics, and weapons effects. He also represents GA-ASI on ADIAG panels and has been involved with the San Diego chapter of AUVSI.

11. Satchi Venkataraman

Dr. Satchi Venkataraman is a Professor of Aerospace Engineering at SDSU (since 2002 [9]) whose work focuses on the analysis and design of aerospace structures, with emphasis on structural optimization, progressive failure of composites, uncertainty quantification, and reliability-based design. He earned his Ph.D. in Engineering Mechanics from the University of Florida and has published extensively on failure modeling and robust design of composite structures while advising student researchers who have gone on to roles across industry and academia. At SDSU he regularly teaches core structures and optimization courses and has been recognized repeatedly for teaching and mentorship. His work was crucial to the revitalization and growth of the Master's program in the 2000s.

Within AIAA, Dr. Venkataraman is an Associate Fellow and a long-time contributor to the San Diego aerospace community. The AIAA San Diego Section has honored him with the Outstanding Contribution to Aerospace Education Award (2009 and 2024) and the Outstanding Contribution to Aerospace Research Award (2016), reflecting both his classroom impact and his research leadership. [42] He is currently the faculty advisor of AIAA SDSU. [25]

At SDSU, Dr. Venkataraman has supported AIAA-connected student programs for years, including mentorship around Design/Build/Fly (DBF) and collaboration with AIAA SDSU as student project organizations matured. During the 2010s transition when DBF separated into its own recognized student organization, he was among the senior faculty considered to advise the team—underscoring his standing with AIAA SDSU's hands-on design culture.

12. Gustaaf B. Jacobs

Dr. Gustaaf Jacobs is a faculty member in the Department of Aerospace Engineering at SDSU, where he has served as a professor since 2006. He earned his M.Sc. in Aerospace Engineering from Delft University of Technology (graduating with an Honor Propaedeuse) and later completed his Ph.D. in Mechanical Engineering at the University of Illinois at Chicago. Before joining SDSU in 2006, he held research and academic appointments at Delft University, Brown University, and the Massachusetts Institute of Technology. [43]

Professor Jacobs is internationally recognized for his research in computational multiphase and multiscale flow physics, with applications in particle-laden flows, flow separation in complex geometries, and plasma-based flow control for drag reduction and combustion enhancement. His work bridges theory and computation, emphasizing the development of high-order numerical methods for modeling fluid dynamics and plasma interactions. Over his career, he has received numerous honors, including the AFOSR Young Investigator Award in 2009 (the first in SDSU history) and election as an Associate Fellow of the AIAA in 2013. [44] In 2022, the AIAA San Diego Section recognized him with the Outstanding Contribution to Aerospace Research Award, honoring his sustained research excellence and mentorship. [45]

13. Luciano Demasi

Dr. Luciano Demasi is a Professor of Aerospace Engineering at SDSU and graduate advisor affiliated with SDSU's Computational Science Research Center. He earned his Ph.D. in Aerospace Engineering in 2004 at the Politecnico di Torino, followed by a postdoctoral fellowship at University of Washington. [46] He has been a professor at SDSU since 2008. [9] In 2019 he was inducted as an Associate Fellow of the AIAA [47], and he currently serves the AIAA San Diego Section as Technical Vice-Chair.

Demasi's research spans unsteady aerodynamics, aeroelasticity, composite structures, and joined-wing configurations; his group develops multifidelity aerodynamic–structural–aeroelastic analysis capabilities for advanced flight systems. He is the author of the 2024 Springer textbook Introduction to Unsteady Aerodynamics and Dynamic Aeroelasticity, [48] and his scholarly work has accrued more than 3,000 citations, reflecting broad influence across aeroelasticity and flight-vehicle design. He received the AIAA Outstanding Contribution to Aerospace Research in 2023. [49] Beyond research, Dr. Demasi contributes substantially to SDSU and the regional aerospace community through graduate mentoring, curriculum leadership, and professional service. He also served as the interim chair in the 2023-24 school year. In 2025, Dr. Luciano Demasi received the Northrop Grumman Excellence in Teaching Award.

14. Xiaofeng Liu

Dr. Xiaofeng Liu is an Associate Professor in the Department of Aerospace Engineering at SDSU, where he also serves as the graduate advisor. He earned his Ph.D. in aerospace engineering from the University of Notre Dame and previously held positions at Johns Hopkins University (as postdoctoral fellow and research scientist) before joining SDSU. His early academic career included lecturing at Tsinghua University.

Dr. Liu is internationally recognized for his expertise in experimental fluid dynamics, with a particular emphasis on high-lift aerodynamics, turbulent shear layer and wake flows, vortex dynamics, cavitation and bubble dynamics, and advanced flow diagnostic techniques. His research also extends into non-intrusive pressure measurement (such as Omni-Directional Integration methods), fluid–structure interactions, and image processing applied to fluid flows. Over the years, Dr. Liu has published extensively on these topics, contributing new methodologies and experimental insights in the interplay between flow physics and measurement.

Throughout his career, Dr. Liu's professional service and scholarly accomplishments have been recognized by multiple honors. He was awarded the Outstanding Contribution to Aerospace Education Award in 2022 by the AIAA San Diego Section. [50] He has been an Associate Fellow of AIAA since October 17, 2013. [51] During his graduate training, he co-authored the Best Graduate Student Paper Award (with Pranav Joshi and Joseph Katz at John Hopkins University) at the AIAA Region I YPSE conference in 2012, [52] and earlier earned the Best Graduate Presentation Award at the AIAA Region I Technical Mini-Conference in 2004. [53] In recognition of his leadership in student professional development, he received an AIAA Special Service Citation in 2006 for leading the establishment of the Johns Hopkins University AIAA Student Branch.

15. Ping Lu

Dr. Ping Lu, who received his Ph.D. from University of Michigan, currently serves as Distinguished Professor and Chair of the AE department at SDSU. Under his leadership since 2016, the SDSU AE department has expanded its faculty, tripled research awards, and established a strong space program presence. His AIAA-affiliated accomplishments are a core part of his professional identity.

Within the AIAA community, Dr. Lu has held a number of prominent roles and received several high honors. He was appointed Editor-in-Chief of the Journal of Guidance, Control, and Dynamics (a flagship AIAA journal) in 2013, after serving as an associate editor since 1996 [54]. Under his editorial leadership, JGCD became one of the highest-impact journals in guidance and control and among the largest in submission volume among AIAA publications [55, 56]. He also served on the AIAA Guidance, Navigation, and Control Technical Committee (1994–2001) and as treasurer of the Iowa AIAA section (1993–1998) [54]. His service recognition includes the AIAA Sustained Service Award (2006) [55] and the Outstanding Contribution to AIAA at the National Level from AIAA's San Diego Section (2018). [55] Dr. Lu received the Albert W. Johnson University Research Lectureship award in 2025.

On the technical side, his AIAA recognitions reflect his deep impact in guidance, control, and flight mechanics. He was elected an AIAA Fellow in 2016 "for outstanding contributions in theory, methodology and algorithms for advanced guidance, particularly in entry and ascent flight of space transportation systems" [55]. Earlier, he received the AIAA Mechanics and Control of Flight Award in 2008 "for contributions in advanced guidance algorithms for entry and ascent flight" [55]. His research portfolio includes numerous AIAA conference papers on entry guidance, powered descent,

and trajectory optimization, e.g. his Predictor-Corrector Entry Guidance for Low-Lifting Vehicles paper in 2008 [57], his work on gliding guidance of high L/D hypersonic vehicles [58], and many others presented at AIAA conferences.

16. Gary B. Fogel

Dr. Gary Fogel is Adjunct Faculty in the Department of Aerospace Engineering at SDSU as well as with the SDSU Computational Science Research Center. [59, 60] He earned his Ph.D. in biology from University of California, Los Angeles and has a 30-year history of applied AI across industry, medicine, and defense as Chief Executive Officer of Natural Selection, Inc. in San Diego. These efforts include applications to aerospace engineering problems. He is a Fellow of the IEEE and has over 150 publications and 11 patents. [61]

Dr. Fogel is also an expert on model aircraft of many types. He has established numerous national and world records for radio-controlled aeromodels and is a Fellow of the Academy of Model Aeronautics and a member of the AMA Hall of Fame. Dr. Fogel also enjoys researching and writing about aviation history, focusing mainly on the history of flight in California and the West. He has authored 50 publications and 4 award-winning books in this area, serves as a member of the AIAA History Committee, and AIAA Associate Fellow. [62]

As adjunct faculty, Dr. Fogel has taught a freshman introductory course in aerospace engineering (AE 123) at SDSU for nearly 15 years, inheriting it from Dr. Nagy Nosseir who retired in 2015. Given his multidisciplinary background, the course includes lessons on ornithology, biomimicry, aviation history, and AI along with a popular hands-on model airplane project throughout the semester. These efforts also help stress the importance of teaming and of participation in AIAA-SDSU and other engineering clubs on campus. Dr. Fogel helps connect AIAA-SDSU and AIAA-SD with regional aeromodelling clubs for additional mentoring opportunities. These efforts were recognized in 2025 with a national AIAA Outstanding Achievement Award, Section–Student Branch Partnership Award, First Place, Medium Category. His efforts to help elevate AE123 have earned several awards from the AIAA San Diego Section including the 2023 Outstanding Contribution to Aerospace Education Award, 2019 Outstanding Contribution to Aerospace Education Award [63], 2016 Outstanding Contribution to the Community Award [64], and 2015 Outstanding Enhancement of the Image of the Aerospace Profession Award. [65] The model airplane component of Dr. Fogel's AE123 course at SDSU has been adopted by the National Free Flight Society as an annual nation-wide student contest (called "AE-24") for free flight model duration. [66]

B. Notable Alumni

Graduates of SDSU Aerospace Engineering have taken on leadership roles in industry, government, and research. Among them is Jordan P. Evans, who serves as project manager for NASA's *Europa Clipper* mission [67], and Doug Fronius, an aerospace executive and member of SDSU's Engineering Advisory Board. [68] Both reflect the kind of professional paths many AIAA SDSU members aspire to.

This is only a starting point. With input from faculty and alumni, we plan to highlight more individuals whose involvement in AIAA SDSU contributed to their careers. Their stories will be included in the full paper to better capture the legacy of the chapter.

1. Chris Root (Ref. Appendix A)

Chris Root (B.S. Aerospace Engineering, SDSU 1987) is a veteran Navy systems engineer and consultant whose four-decade career bridges hands-on aircraft work, innovation management, and professional service to the aerospace community. After joining the Naval Air Systems Command, he advanced through maintenance and modification programs for Navy aircraft before concluding his civil-service career as the command's Innovation Lead. Since retiring in 2020, he has operated AeroRoot21 LLC in San Diego, advising companies on flight-test, sustainment, and workforce development initiatives. Root's early engineering and leadership foundation was shaped by SDSU's immersive, project-driven culture—he joined AIAA as an undergraduate in 1985 and quickly gravitated toward professional engagement, reflecting the department's emphasis on bridging academia and industry.

As an undergraduate, Root was immersed in one of AIAA SDSU's most active eras. Chris Root credits the environment created by faculty and older students for the section's involvement in AIAA SD and AIAA national. After completing the senior design course (AE 460B), Chris Root and his team presented their design paper, the "T-23 Bluebelly" navy jet trainer to an AIAA Region VI Student Conference. F It is interesting to note that their design looks a lot like the McDonnell Douglas T-45 Goshawk. By 1989 he had become one of the youngest AIAA San Diego Section chairs (at age 28), demonstrating how the SDSU student branch produced professionals ready for leadership within the

broader AIAA network.

Throughout the 1990s and 2000s, Root remained an anchor between AIAA San Diego and SDSU. He has long served on the AIAA San Diego Council as Honors & Awards Officer and Reuben H. Fleet Scholarship Coordinator, supporting student paper contests, banquets, and section-level recognition programs that continue the traditions he experienced as a student. He also advises the SDSU Aerospace Engineering Department through its Advisory Board and College of Engineering Board, helping align curricula with industry needs. In interviews, Root has emphasized reviving joint student-professional events—such as distinguished-lecturer evenings and informal networking sessions—to strengthen the generational pipeline that once defined AIAA SDSU. His career and volunteerism embody the enduring partnership between SDSU and AIAA San Diego, demonstrating how the organization continues to connect education, industry, and community in the region.

2. Jordan Evans (Ref. Appendix A)

Jordan Evans' fascination with aerospace began in the mid to late 1970s, inspired by NASA's Viking Mars landings and the launch of Voyager 1 and 2, as well as the influence of Star Wars. Drawn to both engineering and music, Evans chose SDSU for its strong Aerospace Engineering program and exceptional jazz studies program, where he played upright and electric bass, sousaphone, and pep band bass. Beginning his undergraduate studies in 1988, Evans became involved in the AIAA SDSU student branch almost immediately, remaining active for all five years of his undergraduate education. He contributed to events, mentorship, and the organization's professional activities that closely tied students to the AIAA SD section.

Graduating around 1993 as the top aerospace student in his class, Evans secured a competitive NASA Goddard internship during his studies. This was a rare achievement amid the early 1990s hiring slowdown. Following graduation, he joined Northrop Corporation, where he worked on flight control system tests for the first two B-2 Stealth Bombers. This early experience with control systems, testing, and interdisciplinary teamwork prepared him for a lifelong career advancing flight and space vehicle reliability and performance. His trajectory from an AIAA SDSU member to an aerospace industry leader exemplifies the organization's impact on career readiness and professional networking.

Today, Jordan Evans is a senior leader at NASA's Jet Propulsion Laboratory (JPL), where he has held key roles in Mars missions and mechanical systems leadership. He has continued his AIAA involvement. Notably, for the past two years, serving as a track organizer for the AIAA International Technical Excellence (ITE) Aerospace Conference in Big Sky, Montana. He is also on the SDSU College of Engineering Dean's Advisory Board. [69] Evans' journey reflects the enduring legacy of AIAA SDSU in being a launch pad for impactful careers, if used right.

3. Randy Seaver (Ref. Appendix A)

Randy Seaver graduated from SDSU in 1966 with a degree in Aerospace Engineering, part of the program's first generation of graduates during the department's formative years under Dr. William Shutts. While at SDSU (then SDSC), Seaver was an active member and student officer of the newly founded AIAA SDSU Student Branch, which had launched in 1963. He attended professional section meetings hosted by AIAA San Diego, where students could meet industry professionals from companies like Convair and Rohr. This early exposure to technical talks and the local aerospace community reflected the department's strong connection with the region's expanding aviation industry. Seaver's participation in AIAA helped foster the bridge between SDSU's academic environment and San Diego's thriving aerospace companies, a relationship that continues to define the student branch today.

After graduating, Seaver joined Rohr Industries, one of San Diego's key aerospace firms, where he built a successful engineering career. Randy Seaver worked at Rohr Industries with Robert "Bob" Weidner (SDSU '68) and Dr. Mike Vest (Ref. V.B.17), both AIAA SDSU alumni. In the 1980s, he served as Membership Chair of the AIAA San Diego section, promoting professional engagement across the region's aerospace community. His service extended nationally as a member of the AIAA National Membership Committee, attending conferences across the United States and strengthening the organization's outreach and retention efforts. Seaver's dedication to both student and professional branches exemplifies the continuity of AIAA's mission; from fostering student enthusiasm at SDSU in the 1960s to supporting national membership decades later. This cemented his role as a vital contributor to the growth of AIAA's San Diego legacy.

4. Hermann Altmann (Ref. Appendix A)

Hermann Altmann earned both his Bachelor's (1968) and Master's (1969) degrees in AE from SDSU during a formative period for the department. While at SDSU, he was an AIAA student member and a teaching assistant for professors Dr. Nadar Dharmarajan and Dr. Robert McGhie. He recalls that his cohort was small, only about eleven aerospace students. However, students were deeply involved in the university's early aeronautics efforts. Altmann collaborated closely with fellow student Dwight Woolhouse (Ref. V.B.5) on airflow characterization tests in SDSU's newly built low-speed wind tunnel under the guidance of founding chair Dr. William Shutts. [18] These early projects helped establish SDSU's experimental foundations in aerodynamics and fluid mechanics.

After graduating, Altmann embarked on a distinguished industry career spanning over four decades, contributing to the design, systems integration, and management of major aerospace programs. Known in the industry as a "fixer," he earned a reputation for leading engineering teams through technically challenging programs with a focus on quality and accountability. His leadership included extensive work on high-altitude, long-endurance unmanned aerial vehicles, including the Global Hawk program, for which he delivered AIAA lectures approved by Northrop Grumman on advanced systems engineering and global reconnaissance architectures. Altmann's broad technical expertise and mentorship of younger engineers positioned him as a respected figure within San Diego's aerospace community, where he collaborated with luminaries such as Dr. Joseph Katz and Greg Marien of Northrop Grumman. As chief engineer for Northrop Grumman's Ryan Aeronautical Center in San Diego, he won the AIAA Aircraft Design Award for 1999 for his leadership on the Global Hawk unmanned aerial vehicle program. [70]

Although Altmann describes himself as "a lifelong AIAA member rather than a chair or officer," his commitment to the profession and his alma mater has been lasting. He has maintained close ties to SDSU faculty and alumni, supporting AIAA student initiatives and offering insights into the department's early culture and development. He currently advises the Aztec Aerospace Design (Formerly AIAA DBF) team at SDSU. His recollections highlight both the humble beginnings and enduring spirit of the SDSU aerospace program. He recalls late nights in the wind tunnel, early collaborations with the AIAA San Diego Section, and the excitement surrounding the College of Engineering's accreditation in the 1960s. Reflective and modest, Altmann prefers to let his work and colleagues speak for his legacy; one defined by dedication, technical excellence, and lifelong loyalty to the advancement of aerospace engineering.

5. Dwight Woolhouse

Dwight Woolhouse (B.S. Aerospace Engineering, SDSU '68) is an aerospace engineer whose formative work at San Diego State University helped shape the department's hands-on identity. His career contributions span NASA's Space Shuttle Program. As an undergraduate, Woolhouse collaborated closely with classmate Hermann Altmann in the summer of 1966 to survey the flow field in SDSU's newly built low-speed wind tunnel under founding chair Prof. William Shutts. [18] Their measurements led directly to the 1967 installation of settling-chamber screens, cutting the test-section turbulence factor from about 2.0 to 1.27, which was an early, student-driven upgrade that strengthened SDSU's experimental foundations in aerodynamics. He and Altmann were active in the AIAA SDSU student branch, reflecting the program's early culture of student–industry engagement.

After SDSU, Woolhouse entered the nation's emerging space era through industry roles supporting NASA programs. He first joined McDonnell-Douglas, contributing to Skylab systems work, then was hired by Rockwell in 1972 as the Shuttle moved from concept to detailed design. Over the decades he served on the orbiter's original design team, took on hardware responsibilities (including the side hatch and a major flight-control actuator), and ultimately managed orbiter development—leading hundreds of engineers as the program matured. Contemporary accounts and interviews place him in quality and development leadership during the construction of Endeavour, [71] and as a long-tenured Shuttle engineer from the program's earliest years through its final flights.

Woolhouse's SDSU roots remained visible in how his early AIAA-linked lab work became part of the program's institutional memory: his and Altmann's 1966–67 wind-tunnel upgrades are cited in department histories, and Woolhouse appears in AIAA SDSU's alumni rolls as a notable graduate of the late-1960s cohort. That formative student experience—AIAA branch activity tied to real laboratory improvements—mirrors SDSU's long-standing emphasis on applied aerodynamics and student leadership within the AIAA ecosystem that bridges the campus and San Diego's professional section.

6. Chad Berman (Ref. Appendix A)

Chad Berman transferred to SDSU in 1999 and dove straight into AIAA SDSU, quickly becoming a core student leader as the program rebounded from a difficult 1990s. He was AIAA SDSU student chair in 2000-01. He also helped

bring the AIAA Region VI Student Paper Conference to San Diego from April 7-9, 2000, alongside Rich Gunderson (Ref. V.B.9) and Timothy Lo (Ref. V.B.15), as well as AIAA SD and the SDASM. This event re-energized the recovering department and student body. His graduating cohort was about 21 students, but AIAA served as a near-universal hub for them by combining technical events, fundraising, and speaker nights that linked students with alumni and industry.

Berman is best known for "resurrecting" SDSU's Design/Build/Fly (DBF) program after an early-2001 leadership collapse—rallying a new team, finishing the aircraft *Full Monty*, and getting SDSU back to the AIAA competition (20th in 2001). The team leveraged that experience to place 6th with *Monty's Revenge* in 2002 and, building on the momentum he helped create, captured 1st place internationally in 2003 with *The Spirit of Monty*. These seasons also seeded enduring ties with mentors like CAPT George Faulkner and Northrop Grumman engineers who hosted the team's design reviews, illustrating how AIAA SDSU's community and DBF's hands-on culture reinforced one another. Academically, Berman turned his senior project into a peer-reviewed AIAA conference paper, *Static Thrust Study of an Airboat Propeller* (AIAA-2003-0113), winning first place in the National AIAA Undergraduate Paper Competition in 2003. [23, 72] He was also recognized by the AIAA San Diego Section for academic merit in 1999/2000, 2000/2001 and 2001/2002 by being awarded the Reuben H. Fleet scholarship. (Ref. Appendix C)

Chad Berman has built a distinguished career in the aerospace and defense sector, serving more than two decades in U.S. Department of Defense flight operations, test programs, and program management roles. His background includes 6 years as a US Navy Test Pilot and Instructor, underpinning a technical and operational perspective in managing complex aerospace systems. More recently, he works as an Experimental Test Pilot at Robinson Helicopter in Torrance, CA; working on experimental eVTOL systems.

7. Doug Fronius (Ref. Appendix A)

Doug Fronius is a retired aerospace engineering executive and aircraft development consultant whose 45+ year career spans management, design, development, and flight test across manned and unmanned systems. Over 33 years at Ryan Aeronautical and later Northrop Grumman, he led technical development on programs ranging from small cruise missiles to strategic aircraft. His final role was Chief Engineer for Aircraft Programs, providing technical leadership for multiple contract and IRAD concept and development efforts across manned and autonomous vehicles. Earlier, he served as Chief Engineer of Advanced Concepts; as Director of Tactical Unmanned Systems, he led development of the MQ-8B Fire Scout; he directed the Targets program (BQM-74 and Chukar families) for the U.S. Navy and international customers; and he managed initial development of the Global Hawk HALE system. He continues consulting on aircraft development and remains active restoring and flying vintage sailplanes.

Fronius' pathway into aerospace included a nontraditional start: he completed a B.A. in Music (1975) before earning a B.S. in Aeronautical Engineering (1985)—both at San Diego State University (SDSU). He also holds FAA pilot and mechanic ratings, and has participated in the design of several personal aircraft, reflecting a lifelong engagement with aviation technology and history. There is also a named space on campus known as the "Doug and Mae Fronius Innovation and Collaboration Room."

At SDSU, Fronius was active in the AIAA SDSU during the early 1980s, where he and Alfredo Ramirez (Ref. V.B.8) organized speaker meetings, mentored younger members. Notably, Fronius and Ramirez, through the Sigma Gamma Tau Aerospace Honors Society built an 12-ft-span RPV from foam and fiberglass. They wrote an AIAA paper and presented it an AIAA conference in Los Angeles. Through close ties to the AIAA San Diego Section, they helped reinforce a mentorship tradition that continued to shape AIAA SDSU's activities in later decades.

8. Alfredo Ramirez

Alfredo Ramirez is an SDSU Aerospace Engineering alumnus (Class of '85) who now serves as Sr. Manager, Subcontracts Administration at Northrop Grumman Aeronautics Systems. In his previous role as Vice President, Engineering, he lead the site's engineering functional organization by providing the people, processes, and resources that support multiple divisions and programs across the campus. He previously led the San Diego Autonomous Design Center of Excellence, strengthening the site's infrastructure to support program execution. He was also recently on the SDSU College of Engineering Dean's Advisory Board. [73]

Over a 30-plus-year career focused on unmanned airborne systems, Ramirez has held Director and Chief Engineer posts within the Autonomous Systems Division and played technical leadership roles on major programs including RQ-4 Global Hawk (since its 1995 inception), MQ-4 Triton, and NATO Alliance Ground Surveillance; he has also advised other efforts such as the MQ-8 Fire Scout and Firebird. He completed the Executive Program for Scientists and Engineers at UC San Diego, along with Northrop Grumman's Integrated Systems Program Management Conference.

This career arc exemplifies how SDSU alumni translate strong undergraduate foundations into leadership across San Diego's unmanned-systems ecosystem. He is also a key part of the career arcs of other SDSU alumni.

9. Richard Gunderson (Ref. Appendix A)

Rich Gunderson is an SDSU Aerospace Engineering alumnus (Class of 2000) who played a pivotal role in revitalizing student involvement in the AIAA SDSU Chapter during the late 1990s. Serving as Student Chapter Chair in the 1999-2000 school year, Gunderson joined AIAA shortly after entering the program in 1997, drawn by its newfound strong sense of community and it's multitude of opportunities to learn from upperclassmen. Under his leadership, AIAA began rebuilding momentum after a decade of decline, organizing many social and professional events, as well as the AIAA Region VI Student Conference (hosted by SDSU) in April, 2000.

During his time at SDSU, Gunderson worked closely with Dr. Joe Katz, contributing to a Northrop Grumman research project and completing his senior design (AE 403) on Global Hawk wind tunnel optimization; an experience that directly led to his first job at Northrop Grumman. He also developed a close mentorship with CAPT George Faulkner, AIAA's long-time faculty advisor, whom he described as a kind and encouraging mentor who treated students as equals. He was also recognized by the AIAA San Diego Section for academic merit in 1998-1999 and 1999-2000 by being awarded the Reuben H. Fleet scholarship. (Ref. Appendix C)

Professionally, Mr. Gunderson went on to build a distinguished career in the aerospace industry. After working at Northrop Grumman (2000–2007), he joined General Atomics, where he now serves as Senior Director of Flight Technologies, leading a team of about 120 engineers specializing in guidance, navigation, control, aerodynamics, CFD, and thermal analysis. He continues to maintain close ties with SDSU, visiting the campus several times a year and supporting student recruitment and mentorship through AIAA, DBF and the aerospace program.

10. Dave Bradley (Ref. Appendix A)

Dave Bradley is a distinguished SDSU Aerospace Engineering alumnus (Class of 1988) whose career and service reflect both the technical and professional legacy of AIAA SDSU. As a student during the 1980s, Bradley experienced the program at a time when aerospace engineering at SDSU was highly impacted, requiring students to "crash" classes due to limited enrollment systems. He recalls studing under foundational professors such as Dr. Peruchi and Dr. Allen Plotkin, and was heavily influenced by CAPT George Faulkner, who brought industry speakers to campus and strengthened student connections with the professional aerospace community through AIAA.

After graduating, Bradley launched his career at General Dynamics in San Diego, contributing to major launch vehicle programs such as Atlas, Centaur, and Titan. His professional journey later spanned several major aerospace companies—including McDonnell Douglas, Boeing, SAIC, Orbital ATK (now Northrop Grumman), and General Dynamics Mission Systems. Today, he currently serves as Vice President at Leonardo DRS in Cypress, California.

Bradley emphasizes the importance of professional networking, noting, "I've never gotten a professional job without a personal connection." His involvement in AIAA extended beyond SDSU; he served as an officer in the AIAA San Diego Section, helped evaluate student papers, and became a key figure nationally as Chair of the Young Professionals Committee, where he co-authored the first "Aerospace Career Handbook" (c. 1989–1990). He also helped found the Systems Engineering Technical Committee (c. 1992–1993) and regularly represented SDSU at national AIAA conferences.

Today, while his professional focus has shifted toward national security organizations such as NDIA(National Defense Industrial Association) and NSSA(National Security Space Association), Bradley remains closely connected with fellow SDSU AIAA alumni, continuing the tradition of mentorship, community, and professional excellence that has defined his career.

11. Christine Probett (née Beckner) (Ref. Appendix A)

Christine Probett is very well a notable SDSU alumna whose career bridges aerospace engineering, business leadership, and education. While at SDSU, she earned degrees in both History and then Aerospace Engineering, then later completing an MBA; one that she credited as instrumental to her success in management and leadership roles. As a student, Christine was not only involved in AIAA, but also served as President of the Aerospace Engineering Honor Society (Sigma Gamma Tau), which frequently collaborated with AIAA on professional events and networking opportunities.

Her early career began with a NASA Co-op at the Dryden Flight Research Center (now Armstrong) in the Mojave

Desert, where she contributed to flight test programs and even flew in a T-38 jet, an experience that solidified her passion for aerospace. She later joined ROHR Industries in Chula Vista, focusing on aerodynamics and flight condition modeling using early computer systems, and eventually rose to become President of a company division in Phoenix.

Christine decided to then return back to SDSU and went on to teach for 18 years at SDSU's College of Business, educating more than 9,000 students across 91 courses. Her final course, AE 123, marked a symbolic return to her aerospace roots. Now teaching a class half full of women, she was joyed by the striking contrast to the small number of women in her cohort decades earlier. Beyond the classroom, she served as President of the AIAA San Diego Section, maintaining strong ties between the professional chapter and SDSU's student branch by ensuring that student representatives regularly participated in professional meetings and networking events. In the years of 2001-2002, she won the outstanding contribution to aerospace management award through AIAA.[a] Mrs. Probett's career exemplifies the interdisciplinary spirit, mentorship, and lifelong connection to AIAA that continue to shape SDSU's aerospace legacy.

Student Experience and AIAA Interaction:

12. Nils Sedano (Ref. Appendix A)

Nils Sedano is a San Diego State University Aerospace Engineering alumnus (c. 2003–2008) who played a key role in strengthening the technical and institutional foundations of the SDSU Rocket Project during its formative years. As part of a small cohort of roughly a dozen students, Nils became an early leader in the Rocket Project, helping to formalize the group's connections with the broader aerospace community. Through the California Space Grant Consortium, and with sponsorship from the AIAA San Diego Section, Sedano was selected to visit NASA Glenn Research Center, where he helped establish a technical partnership that advanced SDSU's liquid propulsion research and gave the Rocket Project national visibility. He was also deeply involved in AIAA leadership, serving as student representative to the AIAA San Diego professional council, where he attended section meetings alongside CAPT George Faulkner and even participated on faculty interview panels, meeting future SDSU professors like Dr. Gustaaf Jacobs. He was also recognized by the AIAA San Diego Section for academic merit in 2003/2004 and 2004/2005 by being awarded the Reuben H. Fleet scholarship. (Ref. Appendix C)

Professionally, Nils went on to work in rocket propulsion at the Air Force Research Laboratory (AFRL) and later with the U.S. Space Force at Edwards Air Force Base, maintaining an active pipeline between SDSU students and advanced aerospace R&D opportunities. Known for his belief that "coursework is the foundation, but you learn engineering by doing and networking," Sedano continues to exemplify AIAA's values of mentorship, practical experience, and professional collaboration that shaped his own path from SDSU to national aerospace leadership.

13. Thao T. Tran-Ngo

Thao T. Tran-Ngo is an SDSU alumna (class of 2002) who helped shape the early days of AIAA DBF (now Aztec Aerospace Design). In 2002, Tran was named among six San Diego students to receive the Reuben H. Fleet scholarship through the AIAA SD. (Ref. Appendix C) She received her Ph.D. in Aerospace Engineering from Georgia Instute of Technology in 2008? Thao Tran has worked at the Naval Air Warfare Center Weapons Division since 2008.

14. Leonel Rios-Reyes

Leonel Rios-Reyes is an SDSU alumnus (class of 2002). He was recognized by the AIAA San Diego Section for academic merit in 2002 by being awarded the Reuben H. Fleet scholarship (Ref. Appendix C) and was inducted into the Sigma Gamma Tau Aerospace Engineering Honor Society in 2002. He also received his Ph.D. in Aerospace Engineering from the University of Michigan in 2006. [74] Leonel Rios-Reyes published many papers, notably *Trajectory Control for General Solar Sails* [75] and *Solar-Sail Navigation: Estimation of Force, Moments, and Optical Parameters* [76], both through the AIAA Guidance, Control, and Dynamics committee. After completing his studies, he started working at The Aerospace Corporation where he has performed guidance and navigation analysis for space launch vehicles, and assisted the Government in independent assessments of suborbital launch vehicles and payloads design and execution of numerous suborbital experiments.

[a] 2001-2002 AIAA SD Newsletter

15. Timothy Lo

Timothy (Tim) Lo was a highly active and influential AIAA SDSU student leader in the early 2000s, best known for his energy, organization, and leadership in revitalizing both the Design/Build/Fly (DBF) program and broader AIAA student engagement at San Diego State University. Serving as Student Branch Chairman around 2001–2002, Lo was described as "hyperactive" not from energy drinks but from pure drive and enthusiasm—qualities that propelled the chapter into one of its most dynamic periods. Under Tim's leadership, the AIAA student branch entered a new era of activity and visibility. He organized a dedicated student task force to try and compete in the AIAA Design/Build/Fly competition, overseeing not just the technical design and fabrication of the aircraft but also a successful fundraising campaign that raised over 3,000 dollars. His efforts helped cement DBF's future role as a cornerstone of SDSU aerospace education and student involvement.[a]

In collaboration with Rich Gunderson, Chad Berman, and CAPT George Faulkner, Tim Lo also played a leading role in organizing the 2001 AIAA Region VI Student Paper Competition, hosted by SDSU in Old Town and at the San Diego Air and Space Museum; as noted before, a major milestone for the student branch. Known for being "regimented and thorough," Lo managed much of the logistical groundwork for the event, coordinating with multiple universities and professional members (Ref. V.B.6 & V.B.9). He was also recognized by the AIAA San Diego Section for academic merit in 2001/2002 and 2002/2003 by being awarded the Reuben H. Fleet scholarship. (Ref. Appendix C)

Through his combination of leadership, professionalism, and enthusiasm, Timothy Lo helped transform AIAA SDSU back into a vibrant, visible, and technically active organization, laying the groundwork for the chapter's continued success in competitions, outreach, and student development.

16. Bradley J. Zelenka

Bradley J. Zelenka is a Senior Test & Evaluation Engineer at Supernal whose early career was shaped by deep involvement with AIAA through research and competition. While at SDSU, he authored and presented multiple AIAA papers on Prandtl-D aerodynamics and SDSU wind-tunnel research, including SciTech contributions in 2021 and 2022. A presentation by Bradley Zelenka and Aldair Herreion-Andrade about the wind tunnel aerodynamic force balance calibration, Wind Tunnel Force Balance Calibration at the San Diego State University Low Speed Wind Tunnel, won 2nd Place in the Master's Category at the AIAA Region VI student conference in April 2021. [18] His AIAA engagement also includes a podium finish at the AIAA Student Conference: Masters Category (Region VI), where his team earned 2nd Place for "Wind Tunnel Force Balance Calibration at the SDSU Low-Speed Wind Tunnel," reflecting recognition by the Institute for hands-on experimental work. Today, Zelenka applies that test discipline to advanced eVTOL programs at Supernal.

17. Mike Vest (Ref. Appendix A)

Dr. Michael (Mike) Vest is a highly accomplished SDSU aerospace engineering alumnus whose leadership, innovation, and research helped lay the foundation for many of the department's modern student programs, most notably the Design/Build/Fly (DBF) team. Vest earned his B.S. (1991), M.S. (1993), and Ph.D. (1996) in Aerospace Engineering from SDSU, becoming one of the first three graduates of the university's new aerospace Ph.D. program. As AIAA SDSU Student Branch President, during his master's program years, he initiated some of SDSU's first RC airplane design/build projects, which directly evolved into today's nationally recognized DBF team.

His academic work reflected both creativity and technical depth with his master's research focusing on scramjet fuel injectors, with Naggie Nasier, while his Ph.D. dissertation under Dr. Joe Katz and Dr. Allen Plotkin explored the unsteady aerodynamics of bird flight; this included the construction of a mechanical pigeon model for wind tunnel experiments and complementary CFD simulations. He was also recognized by the AIAA San Diego Section for academic merit in 1993, 1994, and 1995 by being awarded the Reuben H. Fleet scholarship. (Ref. Appendix C)

Professionally, Vest's career spanned major aerospace firms as he contributed to wind tunnel testing of Delta rockets at McDonnell Douglas/Boeing, worked on engine nacelle design at ROHR Industries (now Goodrich Aero Structures), and joined Northrop Grumman on the Global Hawk UAV program. Later, at General Atomics, he worked extensively on the Predator UAV, describing the early GA environment as "the wild wild west" for its fast-paced innovation and autonomy. Vest also founded companies specializing in autonomous ground vehicles and laser-based rail inspection systems.

He retired from General Atomics around 2021–2022 and now resides primarily in Oregon. Throughout his career,

[a]2001-2002 AIAA SD Newsletter

Vest has emphasized the lasting impact of AIAA and SDSU's alumni network, noting that he "never got a job through a want ad"—each opportunity stemmed from personal and professional connections made through AIAA. Even after stepping back from AIAA leadership, he continued to advocate for student participation in professional societies such as AIAA and ASME during his later years teaching at SDSU. His legacy endures as a bridge between academic research, professional practice, and the student-led innovation culture that defines SDSU Aerospace today.

18. Greg Marien

Greg Marien is a distinguished SDSU Aerospace Engineering alumnus and a key early contributor to the university's AIAA Design/Build/Fly (DBF) program. As a student, Marien worked closely with Doug Fronius, an SDSU alumnus and mentor who later hired him at Northrop Grumman, where Marien became a leading engineer in the company's Unmanned Systems division V.B.7. During his time at SDSU, he played an important collaborative role in the development of the early DBF teams, helping establish the technical and organizational groundwork that shaped the competition's long-term success V.B.6

Professionally, Greg Marien went on to become an active member and leader in the AIAA San Diego Section, where he was recognized for his exceptional service and leadership. He received the Outstanding Contribution to the AIAA San Diego Section Award (2006–2007) for his "superior leadership and modernization of the section's operations while continuing successful activities".[a] The following year (2007–2008), he was honored for his Outstanding Contribution to the Community,[b] and under his leadership, the section earned the National Outstanding Section Award two years in a row in 2006/2007 and 2007/2008).[c]

Marien's career and volunteer service reflect his enduring commitment to advancing aerospace education, professional engagement, and community outreach—continuing the legacy of collaboration and innovation that began during his AIAA involvement at SDSU. In 2003, SDSU won 1st place at the Design/Build/Fly competition internationally, and Greg Marien was a part of that. After graduating, Greg Marien also taught AE 460, the aircraft design course, as a lecturer at SDSU.

19. Cesar Martin

Cesar Martin (class of 2011) did not begin to show immediate interest in AIAA until realizing the benefits in attending technical talks and networking events with both the Student Branch at SDSU as well as the AIAA San Diego Section. While a student at SDSU, he held multiple positions in the student chapter and was active in DBF between 2009–2011. Upon graduating from SDSU, Martin remained active in the AIAA San Diego Section serving in various appointed roles including Public Policy, Region 6 delegate, and Young Professionals chair. His time in AIAA San Diego also included elected officer position including Secretary, Vice Chair (Long Range Planning), and Section Chair. While at SDSU, Cesar Martin maintained various internships in private and civil service. Upon graduation, Martin chose to maintain his commitment to civil service by becoming an Aerospace Engineer with Naval Air Systems Command (NAVAIR) at NAS North Island. While at NAVAIR, Martin has provided fleet/depot support, repair design, stress analysis, troubleshooting, engineering investigations, and mishap investigation support for various US Navy aircraft and weapon systems. Martin, now resides in Texas, where he oversees a team of over 100 engineers located around the world that provide direct in-service engineering and logistics support for the F-35 Lightning II.

20. John Blaske

21. Edward Bachelder

22. Yuichiro Tobita

C. Honorable Mentions

This is where we highlight honorable mentions.

[a] 2006/2007 AIAA SD Newsletter
[b] 2007/2008 AIAA SD Newsletter
[c] 2006/2007 AIAA SD Newsletter

1. Brig. Gen. Robert Cardenas

2. Ellen Ochoa

VI. Cultural and Professional Impact

SDSU's AIAA chapter has created valuable opportunities for aspiring aerospace students while actively working to build an inclusive and supportive community. Culturally, it has helped instill a strong sense of identity and pride within the local aerospace community, contributing to the ongoing effort to uphold San Diego's reputation as a center of aerospace innovation. On a professional level, AIAA offers essential resources for career growth, networking, and collaboration through events such as technical conferences, workshops, and competitions.

A. Events Hosted

SDSU AIAA has organized numerous events aimed at enriching the student experience. These have included tours of local aerospace companies and military bases, intercollegiate glider competitions, and hands-on workshops—such as guiding students through building and launching their own Level 1 amateur rocketry rockets. Through these activities, SDSU AIAA has provided engineering students with valuable opportunities to gain practical experience, expand their knowledge, and connect with professionals in the aerospace industry.

- **Tours** - Numerous students have had the opportunity to travel to NAVAIR North Island, General Atomics, Edwards AFB, MCAS Miramar base, NASA JPL, and many other companies to ask questions, learn about possible pathways and opportunities, and gain the opportunity to network and hand in resumes to professionals.
- **Community building** - Although the technical and professional aspects of this club remain very important, the social and community aspects are just as crucial. AIAA has worked to provide many social events to help bring the aerospace community together such as movie nights and an annual gathering at the Miramar Air Show. These events have helped to promote a community among young aerospace engineering students which in return prepares them not just technically, but also socially, for the collaborative nature of the aerospace industry.
- **L1 Rocket Workshops** - Another major event, and one that AIAA SDSU is very proud of is the building and launching of level 1 rockets. Each year the club works to gather a group of students, around 10-15, and teaches them how to assemble this rocket and the technical workings of it before they are taken out to the desert to launch. At the end of the day, the majority of these students are not only L1 certified, but they go home with inspiration and motivation to move on to the next level and succeed in something greater.
- **Student Competitions** - Torrey Pines Gliderport, located atop the cliffs of La Jolla in San Diego, holds a significant place in aviation history. [77] Established as a soaring site in 1930, it has been a hub for gliding, hang gliding, paragliding, and radio-controlled model aircraft. Recently, the Torrey Pines Gulls RC glider club hosted a joint RC glider competition between AIAA-SDSU and AIAA-UCSD at the Torrey Pines Gliderport to encourage interest in rapid prototyping and this local historic aviation resource.

B. Legacy on Campus

AIAA has made a lasting impact at SDSU by strengthening the sense of community among aerospace students and connecting them with industry professionals. From its early days before the College of Engineering was founded, to the AIAA room between the two wind tunnels that hosted two old Macintosh computers for student members to use. The organization has united passionate students from various engineering-focused clubs, including Rocket Project, Aztec Electric Racing, and Aztec Aerospace Design (DBF). Through tours, networking events, and industry outreach, AIAA has provided students with valuable opportunities to share their resumes, secure interviews, and land internships or even full-time positions.

VII. Present Day

Since 2015 many events have transpired; including the big elephant in the room that was the coronavirus pandemic. Let us examine what happened at our student branch in its latest era.

A. Over the Last Decade

In the Spring of 2014, a new mandatory Student Success Fee (SSF) was approved, effective Fall 2014. [78] This new funding source helped expand project-based learning opportunities across engineering and led to a gradual reorganization of student teams. By 2015, the Design/Build/Fly (DBF) team formally separated from AIAA SDSU to operate as an independent RSO, with Dr. Xiaofeng Liu as faculty advisor. When the Engineering and Interdisciplinary Sciences (EIS) complex opened in 2018, DBF and other hands-on teams gained dedicated workspace, marking a new phase of institutional support. Consequently, AIAA SDSU transitioned toward a greater focus on professional development, networking, and inter-club collaboration.

During this period, the student branch strengthened its ties with the AIAA San Diego Section and local industry, hosting alumni speakers, networking nights, and professional panels. Alumni and faculty encouraged expanding collaboration with the professional section through the AIAA Distinguished Lecturer Program and informal events designed to attract both students and industry professionals. These efforts helped AIAA SDSU preserve its legacy as the primary professional hub for aerospace students, even as many project-based teams (such as DBF and Rocket Project) became separately governed.

Oral histories from student leaders add texture to this era. Michael Stromecki (a two-time recipient of the Reuben H. Fleet scholarship) recalls something about the AIAA lounge (Ref. IV) in the AE machine shop. He remembers that weekly meetings, study sessions, and informal collaboration took place there. The space was later reassigned to graduate researchers, which led to Stromecki using the cabinets beneath the sink to store AIAA SDSU documentation. In the Spring of 2025, those materials were rediscovered and are the reason why you're reading this paper now. Parham Khodadi, co-author of this paper, found them when helping Paul Ahlers and then student chair Yuichiro Tobita clean out the space for remodeling.

COVID-19 posed an unprecedented challenge, halting in-person events and reducing engagement across campus. As AIAA SDSU traditionally relies on guest speakers, tours, and outreach activities, the pandemic brought a noticeable decline in participation. Nevertheless, the branch demonstrated resilience by pivoting to virtual meetings and continuing to support DBF and Rocket Project. In the years following the pandemic, AIAA SDSU has continued rebuilding its event programming and alumni connections, reaffirming its mission to unite the department's various technical teams under a common professional identity.

It is important that we commend the efforts of the AIAA SDSU chairs (Ref. B), officers, and affiliated faculty since the start of the coronavirus outbreak. They have worked tirelessly to revitalize this student organization—notably by reintroducing old traditions, strengthening ties to other student clubs, and creating new traditions and connections. This is a formal thank you to all of you for your efforts!

B. Current Office

Today, SDSU AIAA takes pride in their role on campus and has done its best to stay organized in such a hectic field. The club board has been divided into eleven subgroups in the effort to provide students with the best possible opportunities. SDSU AIAA has a president, vice president, secretary, treasurer, external professional outreach, internal professional outreach, social outreach, organizational coordinator, project coordinator, marketing officer, and lastly, a graduate coordinator.

VIII. Conclusion

The American Institute of Aeronautics and Astronautics at San Diego State University has had a profound impact on AIAA national, San Diego's professional aerospace community, San Diego State University itself, and most notably the students. This group has helped prove SDSU's engineering integrity and visibility through its success in student competitions and technical papers. It has served as a link between SDSU and the aerospace industry through its collaboration with Northrop Grumman, General Atomics, NASA centers, and military bases. The student branch has maintained the AIAA mission of connecting academia, industry, and research across the nation while simultaneously being the backbone of the aerospace student experience... especially during periods of hardship. Student branch leaders successfully cultivated a community that fosters creativity and encourages networking, as well as offering leadership opportunities that bridged academic learning with real-world engineering. Providing hands-on, team-based experience, to mentorship and social outings, AIAA SDSU served it's students in so many ways. Many even crediting AIAA directly getting their foot into the industry. The soft skills learned were essential, but the networking and outreach from this group are invaluable. To go from a small student branch, to becoming the central pillar of aerospace education and professional development, the impact this student branch had on the aerospace engineering family will never be

forgotten. With its strong roots and now its influence extending beyond campus, we hope that AIAA SDSU will empower generations of future students to become innovators, leaders, collaborators, and most importantly friends within the aerospace community.

IX. Acknowledgements

We would like to thank Dr. Xiaofeng Liu and Mr. Kevin Burns for helping us with every step of the way.

We would like to thank Chris Root, Dr. Gary Fogel, Dr. Allen Plotkin, Dr. Joseph Katz, Geoffrey Butler, Dave Bradley, Christine Probett, Mike Vest, Randy Seaver, Chad Berman, Doug Fronius, Nils Sedano, Jordan Evans, Richard Gunderson, Hermann Altmann, Yuichiro Tobita, and all others who were involved in shaping this historical account.

We would also like to thank Paul Ahlers, whose office's remodeling resurfaced old AIAA SDSU documents, and thus was the catalyst for this paper.

Appendix

A. Who We Spoke To

During the course of writing this paper, we interviewed some persons of interest. They are listed here.

Table 1 Interviews Conducted

Name	Method of Interview	Date of Interview
Chris Root	In person	06-06-2025
Dr. Allen Plotkin	In person	06-18-2025
Dr. Joseph Katz	In person	06-18-2025
Geoffrey Butler	In person	06-19-2025
Dave Bradley	Online	06-23-2025
Christine Probett	Online	06-23-2025
Dr. Mike Vest	Online	06-23-2025
Chad Berman	Online	06-27-2025
Doug Fronius	Online	08-14-2025
Nils Sedano	Online	08-14-2025
Jordan Evans	Online	08-19-2025
Richard Gunderson	Online	08-22-2025

Table 2 Other Contacts

Name	Method of Contact	Date of Contact
Randy Seaver	Email	07-03-2025
Hermann Altmann	Email	09-18-2025
Michael Stromecki	Email	10-20-2025
Kimberly Painter	Email	10-20-2025
Cesar Martin	Email	10-20-2025
Dr. Gustaaf Jacobs	Email	10-21-2025
Timothy Lo	Email	10-21-2025
Thao Tran	Email	10-24-2025
Leonel Rios-Reyes	Email	10-28-2025

B. AIAA SDSU Chairs

This list is sourced from various documents. It is incomplete.

1980-81 Cynthia Wilson
1982-83 Mitch Lowell
1984-85 Peter Martini
1989-90 Jim Kotecki
1995-96 Chris Foster
1997-98 Victor Hugo
1998-99 Charles Smith
99-2000 Richard Gunderson
2000-01 Chad Berman
2001-02 Timothy Lo
2002-03 Matthew McGregory
2003-04 Katherine Miller
2004-05 Nils Sedano
2005-06 Nick Grela
2006-07 Sofia Calica
2007-08 Alejandro Aquirre
2008-09 Richard Krutop
2009-10 Daniel Nelson
2010-11 Alejandro Nuno
2019-20 Diego Chavez
2021-22 April Thongrivong
2022-23 Emma Topolcsik
2023-24 Steven Nikolov
2024-25 Yuichiro Tobita
2025-26 Benjamin Torres

C. Reuben H. Fleet Scholarship Recipients

This is sourced from various AIAA SD documents.

1982-83 Wendy Wool and Brian Trexel.
1983-84 Christian DeBates and Ted Rechenmacker.
1984-85 Deborah A. Lazerson, John D. McPherson, Heather M. Rockholt, and Michael J. Topolovac.
1985-86 Christine H. Mills, Norbert N. Carte, Karen L. Soltmann, and Angela L. Yen.
1986-87 Brian Nguyen and Ivan Ramirez.
1987-88 David E. Teckel and Christine M. Youngs.
1988-89 Brian C. Carr, Erik R. Bunham, and David C. Lasich.
1989-90 Donald E. Huntington, William M. Shih, Darren E. Whittermore, and Steven A. Yon.
1990-91 Cliff Mantzke, Glen Seymore, Glen Stout, and James Strayer.
1991-92 David Medeires, LoriSeaver, and Steve Yon.
1992-93 Daniel Cunningham, Jordan P. Evans, and Michael Vest.
1993-94 Gregory Casey, Daniel Cunningham, Annie Kaplan, and Michael Vest.
1994-95 Gregory Casey, Zuneir Darugar, Michael Vest, and Bryan Wajcik.
1995-96 Mary Christine Foster, Olubukola Afolayan-Jejeloye, and Zuheir S. Darugar.
1996-97 Duane Dimngo, Andrew Funk, and Olubukola Afolayan-Jejeloye.
1997-98 Charles Jones, Katie Ann Jacikas, William Dunbar, and Victor Hugo.
1998-99 Charles S. Smith, Richard J. Gunderson, Katie Ann Jacikas, and Christian C. Durand.
99-2000 Chad M. Berman, Richard J. Gunderson, Katie Ann Jacikas, and Joshua T. Hu.
2000-01 Chad Berman, Ryan Call, Adelbert Lagoy, and Timothy Lo.
2001-02 Chad M. Berman, Jameel S. Khalfan, Timothy Lo, Leonel Rios-Reyes, Kirstin Harper-Smith, and Thao T. Tran.
2002-03 Andrew J. Bechtel, Joey D. Brown, Matthew D. Gregory, Christopher J. Roberts, and Toru Yamasaki.
2003-04 Andrew J. Bechtel, Joey D. Brown, Mark W. Jeffrey, Alif S. Khalfan, Katherine M. Miller, and Nils M. Sedano.
2004-05 Joey D. Brown, Sofia I. Calica, Sarah F. Houts, Mark W. Jeffrey, Akasha Kaur khalsa, Katherine M. Miller, Alanna D. Milner, and Nils M. Sedano.
2005-06 Sofia I. Calica, Nadia G. Cheng, Nickolas S. Grela, Mark W. Jeffrey, David J. Klein, Melissa Lind, Chad S. Smith, and Stephanie Sukhram.
2006-07 Karthik Balakrishnan, Sofia I. Calica, Monique Fine, Barry G. Hawkins, Richard L. Krutop, Chad A. McCoy, Ryan G. Nascimento, Timothy R. Palmer, and Chad S. Smith.
2007-08 Steven Floyd, Thomas Hong, Zeena Khalfam, Richard L. Krutop, Pablo S. Mendez, Timothy R. Palmer, Brian Preedanon, Jennifer D. Rhymer, Raquel M. Weitl, and Ian Yates.
2008-09 Monique Fine, Jason Hale, Richard Krutop, Jerami Martin, Jared Myers, Daniel Nelson, Octavio Ortiz, Tim Palmer, Brian Preedanon, Jennifer D. Rhymer, and Raquel Weitl.
2009-10 Evan W. Ainslie, Michael A. Corson, Monique Fine, James L. Hroza, Alexander Ortiz, Jeri Y. Perez, Brandon D. Pollack, Julia R. Stalder, and Raquel M. Weitl.

2010-11 James Hroza, Joohyun Hwang, Cesar Octavio Martin, Brandon W. Maryatt, Alexander Ortiz, and Octavio Ortiz.
2011-12 Daniel Nelson, Alexander Weiss, Sean Davis, and Himanshu Waidya.
2012-13 Juan Avila, Robert Bertino, Rauno Cavallaro, Sean Davis, Robin Felver, Jack Goodwin, Scott James, Steven Tran, Alexander Weiss, and Matthew Breg-Johnson.
2013-14 Juan Avila, Deepak Alyam, Jin Oh, Jennifer Wood, Robin Felver, and Robert Bertino.
2014-15 Man-Yeung Tsay, Sean Davis, Deepak Alyam, Enrico Santarpia, Benjamin Martins, Racel Rybarczyk, Bryan Martin, Adrienna Yan, Laura Andersen, Haley Antoine, and Brianna MacNider.
2015-16 Michael Maher, Enrico Santarpia, Nicholas Johnson, Graham Root, Rachel Rybarczyk, Bryan Martin, Man-Yeung Tsay, and Benjamin Martins.
2016-17 Bashar Qashat, Jae Yoon Kim, Paulina Diaz-Montiel, Enrico Santarpia, Benjamin Martins, and Michael Stromecki.
2017-18 Bryan Martin, Paulina Diaz-Montiel, and Thomas Bogott II.
2018-19 Alexis Cordova Aidava, Sean Angelo Delos-Santos, Paulina Diaz-Montiell, Luis Escalona-Galvis, Andrea Fontanelli, Graham Root, Enrico Santarpia, Michael Stromecki, and Reiley Weekes.
2019-20 Diego Chavez, Paulina Diaz-Montiel, Luiz scalona, Ian Jackson, Eric Maravilla, David Markov, Laurra Morejon-Ramirez, and Reiley Weekes.
2020-21 Christopher Davami, David Markov, Ian Jackson, and Reiley Weekes.
2021-22 Zachary Pyle, Ignatius Widjaja, NFN Bhavana, Kaylin Borders, Bryan Cheng, and Nathalia del Callejo.
2022-23 Zachary Pyle, Nathalia del Callejo, Alexander Anderson, Evan Pruitt, Emma McPherson, Cheuk Hin Bryan Cheng, Tanner D. Nelson, Emma Rae Topolcsik, NFN Bhavana, and Adrian Rivera.
2023-24 Seth Mclaughlin, Brandon Chan Vin, Zachary Pyle, Sherry Tao, Oliver Whelan, Trevor Krumrey, and NFN Bhavana.
2024-25 Evan Clauss, Trevor Krumrey, Leonardo Garcia, Oliver Whelan, Jordan Brown, Austin MacGowan, Benjamin Torres, NFN Bhavana, Yuichiro Tobita, and Wesley Bantugan.

D. Other Scholarship Recipients

Some families would create one-time scholarships in remembrance of their loved ones. This occurred at least twice in AIAA San Diego history.

A. William F. Chana Memorial Scholarship (2011)

Given to Daniel A. Nelson and Tim A. Wheeler.

1. CAPT Doc George Faulkner Jr. Memorial Scholarship (2011)

Given to Alejandrina Nuño.

E. Memorandum of Agreement – AIAA SDSU Rocket Project (2003)

The following document is the original Memorandum of Agreement (MoA) signed in 2003 between the AIAA San Diego Section and San Diego State University, outlining the governance structure for the SDSU Rocket Project [28].

MEMORANDUM OF AGREEMENT

BETWEEN THE

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS
SAN DIEGO CHAPTER

AND

SAN DIEGO STATE UNIVERSITY

ARTICLE I – INTRODUCTION

There is a need for well-trained, qualified technical specialists, engineers, and scientists to meet the scientific, technological workforce needs of the United States now and in the future. Therefore, innovative strategies and programs must be implemented to increase the supply of highly trained personnel in the basic and applied sciences.

One such program is the San Diego State University Rocket Program (http://www-rohan.sdsu.edu/~sharring/sdsurocket.html, hereafter SDSU) that engages students, mentors and sponsors in the pursuit of designing a rocket to demonstrate a new type of rocket fuel pump. This pump has the potential to reduce the cost of rocket boosters substantially while increasing reliability. This project is designed to hone engineering skills because rockets are devices which force engineers to design things on paper and check and recheck their work. When a rocket fails, unlike a washing machine or a car, you generally have to start over from scratch. This project is not just for aerospace engineers, mechanical engineers are needed to design valves, pumps and structures, electronic engineers can help with guidance, telemetry, and range safety and civil engineers can help with ground support equipment and environmental impact mitigation.

The American Institute of Aeronautics and Astronautics (hereinafter AIAA) has consistently promoted math, science and engineering education. The San Diego Chapter of AIAA (hereafter AIAA-SD) has provided scholarships and mentored students seeking to encourage young persons to become aerospace professionals.

The goals of this MOA are to establish a basis for a cooperative program between SDSU and AIAA-SD and to delineate priority activities that will be mutually beneficial to both parties. The ultimate objective is to formalize the existing ties between SDSU and AIAA-SD establishing AIAA-SD sponsorship of the SDSU Rocket Program increasing the relevance of SDSU education and training meeting AIAA-SD's education mission.

Therefore, this MOA provides the opportunity for the development of a comprehensive program, which will result in an increase in the supply of highly trained personnel, in the field of science and technology.

The laws of the State of California governs this MOA for all purposes, including, but not limited to, determining the validity of the Agreement, the meaning of its provisions, and the rights, obligations and remedies of the parties.

ARTICLE XIII – EFFECTIVE DATE, DURATION, AND TERMINATION

This MOA shall become effective upon the last signature hereto, and will remain in effect for a period of five (5) years. It may be terminated at any time upon thirty (30) day's written notice of either party, or upon mutual written agreement. The obligations of the parties set forth in the provisions of Articles IV, VI, VII, VIII, IX, and XII of this MOA shall continue to apply after the expiration or termination of this Agreement.

ARTICLE XIII – AUTHORITY

This MOA is entered into by the President of the San Diego Chapter of the American Institute of Aeronautics and Astronautics in accordance with the Rules and Regulations of its Board of Trustees.

FOR: San Diego Chapter of the American Institute of Aeronautics and Astronautics

Kevin Burns
~~President~~ SECTION CHAIRPERSON — Date: 9 NOV 2005

FOR: San Diego State University

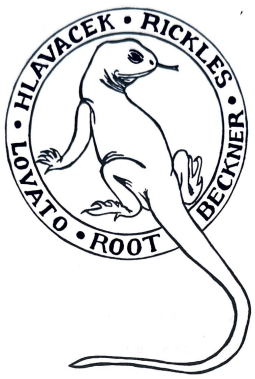
Dr. Bruce Westermo.
Assistant Dean for Student Affairs
College of Engineering
San Diego State University — Date: 11/09/05

F. The T-23 Bluebelly

The AE 460B senior design project by Christopher Root (Ref. V.B.1), Christine Beckner (Ref. V.B.11), Alex Hlavacek, Darren Lovato, and William Rickles.

THE T-23 BLUEBELLY

Intermediate – advanced Navy jet trainer



The Bluebellies

conceptual design team

Project Manager: Christopher Root
Design Engineers: Christine Beckner
Alex Hlavacek
Darren Lovato
William Rickles

AE 460B
Department of Aerospace Engineering
San Diego State University
May 1987

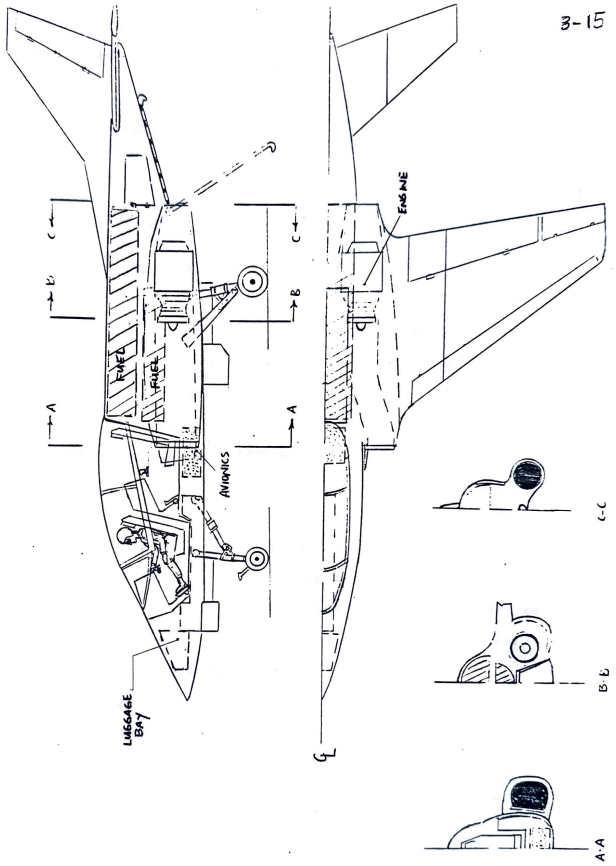
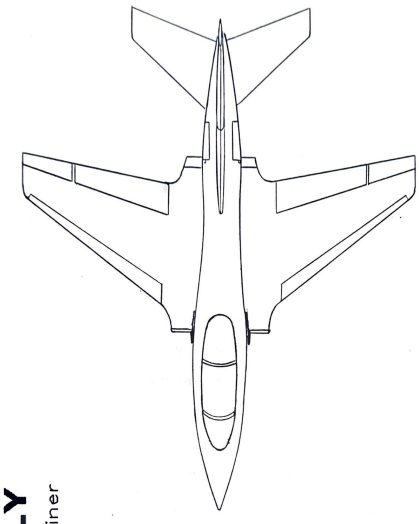
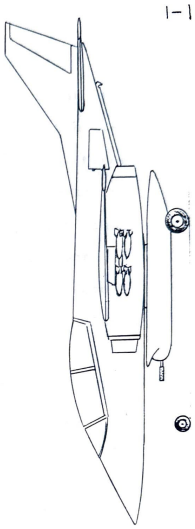
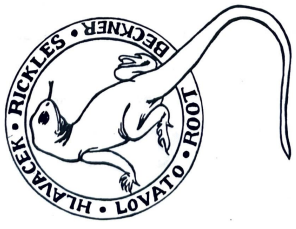
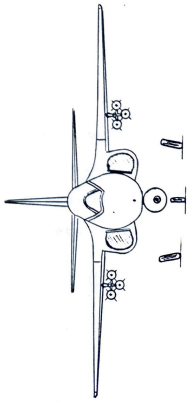


FIG 3.3 : INBOARD PROFILE - T-23 BLUEBELLY









THE T-23 BLUEBELLY

Intermediate – advanced Navy jet trainer

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