



GOING POLYCARBONATE



The National Technical Information Service (NTIS) is the government's information central for various kinds of data files, reports, and publications. Every week, this information service receives more than a thousand

publications and other data from hundreds of government agencies. From a research standpoint, NTIS is an invaluable source for anyone interested in U.S. government scientific and technical information. Here one can conduct detailed subject searches through online databases, and also use the web to search over 400,000 documents dating back to 1990 when the database was created.

The Technical Library Services at the Center also has a collection of research information. This includes texts, technical reports, serials, and access to Center databases as well as databases located on the web.

Although there is no shortage of research information and publications, there is a growing need for a richer presentation media for this type of material. Traditionally, government research has been published on paper in the form of technical notes and reports. However, with the advent of increased processing speeds,

bandwidths, and multimedia techniques, more and more documents are produced in electronic format. Similarly, long gone are the days when a computer program came loaded on 10 separate disks. Now it's mostly produced on a single disk of polycarbonate called a CD-ROM. And boy, some people really like this format!

A recent visit to a Tech Center research group helps illustrate how new information technologies are affecting their work. "We're breaking new ground at the Technical Center with our new CD-ROM Report and Tech Note publication" says **Rick Ozmore**, supervisor for the ACT-540 research group. "With this new production method, we can integrate reports, tech notes, animation, and sound under a user-friendly interface. This sets the standard for future publications, and we're not looking back," Ozmore said. Speaking on behalf of his group, Ozmore points out



ACT-540's Advanced Concepts Research Team and their infamous 'Limited Dynamic Resectorization' CD-ROM. From the left; Jerry Hadley, Rick Ozmore, and Ulf Ahlstrom.

that "we have very talented people here and most of them have higher degrees in experimental psychology and statistics. There's also a lot of knowledge and experience in human factors research, and a lot of people have programming experience. Combine these creative skills with expertise in air traffic control and multimedia programming, and you have a team that can produce

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GOING POLYCARBONATE (CONT.)



very sophisticated and rich media information for our customers. The sky's the limit."

Two members of the ACT-540 research group, **Ulf Ahlstrom** and **Jerry Hadley**, together with **Robert Mast** (ACT-70), have set a new standard for Center publication of CD-ROM-based reports. "Although production of reports on CD isn't new, our CD-ROM 'Limited Dynamic Resectorization (LDR)' is the first published research report at the Center with a Technical Report number. Prior to this, only hard copies were given a Technical Report number," says Ahlstrom.

According to Hadley, "the CD-ROM was produced for an Airspace Adaptation Technical Interchange Meeting held in Miami last December. It contains a friendly user-interface with links to LDR research reports and example animations. We really tried to integrate all the information and make it easy for the user. This would have been impossible with the old hard copy production, not to mention the example animations we included. We also made it easy for the user with references to relevant research reports. We actually included PDF versions of these reports on the CD-ROM. With hyperlinks to the reports in the interface, all the user has to do is to click on a link and the report will pop up on the screen."

"It was a success," says Ozmore. "Our sponsor for this project, ATP-400, was very pleased with our product. As a matter of fact, the Program Director for Air Traffic Planning and Procedures (ATP-1), Jeff Griffith, wrote a Letter of Appreciation to Center Director, **Anne Harlan** (ACT-1), passing along his appreciation for the ACT-540 research group. He especially thanked Ahlstrom and Hadley for their reasons for this change in publication media. "This is all it's about, you have to be creative and use new technologies as they emerge and tailor your product according to your customers needs. We see the production and publication of CD-ROM-based reports as something increasingly important in our future work, and we're very happy that we initiated this effort."

For the research team at ACT-540, there are obvi-



ous reasons for this change in publication media.

First, there is a need to keep up with the government's goal of going electronic. Second, a Technical Report number is important, since it allows the CD-ROMs to be recorded in a searchable database at the government's information central, NTIS. Third, too much office space is devoted to filing and storing folders with papers and reports. "We're running out of office space due to all the filing cabinets that have accumulated over the years," says Ozmore. "This is a problem throughout the Technical Center, just take a look around and you'll see what I mean."

There are also economic advantages for the government if scientific and technical information is produced and distributed on CD-ROMs. According to **Dennis Steelman**, COTR at ACT-500, the cost benefits of electronic media over hard copies can be quite large indeed. "When we first published hard copies of the *Human Factors Design Guide*, we had a cost of \$70.00 per copy, printing and shipping included. When we later distributed the same *Design Guide* on CD-ROM, the price per copy dropped to about \$1.70. I don't really think there is a need for standard paper production of research reports any more. What we really need now is an archive server where all research and technical information is stored in a searchable database, and if we get a request for an article, we just print one out or burn a CD-ROM. This web and burn-on-demand distribution generates huge environmental benefits."

The ACT-540 team will promote the use of CD-ROM research media from this point on. The benefits for the government and the researchers are clear. Besides, some documents could be made more interesting and user-friendly by incorporating animations and sounds. Take the Department of Transportation's appropriation bill and the Federal Tax Code as an example. How could we make these documents appear on the New York Times Best Seller List? For ACT-540 the answer is evident, add animation and sound and burn them on polycarbonate.

MAKING STAFF MEETINGS MORE INTERESTING



When Division Manager, **Richard Battaglia**, said he was going to hold his next staff meeting in an innovative location, he wasn't kidding. On May 23, about 40 employees from the Facility Services and Engineering Division (ACT-600) had an all hands meeting on the Boeing 747SP located at the Tech Center. The employees were given a tour of the aircraft and a briefing on the plane's history and what future projects are in store for it by **Constatine "Gus" Sarkos**, **Mark Materio**, and **Robert Morrison** (AAR-422).



Gus Sarkos explains some of the R&D projects being done by researchers at the Center.



ACT-600 personnel entering the aircraft in the first class section.



Mark Materio in the copilot's seat



Listening attentively to Gus's talk.

RELIEVING CONGESTION AT NEWARK

The Tech Center has completed the final phase of an air traffic control simulation "Chokepoint" study for Newark International Airport. Twenty air traffic controllers and supervisors from the New York TRACON simulated real time air traffic operations for the Newark airport area in the Center's air traffic control laboratories, from May 29-31. The completion of the NY TRACON portion of the study represents the final phase of the simulation, which involved 7 months of development and testing involving hundreds of hours of simulation with over 50 participating controllers from four facilities.



John Smith, ATCS, New York TRACON, working one of the three final positions in the La Guardia Area.

Administrator Jane Garvey initiated this unique study last fall as a direct result of the significant delays that occurred in the National Airspace System during summer 2000. Originally, the agency identified seven points or areas of chronic congestion in the nation's airspace. The most signif-

icant chokepoint is the airspace located in the vicinity of Newark International Airport.

The Tech Center conducted the simulations to relieve congestion in Newark airspace. The Newark Study involved four air traffic control facilities: Philadelphia Tower, New York TRACON, New York Center and Washington Center. Separate stand-alone simulations were completed with each facility.

The project really sped up after the agency and the National Air Traffic Controllers Association (NATCA) signed a Memorandum of Agreement. With the agreement in place, the NAS Simulation Branch responded quickly to get the project back on schedule. At the time, the branch had a robust schedule of work from its other customers, but accommodated the challenge by working double shifts for several weeks.

The Center worked closely with the FAA Eastern Region and NATCA to complete the simulations. Now that the simulations have been concluded, the FAA must refine the procedures and develop the Letters of Agreement between the participating facilities. The simulations tested different control procedures along existing flight paths to better enable controllers to sequence aircraft into the busy New York metropolitan

area. If all proceeds as presently planned, the procedures may be implemented as early as December 2001.

The following ACT-510 employees contributed to the success of the project: **Dan Warburton; Adam Greco; Michael Pomykacz; Scott Doucett; Michael O'Donnell; Robert Oliver; Ella Terrell; Mary Rozier-Wilkes; Lelia Dixon; Audrey Wilmer; John Szuba; Bruce Slack; Robert Engiles; Tru Hall; Barbara Para; William Hickman; and Dale Laudenslager.**

ACT-510 was supported by: FDC's **John Goldman**; Raytheon's **Mike Ross** and **Scott Cramer**; and Titan/SRC's **Jullia Moore; Dan Johnson; Dario Rossilli; Heather Augustin; Stan Rimdzius; Frank Johnson; Mike Cullum; Cindy Hogan; Joseph Guida; Otto Smith; Jack Molyneaux; Mary Lou Hagan; Gary Bolon; Ed Fitzpatrick; Mary Ann Smith; Joe Holzmer; Joe McMonigle; Joe Defoney; and Steve Koza.**



Adam Greco, Manager NAS Simulation Branch, welcomes the controllers from Newark and La Guardia areas of the New York TRACON who are about to complete successfully the last phase of the Chokepoint simulations.

ISO 9001 CERTIFICATION

The Center's Laboratory Management Division recently received ISO 9001 certification for the laboratories from the Quality Management Institute, an international organization that is the leading registrar of quality ratings in North America. This prestigious international rating is granted only to operations that meet the most stringent criteria as judged by an independent panel of experts.

"This is a fabulous achievement for the Technical Center," said Director **Dr. Anne Harlan**. "Certification to ISO 9001 certainly reaffirms the preeminence of the Technical Center's air traffic control laboratories as world class for

research, testing and evaluation of all components of the national airspace system."

The ISO 9001 series of quality standards has become a major factor for controlling quality within many industries. To gain ISO 9001 certification, an organization must establish, document, implement, and maintain a management system that provides consistent quality of its products and services.

The Center's ISO 9001 certification covers a broad scope of activities, such as the management of its computer systems laboratories to support the national airspace systems, research and devel-

opment systems, and field operations, including design, installation, maintenance, and management of laboratory infrastructure; computer system operations and maintenance; configuration management; data management services; and commercial software and system installation and support.

The Center's national airspace system laboratories are a critical asset to the FAA. In today's complex and changing business and technological environment, an internationally registered laboratory positions the Tech Center to work with and compete with the best in the industry.

THE ORIGIN OF @

We know it well as the standard symbol for e-mail, but from whence did it come?

History says that the @ symbol was created by medieval monks. During the Middle Ages, each copy of a book was painstakingly transcribed by hand. The task went to monks, who developed ways to reduce the number of pen strokes for common words. The result was to loop the "t" in the word at around the "a."

There is no official, universal name for the @ symbol, and several languages have strange terms to describe it:

- apenstaartje: Dutch for "monkey's tail"
- snabel: Danish for "elephant's trunk"
- kissanhnta: Finnish for "cat's tail"
- klammeraffe: German for "hanging monkey"
- papaki: Greek for "little duck"
- kukac: Hungarian for "worm"
- dalphaengi: Korean for "snail"

• grisehale: Norwegian for "pig's tail"

• sobachka: Russian for "little dog"

--from the UselessKnowledge.com Web site.



A SAFETY MINUTE

FROM THE SAFETY OFFICE, ENVIRONMENTAL BRANCH (ACT-640)

Trash Talk

Did you hear the one about the two containers? One container was a Recycling Bin and the other one was Pure Waste. It would seem that a lot of "trash talk" was going on between the two over the fact that the Recycling Bin was so selective - get it!

Okay, so the joke is bad, but it does stress the point that recycling bins are selective. There are several types of bins located throughout the Tech Center. Each bin has a specific label on it and is intended for you to put a specific item in the correct bin. To improve our recycling efforts, we need everyone's help. You can make a difference - here's how:

Desk Area: All paper, unless it is soiled, should always be separated from other trash. All paper should be placed in a separate paper recycling container at your desk. If

you don't have a separate recycling container for paper, call the Trouble Desk, x54122 and one will be provided to you.

Cans/Glass/Plastic: Throughout the Center large BLUE containers are available for recycling. Please dispose of all emptied cans/glass/plastic bottles in their appropriate container.

Toner Cartridges: GSA Toner Cartridges should be turned into the Supply Room, a.k.a. "Supermarket," first floor of the Center where they will be recycled. Other types of toner cartridges should be recycled, through other means. Some manufacturers recycle their toner cartridges, therefore, when purchasing toner cartridges check with the manufacturer to see if they accept and recycle used cartridges.

Batteries: Used common household batteries should be turned into the "Supermarket" as well.

Purchase Recycled Material: When applicable, purchase materials and supplies that have been made from recycled materials.

Just a little bit of help is all we need to make recycling a success. There are many items that we could add to the above list. If you are not sure whether an item should be recycled, you can contact **Donna Taylor** at x56552 or **Brian Garman** at x55898, they will be glad to assist you.



AIRWORTHINESS DIRECTIVES NOW ON-LINE

AVR's Aircraft Certification and Flight Standards Services are pleased to announce that all current Airworthiness Directives (ADs) are now available on the Internet in the Regulatory and Guidance Library (RGL). The direct address for the RGL is: www.airweb.faa.gov/rgl

In addition, you can find it from the FAA home page by clicking on FAA Organizations and then Aircraft Certification Service. Questions can be directed to the following:

Mary Johnson, AIR-520 (202-267-3522)
Lynn Hutcherson, AFS-610 (405-954-6896)
Susan Buckingham, AIR-520 (202-267-3682)

AAR-400 WINS PRESTIGIOUS AWARDS

On May 10, the American Helicopter Association (AHS) International - The Vertical Flight Society, awarded its 2001 Harry T. Jensen Award to a national team of rotorcraft safety experts, including AAR-431. The presentation was made in Washington, D.C. **Dy Le**, representing AAR-431's crashworthiness program, accepted the award on behalf of the Tech Center's crashworthiness team during the AHS 57th Forum held in Washington, DC.

This prestigious award recognizes outstanding contributions to the improvement of helicopter reliability, maintainability, and/or safety through improved design brought to fruition during the preceding year. AHS gave the award to the National Rotorcraft Technology Center/Rotorcraft Industry Technology Association Crash Safety and Navy Water Impact SBIR Teams, which consisted of Bell, Boeing, Sikorsky, Simula, Dynamic Response, Inc., NAVAIR, Army-Yuma Proving Ground, and the FAA.

AAR-431 provided research and development funds and expertise to the Navy SBIR team, which has made significant contributions to improving the helicopter crash safety for the soft soil and water impact scenarios that constitute 80% of helicopter crashes. This team developed a one-of-a-kind water impact test facility and conducted four full-scale helicopter water impact tests. In addition, the team performed two full-scale water and soft soil impact tests at the Yuma Proving Ground to support validation of analytical design methodology. This groundbreaking work will improve the crash safety of the existing helicopter fleet as well as support the development of future helicopter systems with improved crash safety on multiple impact surfaces.

AAR-431 participation on this project represents an excellent example of government and industry cooperation at its best. With FAA and Navy funding, both government and industry researchers are working together to increase rotorcraft safety and establish new design criteria for next generation helicopters. For additional information on this critical research, contact **Gary Frings** (AAR-431) at (609) 485-5781.

NASA recently presented a team of researchers, including researchers in AAR-421's aircraft icing program, its "Goal 1: Revolutionize Aviation" award at the its May 16 Turning Goals Into Reality Conference held at the Smithsonian's Air and Space Museum. This award recognizes excellence in safety, noise, emissions, capacity, and/or mobility research. The winning aircraft icing project team included AAR-421's **Charles Masters, James Riley, Richard Jeck,** and **Chris Dumont**, and the FAA's Aircraft Icing National Resource Specialist, Eugene Hill, as well as representatives from NASA Glenn's Icing Technology Branch and researchers from the University of Illinois and other organizations. James Riley accepted the award on behalf of the FAA team.

Aircraft icing research done collaboratively by the FAA and NASA over the past few years includes: A study of the effects of tailplane icing on tailplane and aircraft aerodynamics; development of a data base for ice shapes on modern airfoils; a field study of icing conditions containing supercooled large droplets (sld) aloft in the Great Lakes region; and a study of intercycle ice shapes for pneumatic boot ice protection systems.

AAR-421 provides engineering and scientific leadership to plan, develop, implement and manage complex research efforts to enhance aircraft flight safety. These include aircraft operations in hazardous atmospheric conditions and provide for the development of advanced digital technologies as related to airworthiness, and certification and operational safety of civil rotary and fixed wing aircraft.

These efforts address both natural and manmade atmospheric hazards: ie., aircraft inflight icing, aircraft ground deicing, aircraft ice detection; electromagnetic environmental effects such as high intensity radiated fields, lightning and hazards generated by portable electronic devices; and digital system validation technologies for flight controls and other critical avionics systems. For more information on the FAA's icing research, contact **Charles Masters** at (609) 485-4135.

ACT-540 HOSTS CAPACITY SEMINAR AND WORKSHOP

Over the past 25 years, the Aviation Capacity Group at the Tech Center has developed, tested, and applied fast-time simulation models to evaluate potential airport capacity improvements in response to the FAA System Capacity, Planning and Improvement Program. The group has over 150 years of collective experience investigating various capacity improvement options at almost every major and medium airport in the United States, and some foreign airports.

On May 7-9, ACT-540 conducted a capacity seminar and workshop to help airport planners in the regions operate more effectively as chairpersons of joint government/industry Airport Capacity Enhancement Design Teams. The seminar was initiated by a request from Steve Urlass (APP-410) Capacity Branch, Office of Airport Planning and Programming. Eleven airport planners from six regions and headquarters attended the 3-day session. The topics included capacity analysis, "rule of thumb" techniques, analytical tools and models, fast-time simulation models, and approaches used for a quick airport



analysis. The seminar, conducted by **Helen Monk** and **Jennifer Morris**, was ACT-540's second capacity seminar. The first was held 2 years ago.

The participants agreed the seminar was successful in accomplishing its objectives, saying the discussions were informative, useful, and practical. They believed the seminar would help them be proactive and allow them to make better planning and financial decisions. Lessons learned are expected to produce immediate benefits, because one of the attendees will be taking over as chair of the Portland International Airport Capacity Enhancement Design Team within a month. The first seminar produced immediate benefits when lessons learned were effectively applied 2 weeks later at the next Anchorage Capacity Enhancement Design Team meeting. The seminar was

enhanced by the ability of the chairperson to keep the meeting focused and at a good pace.

To underscore the success of both seminars, ACT-540 has received requests from FAA regional planners and non-FAA airport planners/owners for another seminar later this year. The need for increased airport capacity, a frequent topic in the news and an important issue in the aviation community, has contributed to the requests for additional capacity seminars.



Rwy Simulation Model (RDSIM) or Runway Queuing Model



Airfield Simulation Model (ADSIM) or Airport Machin



Airfield & Airspace Simulation Model (SIMMO)



THE RFI VAN STORY



With Radio Frequency Interference (RFI) on the increase and affecting just about every aspect of the National Airspace System, the FAA needed a new tool to aid in the resolution of RFI. This new tool came in the form of the Radio Frequency Interference Monitoring System, aka RFI Van.

Each FAA Region and the Tech Center have a RFI Van. The last Van was delivered to the FAA in March 2000. The Van is based on a modified Ford Econoline E-350 HD Cargo Van. With four wheel drive and dual rear wheels the Van provides an excellent platform for RFI Resolution.

RF measurements are made manually, semi-automatically, or automatically from 100 KHz through 18 GHz. Most types of transmitters currently used by the FAA can be "looked" at; this includes measurements for primary and secondary radar antenna patterns and Pulse Repetition Frequency (PRF), Localizer transmitter RF, and Radiation Hazard. Broadcast TV and FM transmitter RF measurements can also be accomplished if there is a need to locate and resolve RFI. The RF measurement possibilities are

almost endless. The picture below shows the antenna setup for RF measurements from 30 MHz through 1 GHz with the omni-directional antenna.

The Van is almost self-contained and can be operated by one person. It has two fuel tanks and an engine generator to power all of the measurement equipment. RF measurements can be analyzed immediately, printed for future analysis, or saved on a hard drive. Those measurements that are saved on the hard drive can be recalled and analyzed at a future time. All measurement parameters, such as frequencies and test equipment settings, are saved. This allows the operator to repeat the RF measurements in the future without having to make extensive notes on the equipment setup.

The Tech Center is the focal point for all changes and modification to the RFI Vans, FAA-wide. These changes can originate from

the FAA Regions, FAA Headquarters, the Van's manufacturer, or from the Tech Center. Any proposed changes including software, measurement system configuration, or basic vehicle equipment will be reviewed by ACT-330 and then by ASR. Approved changes will be incorporated into the Tech Center's RFI Van, validated, and then distributed to the regions for incorporation into their Vans.

Changes that are currently being incorporated include installation of a roof safety railing and a non-skid coating, replacement of the side doors to improve visibility, and shortening of the telescoping mast so that the Antenna, Pan/Tilt unit, and Mast Preselector can be left installed while the Van is in transit. Another change being considered is an improved Direction Finding system that will include DF capabilities from 70 MHz through 3000 MHz, which includes the GPS navigation frequencies.

With hundreds of new transmitters going on the air daily, Radio Frequency Interference to FAA facilities and services is increasing. The FAA now has a new and improved tool for resolving this RFI with speed and accuracy. By resolving RFI quickly, National Airspace System (NAS) user delays are minimized and the NAS kept safe and reliable. The Radio Frequency Interference Monitoring System, aka RFI Van, is this tool, and is a valuable asset in the FAA's fight against Radio Frequency Interference.



CREDIT UNION SOCIAL ACTION COMMITTEE HELPING THE COMMUNITY

The Tech Center Federal Credit Union Social Action Committee recently presented a check for \$350 to Atlantic City Medical Center (ACMC) Hospice. Hospice Director Mary Jo Hieb said part of the donation is already earmarked to help a patient pay for transportation home from the hospital.

The Social Action Committee raised the money for ACMC Hospice through a recent bake sale to benefit ACMC Hospice. "Every year our social action committee picks local agencies or groups to assist, because we know how important it is to be aware of, and to assist with, the needs of the community" said **Gayle Branca**, assistant manager of the credit union. "This year we had a special interest in Hospice because when my father was ill, my coworkers and I saw first hand the loving care Hospice provided." Branca ex-

plained that her father, who had malignant melanoma, received Hospice care last winter.

"I know much of what ACMC Hospice does is funded through donations and volunteer contributions," said Branca. "The Hospice team not only took care of my father's physical needs, but the team also offered support for our family. These people were phenomenal. It was the dead of winter and they came out whenever my mom needed help. They helped with pain control and making sure he was OK. But there were Hospice members who even shoveled the sidewalk so that my mom could get to the grocery store to get my dad's medication. They definitely went above and beyond the call of duty."

Branca said staff at the FAA Tech Center embraced the Hospice cause. "Many employees donated baked goods. We had people who

came by and dropped \$20 on the table or gave us \$5 for a \$1 item," said Branca. "We had originally planned for the sale to last 3 hours, but between people dropping off homemade baked goods and people coming in droves to buy them, we extended it to 5 hours."

"This generous gift from the Tech Center Social Action Committee will touch the lives of ACMC Hospice patients and their families," said Hieb. "Additionally, the committee brought a special awareness to everyone who works at the Tech Center of the importance of maintaining dignity in the end stages of life."



Pictured left to right during the check presentation are: Mary Jo Hieb, of Somers Point; director of ACMC Hospice; Gayle Branca, of Cedarbrook, assistant manager of the FAA Credit Union; and Anila Pastakia, of Egg Harbor Township, a member of the credit union social action committee.

ROGATE: RESOURCES FOR GIFTED AND TALENTED EDUCATION

As part of an ongoing partnership between the Communications Management Division (ACT-70) and the Airport and Aircraft Safety R&D Division (AAR-400) to teach local students about FAA's activities, approximately 70 gifted and talented 7th & 8th students from Millville, Woodbury, Mountainview, and Mendem, NJ, recently spent the day at the Center.

Chris Seher (AAR-400) gave the opening remarks to the students, talking about commercial aviation safety and future R&D projects that will affect their lives. Chris mentioned to them that air travel will double in the coming decade, and that his staff is working to eliminate potential future accidents with increased safety measures for the flying public. He asked the students to consider a career in the many fields that the Tech Center has to offer, saying it is a friendly and diverse place to work.

The students, divided into three groups, heard about a variety of ongoing Center activities.

Allan Abramowitz (AAR-431) talked about "crashworthiness," explaining how the testing done at the Center help engineers understand the effects of surviving a crash. He showed slides and videos shot during many recent crashworthiness tests, and then discussed things, such as the best storage place for fuel in an aircraft; what type of seats would survive a low

level crash; and whether or not one place is safer than another within an aircraft for survival.

Gus Sarkos (AAR-422) presented "Improvements in Aircraft Fire Safety," mentioning that timing is everything for surviving a fire within the aircraft. Passengers have only 1-3 minutes to escape a burning aircraft. The students learned that there hasn't been an in-flight fire in the U.S. since the ValueJet crash in Florida. Students also saw a video on how the fire might have begun in the ValueJet crash, and then Gus reviewed why that flight crashed, as well as what the FAA is doing to prevent a similar incident. Gus told the students that the R&D work has lead to new standards for aircraft, such as improved flame resistance seat covers to new types of fire alarms in the hull of aircraft

Jim White (AAR-411) described "The Soft Ground Arrestor System" for the students, giving them samples of the arrestor material to take home. His job, as

he described it to the students, is somewhat dangerous in the fact that he spends lots his time on active runways with airplanes moving dangerously past him.

The "Arrestor System" has been installed in airports where there are little or no overrun areas for aircraft. During his program, he showed students what it looked like when a plane needed to be stopped, how much money it cost to produce the arresting material, and identified things they did not originally consider when designing the system. Jet blast, for example, had tremendous negative effects on the arrestor system. Jim also talked about aircraft size in relationship to existing airports. Will the planes of tomorrow be able to land and taxi at the present day airports due to wing lengths?

At the end of the day, the students assembled back in the auditorium for final remarks by **Carleen Genna-Stoltzfus** (ACT-70).

Thanks to Carleen and **Rosanne Weiss**, AAR-400 Outreach Coordinator, as well as **Holly Baker** (ACT-5) for arranging media coverage of the event; **Robin Buehler** of the Current; ACT-73's **Bill Dawson** and **Ernie Pappas**, who photographed the program; **Verna Artis** (ACT-73) who handled the audio-visuals; and **Barbara Para** (ACT-510), who is always willing to step in and help.



From left to right: Gus Sarkos (AAR-422), Rosanne Weiss (AAR-424), Allan Abramowitz (AAR-431), Carleen Genna-Stoltzfus (ACT-70), Jim White (AAR-411), and Barbara Para (ACT-510).

NEWS FROM AROUND THE CENTER

Laurie Ann Drago, daughter of **Vienna Drago (ACT-9)** will be attending Adelphi University in Long Island in the fall. Laurie Ann will be majoring in Dance; her passion, which has earned her a partial scholarship at Adelphi. Your family is proud of you!

Aviation Security officials from Saudi Arabia visited the Security R&D lab on June 14. **Ken Novakoff (AAR-540)** hosted the visitors. The group included the Saudi National Hijack Handling Team and 12 senior committee members, representing various agencies within the Kingdom of Saudi Arabia.

TAKING OFF FOR SUCCESS

ACT-370's Aircraft/Avionics Branch recently hosted the 9th Annual TAKEOFF program. Over two dozen schools participated in this year's event. This program has been a coordinated effort between **Armando Gaetano (ACT-370)**, **Carleen Genna-Stoltzfus (ACT-70)**, and Vic Hudson from the William Davies Middle School of Mays Landing. Armando and Carleen work

throughout the year with the school to provide young adults help on technological projects in aviation. The support of the schools, as well as the Center's engineering staff, pilots, and technicians is essential to the success of this program.

When the students arrive at the Center, they must choose a project: a paper airplane; a rendezvous with an Asteroid; twisted flight; brake an egg; R2K; or designing a new type of wing. They work in teams and have the better part of the day to design, execute, test and perfect their choice of problems. Mentors are provided to every group, which enables the students to deal with problems involving lift, drag, gravity, and thrust. This is not only a learning process for the students, but the teachers and mentors also come away with a new perspective on some aviation challenges.



Thanks to all who made this year's program really takeoff: **Carleen Genna-Stoltzfus; Armando Gaetano; Dorothy Buckanin (ACT-300)** for welcoming and presenting awards to the students; **ACT-73; ART-Z-Graphics; Wackenhut; Holly Baker (ACT-5); ACT-370's Keith Biehl, John Beres, Joseph Campbell, John Dyson, Tim**



Hogan, Fred Karl, Tracey Harvey, Robert Smith, John Tatham, and Richard Weatherby, Jr.; ACT-410's **Amy Ashenfelter, Veronica Callahan, and Jennifer Scharfetter;** ACT-310's **Dan Dellmyer and Kris Fortmann;** **Mike Greco (ACT-360); Dennis Lamagna (AOS-540); Robert McGuire (AAR-433); Harry Webster (AAR-422); Barbara Para (ACT-510); Phyllis Terlecky (AST); Robert Heitsenrether (ACT-601); Rosanne Weiss (AAR-424); Jim White (AAR-411); Cyndi Flournoy (ACT-320); Patty Naegele (AOS-500); and Debbie Waters (ACT-10);** and from the United States Coast Guard: Lt. Anthony Jones; AST3 Mike Stallard; CDR Jim Sommer; Lt. Kristina Salicetti; Lt. Mike Campbell; AVT1 Tim Dickman; AVT2 Eric Hansen; LCDR Phil Perez; AMT3 Jason Oister; AMT3 Manuel Bravo; and from the Air National Guard 177th: MSGT Sam Merkel, SMSGT Don Martenz, and John Morgan; as well as the staff from William Davies Middle School, Francine Vandenberg, Carla Hockenbury, and Janice Niessner.

LEARNING ABOUT AVIATION

Several weeks ago, Egg Harbor Township 7th graders, numbering 150 students and chaperones, visited the Tech Center, as part of an ongoing aviation education partnership between the school district and the Center to enhance the science programs at local schools. Bud Rockey, from the middle school, worked with **Carleen Genna-Stoltzfus** (ACT-70) to design the day's events. **Ginger Cairnes** (ACT-70) hosted the students, arranging the tours and speakers.



The students went first to the 177th Fighter Wing, meeting with MSGT Arnold Karp. Lt. Kristine Saliceti, Petty Officers First Class Harold Hoffmaster and Tom Dardis, and ENS Block provided a tour of the Coast Guard facilities.

Satish Agrawal (AAR-410) met the group at the National Airport Pavement facility. **Frank Pecht** and **Steve Materio** helped answer students questions about the pavement facility.

Armando Gaetano and **Tim Hogan** (ACT-370) met the students next for a tour of the hanger.



Keith Biehl and **Tom Grygotis** (ACT-370) discussed the individual airplanes, their use with the FAA, and facts about the hangar. The next stop on the tour was the Full Scale Fire Test Facility, where **John Reinhardt** (AAR-422) answered questions on fire safety.

As a result of these activities, the students developed a better understanding of aviation through this visit, which they enhanced with classroom activities, written reports, and a whole host of other mentoring individuals who have supported this very important education program.



WHAT A SITE!

Once again, the Tech Center hosted the Student Inventions Through Education program (SITE). This is a regional event held in the spring of each year in conjunction with the Educational Information Resource Center (EIRC), a statewide public education agency. (William Patterson University hosted a second SITE program for the northern counties.)

The program is designed to help develop students' problem solving skills by challenging them to invent solutions to self-identified problems. Approximately 50 students, grades K to 12, participated in this year's program. Parents and teachers attended this day-long activity.

Aviation Education/Community Outreach Program Manager **Carleen Genna-Stoltzfus** (ACT-70) and Judith E. Burr, Director of SITE Program, co-hosted the event. **Rosanne Weiss** (AAR-424), **Gary Frings** (AAR-431), **Bob Warner** (ACT-410), **Lee Whilden** (ACT-9), **Patrick Eigbe** (ACT-200), Fran Campbell and Gene Compton from Absegami High School, and Dr. Mel Kamen, NJIT Inventors Hall of Fame-Edison Society, served as judges. The judging criteria was divided into about 10 areas worth 10 points each from "brainstorming" to the "necessary documentation." The judges also took the student's grade level into consideration for scoring.

(Continued on page 14)

SITE (CONT.)

The winners were:

Division A - 1st & 2nd Grade

1st Place Victoria Wiseman, Memorial School, for Lazy Slip-on Patch

2nd Place Amy Carber, Brigantine Elem. School, for Sparkle Juice

Division B - 3rd & 4th Grade

1st Place -- Liddy Rechenberg, Long Beach Island School, for Toothpaste Keeper-onner

2nd Place -- Caitlyn Kerwin, St. Peters School, for Ice Cream Cone Dish

Division C - 5th & 6th Grade

1st Place -- Holly Colaguari, Antonides School, for Grocery List Grabber

2nd Place -- Emily, New Egypt School, for Bow Wow Brush

Division D - 7th & 8th Grade

1st Place -- Kelly Search, New Egypt Middle School, for Just Us Sheets

2nd Place -- Nathan Davis & Conrd Lauer, St Jerome School, for CS Extreme

Division E - High School

1st Place -- Katie Donnellan & Jenna Maute, Memorial School, for The Remote Pager

A huge thanks goes out to **Chris Seher** (AAR-400) for welcoming the students, and to: **Rosanne Weiss** (AAR-424); **Holly Baker** (ACT-5); **Ron Heist** (ACT-601); Wackenhut; **Maria Lemmetti-Fane** (ACT-600); **Barbara Para** (ACT-510); **Annette Harrell** (ACT-73); **Dave Hess** (ACT-73); **Lana Haug** (ACT-70); **Kathy Herman** (Security); all of the judges; the Philadelphia Zoo animals and their presenters; and folks from EIRC.



From left to right, front row: Rosanne Weiss (AAR-424); Patrick Eigbe (ACT-200); and Fran Campbell, Absegami High School. Back: Dr. Mel Kamen, NJIT Inventors Hall of Fame-Edison; Lee Whilden (ACT-9); Judy Burr, Site Coordinator; Bob Warner (ACT-410); Carleen Genna-Stoltzfus (ACT-70); Gene Compton, Absegami High School; and Gary Frings (AAR-431).

A DAD GOES BACK TO SCHOOL



Recently, David Blake's (AAR-422) daughter asked her father to visit school and talk about his job at the Tech Center. As student of the week, it was the younger Blake's job to bring a guest speaker to class, and she chose her Dad. Dave showed the class a video explaining his job doing "fire tests," and

brought along a few photos of airplane accidents. Throughout his talk with the children of Mrs. Somers' class he stressed that his job is to prevent future accidents and to improve airplanes so the public has a greater safety margin. The students learned about the investigation process and what it takes to solve the mysteries of an aircraft accident.

After the presentation, the students asked great questions, showing a real interest in his job. A huge "thank you" note with great artwork, the student's signatures, and personal notes were Dave's reward for spending some of his time back at the school. Dave enjoyed his time back in school and looks forward to a return visit.

NTW ESSAY CONTEST

Each year in celebration of National Transportation Week (NTS), the FAA, DOT, and the Tech Center sponsor an essay contest, which is open to all interested students in grades 6-8 in the South Jersey Area. This year's theme was "Transportation. . . Taking you where you want to go Safely."

Carleen Genna-Stoltzfus, Community Outreach/Aviation Education Program Manager (ACT-70), and **Adam Greco** (Manager ACT-510) sponsor and organize this annual event. Children, grades 6 through 8, participate from Atlantic, Burlington, Cape May, Cumberland, Ocean County, and Camden Diocese.

Adam Greco's involvement actually began about 6 years ago with a Black History Month essay contest. From this endeavor, the National Transportation Week essay contest emerged. Adam says that over the years the quality of the essays has improved. He also adds that teacher involvement certainly plays an important role in the participation and motivation of the individual students.

Parental involvement has been excellent, both in support of the student, as well as attending programs honoring their child. Many of the contest winners have gone on to receive other academic honors throughout the school year.

Each year, DOT develops

the National Transportation Week theme, and then Adam and Ella Terrell (ACT-510) send the necessary contest information to local schools. This year all private, public, charter schools, and even home schooled students were notified using a variety of avenues. In addition to mailing invitations, Adam and Ella used the Internet to help get the word out. They also made telephone calls and sent faxes to ensure wide participation in the event. The list of participating schools has grown over the past 3 years, and it is hoped more and more schools will participate in future years.

ACT-510 and ACT-70 employees served as this year's judges. Each judge read every entry and ranked it according to published standards. The employees of ACT-510 and the Aviation Education program love participating in the program. Each year the program becomes more refined and the essays get more interesting and more imaginative.

This year's winning writers

received a handsome plaque presented to them at their individual schools. The winners were:

First Place 8th grade -- Nick Cashan, Hammonton Middle School, Atlantic County

Second Place 8th Grade -- Angela Moscatiello, Bay Head Middle School, Ocean County

First Place 7th grade -- Jenn Zelinski, Hammonton Middle School, Atlantic County

Second Place 7th grade -- Amanda Ross, Hammonton Middle School, Atlantic County

First Place 6th grade -- Jeffrey Terebey, Indian Mills Middle School, Burlington County

Second Place 6th grade -- Andrew Smith, Indian Mills Middle School, Burlington County

Adam and Carleen would like to thank the following for making this year's essay contest a success: ACT-510's **Ella Terrell, Lelia Dixon, Mary Rosier-Wilkes**, and **Barbara Para**; ACT-70's **Lana Haug** and **Carolyn Pokres**; ACT-73's **Annette Harrell, Carol Martin**, and **David Hess**; and **Holly Baker** (ACT-5).



AV ED COUNSELOR ON THE JOB

Galloway Township Schools recently asked Magda Colon, an electrical computer engineer from ACT-330, to make a Women's History Month presentation to the 7th grade class, which numbers over 160 children. Focusing on the theme "Celebrating Women of Courage & Vision," Magda discussed the suffrage movement in the United States, which began at a convention in Seneca Falls, NY, in 1848. In 1869, the National Woman Suffrage and American Woman Suffrage groups formed to fight for women's right to vote. Women gained the right to vote in 1920 when Congress ratified an amendment to the constitution. Some notable women that helped the cause were Elizabeth Cody Stanton and Lucretia C. Mott in the early days, and later and Shirley Chishlom, the first African American woman to serve in Congress in 1969.

Magda also talked about Geraldine Ferraro, the first woman to chair the Democratic Platform. In 1984, Ferraro became the democratic choice for vice-president, running with presidential candidate Walter Mondale. After Magda's talk, the students saw a short video about Women's History Month, which got its start as "National Women's History Week" in Sonoma County, CA, in 1978.

After Magda showed the students the Tech Center overview video, the discussion focused in on careers in engineering and aviation. The students asked, "why aren't there more females going into technology areas such as engineering, computers and aviation." Despite the fact that Congress passed the Science & Engineering Equal Opportunities Act in 1980 to encourage equality for woman in engineering and sciences, today women only make up 9% of the workforce. Magda pointed out that strides are being made to institute family friendly policies, recognition of diversity both gender and cultural, equality in pay, benefits and job opportunities, and job training and mentoring to encourage more women to seek engineering and scientific jobs. She encouraged all of the students, both male and female, to think of careers in those areas. Magda is a recent graduate of Rowan University in the field of engineering. She was the only woman in her graduating class, and would like to see that number increase.

DON'T FORGET

Please try to get *Intercom* submissions (articles, photos, ideas) to Terry Kraus via email by the second Tuesday of every month.

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