

**QUICK
CALENDAR**

- Abstracts for 79th Symposium Due June 30, 2008
- 2008 Free Seminar & TAG - Orlando, FL (July 15 & 16, 2008)
- Mechanical Shock Test Techniques & Data Analysis Course (August 11-15, 2008—Long Island, NY)
- Practical Shock Analysis & Design Course (September 8-12, 2008, Newport, RI)

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SAVIAC
Shock and Vibration Information Analysis Center



APRIL 2008

CURRENT AWARENESS

**79th Shock and Vibration Symposium Featured Organization Overview:
Air Force Research Laboratory (AFRL)**

Editor's Note: This article expounds upon the AFRL overview article that appeared in the December 2007 Current Awareness. This overview article was provided to SAVIAC by AFRL, and all definitions and statements contained in the article are originated by AFRL. AFRL is the government featured organization for the 79th symposium in Orlando.



Air Force Research Laboratory, with headquarters at Wright-Patterson Air Force Base, Ohio, was created in October 1997. The laboratory was formed through the consolidation of four former Air Force laboratories and the Air Force Office of Scientific Research.

Mission

AFRL's mission is leading the discovery, development and integration of affordable warfighting technologies for America's aerospace forces. It is a full-spectrum laboratory, responsible for planning and executing the Air Force' science and technology program. AFRL leads a worldwide government, industry and academia partnership in the discovery, development and delivery of a wide range of revolutionary technology. The laboratory provides leading-edge warfighting capabilities keeping our air, space and cyberspace forces the world's best.

Personnel and Resources

The lab employs approximately 5,400 government people, including about 1,300 military and 4,100 civilian personnel. It is responsible for the Air Force's science and technology budget of nearly \$2 billion including: basic research, applied research, advanced technology development and an additional \$1.7 billion from AFRL customers.

History

The laboratory and its predecessors have overseen more than 80 years of critical research efforts for the Air Force and DOD. Its technology breakthroughs can be found in all of today's modern aircraft and weapons systems. It was contributed to significant advancements in modern communications, electronics, manufacturing, and medical research and products.

Organization

AFRL accomplishes its mission through nine technology directorates located throughout the United States,

the Air Force Office of Scientific Research and a central staff. The directorates are as follows:

Air Force Office of Scientific Research -- With a worldwide exchange program for scientists and engineers, AFOSR is the basic research manager for AFRL at its headquarters in Arlington, Va. AFOSR invests in long-term, broad-based research into aerospace-related science and engineering. To accomplish this mission, AFOSR has formed a strong, productive alliance with other government agencies, U.S. industry and the academic community. Nearly 80 percent of the research is conducted in academia and industry the other is conducted within AFRL.

Air Vehicles Directorate -- With headquarters at Wright-Patterson AFB, Ohio, the Air Vehicles Directorate leads the effort to develop and transition superior technology solutions that enable dominant military aerospace vehicles. The emphasis and vision are on technology investments that support cost-effective, survivable aerospace vehicles capable of accurate and quick delivery of a variety of future weapons anywhere in the world. The directorate targets advanced concepts to direct the development of vehicle technologies that provide future capabilities in the areas of unmanned air vehicles, space access and strike.

Directed Energy Directorate -- With headquarters at Kirtland AFB, N.M., the Directed Energy Directorate develops, integrates science and technology for directed energy to assure the preeminence of the United States in air and space. The directorate provides R&D for leading-edge space capabilities as well as techniques and technologies to improve and transition optical systems to war-fighting commands. It is the Air Force's center of excellence for high power microwave technology and the Department of Defense's center of expertise for laser development, including semiconductor, gas, chemical and solid-state lasers. The Starfire Optical Range conducts theoretical and experimental research in advanced tracking, adaptive optics, atmospheric physics and imaging of objects in space using large ground-based telescopes.

continued on page 2



AFRL/Boeing Mach 6 Quiet
Wind Tunnel



AFRL Develops Next
Generation Airfield Matting



AFRL Assists Northrop
Grumman with Supersonic
Tailless Air Vehicle Tests

Images courtesy of
www.wpafb.af.mil

AFRL Overview (continued)

Human Effectiveness Directorate -- With headquarters at Wright-Patterson AFB, Ohio, and research facilities at Brooks AFB, Texas; Mesa, Ariz.; and Edgewood, Md., the Human Effectiveness Directorate develops, integrates and transitions technologies for training personnel. The directorate is responsible for improving the interface between the warrior and the weapon system, and protecting Air Force warfighters to assure the preeminence of aerospace forces. The directorate has eight core technology areas: warfighter skill development/training, training simulation, information display and decision support, crew system design technologies, directed energy bioeffects, toxic hazards effects, crew protection, and logistician effectiveness.

Information Directorate -- With headquarters at Rome, N.Y., the Information Directorate develops information technologies for aerospace command and control, and its transition to air, space and ground systems. Its focus areas include information fusion/exploitation, communications/networking, collaborative environments, modeling/simulation, defensive information warfare and intelligent information systems technologies. Directorate scientists and engineers develop systems, concepts and technologies to enhance the Air Force's capability to successfully meet the challenges of the information age.

Materials and Manufacturing Directorate -- With headquarters at Wright-Patterson AFB, Ohio, and an additional research facility at Tyndall AFB, Fla., the Materials and Manufacturing Directorate develops new materials, processes and manufacturing technologies for use in aerospace applications. With a host of modern materials and analysis laboratories, it provides quick reaction support and real time solutions to Air Force weapon system acquisition offices, field organizations and maintenance depots to solve materials related concerns and problems. The directorate plans, executes advanced manufacturing technology programs and affordability initiatives addressing manufacturing technologies, computer integrated manufacturing and excellence through design for military needs.

Munitions Directorate -- With headquarters at Eglin AFB, Fla., the Munitions Directorate develops, demonstrates and transitions technology

for air-launched munitions for defeating ground fixed, mobile/relocatable, air and space targets to assure pre-eminence of air and space forces. The directorate conducts basic research, exploratory development, and advanced development and demonstrations. It also participates in programs focused on technology transfer, dual-use technology and small business development. The directorate is dedicated to providing the Air Force with a strong revolutionary technology base upon which future air-delivered munitions can be developed to neutralize potential threats to the United States.

Propulsion Directorate -- With headquarters at Wright-Patterson AFB, Ohio, and an additional research facility at Edwards AFB, Calif., the Propulsion Directorate develops air and space vehicle propulsion and power technologies. Focus areas include turbine and rocket engines, advanced propulsion systems, and the associated fuels/propellants for all propulsion systems. It is also responsible for most forms of power technology making it one of the nation's leaders in its field. Programs address both future systems and the need to keep current systems competitive, safe, affordable and effective.

Sensors Directorate -- With headquarters at Wright-Patterson AFB, Ohio, and additional research facilities at Hanscom AFB, Mass. and Rome, N.Y., the Sensors Directorate develops the new technologies that U.S. warfighters need to find and engage the enemy and eliminate its ability to threaten our forces. The directorate develops sensors for air and space reconnaissance, surveillance, precision engagement and electronic warfare systems. The directorate's vision is to provide a full range of air and space sensors, networked to the warfighter, providing a complete and timely picture of the battlespace enabling precision targeting of the enemy and protection friendly air and space assets.

Space Vehicles Directorate -- With headquarters at Kirtland AFB, N.M. and an additional research facility at Hanscom AFB, Mass., the Space Vehicles Directorate develops and transitions space technologies for more effective, more affordable warfighter missions. The directorate leverages commercial, civil and other government resources that ensure the U.S. defense advantage. Primary focus areas include radiation hardened electronics; space power; space structures and control; space based sensing; space environmental effects; autonomous maneuvering; and balloon and satellite flight experiments.

CALL FOR PAPERS



79th Shock and Vibration Symposium
October 26-30, 2008
Rosen Plaza Hotel - Orlando, FL.

Planning of the 79th Shock and Vibration Symposium is underway, with the selection of the Rosen Plaza Hotel in Orlando, FL.. The featured government agency is the Air Force Research Laboratory (AFRL).

The Shock & Vibration Symposium is the oldest US Government sponsored forum dealing specifically with the shock and vibratory response of air, sea, space, and ground vehicles and structures and blast effects. The Symposium was established as a mechanism for the exchange of information among Government activities, private industry, and academia on current work and new developments. Presentations on work in progress are encouraged. Separate sessions are held for presentation of classified or limited-distribution material.

The following is a list of suggested subject areas (other subject areas are welcome):

901D Case Studies	Environmental Databases	Seismic Shock
Active Vibration Control	Finite Element Analysis	Pyrotechnic Shock
Ballistic Shock	Fluid-Structure Interaction	Shock Characterization
Biodynamics	Ground Shock	Shock Hardening
Blast Design	Impact/Penetration Mechanics	Shock Qualification by Extension
Combined Environments	Instrumentation	Shock Test/Equipment Failure Modes
Computational Structural Dynamics	Isolation Systems	Simulation Methods
COTS	Large Structures	Specifications and Standards
Crash Dynamics	Live Fire Testing	System Identification
Damage Identification Damping	Machinery Diagnostics	Test Criteria
Data Analysis	Machinery Vibration	Test Tailoring
Dynamic Analysis Methods	Material Dynamic Properties	Underwater Shock Testing
Dynamic Measurement	Modal Analysis and Testing	Vibroacoustics
Dynamic Scale Modeling	Product Announcement/Facility Description	
Dynamic Testing		

If you have a specific group of papers or presentations, consider submitting them together as a dedicated session for the 79th symposium.

Two categories of presentations will be accepted: full papers, suitable for publication in the Symposium Proceedings; and short discussion topics, consisting of viewgraphs with no written paper. Full papers will have a 15 minute technical presentation time plus 5 minutes for questions, while short discussion topics will have a 10 minute presentation time with no question period.

Presentations will be accepted on the basis of their abstracts, which must be submitted by June 30, 2008. You are encouraged to submit online at www.saviac.org, click on 79th S&V Symposium Abstract Submittal. The Program Committee will review the abstracts during the July Program Committee meeting and authors will be notified of acceptance by July 14, 2008 (for on-time submittals). The full paper presentations must meet the following standards: They must be previously unpublished, must be appropriate to community interests and must not be overtly commercial, except for papers in the Product/Facility Session. Standards for short discussion topics are similar except that they may include previously presented or published material.

The Proceedings will be published on CD-ROM.

The paper due-date (for the proceedings) is February 28, 2009.

Questions should be directed to Drew Perkins, 434-581-3041, or drew.perkins@saviac.org.

MECHANICAL SHOCK TEST TECHNIQUES & DATA ANALYSIS2008 Schedule and Locations

August 11-15, 2008 (Long Island, NY)

About the Course

Mechanical Shock may be defined as a sudden change in velocity and is a major design consideration for a wide variety of systems and their components. The structural response to mechanical shock must be measured and characterized during the engineering development of these systems so that they will survive all environments during their service lifetime. These environments may include (but are not limited to): handling and transportation shocks, shocks during system delivery to a target, use impact shocks and shock originating from an explosive or pyrotechnic event. These different shock environments have quite a velocity change range from about 1 meter per second to 51 meters per second (40 - 2000 ips). Conversely acceleration magnitudes range from 4 g's in earthquakes to 200,000 g's in differentiated LDV measured pyroshocks.

This course will provide a comprehensive treatment of mechanical shock test techniques and data analysis for shocks from 100 g's to 200,000 g's. Mechanical shock instrumentation from low frequency techniques for underwater explosions (digitally filtered at 250 Hz as required by the US Navy) to high frequency techniques for ballistic shock will be reviewed in detail along with the techniques and data analyses to evaluate the instrumentation measuring these shocks.

Mechanical shock test techniques from package testing to conventional mechanical shock machines to pyroshock simulations and Hopkinson bar techniques will be presented. Design procedures for mechanical shock equipment will be discussed in detail. Where possible, theoretical bases for mechanical shock test techniques are provided. Mechanical shock data analysis and interpretation will be a major focus of all presentations and discussions and will include shock data examination and editing as well as interpolation, trend removal, and integration with Matlab.

Instructors

Dr. Vesta Bateman and Dr. Howard Gaberson

Course Topics

Introduction to Mechanical Shock	Data Acquisition System Calibration/Use	Accelerometer, MEMS, and Materials
Mechanical Shock Measurement	Matlab Data Analysis	Evaluations
Mechanical Shock Instrumentation	Conventional Shock Testing Machines for	Hopkinson Bar Theory
Certification of Shock Instrumentation/ Measurement Devices	Components and Full Scale Systems	Hopkinson Bar Certifications
Time Domain Shock Specifications	Underwater Explosion Testing	Hopkinson Bar Materials and Configurations
Frequency Domain Shock Specifications	Navy Mechanical Shock Machines	Commercial Laser Doppler Vibrometer use and Certification
Shock Analysis using the Acceleration Shock Response Spectrum	Pyroshock Testing and Simulation	Uncertainty Analysis
Revolutionary Treatment of Pyroshock with the Pseudo Velocity Shock Spectrum	Full-Scale Pyroshock Tests and Simulations	Review and Wrap-up Sessions
	Component Pyroshock Simulations Including Apparatus and Fixture Design	

Course Registration

The Registration Fee is \$1500 per student. The registration is transferable to any person in the same organization. The fee includes a comprehensive set of course notes, a compilation of papers by Instructors Bateman and Gaberson, a text book entitled *Shock Data Analysis* by Rudolph J. Scavuzzo and Henry C. Pusey, a Certificate of completion worth 3 CEUs, as well as a Continental Breakfast, Lunch and coffee breaks daily. A Registration Form may be printed out from the SAVIAC Web Site or may be requested from Sallie Pusey, SAVIAC Course Registrar (Contact Information below). A Registration Form (available mid-Dec '07) may be printed out from the SAVIAC Web Site or may be requested from Sallie or Henry Pusey. As SAVIAC Technical Services Manager, Henry Pusey will arrange for the scheduling, management, and presentation of all courses. All completed registration forms should be faxed or mailed to Sallie Pusey at the address given below.

For registration information contact:

Sallie Pusey, Course Registrar
1877 Rosser Lane
Winchester, VA 22601

Tel: (540) 678-8677
Fax: (540) 678-8799
email: saviac@comcast.net

NOTE: Registrants will be provided details about the course location and hotel(s) as soon as the course is firmly scheduled.

PRACTICAL SHOCK ANALYSIS AND DESIGN COURSE

2008 Schedule and Locations

September 8 - 12, 2008 (Newport, RI)

About the Course

At the first Shock and Vibration Symposium in 1947, mechanical shock was defined as "a sudden and violent change in the state of motion of the component parts or particles of a body or medium resulting from the sudden application of a relatively large external force, such as a blow or impact." Since then the specific words used have changed somewhat but the meaning remains the same. Most analysts treat shock as a transient vibration. No matter how it is described or what source produced it, the effects of mechanical shock on structures and equipment create major design problems for a wide variety of systems.

This course will provide a comprehensive treatment of practical shock design and analysis with special emphasis on applications related to the design of ship structures and equipment for shock loads produced by underwater explosions.

Participants in this course will have an opportunity to increase their knowledge and understanding of the analytical and experimental tools that are available for shock design and qualification particularly with respect to requirements that are imposed for shipboard equipment. The lectures will provide a basic review of vibration and shock theory and will present the analytical and experimental methodology in the context of particular design applications. Analytical lectures will emphasize the physical significance of the results. Examples and case histories will be used as illustrations of design approaches; workshop problems that involve class participation will be used to advantage throughout the course. Class members will be encouraged to propose real design problems. The instructors will provide guidance for solutions or the problems may be used as class exercises.

Although this course is aimed primarily at shock design applications on ships, the analysis and design techniques presented are equally applicable to problems related to design for seismic loads or blast induced ground shock. Thus, engineers in these related areas may find the course to be useful. For all who participate, the course will provide a comprehensive coverage of shock design practice and a solid basis for further exploration of shock technology.

Instructors

Dr. Rudolph J. Scavuzzo, Mr. Henry Pusey, Mr. G. D.Hill, Mr. Jeffery Morris

Course Topics

Review of Basic Vibration Theory	Introduction to Mechanical Shock	Shock Measurement
Underwater Shock Phenomena	Multi-Degree-of-Freedom Systems	Navy Shock Qualification Process
Shock Qualifications by Test	Shock Qualification by DDAM	Shock Qualification by Extension
2-Dimensional Normal Mode Theory	Practical Design Considerations	Special Design and Analysis Tools
3-Dimensional Normal Mode Theory	Optimum Foundation Design	Use of Finite Element Analysis-DDAM
General Problem Solving Workshop		Review and Wrap-up Sessions

Course Registration

The Registration Fee is \$1500 per student. The registration is transferable to any person in the same organization. The fee includes a comprehensive set of course notes, a text book entitled Naval Shock Analysis and Design by Rudolph J. Scavuzzo and Henry C. Pusey, a Certificate of completion worth 3 CEUs, as well as a Continental Breakfast, Lunch and coffee breaks daily. A Registration Form may be printed out from the SAVIAC Web Site or may be requested from Sallie or Henry Pusey. As SAVIAC Technical Services Manager, Henry Pusey will arrange for the scheduling, management and presentation of all courses. All completed registration forms should be faxed or mailed to Sallie Pusey at the address given below.

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SUMMER 2008 SHOCK AND VIBRATION SEMINAR AND TAG - JULY 15 & 16



**ROSEN PLAZA HOTEL
ORLANDO, FL**

SAVIAC continues to offer two **free** one-day shock and vibration seminars each year. The 2nd seminar for 2008 will occur on Tuesday, July 15 at the Rosen Plaza Hotel in Orlando, FL.

The preliminary agenda for the one-day seminar will be available by the end of

April, and it will be posted, along with other seminar details, at www.saviac.org. To get an idea of topics presented, please view the past seminar agendas also available on the SAVIAC website.

In association with the one-day seminar, the annual Technical Advisory Group's Program Committee Meeting will be held the following day:

Wednesday, July 16, 2008. This meeting serves many purposes, but it primarily focuses on building the program and reviewing abstracts for the upcoming symposium. This meeting is limited to current Technical Advisory Group (TAG) members.

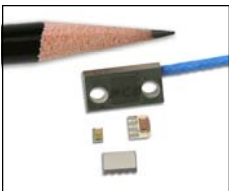
If you are interested in attending the one-day seminar or if you are a current TAG member planning to participate in the meeting, please make your hotel reservations now. The contact information for the hotel is below.

Hotel:	Rosen Plaza Hotel	Group Name:	SAVIAC
Location:	Orlando, FL	Group Rate:	\$99
Phone:	(800) 627-8258		
Website:	www.rosenplaza.com		

ADVERTISEMENT

PCB Piezotronics Debuts MEMS Miniature High Amplitude 20,000 g Shock Accelerometer Series and Related Signal Conditioning for Aerospace & Defense and Extreme Test & Measurement Applications

The **Aerospace & Defense** division of **PCB Piezotronics (PCB®)** has announced the launch of Series 3991 & 3993, a family of MEMS-based, miniature high amplitude 20,000 g shock accelerometers, which are among the industry's smallest. Design concepts for these PCB® sensors were born from more than 20 years of expertise in very high g shock ($\geq 20,000$ g) measurement applications and sensor development, with designs developed by one of the world's most renowned experts in this technology.



Series 3991 & 3993 MEMS-based miniature high amplitude shock accelerometers, available in both single axis and triaxial configurations, represent state-of-the-art MEMS design and fabrication, for miniature, high-amplitude, DC response acceleration sensors capable of measuring long duration

transient motion, as well as responding to and surviving extremely fast rise times, typical of a high-g shock event. Several configurations are offered to fulfill a variety of installation requirements, with a standard footprint that is a drop-in replacement for competitive models. Each style shares the same air-damped acceleration sensing element, which is micromachined from silicon using the latest advances in etching techniques. This tiny element measures just 2.5 x 1.7 x 0.9 mm (l x w x h) incorporating a seismic mass, and a full-active, piezoresistive Wheatstone bridge, which provides minimal zero shift, very low power consumption and DC response capability.

Sensors are designed with internal stops for large over-shock survivability and overall ruggedness; high-strength, low-weight titanium housing; and are offered with integral, very low-noise, 4-conductor integral Kevlar® cables. Additionally, a 5% damping capability is offered on Model 3991A1020KG, to provide lower-noise, better data fidelity (cleaner signal) and phase accuracy, quick response, and near-field pyroshock measurement capabilities. With these and other specially designed features, models within Series 3991/3993 are intended to fulfill demanding aerospace and defense requirements, as well as a wide assortment of

product testing applications. Typical applications include fuze/safe and arm applications; penetrator tests; crash and impact testing; metal-to-metal impacts; canon and mortar firings; drop testing; blast loading of structures; and consumer electronic products testing.



PCB® has also introduced Model 478A30, a microprocessor controlled, 3-channel DC sensor signal conditioner with selectable gain, designed to be compatible with new Series 3991/3993 MEMS high amplitude 20,000 g DC response shock accelerometers,

and providing the end user with a MEMS-based high-g shock measurement system, which offers a frequency range from DC to 150k Hz. The significant feature of this device is its automatic zero adjustment capability for elimination of a sensor's inherent DC offset voltage. Model 478A30 features three independent operating channels with individual excitation voltage, selectable excitation voltage levels from 0-14 VDC; differential output and gain adjustment from 0 to 999.9, as well as BNC output connectors, for easy hookup to readout and recording instruments. The unit may also be used with PCB® Series 3741 MEMS DC response accelerometers.

Launched in 2008, Aerospace & Defense division of PCB Piezotronics serves the Turbine Engine, Helicopter Usage and Monitoring Systems (HUMS), Ground Vibration Testing, Wind Tunnel Testing, Fuze/Safe and Arm, Spacecraft and Aerospace Systems design and development communities with sensors and associated signal conditioning for measurement of acceleration (vibration, shock and rigid body); acoustics; pressure; piezoresistive (both strain gage and MEMS); and variable capacitive (both MEMS and microphone). Manufacturing operations are certified to AS9100:2004 and ISO9001:2000, with calibration procedures accredited by A2LA to ISO17025. Products can be manufactured to meet specific aerospace environmental standards, with program design requirements to meet RTCA-DC-160 and MIL-STD-810, and low gassing designs available for specific applications. For detailed drawings, specifications, or additional information, please visit www.pcb.com.

Conferences, Courses, Info

Random Vibration and Shock Test Training

- May 13-15, 2008, 8am to 4pm.
- DfR Laboratories, College Park, Maryland

The severe vibrations aboard rockets, spacecraft and satellites en route to orbit and the less severe but sometimes troublesome vibrations of military and commercial aircraft (especially helicopters), military and naval land and sea vehicles and automobiles are among the vibration subjects that Wayne Tustin will discuss at the "Fundamentals of Random Vibration and Shock Testing, HALT, ESS, HASS (...)" course. Numerous testing laboratories, including DfR, utilize vibrating laboratory platforms (called shakers) to simulate those vibrations, proving that products will survive inservice vibrations. Further information on the event is available at <http://www.equipmentreliability.com/course3.htm>.

The May course will deal with accelerometers, used in measuring vibrations over the road, over the waves, in flight and during rocket launch and powered flight. Accelerometer signals are usually telemetered to recording stations. One use of the resulting data: generating programs to control shakers. These are used to test parts of future vehicles.

For more information,, please contact Wayne Tustin of the Equipment Reliability Institute at (805) 564-1260 or by email at tustin@equipment-reliability.com.

Random Vibration and Shock Test Training

- June 3-5, 2008, 8am to 4pm
- Celestica Inc., Toronto (Ontario), Canada,

Earthquakes are only one of the vibration subjects that Steve Brenner will discuss at the "Fundamentals of Random Vibration and Shock-Testing, HALT, ESS, HASS (...)" course, meeting. He will also discuss the severe vibrations aboard-helicopters and other aircraft, aboard rockets, spacecraft and satellites en route to orbit and the less severe but sometimes troublesome vibrations of automobiles and other land vehicles. Numerous testing laboratories, including one at Celestica, utilize shakers to simulate those vibrations, proving that products will survive in-service vibration. Further information on the event is available at <http://www.equipmentreliability.com/course1.htm>.

The June course will deal with accelerometers, used in measuring vibrations over the road, over the waves, in flight and during rocket launch and powered flight. Accelerometer signals are usually telemetered to recording stations. One use of the resulting data is the generating of programs to control vibrating laboratory platforms called shakers. These are used to test parts of future vehicles.

For more information,, please contact Wayne Tustin of the Equipment Reliability Institute at (805) 564-1260 or by email at tustin@equipment-reliability.com.

TTI Announces Course Schedule

- Las Vegas, NV.

"In just a few days you will obtain practical information to immediately improve your on-the-job performance."

- April 24-25
Calibration Laboratory Procedures
- April 28-30
Digital Data Acquisition
- April 28 - May 2
Data Acq., Signal Processing & Analysis
- May 5-7
Mechanical Design for Product Reliability
- May 5-9
Fixture Design for Vibration & Shock Testing
- May 13-14
Test Procedures for EMI/EMC/ESD
- May 15-16
Dimensional Calibration Procedures
- May 19-20
Understanding ISO 17025
- May 21-23
Corrosion Control Techniques
- May 28-30
Reliability for Product Quality

Course Fees	
2-day courses	\$1495
3-day courses	\$1795
4-day course	\$2095
5-day courses	\$2395

\$100/person discount for group enrollments of two or more. \$100/course discount for one individual to multiple courses.

\$100 discount for 45 day early payment prior to course date. All courses are also available on-site.

Technology Training, Inc.
Brian P. Slattery - Vice President
toll-free: 866-884-4338 (866-TTi-4edu)
e-mail: brian@ttiedu.com
<http://www.ttiedu.com>

Explosion Effects and Structural Design for Blast

- July 22 and 23, 2008
- Holiday Inn Washington Dulles Airport

Led by Dr. Sam Kiger and Dr. Stan Woodson

Engineers have an opportunity to improve their skills in understanding explosion effects and designing facilities that are safer to occupants by understanding and minimizing the effects of explosive detonations on structures. Architects, first responders, builders and others will also benefit by understanding explosion effects and protective design methods. For more information and secure on-line registration visit <http://www.blastdesigntraining.com/>

Got News or Conference Announcements?

Please submit your information to
ashley.shumaker@saviac.org
with a subject heading of
"Current Awareness News"

62nd Meeting of the Society for Machinery Failure Prevention Technology

- May 6-8, 2008
- Virginia Beach, VA

Failure Prevention for System Availability

The 2008 Program THEME was chosen in response to the growing importance of availability to system operators' performance, efficiency, competitiveness and, ultimately, "bottom line". The conference will thus focus on how failure prevention technologies beneficially influence availability, and therefore effectiveness, support cost and through-life value of the systems that they support.

Paper topics for the conference include, but are not limited to, the following:

- Diagnostics and Signal Analysis
- Data Usage, Manipulation and Creation of Information/ Knowledge Bases
- Prognostics (Machinery, Structures, Electronics)
- Selection and Application of Metrics
- Fault Detection and Failure Prediction
- Standards, Definitions and Terms of Reference
- Corrosion Detection and Prevention
- Remaining Useful Life Determinations
- Tribology (Wear, Lubrication, Coatings Applications, etc)
- Distributed System Architecture
- Structural Health Management
- Sensor Technologies and Applications
- Practical Case Histories

Call or e-mail Chris Pomfret or Rick Wade for more information

PH: (937) 256-2285

E-Mail: chris@mfpt.org or rick@mfpt.org

New 2008 Endevco Dynamic Test Handbook Provides Complete Resource for Frequently Needed Data

Endevco, the leader in sensing solutions for demanding shock, vibration and pressure applications, has announced publication of its new 2008 Dynamic Test Handbook. This handy volume provides a convenient and complete reference for a wide range of commonly used data to assist in effective and efficient testing operations.

The Endevco Dynamic Test Handbook has been a must-have reference in the measurement industry for over 30 years. It has now been revised and reprinted by popular demand. Sections include the following:

- Conversion factors
- Mathematical constants and relationships
- Dynamic measurements
- Electric circuit formulas
- Signal conditioning
- Environment factors

"One of our highest priorities is to assist design engineers and test professionals in selecting and using the right sensing solution for the needs," said Bruce Lent, Endevco Applications Engineer. "Our Dynamic Test Handbook has been continually refined to provide critical reference data in a single, easy-to-use volume."

Visit www.endevco.com/contactus/litrequest.aspx to order the 2008 Endevco Dynamic Test Handbook. For information on Endevco products and services, visit www.endevco.com.

SAVIAC / HI-Test Laboratories, Inc.
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Arvon, VA 23004

**A LOOK INSIDE THE APRIL 2008
CURRENT AWARENESS**



**79th Shock and Vibration Symposium Featured
Organization Overview:**
[Air Force Research Laboratory \(AFRL\)](#)

79th Symposium “Call for Papers”

Course Announcements

- SAVIAC’s Practical Shock Analysis & Design
- SAVIAC’s Mechanical Shock Test Techniques & Data Analysis

SAVIAC’s Free 1-Day Seminar - July 15, 2008

PCB Advertisement

Courses, Conferences, and Info

The Current Awareness newsletter is published by the Shock and Vibration Information Analysis Center, which is operated by HI-Test Laboratories, Inc., under contract to the U.S. Army Engineer Research and Development Center.

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