Institute Holds Composite Workshop

Aircraft enthusiasts from across the country gathered at the Institute of Aviation recently to build a composite airplane from scratch. The airplane, known as the Polliwagen, was designed by Mr. Joseph Alvarez who conducted the workshop with Institute teachers Mr. Terry Ladage and Mr. Don Amborski. Attending the workshop were individuals from the National Transportation Safety Board, Federal Aviation Administration, and staff from renowned aviation education programs and public secondary schools. Several aero engineers participated, as well as numerous amateur builders seeking information about new products.

The workshop focused on types of materials used in today's industry and involved the complete construction of an aircraft. The need for such workshops is critical, since the types of materials used in aircraft today are relatively new and few technicians can identify them or perform appropriate repairs. Kevlar, graphite, boron, glass or mixtures of several of these are now used to produce aircraft components.

Alvarez, a native of Argentina who now lives in California, designed the Polliwagen in the '70s. He chose the name because the Polliwagen's flying silhouette looked like a polliwog and its first engine was taken from a volkswagen. He began designing and building model aircraft at age 10 and full size sailplanes at age 16. From his initial experiences he has progressed through many years of research and testing on various airfoils, flight concepts and other features. Today, Alvarez designs, manufactures components, and teaches construction techniques at Polliwagen workshops such as the one held at the Institute.

The aircraft is a two-place, side-by-side, T-tail, retractable gear, low wing monoplane which is built with all composite materials. The smooth surface on the empennage, fuselage, and laminar airflow wings are characteristic of the glass epoxy matrix design. Since the first prototype flight in July 1977 performance has been improved with the use of a new airfoil, different powerplants, and a redesigned landing gear.

Alvarez shipped the various parts from the west coast and participants in the workshop put together the aircraft to taxiing condition. A specialist installed the power plant at a later date. After assembly, the plane is valued at about $20,000.

The need for such workshops is critical, since the types of materials used in aircraft today are relatively new...

Ladage reports that composite planes have many benefits. They are lightweight—perhaps one-third the weight of steel—with twice the strength. They provide better speed and dramatic fuel savings, and the equipment needed to produce the parts is minimal. Using plastic eliminates many tool and die processes required of the standard steel and aluminum components.

Composite materials have been used with enormous success in such recreational products as golf clubs and tennis rackets. The auto industry has recently introduced more composite parts, including bumpers and springs. The Polliwagen is the aviation industry leader, although many manufacturers are experimenting with plastic secondary parts and some are moving in the direction of all-composite design. Beech Aircraft, for instance, has designed "Starship I", a seven to nine passenger scaled down composite prototype.

Polliwagen workshops have been held in California, New York, Utah and other cities in Illinois. For more information on the composite airplane and its kit assembly contact Terry Ladage, Aircraft Systems Office, UI-Willard Airport, Savoy, IL 61874.

Special Two-day Composite Seminar

The Institute of Aviation, in conjunction with the Division of Conferences and Institutes, University of Illinois, will again host an Aircraft Composite Workshop this summer. The workshop will be held on August 5-17 at UI-Willard Airport and will again feature Mr. Joe Alvarez and his Polliwagen airplane. A special feature of this year's workshop will be a two day seminar, to be held August 15 and 16. On Thursday morning two guest speakers will discuss (1) aircraft composite applications and (2) failures, followed by a laboratory lay-up demonstration of pre-preg graphite laminates. On Friday morning two presentations will be given on (1) ultrasonic nondestructive inspection using "A" scan equipment and (2) laminate hole repairs using a hot bond repair kit. Both afternoons will be spent in the composite workshop lab. If you would like further information on the two week or the two day workshops, please contact Terry Ladage at 217-333-3035.
Message from the Director

I am pleased to report that our annual giving campaign, which we initiated over three years ago, has been successful. Since that time, we have had a total of 151 donors, sixty of whom have contributed at least $100 and are members of the Director’s High Flight Club. In addition, we also have three donors who have contributed or pledged to contribute $10,000. These three are members of the President’s Council. Contributions since the last newsletter report have reached 43 of which 2 have been contributed by Institute employees. A list of the contributors is published in another section of this newsletter.

I want to emphasize the importance to the Institute’s programmatic activities of annual giving by our alumni and our current employees. We are focusing on improving the quality of our program and the excellence of our instructional staff. During the past year, we have established an endowed account which will eventually provide funds for an award to recognize the Institute’s outstanding instructors. We have a little over $1000 in the account and a pledge of an additional $9,000 at the rate of $1,000 per year. We need to reach the $10,000 level in two years, however, to keep the endowed account. This endowed account currently represents our number one priority for annual giving.

There are early indications that our recruiting activities during the past year will result in a substantial increase in enrollment for the fall semester. We continue to focus on excellence in our instructional program as a high priority item.

We are planning a phone-a-thon for the fall time period. Please respond to any inquiries you get from the Foundation on behalf of the Institute by the phone-a-thon. The support of our alumni is important to us as we continue our commitment to provide outstanding instruction, public service, and research. We appreciate your support and want you to know that it really makes a difference. You can contribute to the excellence of the Institute. Your contribution will make a difference.

Sincerely,

Henry L. Taylor
Director

Presidents Council

The Institute of Aviation is proud to announce that three benefactors of the Institute have been recognized as members of the President’s Council of the University of Illinois Foundation. Membership in the President’s Council is reserved for benefactors who have contributed, or pledged to contribute, $10,000.00 or more to the Foundation. The three members are John M. Johnson, Jesse W. Stonecipher, and Henry L. Taylor. Professor Stonecipher has been a member of the President’s Council previously, and this year has made a significant additional contribution to the Jesse W. Stonecipher Scholarship Award, which is awarded annually to an outstanding flight training student at the Institute. Mr. Johnson’s contribution is divided equally between the Institute of Aviation and the College of Commerce, Department of Accountancy. The initial contribution in 1984 by Henry Taylor established the Institute’s Instructional Awards Endowment Fund. Mr. Johnson’s contribution to the Institute will also assist this fund.

The Institute is very grateful for the support from these benefactors, and would like to challenge others to follow their fine example.

Instructional Awards Endowment Fund

In order to honor and recognize excellence in aviation education, the Institute has established through the help of the University of Illinois Foundation an endowed account. Interest generated in this account will be used to fund an Institute Instructional Award. This award will be presented annually to the outstanding teacher in the Institute of Aviation.

The Institute has long valued instructional expertise, and the success of this commitment can be seen in the accomplishments of our graduates. You can help in this worthy endeavor by either contributing to the Foundation’s Institute of Aviation Instructional Award account, or by notifying the Foundation to transfer your previous or present contributions to this account. Your support is needed, as this account must reach the $10,000.00 level within the next two years in order to generate the revenue needed to fund this worthwhile project.

If you would like further information please contact the University of Illinois Foundation, 224 Illini Union, 1401 W. Green St., Urbana, IL 61801 (217) 333-0810, or contact Tom Emanuel at the Institute of Aviation, Academic Office, University of Illinois-Urbana-Champaign, Savoy, IL 61874 (217) 333-7126.

A Challenge to All Institute of Aviation Alums

Mr. Thomas Helms, class of ’59, and Mr. Daniel (Nick) Colbert, class of ’59 have contributed toward the establishment of an Institute of Aviation Facilities fund. Mr. Colbert’s employer, Textron Corporation, submitted a matching funds gift as well. We would like to challenge other alums (and their employers, if applicable) to follow their lead. At the present time it is extremely difficult to obtain any capital from the University of Illinois for the construction of any (new or replacement) physical facilities. The quonsets that you remember are still in use today and, needless to say, these structures have not improved with age.

The Institute of Aviation has had and continues to have a first quality instructional program staffed by dedicated faculty members. Your contributions to keep the “exteriors” up to the quality of the “interiors” will be most appreciated. For further information please contact the University of Illinois Foundation, 224 Illini Union, 1401 W. Green St., Urbana, IL 61801 (217) 333-0810, or contact Tom Emanuel at the Institute of Aviation, Academic Office, University of Illinois-Urbana-Champaign, Savoy, IL 61874 (217) 333-7126.
Message from the Board President

My last comments to you via this newsletter were to ask you for your ideas, suggestions, participation, time and money. We still need your support. Don't wait for someone else to do it for you, get involved in the Institute and University Alumni Association.

This Association is only as good and effective as its alumni, and that's you. Let us hear from you, get involved. You may contact me, any board member or the Institute Director or his office with your ideas, comments, suggestions or questions.

Plan to participate in, or better yet, organize and get involved in a program for the coming year. Take the time and give something back to the Institute of Aviation and University that gave you your education and training.

I am hoping we hear from all of you soon.

Sincerely,
Norm James, President
Institute of Aviation
Alumni Board

The following is a list of the Institute of Aviation Alumni Association Constituent Officers and Board Members. Please feel free to contact them with questions or ideas for the Alumni Association.

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Telephone: Home (217) 344-1560
Office (217) 357-8456

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Office (317) 742-3896

Tom W. Emanuel, Executive Secretary/ Treasurer (ex-officio)
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Office (217) 333-7126

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Chicago, IL 60643
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Bart Stine
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Champaign, IL 61820
Telephone: Home (217) 344-0781

Contributors to the Institute of Aviation

The following individuals and corporations have contributed to the University of Illinois Institute of Aviation. We extend to you our deepest and heartfelt thanks. Your contributions have played a significant role in helping us continue to offer fine quality aviation and maintenance training to hundreds of young people.

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Mr. Tom Helms, Eastern Airlines
Mr. Francis Hutchinson, Ozark Airlines
Mr. Stuart L. Moment, Sublogic Corporation
The Faculty

Taylor Elected APA Secretary

Dr. Henry L. Taylor, Director of the Institute of Aviation, has been elected as Secretary of the American Psychological Association, Division of Applied Experimental and Engineering Psychologists. Dr. Taylor was elected for the 3-year term during the APA convention held in Toronto last fall.

Garrelts Appointed

Weldon Garrelts, Head of Aircraft Maintenance at the Institute of Aviation, was recently appointed to the Society of Automotive Engineer's (SAE) General Aviation Aircraft Committee. The committee's responsibility is to support the mission of the Aerospace Vehicle Activity. The Activity develops, collects and disseminates information of value in the area of requirements, design, development and systems integration of manned aircraft and spacecraft. The committee meets twice a year to develop technical sessions for appropriate SAE meetings. The biennial General Aviation Aircraft Meeting and Exposition is held every two years in Wichita, Kansas.

ARL Faculty Receive Arnold O. Beckman Award

The Research Board of the University of Illinois has awarded $30,000 to Aviation Research Laboratory faculty members John Flach, Christopher Wickens, and Gavin Lintern (who will join the staff in August, 1985) to fund the purchase of a computer graphics flight display system known as the IRIS. The total cost of the system, as well as development expenses, are being shared by the Institute of Aviation, the Department of Psychology and the Department of Mechanical and Industrial Engineering. In addition to providing a major portion of the equipment funds, the Research Board designated the award as an Arnold O. Beckman Research Award. Dr. and Mrs. Arnold O. Beckman gave the University of Illinois a major gift of an endowment for the Research Board. The Board selects projects of special promise or distinction to be designated in this fashion.

The Aviation Research Laboratory has long been a leader in the study of human factors issues in aviation. The acquisition of the IRIS graphics display system, which will be interfaced with the ILLIMAC Instrument Flight Simulator, will enable researchers to simulate the visual world outside the cockpit and to examine perceptual training, and attention issues that have real importance to today's pilots.

It is rare that a pilot, whether civilian or military, flies without some references to visual cues in the outer world. Particularly during approaches and landings, external visual references are a very important source of information to the pilot. The military aviation community is currently exploiting the use of high speed, low-level flight. Here, the pilot's ability to perceive and respond to information in the rapidly flowing visual array may be a key factor in determining survival. Given the danger associated with landings and particularly with high speed, low-level flight, there is a need to train pilots in safer, simulated environments. Advances in computer imaging capabilities provide the power necessary to generate real-time, interactive displays capable of simulating these environments.

As important as these issues clearly are, research in human perception has been lagging. The psychological community has been unable to specify the essential cues in the visual scene for a pilot landing an aircraft or flying at low levels. There is a need to know how visual transformations are used by the pilot to identify the aircraft's current state (altitude, heading, attitude, speed, acceleration, etc.) and to predict future states. There is also a need to study how these cues can best be incorporated into training programs that rely on simulation.

Linder Retires

Herman Linder, a former (and memorable) instructor at the Institute, retired from his lifetime teaching career on February 4, 1985.

Mr. Linder (Herb to his friends) has been an instructor in the Aviation Department at Western Michigan University in Kalamazoo since leaving the Institute in 1970. He came to the University of Illinois in 1958 from Champaign High School. While at the Institute, he taught the airframe courses.

He met his wife Phoebe here at the Institute. She was employed by Flight Services and was also a flight student. The story goes that Phoebe's love of aviation wasn't quite enough to sway Herb; she had to bake a pie to convince him that her culinary arts were equal to his inartistic interest in food! Herman and Phoebe have 3 daughters and 1 son.

While at Champaign High School, Herman built an aircraft called the Blank, which received much publicity. Later, during his time at the Institute, he built an experimental airplane, the Mong. Herman has been involved with the Experimental Aircraft Association for years. He was also in a barbershop singing group, and enjoyed operating his ham radio. He is now pursuing his interest in computers.

His friends at Western Michigan University hosted a retirement party on February 16 at the Sheraton Inn in Kalamazoo.
Dellinger and Kramer Receive Grants

The Research Board has provided two ARL faculty members, John Dellinger and Art Kramer, with seed money for equipment purchases to support their research interests. Dr. Dellinger is investigating the ways in which exposure to toxic chemicals (found in pesticides, for example) affect pilots both physically and in terms of their ability to fly the aircraft. A major focus of his work is to develop a rapid, non-invasive procedure for monitoring the physical condition of the pilot. Monitoring toxic exposure has typically been done through drawing and analyzing blood samples, which is considered an “invasive” procedure. Research conducted both at the Aviation Research Laboratory and elsewhere suggests that changes in respiration and heart rate patterns can also serve as reliable indicators of toxicant exposure. Dr. Dellinger, who will be conducting funded research on both human and animal subjects, will use Research Board funds, along with funds provided by the Institute of Aviation and the College of Veterinary Medicine, to purchase a Vagal Tone Monitor for use in this research.

Dr. Kramer's research interests lie in the use of Event-Related Brain Potentials (ERPs) to assess cognitive workload. The ERP is a transient voltage in the brain that can be recorded from the scalp by means of electrodes. The pattern of voltage oscillations indicate the nature of the mental activity being conducted and is influenced by such things as mental workload, the allocation of attention, or exposure to chemical agents (whether toxic or antitodal). Funds provided by the Research Board, the Institute of Aviation, the Department of Psychology, and the Department of Mechanical and Industrial Engineering will be used to purchase equipment to establish a portable laboratory system known as the PEARL. The PEARL, which will be housed in ARL, is designed specifically for recording ERPs, but is also flexible enough to present complex visual and auditory information and record a variety of performance measures. Dr. Kramer will use the PEARL system to measure ERPs as an index of pilot workload in the ILLIMAC simulator.

Two changes in the instruments of modern aircraft also reflect the need for integrating an advanced computer graphics system into research and training devices. First, color graphics displays are being incorporated into the instrument panels of modern high performance aircraft. These displays offer a number of options for reconfiguring traditional instruments and layouts. Second, head-up displays, in which instrument symbology is projected onto the pilot's windshield are becoming increasingly popular. The rationale behind head-up displays is to provide the opportunity for the pilot to process information from both the instruments and the outer visual scene simultaneously. If these new display technologies are to live up to their full potential, extensive human factors research using computer graphics displays will be required.

The availability of a visual flight simulator system will also provide a unique opportunity to study the basic area of perceptual-motor skill development, which is a complex domain spanning the gamut of topics that fall under the heading of “human performance.” To explain skilled performance, one must consider the processes of perception/encoding, memory/knowledge bases, control/decision making, response production/coordinating, and attention/resource allocation. None of these processes are simple, and considering them all together is a formidable task. For this reason, research has tended to focus on relatively simple tasks that place the bulk of their demands on only one of the above processes. The result is that current theories of perceptual-motor skill development are biased to reflect the particular processing demands of the tasks studied and are not broad enough to cover the full range of performance involved in a complex skill such as flying an airplane. As a result, no guidelines exist for the designers of training programs who must select among or combine the various theories in designing curricula or procuring equipment to train complex skills.

In order to develop a more comprehensive theory of perceptual-motor skill development and to bridge the gap between basic research and application requirements, psychologists need to focus their research on more complex tasks. ARL faculty hope that the use of visual flight tasks in conjunction with the ILLIMAC flight simulator will help meet this need.

The Alumni

Rotec Broadening its Ultralight Market

Institute alumnus Bill Adaska, who received his powerplant rating and Engineering degree from the U. of I. in 1968, is president of Rotec Engineering, a firm in Dallas that manufactures ultralight aircraft. Rotec is striving to expand the market for its ultralight aircraft into military and agricultural applications to protect itself against the economics ups and downs of sport flying.

Rotec has been producing ultralights for ten years with sales increasing each year, from 402 in 1979 to over 3000 in 1983. Three ultralight aircraft are currently being produced: the aerobatic single-seat sport, the single-seat Rally 2B, and the two-place Rally 3. The aircraft are sold in kit form through 120 dealers world-wide, of which 85 are in the U.S. The kits range in price from $4,800.00 to $6,000.00.

Rotec employs more than 100 persons who work in five buildings with over 60,000 sq. ft. Current delivery rate is more than 50 kits weekly.
Pierce Elected Secretary of ALPA

Charles J. Pierce, who graduated from the Institute of Aviation in 1965 and Western Michigan University school of Business in 1967, recently was elected to his second consecutive term as secretary of the Airline Pilots Association. Pierce, a United Airlines' first officer, flies the Boeing 737 aircraft and resides in Bloomington, Ill., with his wife Ruth Anne and Christoph, 14, and Heather, 12.

ALPA, founded 53 years ago, is the largest labor union and professional organization of US airline pilots. It is affiliated with the AFL-CIO and holds collective bargaining rights for 34,000 air transport pilots of 47 airlines. In its professional role, ALPA is the industry's leading air safety advocate.

Institute Alum Receives Honor From NASA

Institute alum Dr. Louis R. Fina, Class of 1947, recently was honored by the National Aeronautics and Space Administration for his contribution to the success of the first flight of the Space Shuttle. Fina is a Professor of Microbiology at Kansas State University, Manhattan, KS. He received his bachelors, masters and PhD from the University of Illinois and his postdoctorate from Iowa State University. He was presented an American flag flown aboard the Space Shuttle "Columbia" for his discovery of a water disinfectant treatment which was used during the 1981 flight and continues to be used today. The iodinated anionic exchange resin technology developed by Dr. Fina and his colleagues was the first to provide microbial free and palatable water for use in space.

Rick Ruddell Promoted to Colonel

Richard L. (Rick) Ruddell, who took flight classes with the Institute and received his bachelors in Civil Engineering in 1964, was recently selected for promotion to colonel in the United States Air Force. He is stationed at Mountain Home Air Force Base, Idaho, where he is Assistant Deputy Commander for Operations, 366 Tactical Fighter Wing. His primary responsibility is to train pilots and weapon systems officers in the F-111A prior to their assuming duties in Europe. He has been an Air Force pilot since 1964 and has logged 3,700+ total hours (2,400 in F-111's and 780 in RF-4B). His wife is Maria (Maya) Ruddell and they have a son, Joshua, 12.

Alum Tim Hoeksema Heads Midwest Express

Tim Hoeksema, who graduated from the Institute of Aviation in 1968 and was named Outstanding Student of the Year, is the president of Midwest Express, a newly created venture into commercial aviation by Kimberly-Clark Corporation. Two years ago the Kleenex manufacturer set up a daily air shuttle between Appleton, WI, next door to its Neenah headquarters, and Roswell, GA, the site of a major laboratory. Then in June of 1984, the corporation inaugurated its own airline, dubbed Midwest Express, to transport employees and paying, non-company passengers as well, on seven daily round trip flights.

Kimberly Clark is the first company to go commercial on a serious scale with its shuttle service. Their takeoff into aviation began in 1948 when the company purchased a Twin Beech D-18. By 1969 the fleet had grown to six and KC Aviation was created, a subsidiary of Kimberly Clark that services corporate jets and showed a profit of $3.3 billion last year. Midwest Express follows the KC model. The company refurbished three DC-9's to carry 60 passengers, and offers such amenities as meals, beverages and a daily newspaper.

Institute Graduates 27

Twenty seven men and women were awarded certificates of achievement from the Institute of Aviation this Spring in a ceremony held at the Illini Union on May 4. Tom Emanuel, Head of the Academic Office, hosted the event, which was attended by approximately 120 friends, relatives, and staff members.

Henry Taylor, Director, gave opening remarks for the evening. Guest speaker was Ernie Culver, Manager of the Boston District for Hughes Aircraft Company.

Several awards and scholarships were presented during the evening. Winners were Brian Fox, FMC Award, James Gaskins, Woolman Award, Walter Broadfield, Bruce A. Neech Memorial Scholarship, John Walters, J. R. Mylin Award, John Cason, J.W. Stonecipher Award, Bradley Fester and Sandy Umbdenstock, Harriet E. and Frank E. Hefrick Scholarship, and Patricia Cullen, Olive Ann Beech Scholarship.

Graduates included Andrew Adrian, Garland Alldredge, Scott Batsel, John Cason, Patricia Cullen, John Dolan, Bradley Fester, Margaret Freeman, Danny Garretts, James Gaskins, Jeffrey Gayon, James Gibbons, Alexander Gonzalez, Barry Gordon, Robert Johnson, Gregory Karlove, Marc McKee, Timothy Mauer, Bryan Messler, Cipirano Ona, Douglas Parsons, Jeffrey Sedin, Kenneth Staske, Steven Uter, Thomas Verry, Brad Walsh and John Walters.
Regional Flying Meet Held at Willard

The National Intercollegiate Flying Association Regional flying Meet was held at UI-Willard Airport last fall. The UI Flying Team tied for first place in the flying events team championship with Southern Illinois University's Flying Team. SIU won the 1984 REIFA team championship. The following UI flying team members won awards:

- Bart Stine
- Andy Adrian (2nd)
- Roger Lux (2nd)
- Glenn Smith (4th)
- Cathy Rumsey (4th)
- Bart Stine (5th)
- Bart Stine (1st)
- Kim Strickland (2nd)
- Bart Stine (3rd)
- Jeff Sedin (5th)
- Bart Stine (4th)
- Bart Stine (3rd)

Scott Perry Award
Power off accuracy landings
Power on accuracy landings
Message Drop
Simulator event
Computer Accuracy
Aircraft Identification
SCAN

Each year colleges from Indiana and Illinois hold a flying meet called SAFECON Meet because safety is emphasized. Team members participate in four different areas that require a very strong background in aeronautical skills and knowledge. They fly aircraft in power off and power on landings; simulators challenge their skills and knowledge in flying complex instrument patterns that measure deviations in minor heading changes and altitude changes. Written tests are administered along with computer tests to measure time, distance, use of fuel, aircraft performance, loading and communication skills. Recognition tests are administered which use slides of various kinds of aircraft. Since safety is a major emphasis, students are observed continuously throughout the meet by judges who are noting any unsafe activities, conduct of an unprofessional nature, or any action that would distract or be considered unsafe. Safety projects that are carried on continuously throughout the year are formalized and presented in scrapbook form, a written report, or by oral interview. The awards banquet recognizes the team members by the presentation of trophies, monetary awards and other forms of recognition.

Multi-Engine Instrument Training

The Pilot Training program has recently reinforced its training emphasis by incorporating multi-engine instrument training in its flight curriculum program. This February a Beechcraft Duchess was acquired for the department by trading the Piper Lance and an old surplus Dewi-lander Beaver. As the majority of our students are aviation career oriented, the staff and administration felt that we needed to emphasize the multi-engine and instrument combination in our program. The FAA has formally recognized that a serious problem has existed in this area for a number of years. Pilots have been obtaining instrument ratings in very simple single engine aircraft and then acquiring a multi-engine rating later, but were never trained in the handling of complex situations that occur when flying multi-engine aircraft under full instrument conditions. Our new acquisition should help to alleviate this problem.

Generic Private Pilot

A new extension of Pilot Training is the Generic Private Pilot program. This program is designed for persons who wish to receive only the Private Pilot certification. Only one semester is required to finish the Private, using the Cessna 152 along with the simulators and attendance at ground school. Students receive 31 hours of dual, 20 hours of solo, 6 hours of simulator and a flight check by an FAA representative. The total cost of the course is $1,806.00 plus the cost of the examiner's fees, written and flight tests. The Institute has only two Cessna 152's and as a result we can accept only a limited number of students in this course.

Standing behind trophies won at the SAFECON Meet are Flying Team members, from left to right, Dave Palmer, Glenn Smith, Lisa Simmering, Harold Schlechahn, Gerald Miller, James Nelson, Ron Laird, Steve Kaiser, Mike Spencer, Phil Schaefer, Roger Lux, Kim Strickland, Bart Stine, Barry Gordon, Dave Strand, and Andy Adrian, kneeling.
ATEC Annual Meeting
The Institute of Aviation recently hosted the annual meeting of the Great Lakes Chapter of the Aviation Technicians Education Council, a nationwide organization serving to improve aviation maintenance education in both secondary and post-secondary schools. The annual meeting covered such topics as school funding, surplus equipment, and instructional strategies. Three workshops were offered including aircraft composites, cockpit CRT’s and engine oil analysis. Guest speaker Norman Poff of NASA presented new materials on NASA’s flight tests, composite propeller testing, and construction of the space shuttle.

New 100 Series Systems Trainer
The Aircraft Systems Department acquired over the summer a Cessna 152 minus the tail and outboard wing sections to be used for class projects and DME practicals. The trainer will be utilized in hydraulics for brake bleeding and strut servicing; power plants will perform engine troubleshooting and run-up. Instrument and electrical troubleshooting will be incorporated by the aircraft systems course. Coordinating the project is Glenn Saccone, Aircraft Systems Instructor. “We will be utilizing students to help refurbish the trainer and try to get it as close to possible to airworthy, even though it’s not meant to fly.” The series trainer should be completed by the end of Spring 1985 and in time for practicals.

Advisory Council Meets
The Advisory Council for the Aircraft Systems department met recently to discuss issues of importance to the Institute and aviation in general. The Advisory Council was created in 1983 at the request of the Illinois State Board of Vocational Education, which requires an advisory council for each institution receiving funding from them. The Council is made up of twenty one alumni of the Institute from a wide variety of fields related to aviation, including airline pilots, general aviation, aircraft, space vehicle and component manufacturers and a broad spectrum of electronics firms.

The Council meets once a year, and each member travels to the Institute at his or her own expense to give advice on how our programs can be made more effective. The council also provides a network to acquaint graduates with job opportunities and to inform employers of the high caliber of Institute students. Council members often represent the Institute at career days in their local area and are also active in acquiring donations of both money and equipment for Institute programs.


The Institute expresses its sincere thanks to these individuals for the valuable contribution they are making to our program. As a way of saying “thanks” each issue of the Alumni News will introduce a member of the board in a feature story.

Ernest W. Culver
A very active and enthusiastic member of the Institute’s Advisory Council is Ernie Culver. Ernie has been with Hughes Aircraft Company since December, 1966. He presently serves as Manager of the Boston District. Before taking over the Boston area he was manager of the Huntsville District, where Hughes experienced a 90% win factor and a six fold increase in the business base. Prior to becoming manager at Huntsville, he worked for Hughes in the Field Service and Engineering Division, Fullerton, CA, where he served as a Technical Training instructor and Field Engineer for the 407L Tactical Air Control System.

Ernie has also worked for Sesame Corporation and was a Design Engineer in power static converters for Bill Lear at Lear Jet. He was also involved in research and development on re-entry vehicles at Ford Aerospace, Newport Beach.

Ernie graduated from the University of Illinois Institute of Aviation in 1966 as the second graduate from the Avionics curriculum. Prior to graduat-
Aircraft Maintenance

Oils and Additives Conference Held

A conference was held recently to discuss present certification procedures for new oils and additives. Weldon Garrels, head of Aircraft Maintenance, planned the conference which was attended by representatives from several oil companies, the FAA, and two major engine manufacturers. Many rules and regulations were discussed and reviewed by the group.

The truck test bed is used for running endurance tests on engines for FAA certification of oils and additives.

Supercomputer center to be established at U. of I.

The UI and three other institutions will establish advanced scientific computing centers with $200 million in grants from the National Science Foundation. The award is the largest single federal grant ever made to the UI, and marks the second time this year that federal agencies have awarded multimillion-dollar grants to UI supercomputer research. Funding for the center is expected to total about $75 million over five years, according to Larry Smarr, UI astrophysicist who initiated the university's proposal to the NSF for the center. The supercomputer will provide free access to researchers from a wide variety of fields from across the United States studying a variety of problems and will work closely with the Center of Supercomputing Research and Development, headed by computer science professor David J. Kuck. Earlier this year, Kuck received a grant of $59 million from the Department of Energy and the NSF.

Oshkosh '85

For the second time ever (and the second year in a row) the Institute will have a display booth at the Experimental Aircraft Association Convention and Sport Aviation Exhibition at Oshkosh, Wisconsin, from July 26 through August 2, 1985.

As most of you know, the EAA Oshkosh Fly-In is the world's largest aviation event. Last year over 700,000 aviation enthusiasts attended during the week, including many Institute alumni. If we didn't (or even if we did!!!) have the opportunity of seeing you last year, please stop by and see us this year if you are at Oshkosh. We will have a sign up list for all alumni, and we hope to refresh and renew many old friendships and memories.

We plan to be indoors in the south exhibit building, Booth E-3. Please stop and say hello.

Last year, the Institute's student-restored Cessna 170 was entered in the classic restoration contest. The aircraft finished in the top five against entries completed by professional builders. The C-170 was picked to represent the 1940's era in the classic fly-by, allowing nearly a million people to see and hear about the work of our students. This year, instructor Terry Ladge hopes to have a special classification which has only school projects competing against one another.

In Memoriam

Clovis B. Norris
Institute Alum Lt. Col. (ret.) Clovis B. Norris, 72, died August 10, 1984 at Louisville, Kentucky. Survivors include three sons, Clovis Norris and Thomas Norris, both of Georgia, and James Norris, Kansas; two daughters, Cathryn Norris Chaltas, Champaign, and Renee Norris Halle, Louisville; and a number of brothers and sisters.

Lt. Col. Norris was born January 3, 1912, at Owensboro, Kentucky. He served 29 years with the U.S. Army as a Finance Corps Officer. While in the Army he obtained a BS degree from Butler University (1954) and he also attended the University of California and Texas Western College. Following his retirement from the Army in 1962 he became a student at the Institute of Aviation. He received his A & P in 1964, with honors, and then began teaching at Unity High School. He retired from his teaching position in 1971.

Military rites were held at Danville National Cemetery on August 14, 1984.

Donald A. Zumwalt

Donald A. Zumwalt, U. of I. graduating class of 1950, died in August 1984 at Irvine, California. He was employed by Electronic Memories and Magnetic Corporation as a ceramic engineer.

Mr. Zumwalt as born in Emden, IL, on September 6, 1924. He began his studies at the UI in 1942, then served in World War II until 1945, when he resumed his academic career. He took the Institute's flight courses in 1947, then transferred into Ceramic Engineering.
On The Alumni Trail

1947
Robert J. Stegen and his wife Lynn live in Canoga Park, CA, where he is manager of the Antenna Department for Whittaker Corporation. He designs and supervises the design of antenna and microwave systems. He received his MS in Electrical Engineering and his Pilot's License in 1947. He may be reached at 23720 Burton St., Canoga Park, CA 91304. Children are Pamela, Marcia, Donald, Robert and Jan, all young adults.

1948
Gerald J. Hasbargen, Sr., retired in 1983 after 27 years as Director of Career Development for the Department of the Navy. He received his Private Pilot's certificate in 1946, his BS in 1948, MS in 1949 and advanced certificate in education in 1958. His address in 6609 Howie Court, Temple Hills, MD 20748. Children are Gloria, Gerald Jr. and Mark. Wife Edith died in 1983.

1951
Donald M. Underwood, 1635 South Highland Avenue, Freeport, IL 61032, recently retired after 25 years of owning his own business. He received his BS in civil engineering in 1951 and his Private Pilot's certificate the same year. He and his wife Betty now fly for pleasure.

1954
Donald E. Kenney is the Assistant Superintendent, Business, for Maine Township High School District 207. In this capacity he administers a $49 million budget and has charge of accounting, purchasing, food service, building and grounds and insurance programs. He is also Secretary of the Board of Education. He received in Private Pilot's license in 1952 and his Commercial license in 1954, his BS in 1961 and his MS in 1963. He also received his CAS from Northern Illinois University in 1971. The Kenney's (wife is Barbara) reside at 2011 Habberon, Park Ridge, IL 60068, and have five children Karen, 28, Kathy, 27, David, 25, Betsy, 23, and Christy, 21.

1957
Chuck Liming, who received his A & P and his Professional Pilot's ratings in 1957 from the Institute, is a Professional Flight Engineer for American Airlines. He and his wife Carol Ann reside at 1 Bainbridge Street, Islip, New York, 11757. Children are Karen, 28; Kevin, 27; Kathleen, 25; Keith, 24; Kenneth, 23; and Kim 22. He has been with American for 28 years, 24 as a line mechanic. He has flown the DC-6, DC-7, C-180, C-990, B707, B 727 and the DC10.

1958
Air Traffic Control specialist Steven L. Goodman worked at Ut-Willard Airport from 1960-1973 and is now with Meacham Field, Fort Worth, TX. He received Aircraft Maintenance training in 1958 and his Private Pilot's license. He later received his Commercial and Instrument Rating elsewhere. He and wife Francis reside at 5637 MacNeil Drive, Fort Worth, TX 76148. Children are Brian and Lori.

Allan E. Anderson is presently Chief Engineer for the Great Plains Natural Gas Company in Marshall, MN, where he designs and installs natural gas turbines and handles all government forms. He received his BS in Chemical Engineering in 1958 and his Private Pilot's license in 1957. He and wife Susan live at 1003 Pina Street, Marshall, MN 56258, with children Elisabeth, 22, Mark, 20, and Philip, 18.

Richard A. Kurz received his Private Pilot's license in 1958 and his BS in 1959. He is President of Management Recruiters Inc., Des Plaines, IL, where he is an executive search consultant. Richard and wife Anita live at 12 Victoria Lane, Lincolnshire, IL 60057 and have four children, Peter 17, Lesley, 15, Douglas, 14, and Daniel, 12.

1963
George E. Bullman and wife Kimberly live at 1931 Fiji Lane, Huntington Beach, CA 92646, where he works for R.R. Donnelly and Sons Company as a magazine line operator. He received his flight training from the UI in 1962-63. Children are Michael, 10, and Matthew, 5.

Kenneth D. Gerbode has been a pilot for Atlantic Richfield Company for seventeen years, flying both domestic and international routes in the Sabreliner and Gulfstream II. He received his A & P and his Pilot's certificates from the Institute in 1963. He and his wife June live at 2813 Carriage Lane, Carrollton, Texas, 75006. Children Brian and Cindy are both married.

1966
Dr. Richard E. Leeds and his wife Sharonjean live at 226 Arguello Blvd., San Francisco, CA 94118, where he is a dentist. He received his Private Pilot's license from the Institute in 1966, his BS in 1958 and his DDS in 1970. Although he reports using his flight training "at a very low altitude" he did use his navigation experience to pass a U.S. Coast Guard skipper's exam recently.

1967
A commodity trader trading and investing in commodity futures and options, Peter Hillebrand lives in Chicago with wife Barbara at 4606 West Elm Terrace, Skokie, IL 60076. He received his Private Pilot's license in 1965, his Commercial and Instrument in 1967-8, and his BS in 1969.

1968
Thomas E. Lemna, who received his Private Pilot's license in 1968, recently completed work on his Juris Doctorate Degree at Southern Illinois University.
He received his JD degree in May of 1984. He lives at 63 Malibu Village, #51, Carbondale, IL 62901, and works as a carpenter, electrician and plumber. He received his Airframe and Powerplant certificates from SIU in 1981.

Dave Berglund, a graduate of the Institute in 1968, is manager of Airline Marketing, Brake and strut division, for Bendix corporation. He lives at 2500 Topsfield Road, #201, South Bend, Indiana, 46614.

1969
A photographer who owns and manages his own business, John O’Heron may be reached at Box 31573, Seattle, WA 98103. He completed the Aircraft Maintenance training at the Institute in 1969, and used it to work his way through college as an aircraft and helicopter mechanic. He has his BA in Philosophy from the University of Alaska, his BFA in photography from the University of Calgary, and has done post graduate studies at Indiana and the Sorbonne, Paris.

1972
Kevin Martin is an Adversary Pilot for the United States Navy, stationed in Virginia Beach. He graduated from the Institute in 1972 and received his BS in Education in 1974. He and his wife Paula live at 2416 Hunting Horn Way, Virginia Beach, VA 23456, along with sons Matthew, 5½, Zachary, 2½, and Jared, 1.

1973
Missionary pilot and mechanic Richard G. Oleník flies and maintains 2 Cessna 185’s for the Zaire Presbyterian Church in Kananga, Zaire. He received his FMC certificate in 1973 and his BS degree in 1974, both from the University of Illinois. He and his wife Judy have four children, Sandy, 8, Bonnie, 5, Lance, 4, and Joel, 2. Stateside address is Mission Aviation Fellowship, P.O. Box 202, Redlands, CA 92373.

1974
James (Tom) Hardin, Jr., and his wife Della live in Montfort, Wisconsin, at Rural Route #1, Box 75, 53569. He works for Carne Company as an Engineering group leader and also for Four Lakes Aviation Corporation as a charter pilot, especially for politicians. They have two children, LaTessa, 6, and Eli, 3. Tom received his flight ratings from the Institute in 1973-74, his BS in General Engineering, and his BS in Psychology, both in 1974. He is presently working on his MBA at the University of Wisconsin.

Jefferson M. Koonce received his Ph.D. in Engineering Psychology from the University of Illinois in 1974. His research on the Predictive Validity of Flight Simulators as a Function of Degree of Motion was carried out at the Aviation Research Lab. He retired from the US Air Force in 1981, and is presently professor of Human Factors Engineering, Department of Industrial Engineering and Operations Research, University of Massachusetts at Amherst. His home address is RFD #1, Lead Mine Hill Road, Amherst, MA 01002.

1976
Air Traffic Controller Jane Fauber and her husband Cliff live in Bloomington IL (426 Linden Street, 61701) where she is employed by the FAA at Bloomington Normal Airport. She received her FMC certificate from the Institute in 1976, and served as a flight instructor from 1976 to 1979. She now flies for business and pleasure.

Matt Nisbet, 504 East second, Sandwich, IL 60548, is the Director parts and Service Manager for American Motors Sales Corporation in Elk Grove Village, IL. As such he represents the manufacturers when he contacts central and southern Illinois AMC/Jeep/Renault dealers. He received his A & P from the UI in 1976 and his BS degree in Education from Illinois State University 1977. He and his wife Klovis have two children, Mark, 4 and Kristin, 8 months. He is presently restoring a Piper Pacer and is a Commander of a local Civil Air Patrol Squadron.

1977
David L. Brooks received his pilot training in 1977 and his BS in Electrical Engineering in 1979. He presently works for Johnson Controls Inc. as a District Manager, selling HVAC controls to OEM’s and wholesalers in southwest Ohio and northern Kentucky. He and his wife Marcia, along with baby daughter Autumn Lynn, reside at 7503 James Bradford Drive, Centerville, OH 45459.

1978
Terri Chevalier works for Martin Aviation as Assistant Chief Flight Instructor and also as a corporate pilot flying Navajo chieftains. She received her flight training from the Institute, 1978-80, and her BS from the UI in 1978. She resides at 631 South Fairview, #16E, Santa Ana, CA 92704.

A management consultant whose primary responsibility is computer installations, Thomas M. Myers, 1027 West Minton, Tempe, AZ 85282, works for Arthur Andersen & Co. He joined Andersen’s in 1984 following several years with John Deere. He received his flight instruction in 1978, his BS in Mechanical Engineering in 1978, and his MS (from Arizona State) in 1983.

1979
Gail Jonkouksi received her Professional Pilot’s Certificate and her BS in Aerospace Engineering in 1979, and she remained at the Institute as a flight instructor for a year. She then received her MS in Aerospace Engineering from Stanford in 1981. She presently works for Boeing Computer Services as a software sales technical representative. Her residence is 5800 South Newland Avenue, Chicago, IL 60638.

Richard Scott Lundin, who was a flight instructor with the Institute in 1979, is presently a flight instructor for Wings of Denver Precision Aircraft. He also handles the maintenance of the fleet. He may be reached at 3051 South Glencoe, Denver, CO 80222.
1980

Mark Pickett and his wife Reba live 530 Onyx Pass, Prescott, AZ 86301. He is completing his degree in Aeronautical Engineering at Embry Riddle. Mark received his A & P Mechanic's certificate in 1980, and his Private Pilot's license as well. He attended the University of Utah, Salt Lake City, before transferring to Embry Riddle.

John C. Lill is First Officer for Brit Airway's Inc., based out of Dress Regional Airport, Evansville, IN. He and his wife, the former Veletta A. Forsythe, live at Rural Route #8, Box 152B, Evansville, IN 47711. He received his FMC certificate in 1980.

1982

R. Scott Chisholm, 1982 graduate of the Institute of Aviation, is now Chief Pilot for Chisholm Air Trails and auditor for R. Wolf Lts. Accountants. He may be reached at PO Box 161, Lansing, IL 60438. Scott was the first Institute student to be selected for an internship at United Technologies.

Bob North, a graduate in Psychology and former assistant at the Aviation Research Laboratory, is presently Section Chief, Crew Systems Technology, for Honeywell's Man Machine Sciences group. He manages about twenty full and part time scientists and engineers performing experiments on cockpit display/control design, voice interactive research, and man/machine interface simulation development.

1983

Amy Williams Klesner and her husband Kenneth reside at 2364-E Su Casa Drive, Florissant, MO 63031. She is a flight instructor in Waukegan, IL. A member of the UI Flying Team, she received her Private Pilot's certificate in 1983.

1984

Gary Roberts, 1984 graduate of the Institute of Aviation, now works for McDonnel-Douglas Corp. in St. Louis on F-18 fighter planes. His St. Louis address is 2201 Keeven Lane, Florissant, MO 63031.

Institute's Tailgreat a Success

Many alums and visitors stopped by the Institute of Aviation's exhibit at the annual Tailgreat event, celebrated at a University of Illinois home football game. Each year students, alums, and community organizations gather together to compete for prizes for the display best depicting the "Spirit of Illini." Helicopter Instructor Jack Rosenow flew the Institute's own orange, white and blue helicopter to the Tailgreat. Our copter donned an Illini Helmet and displayed an Illini banner from its rotor blade. All alums, please plan to join us this fall for the next tailgreat, to be held September 14, 1985.

The Institute's own orange, white and blue helicopter donned an Illini helmet for the Tailgreat event.
1985 UI FOOTBALL SCHEDULE

Following is the 1985 University of Illinois football schedule.

Please note that September 14 is the Tailgreat event.

We hope to see you there!

September 7  
September 14  
September 21  
October 5   
October 12  
October 19  
October 26  
November 2   
November 9   
November 16  
November 23  

(Varsity "I" Day)  
(Tailgreat)  
Southern Cal  
Southern Illinois  
Ohio State  
(Pork Day)  
 viewpoints)  
(Homecoming)  
(Band Day)  
Michigan  
(Dad's Day)  

For ticket information, contact 100 Assembly Hall, Champaign, IL 61820.
Phone: 217-333-3470.
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Use this form to keep us up-to-date on your activities or to inform us of a change of address.

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State __________________________________________ Zip Code __________________________ Phone __________________________
Company affiliation __________________________
Primary responsibilities __________________________
Degree __________ Year __________ Aviation training __________________________

Former Institute employee? __________________________
Names and ages of children __________________________
Alumni News (include photos, press clippings, etc.; use extra sheet if necessary) __________________________
Return to Editor, Academic Office, Institute of Aviation, UI-Willard Airport, Savoy, IL 61874. Thanks!!!!

IN SUPPORT OF THE INSTITUTE OF AVIATION DEVELOPMENT FUND:

___ I/we enclose a gift of
   $500   $250   $100   Other

Designate this gift to:
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___ Institute Facilities Fund
___ Flying Team
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