Former Student & Astronaut Speaks at Institute

Former student and astronaut, United States Air Force Colonel Steve Nagel, was at the Institute of Aviation to speak to students, faculty, and staff in March. Col. Nagel was a flight student in 1966 and a flight instructor in 1968 at the Institute. He graduated from the University of Illinois in 1969 with a B.S. in Aeronautical and Astronautical Engineering. About 125 students and staff were in attendance to hear Col. Nagel speak for about one and a half hours about his experiences as an astronaut.

Col. Nagel’s flight instructor in 1966 was the recently retired Tom Gordon. Prof. Gordon and Col. Nagel were able to reminisce during a luncheon honoring Col. Nagel prior to his speech at the Institute.

After his talk, Col. Nagel presented the Institute with a plaque, patch, flag, and Institute pin all of which he took into space on his second shuttle trip (October 30 to November 6, 1985) on the U.S. Space Shuttle, Challenger.

Colonel Nagel compared flight in the space shuttle to being a fish in water.

Using visual aids, Col. Nagel told the group of Institute students and employees what it was like to land the shuttle. Col. Nagel was the pilot on his second mission. He practiced landing in Gulfstream II’s with the engines at 90% reverse thrust to simulate landing the shuttle. He also kept current by flying T-38 trainers. Simulator training for the shuttle flight was done in Houston.

His shuttle missions flew an orbit 150 to 200 miles above the earth. On his first trip, Col. Nagel took many photographs out the shuttle’s window. He said he could see 1000 miles in any direction. Looking down he could see many details of the earth below such as the freeways of Houston and the lake bed landing site at Edwards Air Force Base in California. The night sky from orbit looks similar to the night sky from earth except that more stars are visible, he said.

Col. Nagel also showed a 15 minute film which he made aboard the shuttle, depicting a typical day in space. The astronauts floated around doing work in the most convenient position without gravity to hinder their movement. Col. Nagel compared flight in the space shuttle to being a fish in water. After a few days in space the weightlessness feels natural, and the astronaut learns to do things in the easiest position. NASA sends the future astronauts through an underwater scuba course to familiarize them with the feelings of being in space. Col. Nagel said that upon returning to earth, he felt as though he weighed 500 pounds.

Eating dry food was sometimes a challenge, since without some moisture to create adhesion to the plates, the food would simply float away. Sleeping on the shuttle was another major difference from being earth bound. The astronauts could sleep in any position. Pillows had velcro straps to hold the astronauts’ heads to them for those who wished to use a pillow. Col. Nagel said that since he was weightless, he preferred not to use a pillow.

Col. Nagel was a mission specialist during his first flight, from June 17 to June 24, 1985. The crew were Dan Brandenstein, U.S. Navy Captain, Commander; John Creighton, U.S. Navy Captain, Pilot; John Fabian, U.S. Air Force Colonel, Mission Specialist; Shannon Lucid, Civilian Mission Specialist; Steve Nagel, U.S. Air Force Colonel, Mission Specialist; Patrick Baudry, Lt. Colonel French Air Force, Payload Specialist; and Sultan Al Saud of Saudi Arabia, Payload Specialist. This mission carried three communication satellites: ARABSAT, TELSTAR, and MORELOS. The scientific satellite, SPARTAN, was deployed and retrieved two days later.

Col. Nagel was the pilot of his second flight. This flight was launched from the Kennedy Space Center in Florida October 30, 1985; completed 112 orbits; travelled 2.9 million miles; and landed at Edwards Air Force Base California November 6, 1985. This was the 22nd flight of the space shuttle, and the last successful flight of the Challenger.

The crew on this trip were Henry Hartsfield, Civilian Commander; Steve Nagel, U.S. Air Force Colonel, Pilot; James Buchli, U.S. Marine Corps, Mission Specialist; Bonnie Dunbar, Civilian Mission Specialist; Guion Bluford, U.S. Air Force Colonel, Mission Specialist; Ernst Messerschmid, West German Payload Specialist; Reinhard Furrer, West German Payload Specialist; Wubbo Ackels, Netherland Payload Specialist.

(Cont. on page 2)
Message from the Director

Dear Institute Alumni:

We have just completed our second fall phone-a-thon as part of our annual giving campaign. The phone-a-thon conducted in the Fall of 1985 was very successful. We called over 8,000 alums who pledged contributions totalling $23,200. We used $4200 of the funds to bring the Institute’s Instructor Award Endowment Account to the $10,000 level. I had indicated in our last newsletter that this endowment account currently represented our number one priority for annual giving. The remaining distribution of funds will be recommended by an Institute committee and will partially address needs in the instruction program and our facilities areas.

The initial results from the 1986 phone-a-thon are not as spectacular as last year’s results but will enable us to address some key needs. We currently estimate that the net income from the annual giving for 1986 will reach over $13,000. Thank you for your continued support. We encourage a program of annual giving among our alums.

Enrollment in the Institute’s instructional program reached an all time high of 208 students for the Fall of 1986. Our previous record set in 1980 was 196 students. The quality of the students as measured by ACT scores and high school rank is also outstanding. The average ACT score of our freshman class is 24 which is equal to or higher than all other colleges except Engineering (27), Commerce (27), and Liberal Arts and Sciences (25).

Our principal focus continued to be on excellence in our instructional program.

Your support through your annual giving makes a difference in the pursuit of our goal.

Sincerely,

Henry L. Taylor
Director

New President’s Council Member

With the beginning of a new calendar year, Weldon E. Garrelts, Associate Professor and Head of Aircraft Systems, became the fourth person to qualify for membership in the University of Illinois Foundation’s President’s Council. Professor Garrelts began the year with a pledge of $1000 per year to the University of Illinois Foundation. His contribution and pledge are currently dedicated to help fund the endowment which will support an annual Institute of Aviation Award for Excellence in Undergraduate Teaching.

Professor Garrelts, an alumnus of the Institute, completed his A & P in 1961. He received a bachelor’s degree in 1964 and a master’s degree in 1966, both in Vocational and Technical Education at the University of Illinois.

Professor Garrelts has been an Institute faculty member since 1966. From 1974 to 1985 he headed the Aircraft Maintenance Shop. He was made Head of the Aircraft Systems department in August 1986.

Professor Garrelts is active in aircraft investigation and teaches Aviation 353, a graduate level course in aviation accident investigation procedures and techniques.

President’s Council membership is reserved for benefactors who have contributed, or pledged to contribute, $10,000 or more to the U of I Foundation. The Institute is very grateful for the support of these benefactors, and would like to challenge others to follow their example.

Message from the Board President

This will be the last time I write in our newsletter as your representative on the Alumni Association Board of Directors. I want to thank those of you who have supported me in that capacity, and hope you will continue to support our next representative to the Board.

Your Institute of Aviation Board is planning an air show in September 1987. Whether it flies depends on the Pentagon blessing us with the Air Force Thunderbirds and other military displays and fly over equipment. We will hear officially from them in January. Again, if all is go, we will need your support.

Finally, a tremendous thanks to all of you who pledged money in our recent phone-a-thon. It’s great to have so many alumni backing the Institute.

Sincerely,

Norman E. James, President
Institute of Aviation
Alumni Board

(cont. from page 1)

This flight was a German Spacelab Mission D-1; the first mission in which payload control was not in the U.S. This mission carried the European built Spacelab and conducted experiments in materials processing, life sciences, and navigation. This was also the largest crew ever on a shuttle flight.

Col. Nagel is optimistic about the future of the space shuttle program because he believes it is necessary for humans to be on board to perform many functions in space, such as satellite repair. Currently, Col. Nagel is helping NASA design a space station.
Jesse W. Stonecipher Annual Institute of Aviation Employee Award

Professor Emeritus Jesse W. Stonecipher has provided the first of two $5000 gifts to initiate an endowment to support an award to an Institute of Aviation employee who makes a significant contribution to the goals of the Institute of Aviation. Professor Stonecipher is interested in providing meaningful awards to either an academic or non-academic staff member for outstanding efforts regardless of what phase of the Institute's activities that staff member may represent.

Jesse Stonecipher was the first Chief Flight Instructor for the Institute starting in 1946. He also served as Associate Director of the Institute under both Ralph Flexman and Henry Taylor. Professor Stonecipher is a member of the University of Illinois Foundation's President's Council and has already provided an endowment to support an award to the outstanding Institute of Aviation flight student.

Jesse and his wife Margie are enjoying their retirement in Bay St. Louis, Mississippi where Jesse continues to be very active in aircraft accident investigation.

Phone-a-Thon
The Academic Office is pleased to announce that the Institute's first ever phone-a-thon conducted the last week in September and the first week in October 1985 was successful. Institute alums pledged $23,200. This amount was a pleasant surprise given the relatively small number of Institute alums compared to other colleges at the University of Illinois. We very much appreciate the generosity of our graduates. The funds will be used to support numerous Institute projects such as the Institute Instructional Award fund, the facilities fund, the Flying Team, and the Aviation Research Laboratory. Many thanks to all our alums.

The Institute's second annual Phone-a-Thon is currently underway, and has already received pledged totalling over $13,000. Again, our sincere thanks to our loyal, supportive alums!

Contributors to the Institute of Aviation

A special thanks to the following corporations that contributed to the University of Illinois Foundation-Institute of Aviation Development Fund matching the contributions of their employees.

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American Telephone & Telegraph Foundation, New York
Arthur Andersen & Company, Chicago
Atlantic Richfield Foundation, Los Angeles
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The following individuals and corporations have contributed to the University of Illinois Institute of Aviation. We extend to you our most sincere thanks. Your contributions have played a significant role in helping us continue to offer high quality aviation education to hundreds of young people.

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Mr. Jesse W. Stonecipher
Dr. Henry & Mrs. Mary Taylor

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The Faculty

Institute Retirees

Since the last Newsletter, four Institute staffers with a combined total of 129 years of service to the Institute have retired.

Bob Fryer of Flight Services was with the Institute for 34 years. This along with his accumulated sick leave made Bob eligible for retirement on the basis of 35 years of service. During the summer Bob works full time at the University Golf Course.

Professor Tom Gordon retired with 29 years of service in Pilot Training. He and his brother-in-law are farming his parents' farm south of Urbana. Tom continues to administer the FAA written exams to local area pilots.

Gordon Willenbring retired with 29 years of service in Aircraft Maintenance. Gordy worked in the Radio Shop. He now has more time for bowling, his favorite pastime, and for working on projects around his home.

Harry Demenis of Flight Services was with the Institute for 37 years. For the past 14 years he was Chief Flight Line Attendant. He is a member of the Board of Directors of the U of I Employees Credit Union. Harry is now going to be more active in selling real estate.

All retirees were recognized at a party at the Airport in their honor. We wish them all the best, and hope that they will remember to stop by the Airport for a visit from time to time.

Former Institute Flight Instructors

Allan Davis, a former flight instructor at the Institute in 1968 and 1969, was in town for last year's homecoming, and stopped at the Institute to visit. Al was the drum major at homecoming for the Alumni Band. From 1970 until he was furloughed in 1975, Al was a pilot for TWA. Now he is a sales manager for Produce Reporter Company in Wheaton, Illinois.

Ted Sigtenhorst, an Institute flight instructor from 1969 to 1978, is now a copilot for United based in Chicago. He just bought a new home in Lockport. His address is 14037 Shoshoni Drive, Lockport, IL 60441.

Human Factors Society Fits Award

Dr. Christopher D. Wickens, Head of the Aviation Research Laboratory, was awarded the 1985 Paul M. Fits Award by the Human Factors Society. This award recognized his outstanding contributions to the field of Engineering Psychology and to the training of human factors specialists.

Dr. Christopher Wickens, winner of the 1985 Fits Award.
ARL Faculty Research Update

The Pilot Training Department and the Aviation Research Laboratory (ARL) are collaborating on a project to modify the initial Aviation 101 simulator training lessons. The project, "Computer Augmentation of Flight Simulator Training," received funding through the University of Illinois' EXCEL (Excellence in Computer aided Education and Learning) program which was established to award IBM equipment and software to campus units on a competitive basis.

The award included four IBM PC-AT's with high resolution color display monitors, three of which will be networked in conjunction with two ILLIMAC (Illinois Micro Aviation Computer) flight simulators. These ILLIMAC simulators were designed and built by the Institute of Aviation. The fourth PC-AT will be used to present independent lessons designed to facilitate student acquisition of landing skills.

This project, directed jointly by Christopher Wickens, Head, Aviation Research Laboratory; and Omer Benn, Head, Pilot Training, has required the ongoing participation of Pilot Training instructors, whose needs are represented in the group through flight instructor Tom Davis. ARL staff involved include Bill Entwistle, John Flach, Bob Lehocky, Gavan Lintern, Amir Mane, Brian Osmond, Alan Stokes, and Marty Weller. In addition, several graduate students in Psychology have been participating on an ad hoc basis.

The objectives of the development effort have been grouped in three areas: (1) Initial Simulator Lessons (to include performance feedback, instructor monitoring station, outside-in display or flight profile available to the student, inside-out or moving horizon display available to the student); (2) Airport Layout/Radio Communications lesson; and (3) Landing Display lesson. The radio communications and landing display lessons will be available for student use independent of the flight simulator.

Dr. Henry L. Taylor, Director, and Mr. Fred C. Hyman, Assistant Aviation Education Specialist, are investigating the effects of an anesthetic drug, Diprivan, on pilot performance in the ILLIMAC flight simulator. A total of 12 Institute of Aviation student pilots will participate in this 12-month Air Force sponsored project.

Dr. Christopher Wickens has received funding from NASA Ames Research Center for the second year of the three-year project, "Human Performance and Workload in Automated Systems."

Assistant Professor Dr. Arthur F. Kramer's proposal, "Event-Related Brain Potential Indices of Cognitive Workload and Automaticity," was funded in August 1985 by NASA Ames Research Center. This project is the first of several planned to use the PEARL (Portable Electrophysiological data Acquisition Research Lab) computer system acquired by Dr. Kramer last year through a Research Board Award and interdepartmental support.

Assistant Professor Dr. John Flach has received funding through the Air Force Office of Scientific Research for a project entitled, "Global Optical Flow Rate: A Psychophysical Assessment." In this, experiments will be conducted using the newly acquired IRIS (Integrated Raster Imaging System) Computer Graphics System. Participants will include both aviation students and students with no aviation background.

The University Research Board has provided funds for a graduate research assistant to work on a project directed by Dr. Christopher Wickens and Visiting Assistant Professor Dr. Alan Stokes. The project, "Decision-Making in Simulated and Actual Flight," involves the development and validation of a microcomputer-based system for training and researching pilot decision-making. The prototype of the system, referred to as MIDIS, was developed by Dr. Stokes. Dr. Mehdi Harandi (Associate Professor, Digital Computer Laboratory) is a project associate.

Work will begin soon on Dr.wickens' three-year project, "The Integration of Complex Information from Auditory and Visual Channels Under Stress," funded by the U.S. Army Human Engineering Laboratory. ARL also expects to begin work shortly on a project conceived by Assistant Professor Dr. Gavan Lintern which will examine the identification of visual-spatial skills for air-intercept control.

Two projects directed by Dr. Wickens are nearing completion: "Application of Aviation Display Research to Automotive Design" (a literature review funded by General Motors Research Laboratory) and "Display/Cognitive Interface" (funded by Rome Air Development Command through the University of Dayton).

Andersen Proposal Selected for Arnold O. Beckman Award

For the second consecutive year research proposed by an Institute faculty member has been funded by the University of Illinois Research Board with the special designation of being an Arnold O. Beckman Award. Last year, a proposal requesting funds to acquire an IRIS (Integrated Raster Imaging System) computer graphics system, submitted by Aviation Research Lab faculty members John Flach, Christopher Wickens, and Gavan Lintern received this funding.

The Research Board has awarded $32,000 to Dr. George J. Andersen to establish a motion perception laboratory which will be housed in the Department of Psychology and the Institute of Aviation. Both departments have pledged additional support funds to establish this research facility.

Major equipment items to be acquired include a PDP 11/73 computer, an HP 1310B display scope, and a Kistler multicomponent system for measuring postural sway.

Dr. Andersen's work will contribute to understanding how motion is perceived from both a theoretical and an applied perspective. From a theoretical perspective it will examine the way in which optical flow projected on the retina is interpreted and will provide information concerning the interaction of the visual and vestibular systems. Recent research by Dr. Andersen has indicated, contrary to previous findings, that stimulation of the central field of vision can provide information of self motion from optical flow.

From the applied standpoint, Dr. Andersen's research should provide critical data of importance for the design of visual displays. Such displays are used in many industrial and commercial settings. Within the field of aviation, Dr. Andersen's work should contribute to design improvements in visual displays used in flight simulators.
Professor Emeritus Flexman Receives Award

Professor Emeritus Ralph E. Flexman, former Director of the Institute of Aviation, was inducted into the Aviation Hall of Fame during the Fourth Annual Hall of Fame Banquet on April 9 at Springfield, Illinois. The ceremonies were part of the Illinois Aviation Conference held April 8-10, and sponsored by the Illinois Aviation Trades Association, the Illinois Public Airports Association, and the Illinois Division of Aeronautics.

Keynote Banquet Speaker was Master Aeronaut John R. Petrehn of Overland Park, Kansas. Gary Stevens, President of the Springfield Air Redevelopment, was Master of Ceremonies.

Others honored by the Illinois Aviation Hall of Fame Award in addition to Flexman were the late Arthur Carnahan of Bloomington, John A. Dorgan of Chicago, Dr. Harold J. Holzies of Deerfield, and Wanda Whitsett of Champaign.

Professor Flexman currently serves as a consultant in pilot training, simulation systems, and human factors for a number of businesses, government agencies, and airlines.

After serving as a civilian Army flight instructor during World War II, Flexman was the first flight instructor hired at the Institute of Aviation.

From 1952 to 1955 Flexman was Research Psychologist, Chief of Training and Deputy for Research at Goodfellow Air Force Base, Texas. During that time, he was responsible for a number of important pilot training and simulation research studies. In 1955 he was appointed Deputy Director for Research at the interceptor Pilot Research Laboratory, Tyndall Air Force Base, Florida. During these years he developed methods of assessing pilot effectiveness during weapon system testing and evaluation. Additionally, he participated in the development of space systems VTOL aircraft and equipment.

In 1955 Flexman served as Chief, Systems Applications Branch of the Operator Laboratory at Randolph Air Force Base, Texas and in 1958 was appointed Technical Director of the Human Factors Office at Eglin Air Force Base, Florida.

From 1959 to 1964 he was Assistant Chief Engineer for Systems Support at Bell Aero Systems, where he developed the Zero G belt and the concept of a laterally fired gunship weapon which had a major impact in Vietnam.

In 1964 he joined Link Aviation, and in 1968 he was appointed Director of the Institute of Aviation, a position which he held until August 1980. From August 1980 until 1981 he served as the Acting Head of the Aviation Research Laboratory at the Institute.

Professor Flexman is also a recipient of the Alexander C. William, Jr. Award from the Human Factors Society for outstanding contributions to the design of a major aviation man-machine system, the Meritorious Civilian Service Commendation for outstanding performance of duty in the U.S. Air Force Research and Development Command, and the Exceptional Civilian Service Award from the U.S. Air Force for service on the Scientific Advisory Board. He also has served as a member of the Department of Defense Task Force on Training Technology. Professor Flexman is the author of numerous articles on aviation and/or human factors.

Pilot Training

Century Instrument Course

Last fall the Pilot Training Department experimented with the new concept in flight training called "Instrument First." In this program students learn to use flight instruments from the start before learning to fly by outside visual cues.

The program was possible due to the willingness of Director Henry Taylor and Pilot Training Head, Professor Omer Benn, to try a radical realignment in flight training, and the availability of Institute experience, staff, and equipment. The use of the Link GAT-1 and the Institute developed ILLIMAC (Illinois Micro Aviation Computer) flight simulators were invaluable to the program.

The one semester course took zero time students and trained them to private pilot and instrument rating levels of performance. The course included 58 hours of dual instruction in flight, 20.5 solo flight hours, and 34 hours in a flight simulator.

The student's cost for the program is $3432, which is the combined flight fee for AVI 101 and AVI 120. The program was partly supported by a grant from the Link Foundation and by additional aid from the Institute.

The Institute has recently received a proficiency based waiver from the FAA which will waive flight time requirements and allow students to progress at their own rate for flight ratings.

This semester the experimental course continues with some modifications and 13 students. The Program Director is Robert Kaiser, and the special ground school section for this course is taught by Rick Weinberg.

Pilot Training Weather Briefing System

Pilot Training has purchased an IBM AT computer and printer for use as an in-house pilot weather briefing system. The computer is being used to manage weather information that is transmitted to the Institute from Kansas City via a dedicated land line.

The most current weather information can now be accessed from computer memory on a regional, state, and individual station basis. The pilot can obtain a hard copy printout of all the information that he has requested.

Further development of the system will include computer enhancement of manually digitized radar maps and complete weather briefing for standardized routes of flights.
Regional Champion Flying Team

The Institute Flying Team returned from the National Intercolligate Flying Association's Regional Aermee held at Purdue University as Regional Champions. For the first time since 1981 the U of I Team beat Southern Illinois University for the title of Number One.

The Team took the Championship by a wide margin. They earned 252 points, Southern Illinois University was second with 141, Parks College was third with 112, Purdue was fourth, Lewis College was fifth, and Belleville Area College was sixth.

The Team competed in four flying events and four ground events. The flying events were Power-Off Accuracy Landings, Short-Field Accuracy Landings, Message Drop, and Simulator. The ground events were Flight Computer Accuracy, Aircraft Recognition, Simulated Comprehensive Aircraft Navigation (SCAN), and Pre-Flight Safety.

I've never seen our team work harder or perform better. I'm looking forward to the National Aermee this April.

The Team took first place overall in both categories, winning the Flying Events and Ground Events Team Championships. The Top Pilot, who won more points than any other competitor at the Aermee, was Illinois Team member Jon Grushkin. Every individual competitor on the U of I Team placed in his event or events at least once.

The Faculty Advisor for the Flying Team is Omer Benn, who is also Head of the Pilot Training Department. The Head Coach is Kim Strickland, a flight instructor at the Institute. Other coaches include: Gar Alldredge, Team Manager; Barry Gordon, Preflight; Bart Stine, Ground Events; Larry Tomko, Landings and Message Drop; Dave Zamiska, Simulator.

Says Head Coach Strickland, "I've never seen our team work harder or perform better. We have a top notch crew of competitors and coaches... I'm looking forward to what I hope will be a repeat performance at the National Aermee this April."

In winning the first place title, the Illinois Flying Team has earned the honor of competing in the National Aermee at Southern Illinois University in April.

U of I Flying Team members placed in the following events at the Fall 1986 Region Eight Aermee:

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<tr>
<th>Event</th>
<th>Winner</th>
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<tbody>
<tr>
<td>Top Pilot</td>
<td>Jon Grushkin</td>
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<tr>
<td>Power-off Accuracy Landings</td>
<td>Jeff Krause</td>
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<tr>
<td>Short-Field Accuracy Landings</td>
<td>Dan Lundquist</td>
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<td>Message Drop</td>
<td>Jon Grushkin</td>
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<td>Simulator</td>
<td>Jon Grushkin</td>
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<td>Computer Accuracy Event</td>
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<td>Aircraft Recognition</td>
<td>Jon Grushkin</td>
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<td>Pre-Flight Safety</td>
<td>Jon Grushkin</td>
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<tr>
<td>Simulated Comprehensive Aircraft Navigation (SCAN)</td>
<td>Jon Grushkin</td>
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Number One University of Illinois Flying Team. From left to right, John Conant, Jim Nelson, Phil Schaefer, Jim Ader, Dale Schiemann, Dan Lundquist, Jon Grushkin, Tim LaBuda, Sean O'Callaghan, Ed Rafacz, Jeff Krause, Bob Greves, Omer Benn (Faculty Advisor).
Flying Team at Texas Airmeet/SAFECON

The University of Illinois Flying Team returned April 20th from a successful National Flying Team competition. The National Intercollegiate Flying Association National Airmeet and SAFECON was held last year in Waco, Texas in April. The airmeet was hosted by Texas State Technical Institute.

The University of Illinois Flying Team took Third Place in the Judge's Trophy category, meaning the team accrued the third highest number of points in competition against 25 flying teams from across the country. Competition events include Accuracy Landings, Navigation, Message Drop, Instrument Proficiency, Pre-Flight Inspection, Aircraft Recognition, and Simulated Comprehensive Aircraft Navigation (SCAN).

Individual awards include Fourth Place in SCAN, won by University Flying Team member, Phil Schaefer, junior in Aviation; and Outstanding Team Member, won by University Flying Team Member Jim Nelson, senior in Aviation.

Institute Flight Students Turn Instructor for Summer

Seven current and former Institute flight students were flight instructors at Culver Military Academy in Culver, Indiana last summer. They are Patricia Cullen, senior in Commerce; Nathan Hoerr, junior in LAS; Vincent Lombardi, senior in Commerce; Laurence Tomko, junior in Aviation; Mark Trybek, senior in Commerce; William Watkins, sophomore in Aviation; and David Zmiska, junior in Aviation.

Culver Military Academy is a co-ed school for students age 13-18 which offers academic and recreational courses during the summer. The summer session is six weeks from mid-June to the beginning of August.

The flight instructors teach eight hours a day, seven days a week in two different shifts. In addition to a salary, the instructors are provided with room and board and access to the recreational facilities at the Academy.

There are about 100 flight students each summer, and each instructor has seven to ten students. Students each receive a minimum of 12 hours of flight time and can purchase additional flight time if they desire.

Advisory Council Holds Meetings

The Advisory Council for the Institute met three times during the past year. The first meeting was held November 1985, the second in May 1986, and the third in November 1986.

The Council is made up of alums of the Institute from a wide variety of fields related to aviation including airline pilots, general aviation pilots, and aircraft and space vehicle and component manufacturers.

The Council members previously advised only the Aircraft Systems Department, but they are now advising both Aircraft Systems and Pilot Training. Their duty is to suggest improvements in the Institute's curriculum as the field of aviation changes.

The Advisory Council will continue to meet twice a year, once in the fall and once in the spring, to suggest improvements and to give advice on how our curriculum can be made more effective.


Aircraft Systems

Curriculum Studies

The Institute Advisory Council has examined technological developments within the aerospace industry and the impact of these changes on curriculum. Activities during the three year study included an industry seminar, visits to manufacturers, and a literature search.

The results of this study were presented to Institute administration in the form of recommendations. The 1985 report was compiled by Ernest W. Culver, of Hughes Aircraft Company, (66), who recently succeeded L. B. Applegate as Council Chairman. Recommendations for action and preparation for a degree program were the focus of this report.

Director Henry Taylor assigned Dr. David DePue to investigate the feasibility of implementing the recommendations of the Council's report. A Steering Committee of Institute administration was appointed to provide direction to this work.

Steering Committee members are Omer Benn (Head of Pilot Training), Weldon Garrels (Head of Aircraft Systems), Tom Emanuel (Head of Academics), and Henry Taylor (Director).

Advisory Council Members for the 1983-1985 period were:

- L. B. Applegate
  Chairman Emeritus
- Ernest Culver '66
  Chairman
- Robert Chaber '66
- Larry Christ '61
- John Deloris '62
- Tom Helms '59
- Maurice Hovious '62
- Francis Hutchinson '53
- Kelvin Moeller '51
- Wally Rozes '51
- Clay Watters '73
- Lyle Wheeler '52
Student Teachers at Institute

Two Aviation and Education graduates have completed their student teaching at the Institute in Aircraft Systems. They successfully completed the student teaching requirement necessary for a bachelor's degree in Education under the combined supervision of Institute and Education faculty members.

Daniel Cadle ('84) taught AVI 159 (Aircraft Nondestructive Inspection) under Bill Geibel's supervision for eight weeks this spring. Dan started working at the Institute as a lab assistant in 1984. He received his private pilot license from the Institute. He is currently looking for a job in aviation.

Douglas Parsons ('85) taught AVI 147 (Introduction to Federal Aviation Regulations) under Paul Van Proyen's supervision this spring. He is also a part-time flight instructor for Pilot Training. Doug also started employment at the Institute as a lab assistant. He plans to look for a job as a pilot after graduation.

Aircraft Systems Field Trips

The Aircraft Systems Department traditionally hosts a biannual field trip to TWA and American Airlines at Chicago's O'Hare Airport. Last spring, the students took a trip to TWA's overhaul facility in Kansas City and King Radio in Olathe, Kansas instead of the usual trip to O'Hare.

Aircraft Systems instructor Glenn Sacco arranged the trips with students in AVI 169 and 170 (Aircraft Systems I and II).

Last fall's trip to O'Hare included an up close inspection of DC-9/MD-80's, 727's, DC-10's, 767's, and a taxi ride on a TWA 747. Mr. Jack Dusak, General Foreman of TWA-O'Hare makes it possible for for such tours to take place. When Glenn worked for TWA, he was supervised by Mr. Dusak, who was then shift supervisor.

At the TWA overhaul facility in Kansas City, the students saw 727's, 747's, L-1011's, and DC-9's in different stages of tear down. They viewed the accessory shops and support areas. They were also offered the treat of flying a full motion L-1011 flight simulator.

The students visited King Radio's main complex in Olathe, Kansas. They toured the customer repair, testing, component assembly, communication, navigation, and research and development areas.

Institute Secretary Awarded

Marian Armstrong, secretary to the Aircraft Systems Department at the Institute for the past 20 years, was one of eight nonacademic employees at the University to receive the Chancellor's Distinguished Nonacademic Staff Award this year. She was honored at a banquet in April.

Nominees were evaluated on work performance, a congenial and supportive attitude promoting morale, service to the University and the greater community, and initiative and creativity leading to improved efficiency or effectiveness of a work unit or the University as a whole. Since nominations were received for 125 employees, this was quite an honor for Mrs. Armstrong and for the Institute.

Mrs. Armstrong's nomination mentioned that she "strives for perfection in her work and encourages those around her to seek the highest standard for themselves." She worked with admissions for the Institute for 15 years and is always eager to help Institute students in any way she can.

ATEC Preparing Data Base on Curricula

Paul Van Proyen, Aircraft Systems instructor, is chairing a national committee for the Aviation Technician Education Council which is preparing a survey of all FAR Part 147 (Aviation Maintenance Technician) schools in the U.S. The survey is being done as part of a program to determine the type of content various schools offer in their A & P curricula.

Although the FAA regulates the content of these curricula, there is a definite difference in the way various schools fulfill these requirements.

Future plans to utilize the results of this series of surveys include the development of a national directory of all A & P schools. This directory would include such information as cost of these programs, placement percentage of graduates, type of equipment used at the schools to train students, highest degree offered, special courses offered in addition to basic required courses, and other information that might be of interest to prospective students and counselors.

Institute Open House

An Institute Open House for prospective students interested in the joint Parkland College/Institute of Aviation curriculum in Avionics was held in November.

The Open House provided an opportunity for prospective students to see Institute classrooms and labs and meet with instructors. A total of 26 interested people attended, from high school sophomores to adults looking for a change of career.

Five Institute faculty helped giving tours and answering questions. A faculty member from Parkland explained the first year of basic electricity courses which students can complete at most community colleges in the state.

With the continued support of Parkland College, we hope to make this Open House an annual event.

New Aircraft Systems Instructors

This past year Aircraft Systems has welcomed two new instructors, Jim Garland and Brad Eizinger.

Jim Garland has been teaching the electrical portion of the curriculum since August 1985. He is a graduate of Pittsburgh Institute of Aeronautics and received a bachelor's degree in Trade and Industrial Education from Savannah State College. He is currently working on a master's degree in Vocational Education at the U of I.

Jim worked for Japan Airlines in Anchorage, Alaska and for Gulfstream American at Savannah, Georgia. He previously taught at Williamsport Area Community College in Pennsylvania.

Brad Eizinger is the new Powerplant Systems II instructor. Brad has been at the Institute since 1984 when he was originally a graduate assistant.

Brad comes to us with six years experience teaching at Vincennes University, prior to which he spent five years with Lockheed Aircraft in Burbank, California as flight line supervisor. In addition to his powerplant and airframe license, he has a commercial pilot's license with instrument and multi-engine ratings.

Originally from Rochester, Indiana, Brad earned his bachelor's degree from Utah State University, his master's from Arizona State, and is currently working toward his doctorate in Vocational and Technical Education at the U of I.
The Students

Institute Graduates 24

Twenty-four men and women were awarded certificates of achievement from the Institute of Aviation last spring in a ceremony held in the Illini Union on May 10.

Tom Emanuel, Head of Academics, hosted the event, which was attended by approximately 140 friends, relatives, and staff members. Henry Taylor, Director, gave opening remarks for the evening. Guest speaker was Robert Chaber (66), Flight Engineer for United Airlines.

Several awards and scholarships were presented during the evening. Winners were Colin Handlon, PMC Award; Craig Bloemker, Woolman Award; Robert Nieman, Amity Award; Rian Alisjahbana, J.R. Mylin Award; Jamie Skoff, J.W. Stonecipher Award; Brad Fox, Harrier E. and Frank E. Hedrick Scholarship; and Scott Barzel, Olive Ann Beech Scholarship.

Graduates from the Combined Flight/Maintenance Curriculum are Joseph Johnson, Vincent Lombardi, Roger Lux, Glenn Smith, Mark Trybek, and James Vejr.


Graduates from the Professional Pilot Curriculum are Geoffrey Hodgson, Michael Schneider, and John Travnik.

Graduates from the Avionics Curriculum are Steven Bertram, and Doyle Shoot.

Record Institute Enrollment

The Institute's Fall 1986 enrollment totalled 208 students on the tenth day of class, when the official count is taken. This enrollment included 72 beginning freshmen, 23 transfer students, six re-admits, and is the largest enrollment in the history of the Institute, surpassing the previous all-time high of 196 students in the fall of 1980. Pilot Training enrollment was correspondingly quite high, too. There are 237 flight students enrolled in the fall semester.

Given the size of the Institute's fleet and facilities and the increase in applications, the Institute has been forced to be very selective in admitting new students. The mean ACT scores for our admitted students is 24, and the average high school class rank is in the top quarter. We are pleased to be able to offer admission to such a bright group of students.

Aerospace Internship

Two Institute students spent their summer in a very different and exciting environment. They served combined roles as counselor, tour guide, and workshop lecturer at U.S. Space Camp, a program of the Alabama Space and Rocket Center in Huntsville, Alabama.

Two Combined Flight/Maintenance students, Dan Eberhart and Dianne Haake spent their summer in a science environment.

Robert Amborski, one of last summer's interns and son of Aircraft Systems instructor Don Amborski, wrote an orientation manual for temporary summer employees and interns. Robert, an Institute Avionics student, interrupted his Institute studies to accept a full-time position with Space Camp. He is a supervisor of the counselor team.

U.S. Space Camp offers simulated astronaut training and space orientation activities. Programs are designed for students from junior high through college. The student workshops are one week in length, while adult and teacher workshops are weekend events. All programs are resident workshops and include dorm lodging that simulates space station living.

The motion picture Space Camp was filmed on site. Robert Amborski, while serving his student internship, assisted with the set preparation and appeared in several scenes.

Former Institute Student Receives Whirly-Girls Scholarship

Former Institute student and senior in Commerce, Catherine E. Rumsey, was awarded the Annual Doris Mullen Whirly-Girls Scholarship of $4000. The scholarship was presented at the 19th Annual Awards Dinner in January in Anaheim, California. Cathy has used her scholarship for helicopter training here at the Institute.

Cathy received her private pilot airplane license in 1982 and her powerplant license in 1984, both from the Institute. In 1984 she was named the outstanding team member of the University's Flying Team and won the 99's Women's Achievement Award Scholarship at the National Intercollegiate Flying Meet.

Whirly-Girls Scholarship Winner Cathy Rumsey in the Institute's Hille.
In Memorium

Thomas Bailey

Thomas Bailey, former Institute instructor, died September 7, 1985. Tom was a powerplant instructor in the Maintenance Training Curriculum. He later moved to Kenosha, Wisconsin, and became head of the aircraft training department at Kenosha Technical Institute. He retired a few years ago and moved to Milton, New York. Surviving are his wife Lila, a daughter, and a son.

James Brian Gaskins

James Brian Gaskins (’85) was killed April 6, 1986 when an automobile hit him on his motorcyle.

Jim had been working as an aircraft mechanic for Brittt Airlines in Terre Haute, Indiana. He was a Spring 1985 graduate, with honors, from the Aircraft Systems curriculum.

Jim is remembered as a quiet, hard working student. His scholarship earned him the Professor L. B. Applegate Award as outstanding freshman, and the Woolman Award as outstanding graduate. Jim was the only student to earn both honors.

He had worked at the Institute as a lab assistant. After graduation he obtained employment with Brittt first in Champaign as a ground crew member, then transferred to Terre Haute as a mechanic.

On The Alumni Trail

Robert A. Chaber

Robert Chaber is a member of the Institute Advisory Council with a variety of experiences. He graduated from the Institute’s Flight/Maintenance Curriculum in 1966, and went on to complete a degree in Advertising. He enjoyed the electives in Journalism and Radio-TV and he was a disc jockey on a local radio station for a while. He was also a lab assistant while a student at the University.

After completing his degree, Bob was hired by United Airlines. He was one of the last hired during the major hiring surge in the late ’60’s. He eventually used his seniority to move to the West Coast and to have his choice of schedules. He currently flies B-727’s as a Flight Engineer. He could give up his choice of schedules, and move east, and become a co-pilot, but he says it is nice to be senior on any list in the West.

Bob served in the California Army National Guard as a helicopter mechanic, and later transferred to the U.S. Coast Guard Reserve as an aircraft mechanic.

He has kept up his general aviation interest and has been an active EAA member and a Flight Instructor. In 1979 he bought a 1948 Stinson 108-3. He says that everything he learned at the Institute was required to keep this classic airworthy.

Because Bob realizes that an airline pilot’s job is a fragile one, he also invests in real estate in Champaign-Urbana. By trial-and-error, he has learned enough to ease into a second career if it would become necessary. Bob says the Institute taught him how to learn, and how to persevere, and how to go after whatever knowledge he might need.

Most recently Bob has been involved in labor union activities because competition in aviation has become fierce. He says his activities revolved around writing and speaking to workers who have had to strike against their employer. He tries to help the individual to build self-confidence and self-worth, just as, he says, the Institute helped him to do as a student in 1960’s. Bob now lives at 471 Fifth Street West, Sonoma, CA 95476.

1948

Keith R. Jordan received his private pilot’s license at the Institute in 1948. He is now retired, but formerly worked as the Director of Manufacturing at J. T. Baker Chemical Company. He and his wife Gloria reside at 1713 Lonoke, Mountain Home AR 72653.

1952

Ronald S. Geiler, who finished his flight courses at the Institute and a B.S. in Electrical Engineering in 1952, is living in New York. He is a Line Captain in the F-28 for Empire Airlines, now owned by Piedmont. He works at Oneida County Airport, and until 1975 had worked 25 years as an electrical engineer in Avionics. He is living at 4762 Broad Road, Syracuse NY 13215.

1959

John H. Chretzberg is self employed as a real estate broker dealing in commercial, investment, and residential real estate. Before retiring from the Air Force in 1986 he flew the F-4, F-84, T-33, T-28, and numerous helicopters. He and his wife Virginia reside at 7603 Grove Crest Circle, Austin TX 78736.

1961

Tom W. Helms is a B-727 captain and a captain check airman for Eastern Airlines. He has been flying for Eastern for the past 24 years. He and his wife Caroylin live at 1876 North Vail, Arlington Heights IL 60004.

Larry Crist is the owner of Crist Company in Georgia, a manufacturer of packaging machinery. He received his private and instrument ratings at the Institute. He and his wife Norma reside at 3517 Jefferson Township Parkway, Marietta GA 30188.
1962
Richard A. Werner is currently a Vice President for L.O.R., Inc. in Houston. He is in charge of sales, service, and operation of downhole drilling equipment for the oil, gas, and mining industries. He lives at 4720 Casnel Circle, Houston TX 77069.

1964
John DeJoris is the president and owner of Aircraft Propeller Service, Inc., a general aviation rebuilding and distribution facility for aircraft propeller systems. He recently reconditioned two props for the Institute. He and his wife Erna and their two children live at 1585 Steeplechase Court, Green Oaks IL 60048.

1966
Ernest W. Culver, manager of the corporate marketing district (Boston District) for Hughes Aircraft Company, is also the chairman of the Institute Advisory Council. He and his wife Carol have three children: Anita, 13; Sheri, 11; and Ernest, 7.

Robert Walberg took flight courses at the Institute and received his degree in Agriculture in the 1960's. He was an instructor at the Institute from 1966 to 1968. He is currently a TWA Captain on the DC-9's and also farms 900 acres of corn and beans. His daughter Julie is a beginning freshman at the Institute this year. The Walbergs live at 12000 Russellville, Belvidere IL 61008.

1969
Stephen C. Fisher is a graduate of the Flight/Maintenance Curriculum at the Institute, and received his B.S. in transportation technology at Western Michigan University. He is a captain for Zantop International Airlines. He and his wife Janice and their two children live at 2808 Yost Blvd., Ann Arbor MI 48104.

1970
Leslie E. Kimmel, who finished the Flight/Maintenance Curriculum in 1970, is working as a First Officer for United Airlines. He also uses his aviation training to perform some maintenance on general aviation aircraft. He received his B.S. in Industrial Education in 1972. He and his wife Brenda have two children, Tami and Chad. They live at 237 St. Andrews Drive, Bolingbrook IL 60449.

1971
Robert Bedows, a graduate of the Flight/Maintenance Curriculum, worked at the Institute as a flight and ground school instructor and a SATS pilot from 1971-1979. He is now a first officer for TWA. He lives at 601 East Illinois Street, Urbana IL 61801.

Gary Mack received his private pilot license from the Institute in 1971 and a B.S. from the University in 1974. He is the press secretary for Illinois Secretary of State, Jim Edgar. He and his wife Rena and their two children live in Springfield.

1973
Bill Allyn received his private, commercial and CFI licenses from the Institute as a B.S. in Electrical Engineering from the University. He worked as a simulation lab research associate at the Institute until 1973, and then flew for the Navy for six years. He is currently a copilot for Alaska Airlines. He remains in the Navy reserves as a lieutenant commander. His wife Debi and their two daughters are living in Maple Valley, Washington. They especially enjoy living in the Pacific Northwest.

Clayton J. Watters is employed as a captain for Continental Airlines on their MD-80's and DC-9's. He resides at 2911 Sycamore Springs Drive #307, Kingswood TX 77339.

1974
Mark A. Ameel, a graduate of the Combined Flight/Maintenance Curriculum, is currently flying for TWA.

1976
Carl F. Ziegel now works in maintenance for Northwest Orient Airlines. He resides at 14094 N. Hyde Avenue, Huga MN 55037.

1978
Anthony M. Binkis is currently employed with Continental Airlines in Tampa/St. Petersburg, Florida as an A&P mechanic. He previously worked for Continental in Houston. He has also worked for Braniff in Dallas and Transamerica Airlines in California. He has continued his education by obtaining his FCC General Class Radiotelephone ticket with radar endorsements.

Donald A. Helms is now a first officer for United Airlines, flying their Boeing 767's at O'Hare Airport. He and his wife Linda and their three children live at 2308 Aloha Drive, McHenry IL 60050.

Gary Steven Moffett is working for DuPage Aviation Corporation in West Chicago, Illinois. He is a service manager.

Kenneth Weber is currently pursuing a degree in aeronautical engineering on a part-time basis. He worked for Republic Airlines as a mechanic for six years, and is now a line maintenance representative for Airborne Express. He and his wife Ann live at 1309 South 27th Street, Phoenix AZ 85034.

1979
Paul A. Metzger has been flying with COMAIR, a regional airline based in Cincinnati, since 1984. He was upgraded to Captain in the Saab Fairchild SF-340 prop jet last February. The SF-340 uses the Electronic Flight Instrument System found in the 757 and 767. His advice to recent graduates: You can have a flying career if you want it.

1980
Kimberly K. Albinger who graduated from the Professional Pilot Curriculum has been flying DC-9's for the Air Force. She has recently returned from the Philippines.

Jon V. Cabanban completed the Flight/Maintenance Curriculum at the Institute and now flies as a first officer for Brit Airways. He and his wife Nancy reside at 2202 Rainbow Avenue #12, Bloomington IL 61701.

Terri Chevalier, who received her flight training from the Institute, flies King Airs as a charter pilot based in Santa Ana, California. Terri was married this past spring.
1981

Brian Conway who completed the Flight/Maintenance Curriculum at the Institute is now a first officer for Simmons Airlines based in O'Hare. He lives at 656 Greenview, Lake Forest IL 60045.

Kenneth L. Thulin is now employed by Joseph P. Ryerson & Sons (a subsidiary of Inland Steel) as a salesman for the company. The knowledge he gained about metals at the Institute help him with his job today. He says that he would like to see more Institute graduates apply for employment with his company. His address is 3817 Sage Drive #D, Rockford IL 61111.

1982

Robert J. Krist completed a B.S. in Aviation Maintenance Management at Lewis University after completing the Flight/Maintenance Curriculum at the Institute. He is an A&P mechanic for United Airlines. He is having a house built in Schaumburg, Illinois, and making use of his airline travel benefits.

Thomas L. Ritzert received his A&P and private pilot from the Institute, and was a lab assistant during his time here. He works for Boeing Commercial Aircraft Company as an industrial engineer in tooling fabrication. He is working on projects related to all Boeing aircraft, including the new aircraft scheduled for 1992. He lives at 23811 111th Place, S.E. N-11, Kent WA 98031.

1983

Paul A. Garber returned to the Institute for a visit with his new lieutenant’s bars and Air Force wings. He was a 1983 member of the Flying Team. He is currently flying the AF Air Evac DC-9 medical aircraft out of Scott AFB.

1984

Peter A. Helms is currently a charter captain and airplane co-pilot for Alliance Airlines in Wisconsin. After completing the Flight/Maintenance Curriculum at the Institute, he received his B.S. in Industrial Technology at Illinois State University. He was employed as a flight instructor at the Institute in 1984. His home address is 1826 North Vail, Arlington Heights IL 60004.

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Name ___________________________ S.S. # __________

Spouse’s name (if an alumnus) ___________________________

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Address ___________________________ ___________________________

College and dept. ___________________________ College yr. __________
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Home Address ___________________________ City ___________________________

State ___________________________ Zip Code ___________________________ Phone (_______)

Check here if this is a new address ______

Company Affiliation ___________________________

Primary Responsibilities ___________________________

Recent Promotion or Change in Employment Status ___________________________

Your aviation training at the Institute ___________________________ Year Completed

Degree ___________________________ Year ______ Where ___________________________

Former Institute Employee? ______ In what capacity? ___________________________

Names and ages of children ___________________________

Alumni News (include photos, press clippings, etc.; use extra sheet if necessary). ___________________________

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