



# ASIP2010

THE AIRCRAFT STRUCTURAL INTEGRITY PROGRAM CONFERENCE

## ASIP 2010 FINAL PROGRAM

NOVEMBER 30 - DECEMBER 2, 2010 / SAN ANTONIO, TEXAS

# WELCOME TO ASIP 2010

## THE USAF AIRCRAFT STRUCTURAL INTEGRITY PROGRAM (ASIP) CONFERENCE

The 2010 Aircraft Structural Integrity Program (ASIP) Conference is specifically designed to bring together the world leaders in the area of aircraft structural integrity and to disseminate information on state-of-the-art technologies for aircraft structures in both the military and civilian fleets. This is the 26th year of the ASIP Conference in its current format, although similar meetings occurred in the 1970s. This year also marks the 52nd anniversary of the publication of the initial requirements for the US Air Force's Aircraft Structural Integrity Program.

ASIP 2010 will continue to provide a forum for the technical interchange of information between personnel responsible for structural integrity, including design, analysis, testing, manufacture, certification, non-destructive evaluation/inspection, maintenance, repair, safety, risk assessment and mitigation, durability and life management. This interchange helps provide the communication necessary to ensure that each community is aware of each other's capabilities and needs. The ASIP Conference has become even more important to the Air Force, Navy, Army, NASA and the FAA due to the constantly growing emphasis on sustaining the airworthiness of aging aircraft.

## ABOUT SAN ANTONIO

San Antonio has always been a crossroads for travelers, explorers, and those on a quest for liberty. Its sights, sounds, tastes and past captivate, while friendly people, the relaxing river and a superb climate entice visitors to come back for more.

From its important role in Texas independence to its fusion of cultures, San Antonio is a truly unique and authentic destination. Explore the routes of the conquistadors, the settlements of the first missions, and the Shrine of Texas Liberty—the Alamo. San Antonio's heart is in its past—but its future is in its celebration of cultures.

### THE RIVER WALK

Millions of people visit the River Walk each year to enjoy this unusual urban sanctuary that winds along the San Antonio River in central San Antonio, one story below the bustling street level. Restaurants, galleries and shops line the banks of the downtown River Walk while the north and south banks of the River are less commercial.

San Antonio Text Provided by: [visitsanantonio.com](http://visitsanantonio.com)

## THE GRAND HYATT SAN ANTONIO

### Physical Address:

600 E. Market Street,  
San Antonio, Texas, 78205

Tel: 210-224-1234

The Grand Hyatt San Antonio is Set amidst a blend of histories and a modern city, our urban retreat has a premier location adjacent to the Henry B. Gonzalez Convention Center, HemisFair Park, and the Riverwalk.

With a dramatic design that exemplifies this unique city, Hyatt Regency San Antonio offers warm hospitality, bold colors and exceptional touches creating a luxury San Antonio Riverwalk hotel that is perfect for every guest; whether traveling for work or vacation.

Photo Credit: The Grand Hyatt San Antonio

## THE SAN ANTONIO INTERNATIONAL AIRPORT (SAT)

### Airport Address:

San Antonio International Airport  
9800 Airport Blvd.  
San Antonio, TX 78216

### General Airport Information:

210-207-3411

### Lost and Found:

210-207-3451

[www.sanantonio.gov/aviation](http://www.sanantonio.gov/aviation)

ASIP INTRODUCTION

ABOUT JACKSONVILLE

HOTEL INFORMATION

AIRPORT INFORMATION

2010 FEATURED SPEAKERS

2010 AGENDA

2010 EXHIBITOR MAP

2010 EXHIBITORS



# ASIP 2010 FINAL PROGRAM

NOVEMBER 30 - DECEMBER 2, 2010 / SAN ANTONIO, TEXAS



# 2010 FEATURED SPEAKERS



## 2010 LINCOLN AWARD WINNER - PROFESSOR GRAHAM CLARK

Professor Clark retired from the Defence Science and Technology Organisation in Australia in 2005 where he served as Research Leader Structural Integrity. He was responsible for leading basic research on aircraft structures, including full-scale testing, and providing program support to the Australian Defence Force. This included responsibility for providing DSTO's advice to the Australian Defence Force on all fleet aircraft life and structural integrity issues. Prior to that he led the a DSTO research group undertaking research into fatigue and life extension. Part of the group supported the ADF by assessing aircraft structural and materials defects, failures and deterioration, including providing support for defect assessment, including NDE, in major full-scale fatigue tests.


He also led the DSTO Accident Investigation Team, over a period in which some 50 accidents and incidents were investigated, including several very demanding investigations which identified major issues with fleet airworthiness and led to extensive research programs for fleet recovery.

In 1977 Graham started his DSTO career in materials engineering researching fatigue and fracture issues for a wide range of Army equipment, notably large-calibre (105mm) ordnance and armoured vehicles, as well as Navy materiel (torpedo and propulsion systems). After several years he moved to aircraft research, and developed programs modeling impact damage and fatigue of impact-damaged composites for F/A-18.

Prior to this, in the UK, he undertook post-doctoral research at the University of Cambridge for the Royal Navy into fatigue cracking in nuclear pressure vessels for submarines, and this included the development of structural health monitoring systems to ensure integrity. His PhD research investigated fatigue crack growth at notches, principally in high-strength steels and titanium alloy.

Since 2008, he has been Innovation Professor, Aeronautical Design, at RMIT University in Melbourne, where he leads research into the degradation of aircraft components, repair, life extension and crashworthiness.

Professor Clark has served as the Australian National Delegate to the International Committee on Aeronautical Fatigue, as the National Leader of the Materials Performance in Systems panel of The Technical Cooperation Program, and on numerous structural review teams/panels. He has authored



over 250 publications in the structural integrity area, and has received numerous 'best paper' awards. He is a fellow of the Institution of Engineers Australia.

### **TUESDAY LUNCHEON SPEAKER - MR. JOHN DELISI**

Mr. DeLisi has been with the National Transportation Safety Board for since 1992, serving as Deputy Director of the Office of Aviation Safety for the past two years. He began his career with the Safety Board as an Aircraft Systems Engineer in the Aviation Engineering Division, and was an on-scene investigator for 20 major airline accidents and 6 international investigations. He authored 16 safety recommendation letters that have led to improvements on air carrier airplanes such as the B737, B747, B757, B767, and A320. Mr. DeLisi became Chief of the Aviation Engineering Division, which is responsible for investigating the airworthiness of aircraft involved in major aviation accidents. He also served as the Chief of the Major Investigations Division and oversaw over a dozen major airline accident investigations, including the investigation of the Comair Flight 5191 accident in Lexington, Kentucky.

Mr. DeLisi has presented technical papers at conferences sponsored by the American Institute of Aeronautics and Astronautics, the Flight Safety Foundation, the International Aviation Safety Association, and has been the Sigma Series Lecturer at the NASA Langley Research Center. He is a recipient of the Safety Board's Managing Director's Award and has twice been nominated for the Safety Board's Dr. John Lauber Award for technical excellence in accident investigation.

Mr. DeLisi is a cum laude graduate of the University of Michigan with a degree in Aerospace Engineering, and has done graduate work in Engineering Management at Washington University in St. Louis, Missouri. He also holds a private pilot certificate and has multi-engine, instrument, and aerobatic experience. Prior to joining the Safety Board, Mr. DeLisi spent 10 years as a Flight Test Engineer with McDonnell Douglas, where he was involved in flight test programs on F-15 and F/A-18 aircraft.

### **WEDNESDAY LUNCHEON SPEAKER - MR. RUSSELL B. HOWARD**

Russell B. Howard, a member of the Senior Executive Service, is Director of Engineering and Technical Management, Headquarters Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio. Mr. Howard leads the development and implementation of engineering policies and practices spanning science and technology, research, development, test and evaluation, and sustainment. In this capacity, he is charged with the overarching systems engineering and technical management policy and practices focused on achieving fleet operational safety, suitability and effectiveness. Mr. Howard also directs development of new initiatives designed to improve the recruitment and career management of military and civilian scientists and engineers.

Mr. Howard began his civil service career in 1983 as a munitions test engineer for the 46th Test Wing at Eglin AFB, Fla., later becoming Technical Director of the Munitions Test Division. In 2000, he joined the Counterair Joint System Program Office where he held a variety of assignments, including Chief Engineer for Product Development and Chief of the Advanced Medium Range Air-to-Air Missile International Product Group. Mr. Howard has also served as the first Director of Engineering for the Air-to-Ground Munitions Systems Wing.

Mr. Howard has also served in the Air Force Reserve since 1989. He was appointed to the Senior Executive Service in 2006.

## TUESDAY, NOVEMBER 30, 2010

7:00 AM

**REGISTRATION/CONTINENTAL BREAKFAST**

8:00 AM

**WELCOME/LINCOLN PRESENTATION & AWARD**

*Mr Charles Babish - USAF ASC/EN*

8:00 AM

**ASI - An Australian Perspective**

*Prof Graham Clark - RMIT University Australia*

9:15 AM

**BREAK**

9:45 AM

**SESSION 1: OVERVIEWS I**

*Dr Charles Ward - USAF AFRL/RXL*

9:45 AM

**Moving Forward with ASIP on the F-15**

*Mr Jeffrey McFarland - The Boeing Co*

10:15 AM

**A B-1 ASIP Overview - Tough Issues, Real Solutions, Promising Future**

*Mr John Morgan - DoD*

10:45 AM

**The F-16 Sustainment ASIP: Impacts of Revised USAF Damage Tolerance Requirements for Fail-Safe Metallic Structure**

*Mr Timothy Jeske - Lockheed Martin Co*

11:15 AM

**Strength Summary and Operating Restrictions Development as Applied on the F-35 Program**

*Mr Jeff Schweiss - Lockheed Martin Co*

11:45 AM

**GROUP LUNCHEON AND PRESENTATION**

12:45 PM

**"We're Gonna be in the Hudson..." Lessons Learned from the US Airways Flight 1549 Investigation**

*Mr John DeLisi - National Transportation Safety Board*

1:30 PM

**SESSION 2: CHARACTERIZATION, MODELING & TESTING I**

*Mr Robert Eastin - FAA*

1:30 PM

**Effect of Defect and Damage Tolerance Study for Bonded Composite Structures**

*Mr Mostafa Pourmand - Northrop Grumman Corp*

- 2:00 PM **FEA & DTA Development for A-10 Fuselage Longeron Cracking**  
*Mr Hazen Sedgwick - USAF*
- 2:30 PM **Full-Scale Drop Testing of the F-35C Lightning II**  
*Mr Richard Chichester - Lockheed Martin Co*
- 3:00 PM **BREAK**
- 3:30 PM **SESSION 3: NONDESTRUCTIVE INSPECTION/EVALUATION & STRUCTURAL HEALTH MONITORING**  
*Mr David Campbell - Oklahoma City Air Logistics Ctr*
- 3:30 PM **The United States Air Force Nondestructive Inspection Improvement Program**  
*Mr David Forsyth - TRI/Austin*
- 4:00 PM **CBM+ Viability for a Large Transport Aircraft**  
*Dr Dale Ball - Lockheed Martin Co*
- 4:30 PM **Computed Radiography vs Conventional Film Radiography for Crack Detection**  
*Dr Lawrence Butkus - USAF AFRL*
- 5:00 PM **Inspection Sample Sizes: Going Beyond AFMCI 21-102**  
*Mr Zachary Whitman - SwRI*
- 5:30 PM **RECEPTION & POSTER SESSION (EXHIBIT HALL)**  
Posters and Presenters are listed at the end of the agenda

## WEDNESDAY, DECEMBER 1, 2010

- 7:00 AM **REGISTRATION/CONTINENTAL BREAKFAST**
- 8:00 AM **SESSION 4: OVERVIEWS II**  
*Mr James Kocher - USAF AFRL*
- 8:00 AM **F-15 Structural Disassembly and Analysis Support Project**  
*1st Lt Amanda Alpaugh - WR-ALC*
- 8:30 AM **Effective ASIP Despite Evolving POI: An F-16 FS 341 Bulkhead Cracking NDI Case Study**  
*Dr Kimberli Jones - USAF*



# 2010 AGENDA

- 8:00 AM**      **SESSION 4: OVERVIEWS II (CONT.)**  
*Mr James Kocher - USAF AFRL*
- 9:00 AM**      **Prognosis: Lessons Learned To Date**  
*Dr Paul Hoffman - NAVAIR*
- 9:30 AM**      **BREAK**
- 10:00 AM**      **SESSION 5: PROGNOSTICS & RISK ANALYSIS**  
*Dr Paul Hoffman - NAVAIR*
- 10:00 AM**      **Continuing Correlated Risk Analysis of the C-5A Fuselage Aft Crown**  
*Mr Jeffrey Johnson - Lockheed Martin Co*
- 10:30 AM**      **Optimization of F-22 Scheduled Maintenance**  
*Dr Ji Park - Lockheed Martin Co*
- 11:00 AM**      **Application of Over-Flight Criterion to Fleet Sustainment**  
*Dr Michael Blinn - USAF OO-ALC*
- 11:30 AM**      **UH-1N Tail Boom Attach Fitting DTA - A Risk-Based Approach**  
*Mr David Carnes - Mercer Engineering & Research Ctr*
- 12:00 PM**      **GROUP LUNCHEON AND PRESENTATION**
- 1:00 PM**      **Luncheon Presentation**  
*Mr Russell Howard - USAF AFMC/EN*
- 1:45 PM**      **SESSION 6: CHARACTERIZATION, MODELING & TESTING II**  
*Mr Thomas Fischer - USAF AFMC/EN*
- 1:45 PM**      **Validation of Non-linear Thermo-Mechanical Analysis for the B-2 Aft Deck**  
*Dr Gregory Schoeppner - USAF ASC/ENFS*
- 2:15 PM**      **Large-Grain Effects on Fatigue Growth of Corner Cracks in Ti 6Al-4V BSTOA**  
*Dr Thomas Brussat - Tom Brussat Engineering LLC*
- 2:45 PM**      **The Effect of Age Dependent Spectra on Service Life Analyses**  
*Mr Travis Hawks - Lockheed Martin Co*



3:15 PM

**BREAK**

3:45 PM

**SESSION 7: REPLACEMENT CONCEPTS**

*Dr Edwin Forster - USAF AFRL/RBSA*

3:45 PM

**Considering Fiber Metal Laminate Aircraft Wings – What should we know?**

*Maj Gregory Rickerd - TU Delft*

4:15 PM

**A Finite Element Based Stress Intensity Solution for Cracks in Fiber Metal Laminates**

*Mr Douglas Miller - Lockheed Martin Co*

4:45 PM

**Impact Characteristics of GLARE Fiber Metal Laminates**

*Mr Henry Phelps - Lockheed Martin Co*

7:30 PM

**AFGROW WORKSHOP**

*Mr Alex Litvinov*

## **THURSDAY, DECEMBER 2, 2010**

7:00 AM

**REGISTRATION/CONTINENTAL BREAKFAST**

8:00 AM

**SESSION 8: REPAIR & REPLACEMENT CONCEPTS**

*Dr Lawrence Butkus - USAF AFRL*

8:00 AM

**C-130 Center Wing Rainbow Fitting Spare Redesign**

*Mr Frank McElwain - Lockheed Martin Co*

8:30 AM

**An Integrated Approach to Manage the Impact of Bulk Residual Stress on the Design-Build-Sustain Process for Primary Aircraft Structure**

*Dr Mark James - Alcoa Technical Ctr*

9:00 AM

**Positive Pressure Bonding of B-1 Dorsal Longeron Repair Doubler**

*Mr Soo Oh - The Boeing Co*



# 2010 AGENDA

**9:30 AM**      **BREAK**

**10:00 AM**      **SESSION 9: OVERVIEWS III**  
*Mr Mark DeFazio - USAF ASC/ENFS*

**10:00 AM**      **Overview of the Full Scale Static and Durability Tests on F-35 Lightning II Program**  
*Ms Marguerite Christian - Lockheed Martin Co*

**10:30 AM**      **Certifying the F-15C Beyond 2025**  
*Mr Paul Reid - The Boeing Co*

**11:00 AM**      **KC-135 IATP Issues**  
*Mr Jeffrey Wilterdink - USAF OC-ALC/GKCLB*

**11:30 AM**      **Nonconforming Titanium – USAF Response to the Threat of Substandard Material**  
*Mr Thomas Fischer - USAF AFMC/EN*

**12:00 PM**      **OPEN LUNCHEON**

**1:30 PM**      **SESSION 10: LIFE ENHANCEMENTS CONCEPTS I**  
*Mr Danny Barron - USAF OO-ALC*

**1:30 PM**      **F-22 Laser Shock Peening Depot Transition and Risk Reduction**  
*2Lt Kenneth MacGillivray - USAF*

**2:00 PM**      **Mitigation of Fatigue and Cracking Damage in F-16 Wing Pylon Cutout Through Low Plasticity Burnishing (LPB)**  
*Dr Narayanan Jayaraman - Lambda Technologies*

**2:30 PM**      **Hole Repair Solutions 101 - Structural Terminating Repair Solutions using Cold Expansion Methods**  
*Mr Len Reid - Fatigue Technology*

**3:00 PM**      **BREAK**

3:30 PM

**SESSION 11: LIFE ENHANCEMENTS CONCEPTS II**

*Mr James Gaskin - USAF WR-ALC/ENGI*

3:30 PM

**Warthog Stamina: Enhancements to the New A-10 Wing**

*Dr Paul Clark - USAF*

4:00 PM

**Validation and Verification of Cold Worked Holes**

*Dr William Ranson - Direct Measurements Inc*

4:30 PM

**Incorporating Laser Peening Residual Stress into a Holistic Life Assessment Approach**

*Mr Craig Brooks - APES Inc*

3:00 PM

**CONFERENCE ADJOURNS**

5:30 PM

**TUESDAY RECEPTION & POSTER SESSION (EXHIBIT HALL)**

**Unified Analytical Aspect (UAA) in order to find Universal Fatigue Crack Growth Model**

*Mr Mohammad Hadi Hafezi - Universiti Kebangsaan Malaysia*

**Material Testing of the Long Operated Helicopter Main Rotor Blades**

*Mr Marcin Kurdelski - Polish Air Force Institute of Technology*

**Investigation of Bulk Damage Progression and Inspection for GFRP Properties**

*Dr Joel Schubbe - US Naval Academy*

**3D Solid Model is the Design Definition for Aircraft Part**

*Mr Sam Filali - NAVAIR*

**Fatigue Life Assessment of Selected Structural Elements of Polish MI-24 Helicopter**

*LtCol Andrzej Leski - Polish Air Force Institute of Technology*

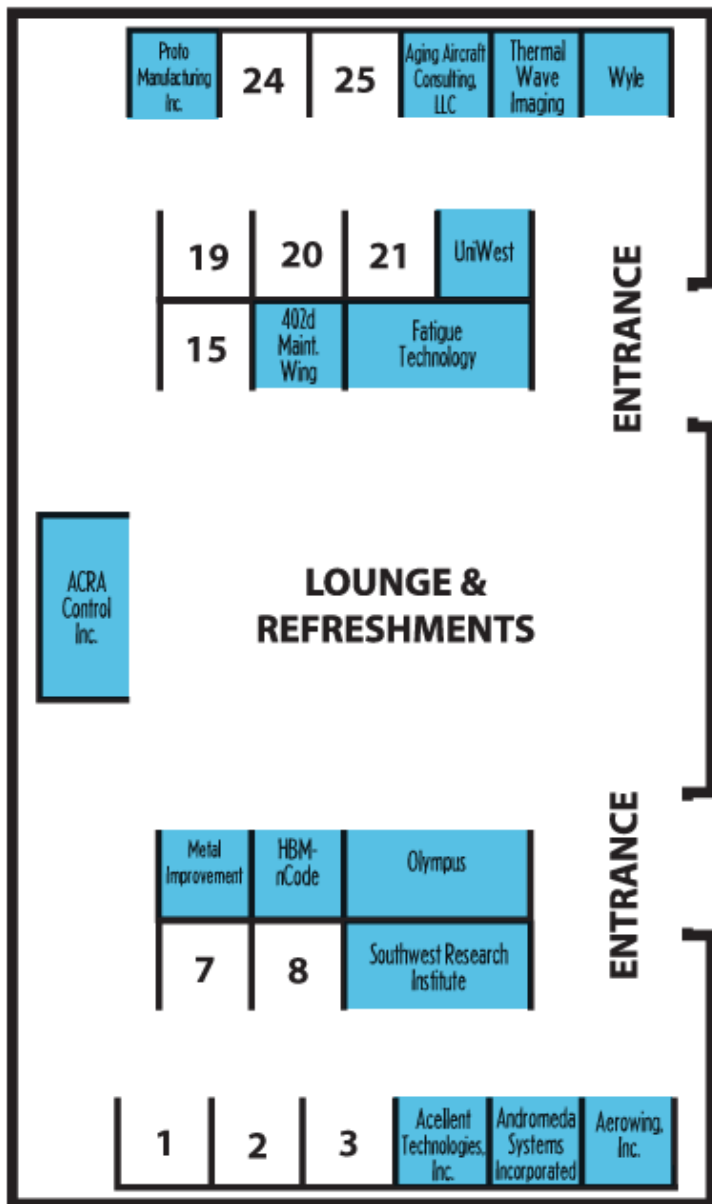
**The Studies of the Main Landing Gear Damage of the Su-22 Aircraft**

*LtCol Andrzej Leski - Polish Air Force Institute of Technology*

**Notch Sensitivity and Blunt Notch Strength of Thick Fiber Metal Laminates**

*Capt Geoffrey Cox - USAF AFRL*

## 2010 EXHIBITOR MAP



BOOTH #

16

## 402D MAINTENANCE WING

420 Richard Ray Blvd Ste 100  
Robins AFB, GA 31098  
(478)222-3219

**Mr Charles Hollingsworth**

charles.hollingsworth@robins.af.mil



BOOTH #

4

## ACELLENT TECHNOLOGIES INC.

835 Stewart Dr  
Sunnyvale, CA 94085  
(650)520-0002

**Mr Mark Pappakostas**

mark.pappakostas@acellent.com



Acellent Technologies, Inc. is the industry leader in the field of Structural Health Monitoring (SHM). We design and provide state-of-the-art SHM systems delivering comprehensive health monitoring for in-depth evaluation of aerospace, energy and civil structures. Acellent's products and services enhance the reliability and available uptime of mission critical structures. As the foundation of condition based maintenance protocol, our real-time diagnostics serves to reduce operational costs by avoiding downtime for unscheduled maintenance and potential in-service failure.

BOOTH #

29

## ACRA CONTROL INC.

26845 Point Lookout Rd  
Leonardtown, MD 20650  
(301)475-6757

**Ms Ashley Campbell**

acampbell@acracontrol.net



Submitted on Date:10/12/2010: ACRA CONTROL is a world leading supplier of airborne data acquisition networks and recording systems and real-time data processing ground stations to the aerospace industry. With two decades of experience, our reputation is built on reliable and innovative COTS products – a result of sustained investment in R&D and engineering expertise. This combined with AS9100 quality processes and strong program management ensures top class capabilities in aerospace projects of any size. ACRA CONTROL's customers include all of the major aerospace prime contractors and test agencies with products supplied to over 300 platforms in 40 countries worldwide.

ASIP 2010 EXHIBITORS

# ASIP

# 2010 EXHIBITORS

BOOTH #

6

## AEROWING INC.

101 Convention Center Drive  
Las Vegas, NV 89109  
(615)242-3833

**Mr Michael Evans**

support@aerowing.com; mike.evans@aerowing.com



Submitted on Date:11/4/2010: Aerowing is specialized in Rapid Leak Detection, Rapid Sealant Removal and Rapid Curing of sealants, paints and composites for commercial and military aircraft. We help aircraft operators expedite airframe repairs saving hours, and often times days, of ground time. ISO 9001 – MADE IN USA – CLASS 1 DIV 1 – USAF APPROVED

BOOTH #

26

## AGING AIRCRAFT CONSULTING LLC

64 Green St  
Warner Robins, GA 31093  
(478)923-8786

**Mr William Stuhr**

will.stuhr@aacl.aero



BOOTH #

5

## ANDROMEDA SYSTEMS INCORPORATED

330 Crossing Blvd  
Orange Park, FL 32073  
(904)637-2020

**Mr John Kummer**

administrative.support@androsysinc.com



Submitted on Date:11/9/2010: Andromeda Systems Incorporated is a technical services company providing expertise in engineering, logistics and maintenance, information technology, and program management. We assist asset managers in achieving optimal levels of economy, availability, and safety by developing and applying leading engineering tools and processes. ASI, an SDVOSB headquartered in Virginia Beach, Virginia.

BOOTH #

17

## FATIGUE TECHNOLOGY

401 Andover Park E  
Seattle, WA 98188  
(206)246-2010

**Mr Len Reid**

lreid@fatiguetechnology.com



Submitted on Date:11/2/2010: Fatigue Technology pioneered hole cold expansion and has advanced this science to develop innovative solutions for bushing, fastener, and aerospace fitting and hardware installations that improve maintenance and sustainment practices. Our products reduce the cost of aircraft ownership by reducing fatigue cracking, corrosion, and fuel leaks while extending inspection intervals and minimizing maintenance downtime.

BOOTH #

12

## HBM-NCODE

26555 Evergreen Rd  
Southfield, MI 48076  
(248)945-4331

**Miss Kim Hurt**

kim.hurt@hbmncode.com



...an HBM brand

Submitted on Date:10/29/2010: nCode software products are provided by HBM, a the world-wide technology and market leader, offering hardware, software and professional services for aircraft structural integrity and fleet readiness. nCode is the leading software brand for durability and data analysis solutions consisting of GlyphWorks, DesignLife, and Automation. These products help ensure the robust operation of aircraft with applications for Operational Loads Management, Health & Usage Monitoring and Condition Based Maintenance lwww.hbm.com/ncode

BOOTH #

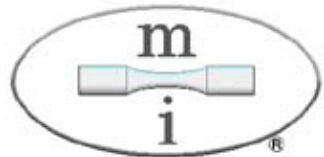
11

## METAL IMPROVEMENT

2428 Walden Dr  
Wichita, KS 67226  
(316)204-1076

**Mr James Harrison**

Jim\_Harrison@Metalimprovement.com



Submitted on Date:11/8/2010: Metal Improvement Company provides laser peening, shot peening, heat treating, and coating services that enhance the performance and extend the life of aerospace structural and turbine components. Our laser peening and shot peening services protect components against failure mechanisms such as fatigue, fretting fatigue and stress corrosion cracking. Our heat treating facilities have capabilities for thermal processing of aluminum and steels. Our coating services division is a pioneer and leader in the development and application of solid film lubricant coatings for fasteners and other critical hardware. Metal Improvement Co. currently operates a network of 65 job shop facilities in North America and Europe.

ASIP 2010 EXHIBITORS

# ASIP

# 2010 EXHIBITORS

BOOTH #

13

## OLYMPUS

48 Woerd Ave  
Waltham, MA 02453  
(781)419-3598

**Ms Robin Stanton**

robin.stanton@olympusndt.com

# OLYMPUS®

Submitted on Date:11/8/2010: Olympus provides an industry leading portfolio of ultrasonic testing (UT), phased array (PA), eddy current (ET), eddy current array (ECA), remote visual inspection (RVI), high speed video (HSV) and related support technologies. We have pioneered the use of ultrasound phased array as a practical and cost-effective tool for inspections. Our instruments are used in industrial and research applications ranging from aerospace, power generation, petrochemical, civil infrastructure and automotive to consumer products.

BOOTH #

23

## PROTO MANUFACTURING INC.

12350 Universal Dr.  
Taylor, MI 48180-4070  
(313)965-2900

**Mr Michael Brauss**

proto@protoxrd.com; mbrauss@protoxrd.com



Submitted on Date:10/18/2010: For over 20 years, Proto Manufacturing has been providing measurement services and equipment for measuring residual stress in aerospace materials. Proto's leading edge x-ray diffraction (XRD) technology is portable, cost effective and provides the necessary data for making informed decisions about the health of aerospace components.

BOOTH #

9

## SOUTHWEST RESEARCH INSTITUTE

6220 Culebra Rd  
San Antonio, TX 78238-5166  
(210)522-5410

**Ms Barbara Bowen**

barbara.bowen@swri.org



Submitted on Date:10/11/2010: Southwest Research Institute® (SwRI®), is an independent, nonprofit, applied research and development organization that has supported the Aircraft Structural Integrity Program (ASIP) efforts of military aircraft for more than thirty years. Our efforts have spanned the entire range of ASIP tasks from providing inflight measurements of aircraft loads to the fracture mechanics based damage tolerance analyses of critical fatigue locations using those loads. We have provided a complete range of testing from detailed metallurgy exams to full scale aircraft fatigue tests. We offer a complete range of ASIP engineering services.



BOOTH #

27

## THERMAL WAVE IMAGING

845 Livernois St  
Ferndale, MI 48220  
(248)414-3730

**Mr Alan Nusbaum**  
alannusbaum@thermalwave.com

**Thermal Wave  
Imaging** 

Submitted on Date:11/5/2010: Thermal Wave Imaging (TWI) is the leading innovator and provider of state-of-the-art thermographic NDT (non-destructive testing) solutions ranging from low-cost portable systems for field applications to highly sophisticated automated inspection equipment for manufacturing / QA. Our COTS (commercially off the shelf) equipment, custom turnkey solutions, and testing and evaluation services are designed to meet critical needs of aerospace, power generation and automotive OEMs and suppliers.

BOOTH #

22

## UNIWEST

122 S 4th Ave  
Pasco, WA 99301  
(509)544-0720

**Mr Burt Goranson**  
burt@uniwest.com

*UniWest*® 

Submitted on Date:8/11/2010: Eddy current probes, instruments and specially developed inspection tools for enhance NDI inspection of aerospace structures. Visit the UniWest booth to witness our latest innovations for fastener inspection, including flush and raised head fasteners. Witness a new inspection system that will improve the inspection time and reliability of flush fasteners, replacing hand held probes and other imaging devices which are slow and bulky to take on aircraft.

BOOTH #

28

## WYLE

22309 Exploration Dr  
Lexington Park, MD 20653  
(301)863-4271

**Ms Katherine Messer**  
katie.messer@wyle.com

**wyle** 

Submitted on Date:6/3/2010: Wyle is an internationally trusted leader in Advanced Non-Destructive Inspection (ANDI) and the application of advanced technology for high reliability non-destructive testing. For the last quarter century, Wyle has served as a prime United States Air Force comprehensive NDI solution supplier and also provides NDI support to the U.S. Army, U.S. Navy, and commercial entities. Wyle offers a full spectrum of NDI "know how" from laboratory conceptual feasibility analysis to integrated, qualified and fielded capability. The company has developed a number of specialized applications using eddy current and ultrasonic technology to solve difficult flaw and fatigue sensing problems. Wyle's highly qualified staff consists of physicists and material scientists and engineers, many with advanced degrees, who are experienced at developing practical solutions that are affordable and easy to operate. Laboratory resources are available to facilitate technology development and Wyle's ANDI organization has an active internal research and development program.

**ASIP 2010 EXHIBITORS**

**ASIP**

**2010 EXHIBITORS**



The background is a dark blue field filled with numerous light blue, five-pointed stars of varying sizes. Overlaid on this are several semi-transparent, light blue rounded rectangles of various sizes and orientations, creating a layered, geometric effect. At the top and bottom of the page, there are horizontal borders consisting of a row of white, five-pointed stars.

**PLEASE VISIT THE ASIP WEBSITE FOR 2009 INFORMATION  
AND CHECK OUT THE 2010 UPDATES!**

**EXHIBITOR SPACE FOR 2010 IS NOW AVAILABLE!**

**[WWW.ASIPCON.COM](http://WWW.ASIPCON.COM)**