

SECRETARY MINETA VISITS CENTER



On August 23 the Technical Center had the honor of a visit from U.S. Transportation Secretary, Norman Y. Mineta. Admiral Thomas H. Collins, Commandant of the U.S. Coast Guard; U.S. Representative Frank A. LoBiondo; and other Washington dignitaries accompanied the Secretary.

Secretary Mineta maintained a hectic schedule from the time his aircraft landed at the U.S. Coast Guard ramp until his departure at the end of the day. The primary reason for his visit was to review the resources being used to design, produce, and implement security technology, and to examine the procedures and detection systems that uncover potential vulnerabilities in air travel.

The Secretary spent a large part of the day touring the Transportation Security Labs and viewing demonstrations of modular bomb sets, explosive detection systems, trace detection systems, walk-through portals, and the Threat Image Projection and

X-Ray systems. A team of Federal Air Marshals also conducted a display of their handgun skills for him at the linear weapons range and the shoot house.

Secretary Mineta participated in a media press conference at which reporters had a rare opportunity to witness a mock-terrorist threat simulation aboard a L-1011 jet housed on the Tech Center for training purposes.

Dr. Anne Harlan presented an overview of the Integrated Security Solutions strategies at the Tech Center to the group of VIPs during their lunch break.

Later that afternoon Center employees participated in a "Town Hall" meeting held in the Atrium at which the Secretary expressed his admiration and appreciation for the work and dedication of federal employees. His remarks focused upon the new era of transportation that has evolved since September 11, 2001. He commented how "the basic freedom of mobility had been challenged on that day and that the work being done at the Tech Center certainly stands out in America's efforts to shape the future of aviation".



A HEALTHY HEALTH FAIR

The Office of Aviation Medicine held a Health Fair in the atrium on August 8. The Fair offered hearing checks, vision screenings, body fat analysis, and much more. If you missed it, then you missed a great opportunity to converse with a nurse and obtain valuable literature to help keep you healthy!

The pictures provide a glimpse of A Healthy Health Fair. Are you in the picture - if not, we hope to see you at the next one!



INTERNS GET THE GRAND TOUR

Students from the FAA’s Minority Serving Institutions Internship Program had the opportunity to learn about the Tech Center and its unique research efforts in August. **Carole Bralski** and **Ginger Cairnes** from the Communication Staff’s Visitors Program provided a tour of the center to 35 college students and 6 staff personnel.

The students and staff visited various facilities and laboratories and received briefings on the Airway Facilities Integration Lab (AFTIL), Integrated Terminal Weather System (ITWS), Weather and Radar Processor (WARP), Full Scale Fire Test Facility, the National Pavement Test Facility, and the High Performance Research Vehicle from Center managers and technical program leads.



4TH WORKSHOP ON RISK ANALYSIS AND SAFETY PERFORMANCE MEASUREMENT

Over 150 attendees from Europe and North America participated in the 4th Annual Workshop on Risk Analysis and Safety Performance Measurement in Aviation, August 27-29, 2002, at the Tropicana Hotel Casino and Resort in Atlantic City, NJ. Representatives from FAA, NASA, military personnel, the airline industry and academia gathered to exchange approaches, models, and methodologies among government organizations, air carriers and air operators.

Some of the companies represented were Air Line Pilots Association, Battelle Corp, The Boeing Company, RICOMM, and Spherion Technology. Speakers presented different approaches to risk management and safety performance measurements from a training, maintenance, security, and operations perspective.

Herman Rediess, Director, Office of Aviation Research, provided the welcome address and spoke briefly about Risk Analysis and Risk Management and the importance of these workshops. Dr. Rediess commented that clearly safety "knows no national boundaries. Aviation safety is a global responsibility." He continued "air transportation is by far the



safest mode of transportation and vital to our economic and social well being." He emphasized that "we must maintain our high level of safety as travel demand and the number of aircraft operations increase."

The workshop addressed three major areas: Risk Analysis; Risk Management; and Risk Assessment. Ali Mosleh, Professor and Director of the Reliability Engineering Program and Co-Director of the Center for Technology Risk Studies at the University of discussed risk analysis as a technical discipline and described the elements of quantitative risk assessment.

Steve Smith, FAA Office of Systems Safety discussed the concept of Safety Management Systems and explained FAA Order 8040.4, Safety Risk Management.

Daniel P. Schrage, Professor at Georgia Institute of Technology and Director of the Center for

Aerospace Systems Analysis, spoke about a systems approach to systems safety risk assessment.

The Keynote Speaker, Robert Helmreich, Psychology Department, University of Texas at Austin presented the work he and his team are conducting related to the Line

Operations Safety Audit (LOSA). His team has been analyzing normal line operations using LOSA that offers a systemic and non-punitive assessment of everyday operational flights by trained observers.

During the industry session, speakers from Northwest Airlines, Alaska Airlines, TWA LLC, PSA, and Delta with contributions from academe and supporting contractors provided their corporate perspectives on risk analysis/manage-



ment programs in the areas of training, operations, security, and maintenance.

The second day of the workshop opened with a session on the Military Perspective. A representative from the Navy discussed the Operational Risk Management program and also gave a brief discussion of the Marine Corp's Risk Assessment program. The Army representative from the U.S. Army Safety Center presented the Army's approach to Risk management. A brief presentation on a program being developed for DOT, Boeing, and DOE that can be used to analyze mishap data was also provided.

Breakout sessions were conducted during the second half of the day. Attendees were able to participate in 3 of 5 possible breakout sessions, training, operations, maintenance, security, and Systems Approach to System Safety Risk Assessment.

The last day of the workshop

had FAA speakers providing an update on ongoing research efforts. Don Arendt (AFS-900) and **Kathy Fazen** (AAR-490) provided a brief overview of the Risk Management Decision Support research initiative. The goal of this research initiative is to make the FAA/Flight Standards oversight more systematic, effective, efficient, and targeted to deal with identified risks through reengineering the current oversight system with a particular emphasis on the integrity of the oversight system.

That afternoon opened with NASA researchers discussing their efforts at NASA Ames, i.e., Risk Assessment in Aviation System Monitoring and Modeling and at Rutgers University, i.e., Probabilistic Decision Support to Evaluate Technology Insertion.

The workshop concluded with an international perspective to Risk Assessment. Speakers from the Netherlands Civil Aviation Authority and the National

Aerospace Lab (NLR) of the Netherlands provided briefings on improvements to the oversight process and determining aviation safety targets for effective regulations, respectively. A representative from the Det Norske Veritas, a company headquartered in Norway, presented a causal modeling of aviation safety.

All the sessions were well received and provided the attendees a chance to hear many different viewpoints related to risk analysis, risk management, and risk assessment. The conference also afforded them several opportunities to network. The attendees expressed many favorable comments and indicated their eagerness to attend next year.

The workshop was sponsored by the FAA's Airport and Aircraft Safety R&D Division/Risk Analysis Branch (AAR-490) and NASA's Langley Research Center.



A SAFETY MINUTE FROM THE SAFETY OFFICE ENVIRONMENTAL GROUP (ACX-42)

A Towering Success: Fall Protection Training



Have you ever been to a training class where the training content took you to new heights in understanding, and yet at the end of the day you found yourself let



down by the instruction? While such a training class on the surface sounds like it was ineffective, for the folks in AOS-260 and 270 nothing could be farther from the truth. In fact, such a characterization of the class is exactly what AOS personnel recently went through during a three-day class in Fall Protection Techniques.

While there were literally highs and lows during the three-day class everyone agreed the training was "a towering success". The purpose of the training was to ensure that AOS personnel could safely climb FAA towers to perform the duties of maintenance and inspection.

As you might expect such training requires experienced instructors and specialized equipment. For these reasons the Technical Center obtained the services of Gravitec Systems who offer specialized training in tower climbing.

The photos illustrate that with Gravitec's expert instruction all AOS participants were able to successfully climb using the proper techniques and safety gear. For many of the participants the training provided a whole new outlook on Fall Protection!



**Don't be left hanging -
Make safety part of your
day**





Combined Federal Campaign
**PERRY D. COPP
GOLF TOURNAMENT**

*October 24, 12 noon
Mays Landing Country Club*

Cost \$85.00 per golfer includes:

*Golf with cart, Range balls,
Souvenir photo, a hot dog lunch, and
fabulous Barbeque 5:00 pm*

Format is four-person scramble

*Prizes for 1st, & 2nd place
Closest to the Pin*

Longest Drive

50/50 & Door Prizes

Barbeque for non-golfers \$12.

CONTACT:

Tom Christian, AGF-10, 5-6182

Bud Kantlin, AOS-300, 5-4981

Dave Maslanka, AGX-10, 5-6402

FIRST JOINT COE/ACE CAMP

The FAA's Center of Excellence for General Aviation (COE-GA) partner, Florida A&M University (FAMU), successfully hosted the first joint COE and Aviation Career Education (ACE) Camp in Tallahassee, FL, during the last week of June. In the COE spirit of sharing costs through partnerships, FAMU and the FAA's Airport and Aircraft Safety R&D Division (AAR-400) jointly funded the week long course. COE industry partner, The Boeing Company, also provided matching funds, as well as other assistance. This joint effort enabled FAMU to offer a scholarship to each student.

Dr. **Ron Lofaro** (AAR-400) who provides on-site FAA assistance to FAMU, maintaining AAR-400's commitment to support the University in developing aviation curricula and aviation safety R&D capabilities, worked closely with COE-GA Co-Director, Dr. V. Raju, to develop this outreach initiative.

In addition to coordinating field trips and planning the basic camp program, Dr. Raju led an extensive recruitment effort throughout the state of Florida and into Georgia, primarily at aviation magnet schools. This resulted in another COE/ACE first, an all-female aviation camp for minority high school seniors. The FAMU camp now serves as a model for other COE/ACE camps and provides lessons learned to facilitate future efforts throughout the national COE network. It also serves to help FAMU

recruit high school students into their new aviation program.

The COE/ACE camp concept at FAMU was designed to familiarize minority students with aviation related areas of study at the University and potential employment opportunities in the field. Specific FAA ACE objectives are to develop awareness of the role of aviation in history, to discuss the airplane, identify parts and the principles by which it flies, to encourage students to explore career opportunities in the field of aviation, and to help students understand the role of government as it relates to aviation and overall socioeconomic benefits of aviation in their lives.

The camp agenda included field trips to the Naval Air Station and the Naval Aviation Museum in Pensacola, the Tallahassee, GA, flightline operation, the FAMU-Florida State University Magnetics Lab - a part of the joint School of Engineering, and an avionics firm in Tampa.

The camps participants also developed individual and group projects and worked on a case study. The individual projects

involved researching a major corporation and preparing a powerpoint presentation that included the history of the company, a brief description of the major products and areas of business, and employment opportunities.

During an evening session, students presented their findings to Dr. Raju and Dr. **Patricia Watts** (AAR-400 FAA's COE Program Director) who served as evaluators, and to other FAMU faculty members. Two top students were recognized for their superior work.

FAA speakers included Southern Region representative, Art Eikenberg, the Tallahassee regional airport Air Traffic Control Tower Chief, and AAR-400 representatives Gary Frings, Ron Lofaro, and Patricia Watts. The students engaged in open discussions with faculty and FAA personnel following the presentations. All in all, it was a busy and productive week for both the students and those working with them.

Planning for COE/ACE camp programs for next summer are in progress with other Centers of Excellence partners and a FAA team comprised of the COE

Program Office, FAA Headquarters, FAA Alaska, New England and Central Region representatives. Discussions are also taking place to coordinate the activities next year with the DOT Summer Transportation Institute.



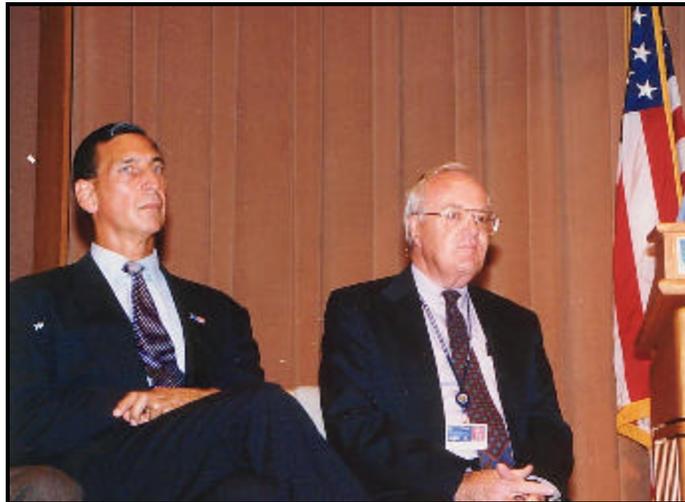
CENTER HOSTS ACE CAMP

While AAR-400 worked with FAMU to host an ACE camp in Florida, the Tech Center hosted such a camp locally. ACE camps around the country are dedicated to educating young adults that have a career interest in the field of aviation. By the end of any week-long camp, students come to know and understand how the air transportation system works, as well as about aviation careers available to them.

At the Center, the camp has been run as a partnership between the FAA Aviation Education Program and NBCFAE, host institution Richard Stockton College, Experimental Aircraft Association (EAA) Chapter 287, local businesses, and other aviation organizations.

The Tech Center divided its camp into a series of segments. Introductions were made on Monday, and a number of speakers presented overviews of how the air traffic control system works, including taxiway operations, navigational aids, and air route structures. Tours of the Center took place in the afternoon.

Tuesday was "Rocket Day" with Jerry Iacona (New Jersey Aviation Education Council (NJAECE)) and Stan Troyano (Civil Air Patrol). They presented a short history of rockets, gave each student a rocket kit to build, instructed them on the safety aspect of fly-



ing rockets, and provided a huge amount of pertinent information. The students toured the Full-Scale Fire Test facility during the afternoon session on Tuesday.

On Wednesday, the entire group traveled by bus to Northeast Philadelphia Airport. The Black Pilots of America, who have a chapter that meets at the airport, welcomed the group. The students also met with the manager of "Signature Aviation" one of the longest-running fixed based operators (FBO) in the nation. A tour of the "Quaker City Institute of Aviation" facilities rounded out the morning activities.

They spent the afternoon at the Philadelphia International Air Traffic Control Tower. James Palmer and John Greene helped the students understand

the TRACON's responsibilities. Eric Kirner explained the tower controllers' responsibilities. Luis Santos provided information on the computers and machinery that runs the entire system.

On Thursday, the students went to Cape May-Wildwood Airport for a plane ride. Lunch was an outside picnic at the Naval Air Station

museum along with a tour of the facility. Thursday afternoon the students received their last lesson in navigation, charts (maps), clearances and a pilot's perspective, given by Barbara Para with lots of help from Rachier Brown, a Tech Center intern.

On Friday, the ACE campers visited the 177th Fighter Wing Air National Guard facilities, and then, in the afternoon, graduated. Congressman Frank LoBiondo, Bruce Singer, and John Wiley provided remarks at the graduation ceremony. Each student received a plaque, T-shirt, ACE patch, Gate To Gate CD-Rom, and a group picture.



CAPTAIN RAY MILLER RETIRES FROM USCG



Captain Ray Miller retired from the U.S. Coast Guard in a ceremony that was held at the Tech Center on August 14. Miller was the head of all Coast Guard search and rescue operations (SAR) at Coast Guard headquarters in Washington, DC, at the time of his retirement. After a distinguished career that included twenty-six years of service in the Coast Guard, the Coast Guard was happy to oblige his request to spend his last duty day in the field, not behind his desk in Washington.

Rear Admiral Robert Olsen was joined by Captain Robert Durfey, who heads up the Coast Guard Group Air Station - Atlantic City, in presenting Captain Miller with a Certificate of Meritorious Service. Captain Miller's wife and Captain Durfey's wife, plus several dozen Coast Guard officers, including distinguished guests from the Coast Guard's District

staff, were on hand to celebrate Captain Miller's many years of service to the nation.

Before presenting the certificate, Admiral Olsen asked Captain Miller to talk about his career for those in attendance. Miller explained that he graduated from Officer Candidate School in 1978, and took flight school training in Pensacola. His first and final duty stations were at Coast Guard headquarters in Washington, DC, but he also worked in San Francisco, Port Angeles, Miami and Savannah, Georgia (the latter as Commanding Officer).

He spoke about the importance of loyalty to those assembled. "Loyalty isn't about position and power. It's about caring for each other."

He went on say that; "Success in the Coast Guard is about the sense of team."

The Coast Guard is America's oldest maritime service. Its history is complex because five agencies were combined to form the Coast Guard -- the Revenue Cutter Service, the Lighthouse Service, the Steamboat Inspection Service, the Bureau of Navigation and the Life-Saving Service.

Originally independent agencies, but with often overlapping authorities, the agencies were shuffled around the government until they were finally united as a single Coast Guard with multiple missions and responsibilities, including search and rescue. The Coast Guard's Office of Search and Rescue today carries on many of the same duties as the former Life-Saving Service, plus many new ones, and Captain Miller retired as the chief of the Office of Search and Rescue, United States Coast Guard.



REMEMBERING SEPTEMBER 11, 2001

"We join the President and all Americans in spirit as we honor the thousands of victims -- and the thousands of heroes -- of September 11." This was the opening statement expressed by Director **Anne Harlan** at a Memorial

Service on the first anniversary of the September 11 terrorist attacks.

Anne delivered brief remarks, mentioning that we were joining the President in spirit as he traveled, on that same day, to the disaster sites in northern Virginia, eastern Pennsylvania and New York City.

As Anne and Deputy Director **Bruce Singer** welcomed Center employees and the children of the Tech Center's day care program to the Service in the atrium, **Viola Gray** and **Michelle Tennant-**



Marcucci sang memorable renditions of "America the Beautiful" and "God Bless America." The children assembled in front of the stage for the recitation of the Pledge of Allegiance and to listen to Anne express a special act of courage.

Anne spoke about **Mattie Stepanek**, a youngster from Upper Marlboro, MD, who has written three outstanding books of poetry. **Mattie** has a rare form of muscular dystrophy and, based on his own life experiences, likes to speak of

patience, love and acceptance in his writing. She read his poem entitled, "For Our World," which **Stepanek** wrote after the events of September 11. "In so many ways we are the same. Our differences are unique treasures.

We have, we are, a mosaic of gifts to nurture, to offer, to accept," he wrote. He ends this poem by admonishing all to, "Pray, differently, yet together, before there is no earth, no life, No chance for peace." With that, **Anne Harlan** invited Center employees to pray silently, differently yet together for the victims and heroes of September 11, 2001.

This and other poetry can be found in **Mattie Stepanek's** book, "Hope through Heartsongs."



SHAPING NANOTECHNOLOGY'S FUTURE

The American Institute of Aeronautics and Astronautics (AIAA) NANOTECH 2002 Conference entitled, "At the Edge of Revolution" recently brought together a small group of technical and managerial individuals interested in long-range planning for the technological revolution.

Nanotechnology applications are beginning to migrate from academic, corporate, and government laboratories into real-world applications. Two professional society members from the Tech Center participated in this discussion by delivering papers on the future of nanotechnology. **Catherine Jaggard**, member AIAA, spoke on the managerial challenges of the future technological revolution, while **George Chachis**, member IEEE-Computer Society, spoke on biologically-inspired software architectures for nanosensors based on mobile robotics research.

How Small is Nano?

Technically a nanometer is one-billionth of a meter. However, practically the term nano today covers devices from true Nano-Electrical Mechanical (NEM) up to MicroElectrical Mechanical (MEM) devices. This is according to NANOTECH 2002 opening speaker James Marday, who is with the National Nanotechnology Initiative of the National Science Foundation. Marday characterized nanoscale science and engineering as the ability to work at the molecular level to create larger devices

with new properties and functions. For example, several Federal agencies are currently exploring the future use of nanotechnology as sensors for explosives detection. Nanoscale sensors may well prove to be more sensitive and reliable than current systems. Federal investment in nanotechnology including all civilian and military agencies is expected to increase by 17% in the next fiscal year over fiscal year 2002.

No U.S. Edge This Time

Several of the lead speakers at NANOTECH 2002 warned that the U.S. will not have the technological advantage it has enjoyed since the Second World War. Europe and Japan are not the only technological competitors. China has made a significant national commitment to nanotechnology for both long-term and short-term military and civilian applications.

The Houston event included a group of researchers from Tsinghua University led by Haiyun Zhang that presented a paper titled, "The GPS Receiver for Micro/Nano-satellites," demonstrating the applied nature of such research in China. The nanoscale components of the MEM-sized Global Positioning Satellite (GPS) receiver were based largely on commercial off-the-shelf (COTS) components.

How Executives Commit to Nano Projects

Catherine Jaggard, a senior Software Engineer/Project

Manager with Hi-Tec Systems, reminded NANOTECH 2002 attendees that R&D eventually bumps up against a business plan. The nanotechnology that emerges from the lab needs to meet cost criteria to make it in the real world, Jaggard cautions in her paper, "Nanotech Cost Impact to the Community."

Interviews with managers at three different companies suggests that disjoints often exist between different levels of management over the relationship of R&D to the organization's mission. Thus, the role of the executive in project selection and an appropriate performance management system is vital for a nanotechnology project to succeed. Jaggard suggested that a recent business analysis technique called "Balanced Scorecard" may help improve communications among the different levels of management.

Software Patterns from Nature

George Chachis, a software project manager with Titan Systems Corporation, suggested that nanotechnology software architects may find it useful to borrow software patterns and paradigms from mobile roboticists. In his paper, "Nanosoftware: All for One or One for All?," Chachis explored mobile roboticist Pierre Arnaud's proposed taxonomy of collective behavior for mobile robots that is based on some 20 years of robotics research.

Coordinating nanosensors or

nanobots (nano robots) requires selecting the correct organization for the defined mission. Sometimes self-organization such as a swarm is appropriate but other times a smaller pattern such as a flock is more effective. Chachis suggested that such coordination strategies will also require new data fusion and data mining

methodologies to make sense of the quantity of information gathering by multitudes of nanodevices.

NASA Shows Its Nano Next Month

The next major conference interfacing government, academia, and industry leaders in nanotechnology will be the Global Nano

Conference at NASA Training Center, Moffett Field, CA, October 17-18. The first day is entitled, "Mining Nano & Bio Technologies at NASA-Ames." The second day is, "Nano Investing & Partnering Opportunities II." More details about this and future nanotechnology events can be found at www.nanoSIG.org.

A SEMINAR THAT SAVES LIVES

The National Rifle Association's "Refuse to Be a Victim" crime prevention seminar was held October 2, at the Department of Transportation in Washington, DC.

"Refuse to Be a Victim" seminars promote awareness and prevention of criminal confrontations. Seminar topics included home, automobile, phone, technological, travel, and personal security. Seminar participants were presented with a variety of common sense crime prevention and personal safety strategies and devices they may integrate into their daily lives. This seminar was a half-day event open to the general public.

"Refuse to Be a Victim" was developed in 1993 in response to requests from women nationwide for crime prevention seminars. In 1997, the program became co-ed.

With over 1,000 instructors nationwide, seminars have been presented in 50 states and the District of Columbia. More than 26,000 men and women have benefited from the program's life saving message.

NRA Executive Director of General Operations, Craig Sandler said, "Without the active involvement of exceptional members of the law enforcement community, NRA programs could not reach as many individuals at the local com-

munity level."

The program has been endorsed by members of the law enforcement community nationwide, such as Sheriff Howard Sellers of Aiken County, South Carolina who said, "It encourages people to think through risky situations...and it inspires confidence in that they know how to enter a situation, assess the risks and have tools at their disposal to deal with it properly."

For more information on this and other crime prevention programs call 485-7713 or email Thomas.jerdan@faa.gov.

FAA's VOICE

The VOICE web site offers FAA and other aviation related information that will keep you current on the latest happenings. To get to the VOICE site, use one of these addresses:
<http://voice.faa.gov> or
<http://intranet.faa.gov/voice>

Also, check out VOICELive, a "Larry King type" interview show hosted by Jerry Lavey (AOA Highlights.) You can find archived VOICELive programs at <http://videoontheweb.faa.gov>. Past shows have featured Jane Garvey, Peggy Gilligan, Bill Peacock, and

a host of others.

And, don't forget to call the VOICE Toll-Free Number at 1-877-888-4325 to get the latest FAA information. The message is updated weekly on Wednesdays.

Remember - VOICE puts information at your fingertips!

2002 AGING AIRCRAFT CONFERENCE

The 6th Joint FAA-DoD-NASA Conference on Aging Aircraft convened September 16-19, in San Francisco, CA. It brought together leaders of government, academe, industry and representatives of the commercial aviation community.

This conference is designed to address issues and disseminate information on the airworthiness and sustainability of aging aircraft. The conference marked the first



time that panel discussions were a part of the concurrent and poster session format. This year the issues raised were aging structures, aging systems, economics of aging aircraft, and research & development efforts for aging aircraft.

Speakers and participants analyzed emerging issues and discussed solutions to the age-related problems. This event, which boasted over 800 participants, was a great opportunity to interact with our colleagues in research and to strengthen our partnerships, while embracing our on-going commitment to the aviation community.

Among the many distin-



guished speakers were: Brig. Gen. Rosanne Bailey, director of the Aeronautical Enterprise Program Office, Wright-Patterson Air Force Base; Col. Michael R. Carpenter, Chief of the Aging Aircraft Division, Wright-Patterson AFB; Peggy Dado, vice president, Engineering and Technical Support, United Airlines; John J. Goglia, NTSB; Nicholas Sabatini, FAA Associate Administrator for Regulation and Certification; Lawrence N. Slate, Chief Engineer for San Francisco and Oakland Engineering at United Airlines, San Francisco International Airport; and Steven J. Sullivan, Chief, Electrical Systems Division, NASA.

TOGAA Honored

At the conference, Nicolas



Sabatini, acting on behalf of the FAA Administrator, presented the members of the Technical Oversight Group on Aging Aircraft (TOGAA) with the FAA's Award for Superior Achievement. The award, known as the Administrator's Gold Medal, acknowledged TOGAA's exceptional public service, dedication, and superior achievements. For nearly 15 years, the TOGAA members dedicated themselves to helping the FAA attain the goals and objectives of the FAA Aging Aircraft Program.

After the 1988 Aloha Airlines accident, Anthony Broderick, then the Associate Administrator for Regulation and Certification, realized that the FAA would need and benefit from independent advice and technical guidance of industry experts regarding aging aircraft issues. TOGAA immediately began providing essential guidance on five specific activities related to transport airplanes: (1) Service Bulletins to maintain structural integrity; (2) Corrosion Protection and Control Program; (3) generic structural maintenance program guidelines; (4) Supplemental Structural Inspection Documents; and (5) damage tolerance of repairs.

Their role later expanded to include reviews of research and aging issues for commuters, rotorcraft, engines, propellers, and cargo conversion modifications.

Led first by TOGAA Chairman, Dr. James Mar, then his successor Ernest Bryan, and



TOGAA members and their families at the ceremony.

now current Chairman, Charles Tiffany, TOGAA provided outstanding guidance and support for the FAA's Aging Aircraft Program.

Without these staunch advocates of aircraft safety, the aviation community would still be years away from implementing essential changes to aircraft design, certification, and maintenance practices. Thanks to their efforts, the very effective damage tolerance philosophy for aircraft design and main-

governing commuters, rotorcraft, and turbine engines.

Collectively, these achievements have significantly enhanced aircraft safety and are by any

tenance is being strengthened with additional fail-safe provisions.

Thanks to TOGAA's unremitting advocacy, the same philosophy is now being incorporated into regulations

reasonable measure truly exceptional accomplishments, especially for a group of experts who are officially supposed to be retired.

After a final meeting with Nick Sabatini later this fall, TOGAA will officially dissolve. In keeping with 15 years of advocacy, individual members expressed their intent to stay in touch with their colleagues in the aviation community.



TOGAA members and their families at the ceremony.

USING ISO9001 TO MAKE OUR SKIES SAFER

"Using ISO 9001 To Make Our Skies Safer" was the focus of the ASQ Section Dinner Meeting held September 19, 2002 in Mays Landing, NJ. The Transportation Security Research, Engineering and Development Division (known as AAR-500), recently achieved ISO 9001:2000 registration of its quality management system. One of AAR-500's responsibilities is to certify explosive detection systems used in airports and other transit sectors to screen for explosives.

The presentation covered AAR-500's road to registration, the challenges faced and lessons

learned. Speakers for this meeting included **Stephen Rooney**, a quality assurance program manager with JIL Information Systems Inc., in Egg Harbor Township, NJ. He is a BSI certified ISO 9000 and ISO 14000 lead assessor, and an ASQ member. **John Tye** is a quality manager with AAR-500 at the Technical Center, and **John Mruz** is a program manager also with JIL Information Systems Inc.

For more information on ISO 9001, please refer to the August 2002 issue of *Quality Progress*, the speakers for this meeting authored an article pertaining to ISO 9001

registration.



IT'S A PLANE, IT'S A TRAIN



History was made at the Tech Center this summer when the second largest aircraft in the world set its wheels down on the runway at Atlantic City International Airport and taxied to the FAA ramp to unload its unique cargo. Inside the Antonov An-124 aircraft was a 102-foot-long, 54-ton train destined to become part of the new Camden-to-Trenton light rail line that is scheduled to open in 2003, running from Trenton to Camden along the Delaware River and parallel to Route 130.

It took a team of 20 Russian flight crew and engineers and eight German engineers to transport the rail cars from their point of manufacture near Berlin, Germany, to the United States. Once the aircraft was parked on the ramp, and U.S. Customs had cleared all the crewmembers, the German engi-

neers began the lengthy process of constructing a makeshift set of tracks. The tracks were used to deplane the train to a point where a crane could hoist it onto flatbed tractor-trailers for transport to its final destination in Camden, New Jersey.

This was a very exciting opportunity for the Tech Center to work with regional partners on a project that will benefit the daily lives of many citizens. Plans are already in the making for a repeat shipment of another set of rail cars that will arrive in October. Center employees are hoping Volga-Dnepr Airlines, the Russian company that operates the cargo planes, will use the AN-225 aircraft for their next shipment. The six-engine AN-225 is reputed to be the largest aircraft in the world.

Needless to say, people in the

Trenton - Camden corridor of New Jersey are hoping the rapid transit project stays on schedule. Not only will the new system provide access to a highly efficient mode of transportation, but it also will spur economic development by creating 4,000 temporary construction jobs and 200 permanent jobs after the project is completed.

The new light rail system will encompass 34 miles of track, 20 rail stations (three will be three park-n-ride facilities) and 3,500 parking spaces. Reconstruction of 17 bridges along the route and an upgrade of 50 grade crossings also will take place, during this project.

THE PEOPLE'S SUMMIT SYMPOSIUM

With increasingly greater demands being placed on the aviation industry for safe and secure air travel, it is important for the FAA to create and maintain a high performance, diverse workforce that will make the greatest possible contributions to the aviation systems of the future. With that in mind, the Human Resource (HR) Management Division held a People's Summit Symposium to learn about and address a variety of human resource issues and concerns.

Participants identified the lack of formal recruitment and hiring efforts for entry-level positions as one of the preeminent issues, so the Center established a Recruitment Team. Under the leadership of **Ron Smith**, Deputy Division Manager of Human Resource Management, the team comprises representatives from the ACT, AAR, ATB, and AOS organizations. A recruitment subteam comprised of **Carole Bralski, Donna Young, Anthony Rodriquez, Jose Perez, Magna Colon, and Cortez Martin** was also formed with the goal of developing a formal recruitment strategy for entry-level candidates for positions in ACT and ATB. At the request of upper management, Center division managers committed to providing six entry-level technical positions in fiscal year 2002.

After acquiring the necessary commitment from managers, the subteam began contacting colleges

and universities in January 2002 to initiate recruitment activities. Special emphasis was placed on recruiting candidates from demographic groups that are underrepresented at the Center. A search began for students pursuing careers in computer science/information systems, electronic engineering, and mathematics.

Under the coordination of **Dorothy Buckanin**, Manager of the Verification Service Division, managers and management officials were identified as interviewers. The recruitment subteam and various management officials interviewed approximately 185 students at Bucknell, Drexel, Embry-Riddle Aeronautical, Florida A & M, Howard, Lehigh, North Carolina A & T, Rowan, Turabo, Delaware, Polytechnic of Puerto Rico, Puerto Rico Mayaguez Campus, Puerto Rico (Ponce Campus) and Atlanta universities, and Richard Stockton College of New Jersey. These schools were selected for inclusion in this effort because of their academic standing in particular career fields and the demographics of their student population.

When this talent hunt concluded in April, the Tech Center had successfully recruited and hired some of this year's brightest and best graduating seniors. Five new, entry-level employees were on board at the Center by the end of July.

Each new hire has the potential to climb a career ladder, with each year in grade that they successfully complete, up to grade FG-13. Because of a hiring freeze, ATB unfortunately was unable to finalize their selections at this time.

The Recruitment Team believes their entry-level recruitment efforts have been very rewarding to the agency. Center Director **Anne Harlan** stated, "We have searched out and hired some of the brightest young minds in career fields that are held in high demand and value at this facility. We are very happy to have been able to attract these outstanding graduates to the Center."

The recently created program office for Human Capital Strategy will continue refining the Center's recruitment strategy. The scope is expected to include similar search and hire efforts for new members of the Technical Center family who can help pave the way for shaping the future of aviation.



From left to right, back: Eduardo Colon and Kevin Augustine. From left to right, front: Shelly Beauchamp; Latasha Reddick; and Sybil

2002 FAA EXCELLENCE IN AVIATION AWARD

The FAA recently announced that the laboratories and universities that support FAA's Aviation Weather Research Program are the winners of this year's Excellence in Aviation Award.

The recipients of the award are: the National Center for Atmospheric Research; Massachusetts Institute of Technology/Lincoln Laboratories; National Oceanic and Atmospheric Administration's Forecast Systems Laboratory, National Severe Storms Laboratory, Aviation Weather Center, and National Centers for Environmental Prediction; Naval Research Laboratory; University of Quebec at Montreal; University of Alaska Fairbanks; San Jose State University; and the University of Oklahoma.

Dr. Herm Rediess (AAR-1) will make the formal award presentation on November 19, at MIT/Lincoln Lab. This year's Excellence in Aviation technical evaluation team included **Pete McHugh** (ACT-1A), Terry Kraus (AAR-200), and John Rekstad (AAR-200).

The Excellence in Aviation designation is a highly competitive, non-monetary award presented each year to individuals and/or institutions that show how their past research benefits the aviation community today. Through this award, the FAA formally recognizes significant accomplishments as a result of aviation-related research efforts. This special dis-

tinguishment gives the government an opportunity to recognize superior research efforts and to highlight the benefits of such activities.

"Inclement weather is responsible for 69 percent of flight delays and approximately 30 percent of fatal accidents," said Herm Rediess, director of the Office of Aviation Research. "The laboratories supporting our weather research program are providing critical safety enhancements by developing tools to generate more accurate and accessible weather observations, warnings, and forecasts."

These FAA-funded organizations are providing the applied research to solve critical operational aviation weather issues. Working as part of multi-discipline teams, the researcher's efforts are enhanced through collaboration with industry, other national laboratories, government agencies, academia, and trade associations.

Last year, the FAA selected Dr. Max Shauck of the Baylor University Institute for Air Science as the winner of the 2001 individual FAA Excellence in Aviation award. The National Institute for Aviation Research (NIAR) at Wichita State University received the institutional award for continued contributions in aviation research and education.

Dr. Christopher Wickens, University of Illinois Institute of Aviation, won the 2000 Award. Professor Wicken's leadership as head of the Aviation Research

Laboratory at the University of Illinois has led to significant research in aircraft flight operations, flight training, simulation technology, and aviation education, including theoretical and applied areas.

In 1999, the FAA selected Embry-Riddle Aeronautical University to receive the Award for its continued contributions in aviation research and education. For more than seven decades, Embry-Riddle has supported the FAA mission and the nation's aviation goals through its applied aviation research activities and ongoing academic programs.

The University of North Dakota's John D. Odegard School of Aerospace Sciences received the 1998 institutional award for its over 30 years of innovative aviation research, education and training programs. Dr. Satya N. Atluri, a professor at the University of California, Los Angeles, received the 1998 individual Excellence in Aviation award for his pioneering studies on structural integrity and damage tolerance of commercial and military aircraft

In 1997, the agency selected the Joint University Program (JUP) on Air Transportation Research, a consortium comprised of the Massachusetts Institute of Technology, Ohio University, and Princeton University, to receive the agency's first Excellence in Aviation Award for its cutting-edge research on a variety of aviation topics.

BLUEPRINT FOR HASSLE-FREE TRAVEL

If your job requires being ready to travel at a moment's notice, being prepared is your key to success (and low stress).

Here are some simple strategies for staying ready for anything:

- Keep your travel documents organized and up to date. Don't let your passport, driver's license or other photo identification expire.
- Always have a toiletry travel bag ready. Immediately after returning from a trip restock the kit so that it's available for the next trip.



- Plan for emergencies. Keep a travel supply of protein bars for when you're stranded at smaller airports, tissues for bathrooms that aren't like home, plastic baggies for wet or dirty clothes, sun protection, spare eyeglasses and any medications you might need.
- Don't worry about packing all the right clothes. You can buy what you forget to pack wherever you're going unless you're traveling to the Third World.



And try to have a few wrinkle-free outfits in your wardrobe that are comfortable for long flights.

- Keep your closet at home organized. Last-minute packing is much easier when you can find things.
- Keep a list of toll-free numbers for chain hotels and motels. Being prepared for the unexpected layover or missed flight

takes much of the stress out of travel.

- Take a couple of credit cards. Most of the time you don't need to worry about getting local currency right after you arrive in a foreign country if you have a credit card.
- And remember, many hotels will pay a cab fare from the airport with cash and put the charge on your hotel bill.
- Enjoy your trip!

(Adapted from New Choices)



AAR-500 WELCOMES NEW EMPLOYEES

María Torres was born in Ponce, Puerto Rico. She double-majored in Computer Information Systems and Accounting and received her degree from the University of Puerto Rico, Rio Piedras Campus in June. She interned at the Aviation Security Laboratory two summers ago for the Technology Transition Branch (AAR-530). Now she's back working full time as a Computer Specialist supporting **Walter Wall's** team in the Systems Integration branch.

Phillip Uecker, a resident of Galloway Township, was born in Philadelphia, PA. Phil served in the United States Marine Corps for four years. After completing his tour with the Marines, he joined the Galloway Township Police Department and served for over 25 years retiring with the rank of Sergeant. Phil also received a BA degree in Criminal Justice. He is a member of Bayview Fire Company.

Phil is also the Deputy Coordinator of Emergency Management for Galloway Township. He was appointed the Chairman of the Galloway Township Veterans Advisory Committee and has served in this capacity for the past year. Phil started at the Tech

Center with Wackenhut Security two years ago. Phil is now a Security Specialist with the Transportation Security Laboratory. Phil is married and has two children.

Patrick O'Connor came to the TSA from the transportation industry. For over ten years he was in management with United Parcel Service and Federal Express Ground. He left the private sector for a position with the government to do his part in fighting the War against Terrorism. He feels blessed to have the unique chance to help the industry he cares so much about.

Patrick's quit time is spent with his wife Kathleen and eight-month-old son Shaun. He and his wife enjoy scuba diving and skiing but their son seems to be keeping them very busy these days. They are new residents to Galloway Twp and things seem a little quiet in south Jersey compared to north Jersey (where he is originally from). He welcomes the change in atmosphere and the challenge of serving his country.

Linda Tropiano, a resident of Margate, NJ; was born in Philadelphia, PA. Linda has 28 years of government Service, commencing her career with the Defense Personnel Support Center in Philadelphia, and transferring to the Tech Center 23 years ago. Linda's career progressed throughout the years as she encumbered the Director's Secretary position twice at the Center under Directors Ed Koenke and Harvey Safeer. She was then promoted to a Management Analyst position as Directives Management Officer under Pat Mabis' Communication Management Division. At the time

of the Center's reorganization this past year, Linda transferred to the newly formed Transportation Security Administration Laboratory as Directives/Records Management Specialist, currently working for **Ron Polillo** in the Business Office.

Bill Maguire received his Ph.D. in cognitive psychology and did postdoctoral work in Neurophysiology at the State University of New York in Buffalo in 1978. He taught for a number of years and then began his career as a human factors professional at Long Island Jewish Medical Center and the Albert Einstein College of Medicine.

In 1996, he went to work for NYMA Inc., which later became Federal Data Corporation, and then was incorporated into Northrop Grumman Corporation. He began work for these companies as an engineering research psychologist, primarily supporting the Aviation Security Human Factors Program. He accepted a position with the Aviation Security Human Factors Program as an Engineering Research Psychologist in September 2002.

FY 2003 ARA PERFORMANCE PLAN

Did you receive your copy yet? The ARA Performance Plan is now being delivered to every ARA employee. You can also find it on the web at:

http://www.faa.gov/ARA/performance/FY03pp_brochure.doc



In the plan's introduction, Charlie Keegan (ARA-1) explains that the

plan is "organized around three strategic areas: safety; capacity and efficiency; and organizational

excellence."

He also notes that the FY 2003 plan "is also different from previous plans by reflecting a clearer and more detailed effort to align the ARA goals to the goals of the DOT/FAA in response to the Government Performance and Results Act (GPRA). You will not be surprised to also notice stronger attention to meaningful and quantifiable metrics. I want the entire ARA organization to understand which metrics matter to us and learn how to track projects against those metrics."

Charlie concludes by emphasizing, "As we start off a new fis-

cal year, I want to say how glad I am to have been selected to work in ARA and how impressed I am with the talent in this organization. I genuinely look forward to working with you as we strive to reach our goals, knowing that we serve the entire aviation community and especially the flying public."

Take a few minutes to review the brochure, to see where your programs and projects fit into the ARA goals. If you don't see a clear connection, now's the time to talk it over with your manager to help draw clear lines to key ARA projects.

A NOTE OF THANKS

Recently Carl McCullough sent the following email to Anne Harlan and Bruce Singer, expressing his thanks for his recognition as this year's Friend of the Center at the Tech Center Annual Awards Ceremony.

"Anne/Bruce,

I'm long overdue in being in touch with you, and I sincerely apologize. Kept hoping I'd run into you at HQ, but it hasn't happened, and my trips there are getting fewer and shorter.

In any event, I want to again express my appreciation to you and all the wonderful employees of the Tech Center for honoring me with your "Friend of the Center" award. It means a lot, not just because of the friendship it represents, but also because of the great working relationships that so many of us have enjoyed over the years.

The job I'm currently in is a good one; in fact, it's hard to find much bad to say about it.....except that I miss seeing and working as closely with you and your team.

That doesn't mean it's ended. There are sure to be opportunities to call upon you folks for your expertise, and I hope you'll tell me when there are things I might do for/with you. In the meantime, please just accept my apology for not being in closer contact. Not a day goes by that I don't think of you folks.

Hope to see you before long. Feel free to holler if you're in my 'neighborhood.'

Carl"

FAA TESTS NEW EMAS PROTOTYPE

The FAA, the Port Authority of New York and New Jersey, and Engineered Systems Company (ESCO) of Ashton, PA, researchers are currently installing a second-generation engineered material arresting system (EMAS) at New York's LaGuardia airport that will increase airport runway safety, protecting people, and aircraft during overrun accidents.

For those approximately 350 airports locations in the United States that do not have the space for a full runway safety area, EMAS, made of water, foam, and cement, may provide an engineered solution to create a margin of safety. EMAS deforms readily and reliably under the weight of an aircraft tire. As the tires crush the material, the drag forces decelerate the aircraft, bringing it to a safe stop.

Although the prototype has proven to be a critical safety enhancement for airports that do not have space for a full 1,000-foot safety area at the end of the runway, researchers discovered that over time the arrestor material deteriorated when exposed to jet blast. To solve this problem, the FAA worked with industry to redesign the system, making it more resistant to jet blast, wind, noise, acoustics, and temperature.

This second generation prototype recently underwent extensive jet blast testing at the Tech Center. Researchers mapped the various components of jet blast forces on the

runway 22 overrun safety area at New York's LaGuardia airport, where conditions are perhaps the most severe imaginable. They then set up the test at the FAA wind tunnel facility, where they ran a series of tests equivalent to a full year of jet blast from runway 4 departures at LaGuardia. The cellular cement blocks and new top-coat survived this exposure with absolutely no damage. As a result of the wind tunnel tests, a demonstration bed was installed 75 feet from the departure end of runway 4 at LGA. After 16 months of jet blast exposure the demo bed is in excellent condition.

EMAS is proven technology that has saved lives. On May 8, 1999, this key product of the FAA R&D program paid a huge safety dividend. On that day, an American Eagle flight ran out of runway while trying to land at John F. Kennedy International Airport (JFK). The Saab 340 commuter aircraft overshot the runway, stopping 248 feet into the 400-foot long arrestor bed, only 200 feet from the waters of Thurston Bay. All 30 onboard walked off the aircraft. Damage to the aircraft was minimal; damage to the bed was restricted to a 30-foot wide and 250-foot long section.



To provide further assurance of durability, this Fall the Port Authority plans to install a second demonstration bed on the LaGuardia runway 22 overrun safety area. This installation will use a 35 foot setback, rather than the typical 100 feet or more. Over the next year, the bed will be extended gradually to full length, 275 feet, and will convert to a fully functional bed next summer. This will culminate a two-year R&D effort to solve both the jet blast and weatherability issues that created problems for the first generation beds.

EMAS is now being installed at airports around the country, significantly enhancing the safety of the flying public. EMAS is currently at airports in Minneapolis/St. Paul, MN, Little Rock, AR, Rochester, NY, and Burbank, CA. In 2002 EMAS will be installed at Baton Rouge, LA, New York (JFK), NY, and Binghamton, NY (2 beds). In 2003, EMAS is planned for New York's LaGuardia (1 rebuild and one new), and Little Rock, AK (a second bed). Six additional EMAS's are currently under design and FAA review. International interest is also increasing.

Generally, the cost to install an EMAS ranges between \$2 million and \$4 million, plus site preparation, for U.S. installations. Airports can apply to the FAA for Airport Improvement Program (AIP) grants to help defray the cost of the system.

LEADERSHIP CHALLENGE MEETING

The Center's Strategic Leadership Team (SLT), along with Division Managers, Domain Directors, and Staff Managers held the first in a series of "Leadership Challenge" meetings on July 17-19. The purpose of the meetings was to solidify a common understanding of the strategic vision of the Center by further refining and communicating where we want to go and how we want to get there.

At a follow-up meeting held on Monday, July 29, the group discussed further details on a number of issues, and finalized the Center's vision statement, "Internationally Recognized as a Leader in Shaping the Future of Aviation."

Over the course of the three-day session, there was ample opportunity for a full and open exchange of ideas. Managers provided feedback from themselves,

employees, customers, and stakeholders. As the Center embraces the recent realignment, together with a bold new vision for shaping the future of aviation, communication in all directions will remain critical.

Participant agreed on a refined set of Center values. They include valuing integrity, honesty and courage, accountability and responsibility, excellence and innovation, sound decision making, and valuing our people and our customers.

The outcomes achieved by managers included gaining a clearer understanding of the changing business environment that has made it necessary for the Center to change; refining and committing to the vision and values of the Center; understanding and being able to describe the next steps for

the Center; and understanding and being able to describe their roles as leaders in the process.

The attendees identified specific Center "bold steps" for the future. These bold steps will be implemented through the cooperation of managers and employees at the Center, and will be the subject of upcoming articles.



IT'S CFC TIME

The Combined Federal Campaign (CFC) is in full swing at the FAA. CFC is the annual fundraising drive conducted by Federal employees in their workplace each fall. Each year Federal employees and military personnel raise millions of dollars through the CFC that benefits thousands of non-profit charities.

The CFC mission is to support



and to promote philanthropy through a program that is employee-focused, cost-efficient and effective in providing all Federal

employees the opportunity to improve the quality of life for all.

The Center will be having a variety of CFC fundraising events over the next couple of months. Please take the time to attend some of these events and show your support for CFC.

“Caring is Sharing”

FAA Is CONNECTED

In **Anne Harlan's** message in the last *Intercom*, she mentioned that the Center was "investigating the possibility of developing and managing a data repository system that would be linked with at least a dozen other government entities through an electronic information portal in an effort to share information in a timely manner." Currently a number of agencies are working together to try to create such a system to share real-time security and other data.

According to Anne, this type of data system is not new to the FAA. In fact, the Tech Center helped design a similar repository that is used to exchange NAS information, making the Center the appropriate organization to be involved in such national discussions. Two such FAA data repositories already exist, through the NAS Information Architecture Committee (ASD-100), which could have applicability to the inter-governmental effort. One of the data systems is for metadata, which is the standardizing format and protocol for all NAS messages, and is the repository for the latest and correct data for all of the parts of the FAA to access. This metadata repository is called the FAA Data Registry (FDR), and, at this time, has approximately 100 agreed upon data elements. It is part of an effort by ASD and AIO to capture metadata about all NAS system interfaces and to configuration manage the agreed-upon terms and their attributes. This provides new systems with a requirements reference for NAS object representations that crosscut the NAS domains and provide a coordination among NAS systems that up to now does not exist.

The other repository, though not configuration managed at this time, is the Collaborative Discussion & Information Management Service (CDIMS) which is accessed by a web browser and is a secure, user-cooperative, information storage, and commenting system, that allows expert voting, asynchronous and synchronous on-line discussions, data review, comment and updating, and access to a growing number of NAS and FAA electronic documents. It is, according to **Gerry Spanier** (ACB-210) "internet-based, but properly bridges the internal and public networks to maintain control and security. It is a fail-safe system with all data and access through mirrored servers here." This system, developed at the Tech Center, is already linked

or linkable through the FAA's on-site administrators to other government and industry entities. It can also provide restricted access for sensitive material. In many ways it is a formal, concurrent, or asynchronous chat room with voting capability for our far-flung FAA experts to discuss, collaborate and reach decisions, with a very large and expandable library of references, and with message and action history information - all at their finger tips.

For additional information on these repositories, please contact **Chris Reilly** (ACB-210) at (609) 485-5560; or register as a user at: <http://callisto.cdims.act.faa.gov>.

William J. Hughes
Technical Center
Intercom

Editor:
Terry Kraus

Contributors:

Holly Baker
Carole Bralski
Therese Brennan
Ginger Cairnes
Pete Castellano
Stan Ciurczak
Fran Chesley
Bill Dawson
Mary Lou Dordan
Carleen Genna-Stoltzfus
Bernard Hanlin
Annette Harrell
David Hess
Cathy Jaggard
Paul Lawrence
Pat Lui
Bob Marks
Jason McGlynn
Ernie Pappas
Barbara Para
Rosanne Weiss
Jim White
Laurie Zaleski

For any questions,
 comments, or ideas,
 please contact
Intercom's editor at
 (202) 267-3854

The WJHTC *Intercom* is
 available in color on-line at:
<http://www.tc.faa.gov/intercom/intercom.htm>