



# Agenda





National Shipbuilding Research Program

## All Panel Meeting

Philadelphia, PA

September 15-17, 2009

## AGENDA



### Tuesday, September 15, 2009

<b>7:30AM – 8:00AM</b>	<b>Continental Breakfast Provided</b>
8:00AM – 8:05AM	<b>Welcome / Intro Remarks</b> <i>Ken Clarke, Business Process Technology Panel Chair</i>
8:05AM – 8:55AM	<b>Navy Keynote Speakers</b> <i>Art Divens, Executive Director for Amphibious &amp; Auxiliary Sealift, Program Executive Office-Ships</i> <i>Howard Fireman, Director, Surface Ship Design and Systems Engineering Group, NAVSEA 05D</i>
8:55AM – 9:20AM	<b>Open Architecture Ship Interface Standards (OASIS)</b> <i>Brian Stocker, PEO SHIPS</i>
<b>9:20AM – 10:00PM</b>	<b>Individual Panel Briefs</b>
	<b>Shipyards Production Process Technologies Panel Overview</b> <i>Tonya Boney, Panel Chair</i>
	<b>Business Process Technologies Panel Overview</b> <i>Ken Clarke, Panel Chair</i>
	<b>Systems Technology Panel Overview</b> <i>Burt Gischner, Panel Chair</i>
<b>10:00AM – 10:15AM</b>	<b>Break</b>
<b>10:15AM – NOON</b>	<b>Resume Individual Panel Briefs</b>
	<b>Product, Design and Material Technologies Panel Overview</b> <i>Dave Wood, Panel Chair</i>
	<b>Facilities, Tooling &amp; Risk Management Panel Overview</b> <i>Jack Shea, Panel Chair</i>
	<b>Welding Technology Panel Overview</b> <i>Lee Kvidahl, Panel Chair</i>
	<b>Environmental Technologies Panel Overview</b> <i>Wayne Holt, Panel Chair</i>
	<b>Crosscut Initiatives Panel Overview</b> <i>Larry Gebhardt, Panel Chair</i>
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	<b>Surface Preparation &amp; Coatings Panel Overview</b> <i>Steve Cogswell, Panel Chair</i>			
	<b>Electrical Technologies Panel Overview</b> <i>Erik Bjorkner, Vice Panel Chair</i>			
<b>NOON – 1:00PM</b>	<b>Lunch -- on your own</b>			
1:00PM - 5:00PM	<b>Safety &amp; Health Advisory Committee Break-out Session</b> <i>Jack Shea, Panel Chair; Yaniv Zagagi and Dan Nadeau, Committee Co-Chairs</i>			
1:00PM – 5:00 PM	<b>Track 1: Design for Production</b>	<b>Track 2: Workforce Training &amp; Retention</b>		
	1:00 - 1:30PM	<b>Shiplift Software</b> <i>Bart McPheeters, Noran Engineering</i>	1:00- 1:50PM	<b>A Fragmented Industry: Who will design, build and repair government, commercial and luxury yacht vessels in 2015?</b> <i>Larry Gebhardt, Crosscut Panel Chair Don Bewley, Crosscut Panel Vice Chair</i>
	1:30- 2:00PM	<b>Aerospace Material Info System</b> <i>Timothy Polich, NASA</i>	1:50 – 2:40PM	<b>Best practices to help you manage and train</b> <i>Maura May, Publisher, Productivity Press Sharon Huntley, Director of Continuing Education and Outreach Programs, University of Wisconsin - Marinette</i>
	2:00 - 2:30PM	<b>Customization of Web- Based Planning and Production Engineering Tools</b> <i>Dennis Fanguy, Bollinger</i>	2:40 – 3:00PM	<b>Break</b>
	2:30- 2:45PM	<b>Break</b>	3:00- 3:50PM	<b>We know where your future employees are</b> <i>Dr. Richard Boutwell, NGSB Newport News</i>
	2:45- 3:15PM	<b>Lean Six Sigma with DFP</b> <i>Dr. Alok Verma, Old Dominion University</i>	3:50 – 4:40	<b>Old dogs teaching new tricks</b> <i>Larry Gebhardt and Doug Ward, Alaska Ship and Drydock</i>
	3:15 – 4:30PM	<b>DFP Initiatives, Large Shipyards</b> <i>EB Brad Colschen, GDEB T.D. Huang, NGSB Gulf Coast, Kirk Lussier, BIW Lee Duneclift, NASSCO Dave Rice, NGSB Newport News</i>		
	<b>5:00PM</b>	<b>Adjourn Technical Tracks</b>		

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**Wednesday, September 16, 2009**

7:30AM – 8:00AM	<b>Continental Breakfast Provided</b>		
8:00AM – 8:05AM	<b>Welcome / Intro Remarks / Agenda Review</b> <i>Tonya Boney, Shipyard Production Process Technologies Panel Chair</i>		
8:05AM – 8:30AM	<b>NSRP Overview – Shipyard Perspective</b> <i>Dennis Fanguy, Vice President of Quality Management, Bollinger Shipyards Member, NSRP Executive Control Board</i>		
8:30AM – 9:00AM	<b>Public &amp; Private Shipyard Safety</b> <i>Jim Brice, Assistant Deputy Commander for Maintenance, Modernization, Environment, and Safety, NAVSEA O4R</i>		
9:00AM – 9:15AM	<b>Break</b>		
9:15AM – Noon	<b>Electrical Technologies Panel Breakout</b> <i>Gary Zimak, Panel Chair</i>		
9:15AM – Noon	<b>Track 1: Automation</b>	<b>Track 2: Safety/Environ Regulatory Impacts</b>	
9:15AM – 9:50AM	<b>Current Status of Steel Industry</b> <i>Joe Doerflinger, Metals USA</i>	<b>State of the Art in Navy Hearing Protection</b> <i>Kurt Yankaskas, NAVSEA 05H</i>	
9:50AM – 10:30AM	<b>Remote Climbing Welding Robot</b> <i>Dr. Steve Canfield and Dr. James Beard, Robotic Technologies of Tennessee</i>	<b>Updates on Recent Safety Regulatory Issues</b> <i>Group Discussion</i>	
10:30AM – 10:40AM	<b>Break</b>		
10:40AM – 11:00AM	<b>Virtual Reality Welder Training System</b> <i>Dr. Jerry Jones, NA Technologies</i>	<b>Emissions Factors for Electrodes Commonly Used within the Shipbuilding Industry for use in Regulatory Reporting Procedures</b> <i>Joe Jackens, Concurrent Technologies Corp.</i>	
11:00AM – 11:20AM		<b>Regulatory &amp; Legislative Update – How Emerging Environmental Issues Affect All Aspects of the Shipbuilding &amp; Repair Industry</b> <i>John Wittenborn, Kelly Drye &amp; Warren, LLP</i>	
11:20AM – Noon	<b>Robotic Automation Technology in Shipyard Fabrication</b> <i>Mike Davis, Wolf Robotics</i>	<b>The Economic Benefits of Greenhouse Gas Emissions Reductions through Energy Conservation</b> <i>Parikhit "Ricky" Sinha, O'Brien &amp; Gere</i>	
Noon – 1:00PM	<b>Lunch (Provided) with Speaker</b> <i>Jim Miller, CEO and President of Aker Shipyards</i>		
1:00PM – 5:00PM	<b>Aker Shipyard Tour</b>		
1:00PM – 3:00PM	<b>Tour Group #1 – Crosscut, Environmental, and Surface Prep Panels</b>	1:00-1:30PM	<b>Design for Production during Early Stage Design – An integrated approach utilizing. Paramarine</b> <i>Dr Hamish Fowler, QinetiQ</i>
		1:30 - 2:45PM	<b>DFP Initiatives, Mid-Tier Yards -</b> <i>Paul Albert, VT Halter Marine Dennis Fanguy, Bollinger</i>
2:00PM – 4:00PM	<b>Tour Group #2 - Systems, Welding, and Electrical, Business, Facilities Panels</b>		

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3:00PM – 5:00PM	<b>Tour Group #3 – Product Design &amp; Materials &amp; Shipyard Production Process Panels</b>	<b>Roundtable Discussion: Does your organization have people problems and successes?</b> TBA
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**Thursday, September 17, 2008**

<b>7:30AM – 8:00AM</b>	<b>Continental Breakfast Provided</b>
<b>8:15AM – 5:00PM</b>	<b>Individual Panel Breakouts</b>
8:15AM – 12:00PM	<b>Shipyard Production Process Technologies and Facilities, Tooling &amp; Risk Management Panel Breakout</b> <i>Tonya Boney, SPPT Panel Chair &amp; Jack Shea, FTRM Panel Chair</i>
8:15AM – 12:00PM	<b>Systems Technology Panel Breakout</b> <i>Burt Gischner, Panel Chair</i>
8:15AM – 12:00PM	<b>Crosscut Initiatives Panel Breakout</b> <i>Larry Gebhardt, Panel Chair</i>
8:15AM – 12:00PM	<b>Environmental Technologies Panel Breakout</b> <i>Wayne Holt, Panel Chair</i>
8:15AM – 12:00PM	<b>Business Process Technologies Panel Breakout</b> <i>Ken Clarke, Panel Chair</i>
8:15AM – 12:00PM	<b>Product, Design &amp; Materials Technologies Breakout</b> <i>Dave Wood, Panel Chair</i>
8:15AM – 12:00PM	<b>Welding Technology Panel Breakout</b> <i>Lee Kvidahl, Panel Chair</i>
8:15AM – 5:00PM	<b>Surface Preparation &amp; Coatings Panel Breakout</b> <i>Steve Cogswell, Panel Chair</i>
8:15AM – 5:00PM	<b>Electrical Technologies Panel Breakout</b> <i>Gary Zimak, Panel Chair</i>
12:00PM -5:00PM	<b>Web Based Planning Project Team Meeting</b> <i>Project Team</i>
12:00PM – 5:00PM	<b>American Welding Society Meeting</b> <i>American Welding Society</i>

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# Panel Chair Bios



## **BUSINESS PROCESS TECHNOLOGIES**

*The Business Process Technologies Panel provides a public forum for discussing all principal business processes - from initial business strategy development through post-delivery customer service - required to rapidly and effectively respond to the marketplace.*

### **Ken Clarke**

#### ***Business Process Technologies Panel Chair***

Northrop Grumman Shipbuilding - Newport News  
4102 Washington Ave.  
Newport News, VA 23607  
Phone: (757) 380-3333  
Email: ken.clarke@ngc.com

Ken Clarke is the Manager of Production Engineering and Program Manager for Industrial Products Sales at Northrop Grumman Newport News. Clarke, a 35-year employee of Newport News, has held management positions in Aircraft Carrier New Construction and Overhaul Nuclear Engineering, Waterfront Trades Administration, Submarine Overhaul Program Office, International Commercial Ship Marketing, Naval Business Technology Marketing and Human Resources. He holds a bachelor's degree in Business Administration from Christopher Newport University and a master's degree in Business Administration from Old Dominion University.

## SHIPYARD PRODUCTION PROCESS TECHNOLOGIES

*The Shipyard Production Process Technologies Panel provides a public forum for discussing the principal manufacturing process, equipment, planning, and other activities used to transform purchased materials (e.g., raw steel plates, structural shapes, components) and systems into completed products.*

### **Tonya G. Boney**

#### ***Shipyard Production Process Technologies Panel Chair***

Northrop Grumman Shipbuilding – Gulf Coast  
1000 Access Road, MS 7010-16  
Pascagoula, MS 39567  
Phone: (228) 935-4850  
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The Panel Chair for Shipyard Production Process Technologies, Tonya Boney currently holds the position of Program Director in Facilities Engineering at Northrop Grumman Shipbuilding Gulf Coast Sector. In this role she is responsible for the design and construction of the new Jackson County Maritime Trades Academy which is expected to be complete in June 2011. She began her career at Northrop Grumman Shipbuilding in 1999 as an Industrial Engineer.

She holds a bachelors degree in Engineering from the University of Southwestern Louisiana (now known as the University of Louisiana at Lafayette). Since beginning her career at Northrop Grumman, Ms. Boney has held positions of increasing responsibility including Sector Supervisor of Industrial Engineering Work Measurement and Process Improvement, LPD Program Production Manager for Pascagoula Operations, and Sector Director of LPD Program Support.

Ms. Boney has been an active member of the Shipyard Production Process Technologies Panel since 2000 and was elected to and served on the Panel's Steering Committee since 2001. She is currently a member of the Society of Naval Architects and Marine Engineers and the Society of Women Engineers.

## SYSTEMS TECHNOLOGY

*The Systems Technology Panel provides a public forum for discussing the underlying systems infrastructure required to support the other initiatives, with emphasis being given to the tools that reduce principal business processes - from initial business strategy development through post-delivery customer service - required to rapidly and effectively respond to the marketplace.*

### **Dr. Burt Gischner** *Systems Technology Panel Chair*

Electric Boat Corporation  
Dept. 450, MS D5-4  
75 Eastern Point Road  
Groton, CT 06340-4989  
Phone: (860) 433-3948  
Email: bgischne@gdeb.com

Dr. Gischner is a Principal Engineer at Electric Boat Corporation with 36 years experience in computer technology and software development for submarine design and fabrication. He received a B.S. from Columbia University in 1967; an Sc.M. from Brown University in 1969; and a Ph.D. from Brown University in 1972.

He is currently serving as Chairperson of the Systems Technology Panel for the NSRP A.S.E. Program, and is an active member of the SNAME Ship Production Committee.

Dr. Gischner has been involved with NSRP Projects to develop an Integrated Shipbuilding Environment (ISE) since their inception, and is currently the Technical Leader for the ISE Task to develop tools for Interoperability in the Product Life Cycle Support area (ISE-6).

In the International Standards arena, he functions as Chairman of the United States Technical Advisory Group (TAG) for ISO TC184/SC4. This is the organization that determines voting positions for the United States on all STEP related issues within ISO. In this capacity, he also serves as Head of Delegation for the United States at all ISO STEP Meetings. He received the 2005 International William J. Conroy Standards Professional Award for his exceptional leadership in the development and implementation of Product Data Exchange Standards.

Dr. Gischner has been the lead developer and architect of Electric Boat Corporation's software system for piping fabrication. This set of computer programs produces automated pipe details, pipe assemblies, material ordering information, and instructions to feed numerically controlled pipe bending, marking, and cutting machines. It has been used for design and construction of the 688, TRIDENT, SEAWOLF, and VIRGINIA class submarines, and is also being used to support VIRGINIA pipe fabrication at Northrop Grumman Newport News.

## PRODUCT DESIGN & MATERIALS TECHNOLOGY

*The Product Design & Materials Technology Panel provides a public forum for discussing the parametric design rules, metrics, detail design, and materials standards, engineering data, and advanced product designs and materials to support the rapid and efficient development of the next generation of high performance ships.*

### Dave Wood

#### *Product Design & Materials Technology Panel Chair*

Northrop Grumman Shipbuilding - Gulf Coast

P.O. Box 50280, M/S 721-1-2

New Orleans, LA 70150-0280

Phone: (504) 654-2578

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Dave Wood is a Project Engineer at Northrop Grumman Shipbuilding – Gulf Coast with over thirty four years of maritime experience. Before joining NGSB, Wood served in the U.S. Navy on seven ships, progressing from Seaman to Commanding Officer of an ammunition ship. Wood's shore duties included Engineering Instructor for Naval Department Heads, Executive Officer of a major shore station, and Chief Staff Officer of a Military Sealift Command sub-area. Wood graduated from Cornell College with a bachelor's degree in History and Political Science. He has Engineering Officer of the Watch (EOOW) qualification for 1200 psi, twin plant, and steam propulsion and had a sub-specialty in 1200 psi steam engineering. Wood is Chairman of the Sections Committee of ASNE.

## FACILITIES, TOOLING & RISK MANAGEMENT

*The Facilities, Tooling & Risk Management Panel provides a public forum for discussing the functions of providing and maintaining a physical plant capable of assembling, modifying and repairing ships in an efficient, safe, controllable and ecologically acceptable manner.*

### Jack Shea

#### *Facilities, Tooling & Risk Management Panel Chair*

Electric Boat Corporation  
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Groton, CT 06340  
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Email: jshea@gdeb.com

Jack Shea is the Chief of Government Relations at Electric Boat Corporation. Shea is actively involved in government affairs and business legislation at both the state and federal levels. He is Chairman of the Connecticut Business & Industry Associations' (CBIA) Workers' Compensation Council and is a registered lobbyist for Electric Boat at the Connecticut General Assembly. During his 25 year career at EB, he has lectured at various seminars and workshops on employer's involvement in controlling costs through effective prevention and intervention techniques. Shea received his bachelor's degree from the University of New England and a masters degree in Human Resource Management from Rensselaer Polytechnic Institute.

## WELDING TECHNOLOGY

*The Welding Technology Panel provides a public forum for discussing methods and processes to improve the technology of welding, cutting, forming and burning as it pertains to and is applied to the shipbuilding/repair industry and its customers. One of the original NSRP panels, this Technical Panel has a long history.*

### Lee Kvidahl

#### *Welding Technology Panel Chair*

Northrop Grumman Shipbuilding – Gulf Coast  
1000 Access Road  
PO Box 149  
Pascagoula, MS 39568-0149  
Phone: (228) 935-3564  
Email: lee.kvidahl@ngc.com

Lee Kvidahl – Welding Technology Panel Chair – is the Manager of Welding/Manufacturing Engineering at Northrop Grumman Ship Systems Ingalls Operations in Pascagoula, Miss., where he has worked for more than 25 years. Kvidahl’s responsibilities include: investigating and implementing new manufacturing production methods to ensure productivity improvements; training craft and management in welding, materials and inspection technology; managing internally and externally funded research and development programs; justifying and monitoring capital and operation budgets; assisting in developing and preparing proposals for research and development; and providing metallurgical engineering support for the shipyard. Kvidahl has collaborated on the publication of six books in the areas of metals and welding. He is a past president of the American Welding Society. Kvidahl received a bachelor’s degree in Engineering from Stevens Institute of Technology.

## ENVIRONMENTAL TECHNOLOGIES

*The Environmental Technologies Panel provides a public forum for discussing environmental compliance issues as they relate to the shipbuilding/repair industry and its customers. One of the original NSRP panels, this Technical Panel has a long history.*

### Wayne Holt

#### *Environmental Technologies Panel Chair*

Atlantic Marine  
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Jacksonville, FL 32226  
Phone: (904) 251-1582  
Email: [wholt@atlanticmarine.com](mailto:wholt@atlanticmarine.com)

Wayne Holt is the Environmental and Safety Director for Atlantic Marine Florida, LLC, located in Jacksonville, Florida. He has been with the Atlantic Companies since 1993, and oversees the administration of all environmental, industrial hygiene, and general safety related issues. Mr. Holt received a Bachelors of Science degree in Architectural Engineering from Florida A & M University and a Masters of Science degree in Environmental Engineering from La Salle University. He has also received accreditation in 1996 as a Registered Environmental Manager (REM # 8288) and as a Certified Environmental Auditor (CEA # 7894) through the National Registry of Environmental Professionals. Mr. Holt is a member of the National Association of Environmental Professionals, the American Society of Safety Engineers, and the American Society of Naval Engineers. Additionally, he is a certified OPA-90 Qualified Individual, and certified both as a Marine Fire Fighter and a Competent Person by the National Fire Protection Association. Mr. Holt also holds an Asbestos Air Monitoring Laboratory certification through the American Industrial Hygiene Association. In addition to performing his duties at Atlantic, Mr. Holt is the former Chairman of the First Coast Manufacturers Association Environmental, Health, and Safety Committee, a former member of the Advisory Board of the Florida State University Environmental Safety and Health Institute, the current Chairman of the National Shipbuilding Research Program Environmental Technical Panel, and has served as a Project Manager for a variety of environmental projects being performed through the National Shipbuilding Research Program. Mr. Holt was presented the 1999 Professional Achievement Award by the Northeast Chapter of the Florida Association of Environmental Professionals, and was the recipient of the First Coast Manufacturers Association 2001 Environmental Award.

## CROSSCUT INITIATIVES

*The Crosscut Initiatives Panel provides a public forum for discussing issues, approaches, resources and programs to meet the needs of people and organizations. The Panel ensures that technologies implemented from NSRP and Panel projects consider the required supporting areas of Education & Training, Tech-Transfer, Organizational Change and Human Resources.*

### **Dr. Laurence P. Gebhardt** ***Crosscut Initiatives Panel Chair***

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1200 Aspen Drive  
Pocatello, ID 83204  
Phone: (208) 380-2205  
Email: lpgebhardt@cableone.net

Dr. Gebhardt is Director, Research and Development for Alaska Ship and Drydock, Inc. (ASD). ASD constructs and repairs vessels that operate in Alaska waters. The company is implementing a \$77 million expansion and improvement initiative. He serves as Chair, Crosscut Initiatives Panel, National Shipbuilding Research Program, elected by industry peers since 2003. This Panel coordinates applied R&D and professional development related to shipyard workforce recruiting and retention, education and training, organization development and culture change, and technology transfer methods to align technical and human functions in shipyards.

Prior to his work at ASD, he was one of the founding management team for SENESCO Marine, a commercial shipyard in Rhode Island. The company produces and repairs ocean-going tugs and tank barges. SENESCO was started to provide employment to former defense industry workers. Prior to shipyard work, he served a 26 year active duty Navy career in five nuclear submarines including 5 years command at sea. He served at US Naval Nuclear Power Training Unit, Idaho Falls as the S1W Prototype Training Officer, as Director of Strategic Weapons Department at US Naval Submarine School, and Operations Faculty, US Naval War College. He served as Current Operations Officer, US Naval Forces, Europe during the first Gulf War era and as Executive Assistant, Assistant to the Secretary of Defense (Atomic Energy). He retired as a Navy Captain (O6).

A graduate of the University of Utah, he holds a BS Electrical Engineering degree. Subsequently he earned a MA Adult Education from University of Rhode Island, and Ph.D. in Human and Organization Systems from Fielding Graduate University. He serves as Adjunct Faculty, College of Business, Idaho State University with focus on new product development and quality and productivity management. He is a member of the Society of Naval Architects and Marine Engineers and American Society for Engineering Management.

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### **Donald W. Bewley**

#### ***Crosscut Initiatives Panel Vice-Chair***

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Mr. Bewley served two terms as Chair of the NSRP Crosscut Panel and is currently Vice-Chair. During those terms he led the development of several Panel project proposals and drafted a research proposal for a blind study of the leading causes of turnover in the US shipbuilding industry.

Don has a technical background with more than 30 years of experience in the shipbuilding industry; much of the time with inland barge and shipbuilding new construction and repair businesses. He has served in leadership positions in Production, Labor, Human Resources, Training, and most recently in a General Manager capacity.

## **SURFACE PREPARATION & COATINGS**

*The Surface Preparation & Coatings Panel provides a public forum for discussing specifications, receipt inspection of materials, preparation for coating, application of coatings, personnel protection, and clean-up and environmental compliance, as they relate to the shipbuilding/repair industry and its customers. One of the original NSRP panels, this Technical Panel has a long history.*

### **Steve Cogswell**

#### ***Surface Preparation & Coatings Panel Chair***

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Steve Cogswell is the Paint Department Superintendent for Atlantic Marine in Jacksonville Florida, where he manages three Paint Departments; Repair, New Build and Navy. The Repair yard specializes in repair and conversion of commercial ships in service, including: barges, tugs, freighters, research vessels and mega yachts. Additionally Repair handles DSRA contracts for the FFG, CG and DDG surface combatants. The Marine Fabrication yard is focused on new shipbuilding of commercial vessels and the Mayport yard is focused on the pier side work of US Navy ships at the Mayport Naval Station.

Steve has 28 years of experience in all facets of Marine Surface Preparation and Coating. He is the current NSRP Surface Preparation and Coating Panel Chair. He is a NACE Certified Coating Inspector and has an AS degree in Industrial Management, he remains active with SSPC and NACE.

## ELECTRICAL TECHNOLOGIES

*The Electrical Technologies Panel provides a public forum for discussing and investigating all electrical issues as they relate to the current and future shipbuilding/ship repair industry and its customers. The Electrical Technologies Panel, established in 2009, is the newest NSRP panel.*

### **Erik Bjorkner**

#### ***Electrical Technologies Panel Vice-Chair***

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Email: erik.bjorkner@ngc.com

Erik Bjorkner currently holds the position of Electrical Technical and Combat Systems Engineering Manager at Northrop Grumman Shipbuilding, Gulf Coast Avondale Operations. Erik's department is responsible for the electrical power distribution, lighting, combat systems, and C4ISR engineering efforts on the LPD, NSC, and LHA-6 programs.

He has a Bachelor degree in Electrical Engineering from SUNY Maritime College, a Masters in Business Administration from Spring Hill College, and is graduating next week from the Naval Postgraduate School with a Masters in Systems Engineering.

Additionally Erik holds a current USCG Masters Towing Vessels Upon Oceans license, and a USCG Third Mate Unlimited Oceans license. Erik has held various engineering, management, and sales positions in the shipbuilding and maritime industry over the last 19 years.

## ELECTRICAL TECHNOLOGIES

*The Electrical Technologies Panel provides a public forum for discussing and investigating all electrical issues as they relate to the current and future shipbuilding/ship repair industry and its customers. The Electrical Technologies Panel, established in 2009, is the newest NSRP panel.*

### **Gary Zimak**

#### ***Electrical Technologies Panel Chair***

Northrop Grumman Shipbuilding - Newport News  
4101 Washington Ave  
Newport News, VA 23607  
Phone: (757) 688-6799  
Email: gary.zimak@ngc.com

Gary Zimak currently holds the position of Director of the Electrical Value Stream at Northrop Grumman Shipbuilding Newport News Sector. He is responsible for advancing the electrical value stream efforts including improvements in technology insertion. Gary started his career at Newport News in 1982 in the Electrical Engineering department. He holds undergraduate degrees in Electrical Engineering Technology and Business Management from Pennsylvania State University and Saint Leo College and a Masters degree in Systems Engineering from Virginia Tech. He has held positions of increasing responsibility throughout his career at Northrop Grumman Shipbuilding including Quality Improvement Administrator, Engineering Supervisor, Manager of Continuous Improvement and most recently Manager of Non-Destructive Testing (NDT).



**NATIONAL SHIPBUILDING RESEARCH PROGRAM**  
**ADVANCED SHIPBUILDING ENTERPRISE**

*Reducing Naval Ship Construction & Repair Costs*

# Abstracts & Speaker Bios



## Arthur W. Divens

Mr. Divens is currently serving as the Executive Director for Amphibious and Auxiliary Ships within the Program Executive Office, Ships. He provides executive leadership to 150 personnel and oversees one of the broadest acquisition portfolios in the Navy that includes over \$30 billion in complex shipbuilding procurements. His responsibilities span four major Program Offices, including the LPD 17 Program (PMS 317); the Amphibious Warfare Program (PMS 377), which includes LHD, LHA, Landing Craft Air Cushion (LCAC) and Ship to Shore Connector (SSC) programs; the Strategic And Theater Sealift Program (PMS 385), which includes the Joint High Speed Vessel (JHSV) and MPFF program; and the Auxiliary Ships/Small Boats & Crafts Program (PMS 325), which includes leadership of T-AKE, T-AGM 25, AGOR and TAGS 66, as well as, Patrol, and Service Craft. His responsibilities also include over 70 Foreign Military Sales Cases with over thirty nations with a collective value of approximately \$2 billion.

Mr. Divens entered the Senior Executive Service in April 2000. He has been in the civilian service for over 29 years. From 2000 to 2003, Mr. Divens was the Program Manager of the Support Ships, Boats, and Craft Program Office (PMS 325), with responsibility for all Auxiliary Ships, Sealift Ships, Special Mission Ships, Patrol Boats, Service Craft, Boats, and Foreign Military Sales. During his tenure, PMS 325 delivered 14 ships from seven different ship classes to the Navy.

Mr. Divens has served in a number of positions throughout his career, including Program Manager for the National Shipbuilding Research Program (1997-2000); Assistant Program Manager for Strategic Sealift, PMS 325 (1993-1997); Assistant Program Manager for TAGS 45, PMS 325 (1989-1993); Fleet Introduction Manager for the Military Sealift Command (1986-1989); Undersea Surveillance Operations Engineer for the Space and Naval Warfare Systems Command (1984-1986); and Project Engineer/Construction Representative for the Military Sealift Command (1980-1984). He has played a key role in the design and construction of more than 100 of the Navy's auxiliary ships. Mr. Divens is recognized for his expertise in the field of shipbuilding, spearheading initiatives focused on improving shipbuilding processes and technology.

Mr. Divens received his Bachelor of Science degree from the U.S. Merchant Marine Academy in Kings Point, N. Y. in 1979, and his Master of Science degree from the University of Maryland in 1997. He is also a 1991 graduate of the Defense Systems Management College, Program Management Course. During his distinguished career as a public servant, Mr. Divens has received the Department of the Navy Civilian Meritorious Service Medal (1990) and two Superior Service Medals (1993 and 1997). In 2002, he received the Distinguished Service Medal from the Secretary of the Navy.

## Howard Fireman

Mr. Fireman, Director of Surface Ship Design and Systems Engineering for Naval Sea Systems Command, is currently the senior civilian responsible for Surface Ship Design and Systems Engineering for the Navy Department. In this capacity, he has been appointed as Chief Systems Engineer for Ships and a Deputy Warranting Officer for 40 Naval Technical Authorities. He is currently executing over 25 ship design programs and is principal liaison for all NAVY support to USCG programs. He has collateral duties as NATO Chairman for Ship Design and Mobility and is Technical Project Officer for 17 Information Exchange Agreements with Nations. Mr. Fireman was appointed to the Senior Executive Service on January 2002 and has 31 years of federal service.

Mr. Fireman was selected to the Senior Executive Service as Director for In-Service Submarine Programs, NAVSEA 92B from Sept 2001- Oct 2002. In this capacity, Mr. Fireman provided top level management, technical authority and direction on life cycle support, submarine safety, quality assurance, maintenance performance monitoring, inactivation and integrated logistics support of the United States Navy's attack (SSN), strategic (SSBN) submarines and deep submergence systems. Additionally he was responsible for the technical and programmatic supervision of the submarine rescue program, special operations and deep-ocean engineering programs. He had direct supervision for a staff exceeding 600 and annual budget exceeding \$1B. Mr. Fireman was selected as Special Assistant for Science and Technology to the Chief of Naval Operations (CNO) Executive Panel from June 2001-Sept 2001.

Mr. Fireman was selected as the Science and Technology Advisor for Commander, Seventh Fleet aboard USS Blue Ridge in Yokosuka, Japan from June 1999 until June 2001. He was Seventh Fleet's Chief Technology Officer and senior representative for all interactions with Science and Technology organizations in government, industry and academia. Mr. Fireman provided day-to-day assistance to the Seventh Fleet on a wide variety of technical issues in support of naval, joint and coalition operations.

Mr. Fireman was selected as the Acquisition Program Manager for the LPD 17 Program, a \$15B Acquisition Program, from October 1993 to May 1999. Mr. Fireman was responsible for acquisition management, systems engineering, ship production, technical management, operational testing, integration of specific research and development initiatives and management of all LPD17 Class Government Furnished Equipment. During this position, he was relocated to New Orleans as the senior government program office representative. He successfully led the program through the Milestone approval process in 1996.

In the 1980s, Mr. Fireman worked as a Senior Project Coordinator for Hull Systems Engineering many of the U.S. Navy Auxiliary ship programs. In 1991, he was promoted to Senior Ship Design Manager for T-AGOS 19/23 and NOAA Fleet Replacement Acquisition programs. In 1993, Mr. Fireman was appointed Director for LPD 17 Cost Engineering, Commercialization and Design for Production where he established the joint industry-government approach for military specification and standard reduction.

Mr. Fireman attended the University of Michigan and graduated with a BSE in Naval Architecture and Marine Engineering. Mr. Fireman started his federal career in 1977 at the Naval Sea Systems Command. In 1984, he returned to the University of Michigan and earned a MSE in Naval Architecture and Marine Engineering. In 1993, he earned a master's degree in technical management from Johns Hopkins University. He is a graduate of the Program Managers Course, Defense Systems Management College, and is a Certified Material Professional.

Mr. Fireman's professional achievement awards include: 2008 Meritorious Presidential Rank Award, two Navy Superior Civilian Service Awards, Navy Meritorious Civilian Service Award, Department of the Navy Competition and Procurement Excellence Award, DC Council Architect of the Year under Age 35 and NAVSEA ASE Professional Achievement Award for Engineer under Age 30. In 2006, he was awarded the American Society of Naval Engineers Gold Medal for professional achievement.

## James F. Brice

Mr. Brice, Assistant Deputy Commander Maintenance, Modernization, Environment, & Safety Naval Sea Systems Command (SEA 04R), is the currently the Senior Executive responsible for the policy, processes, and oversight of basic readiness programs in ship maintenance and modernization, and the integration of environmental and safety compliance and stewardship into all Naval Sea Systems Command (NAVSEA) and affiliated Program Executive Office (PEO) products and processes.

Mr. Brice was appointed to the Senior Executive Service in February 1991 and has 34 years of Federal Service.

From August 2004 through April 2008, Mr. Brice served as the Director of Task Force Lean responsible to COMNAVSEA for coordinating and implementing Lean Six Sigma principles across the entire NAVSEA/PEO Corporation - Headquarters, Warfare Centers, Shipyards, SUPSHIPs, and Other Field Activities. His objective was to achieve a major step improvement in efficiency and effectiveness across all of NAVSEA's Lines of Business and Value Streams to free up resources so that senior Navy leadership has more options to meet current and future readiness requirements.

From March 2002 through July 2004, Mr. Brice served as the Assistant Deputy Commander for Industrial Operations at NAVSEA responsible for managing all the work in the Naval Shipyards. He spearheaded many major initiatives, including "One Shipyard", the Shipyard Transformation Plan, Shipyard Apprentice Programs, and Consolidation of Intermediate and Depot Level Maintenance Activities.

From June 1974 through March 2002, Mr. Brice served in the Naval Nuclear Propulsion Program (NNPP) from entry level to senior leadership positions. From January 2001 through March 2002, he led the Program's NR INC initiative to integrate processes, reduce overhead, and streamline infrastructure across all Program activities.

From July 1996 through December 2000, he served as Program Manager for Shipyard Matters. He was responsible for the nuclear performance and capabilities of the four public and two private shipyards that perform Naval nuclear propulsion work. He sponsored and supported many initiatives to improve shipyard operations, including Intermediate and Depot level maintenance integration, regionalization of support services, partnerships among public and private shipyards, standardization of processes, and integration of nuclear and non-nuclear processes to improve quality and engineering.

## Dennis Fanguy

Dennis Fanguy is a 1984 graduate from the University of New Orleans with a Bachelor of Science degree in Electrical Engineering. He is currently the Vice President of Quality Management System for Bollinger Shipyards in Lockport, LA. Dennis was awarded the 2003 Distinguished Alumni Award by the University of New Orleans, College of Engineering.

During Dennis' 24 years at Bollinger Shipyards, he has held the positions Chief Electrical Engineer, Chief Project Engineer, Director of Program Management, Chief Engineer, Vice President of Engineering and finally Vice President of Quality Management System.

He has been responsible for the Design, Integration and Testing of all new construction activities at Bollinger Shipyards, not the least of which include 51 each 87' Coastal Patrol Boats for the U.S. Coast Guard, 14 each 53M Patrol Vessels for the Navy and 49 each 33M Patrol Boats for the U.S. Coast Guard, in addition to various commercial vessels.

From January 1985 to June 1996, he worked in the field as the senior Naval Reactors Representative (NRR) at Charleston Naval Shipyard and then at Newport News Shipbuilding (now Northrop Grumman Newport News). Reporting directly to the Director of the NNPP, he was responsible for ensuring that all aspects of the Shipyards' Naval nuclear work were performed safely, correctly, and efficiently. During his tour at Newport News (June 1988 through June 1996), the Shipyard built and delivered 14 new nuclear powered submarines, three new nuclear powered aircraft carriers, and performed the nuclear refueling overhaul of the USS ENTERPRISE (CVN 65). He was appointed to the SES corps in February 1991.

From January 1981 through December 1984, he served as the Assistant Division Director in the Nuclear Technology Division responsible for all radiological controls associated with Naval nuclear propulsion plants and their support facilities. From June 1974 through December 1980, he was responsible for the design, development, installation, and testing of reactor plant shielding in all nuclear powered warships, and he assumed additional duties in radiological controls as his career progressed.

Mr. Brice started his career in 1974 after graduating with highest honors from the Georgia Institute of Technology with a bachelor's of science in chemical engineering. He was commissioned as an Officer in the Navy and was assigned to the Naval Nuclear Propulsion Program (NNPP) headquarters staff for a five-year tour of duty. In 1979, he resigned his commission to pursue a career as a civilian with the NNPP.

While working at NNPP headquarters, he earned a master's degree in nuclear science and engineering from The Catholic University of America in 1978, and obtained a Professional Engineering License from the State of Virginia in 1979.

Mr. Brice was awarded the Navy Meritorious Civilian Service Award in April 2008 in recognition of his accomplishments as Director, Task Force Lean. He was also responsible for the NAVSEA's receiving an Excellence in Productivity Improvement Award from the Institute of Industrial Engineers in May 2008 for significant, measurable, and observable achievements resulting in increased productivity.

# OASIS (Open Architecture Ship Interface Standards)

*Brian Stocker, PEO Ships*

**Team:** *PEO Ships, PEO Subs, PEO Carriers, PEO C4I, PEO IWS, PEO LMW, NAVSEA, SPAWAR, NETWARCOM, NSRP, BIW, NGSB, Bollinger Shipyards and VT Halter Marine.*

PEO Ships and NSRP member shipyards have teamed with representatives from other Program Executive Offices to explore and advance the use of Open Architecture Interface Standards across Naval platforms.

The OASIS effort is focused on the C4I Suite with the goal of using Open Architecture-based standards to mitigate the cost and schedule disruption caused by technology refresh/upgrades during the initial construction and modernization periods of the ship lifecycle. The team is working to develop a roadmap for the development and implementation of these interface standards, as well as a draft specification template.

## Brian Stocker

Brian Stocker graduated from the U.S. Merchant Marine Academy in 2006 with a B.S. in Marine Engineering and Shipyard Management. Upon graduation Brian Stocker took a position with the Naval Sea Systems Command at their headquarters in the Washington Navy Yard, DC. He successfully completed the Naval Acquisition Intern Program in January 2009, where he went through various ship program offices as a systems engineer. Since graduating the intern program, Brian Stocker has been assigned to PEO SHIPS, PMS 317, as a Command Ship Replacement project manager.

He is currently a Lieutenant, Junior Grade in the US Navy Reserve and holds a USCG 3rd Assistant Engineer's license.

## ShipLift

*Bart McPheeters, Noran Engineering*

In response to an SBIR, NEi Software proposed a software based approach to managing lifting operations in shipyards. The lifting loads on parts and subassemblies are often one of the most severe loads they may ever see. Many shipyards have found that damage such as plastic deformation occurs as parts are moved around due to poor placement of lifting pad eyes and other lifting aids. NEi and their partner SSI (Ship Constructor) sought to create a real-time analysis tool that would analyze a lifting arrangement quickly from a 3D CAD part. The software includes a library of lifting tools, and allows users to drag and drop them onto their part to test potential lifting arrangements. A quick analysis points out potential problems and areas of plastic deformation that might occur as a result of the proposed lifting arrangement. A user should have little trouble finding the optimum lift points for a part such that plastic deformation is prevented or minimized and the part is properly balanced during the lift. It is hoped that a commercial product of this nature could prevent a lot of rework done in yards as a result of deformations produced when parts are moved around the yard during fabrication.

## Bart McPheeters

Bart McPheeters is a 1985 graduate of Webb Institute. He holds a Master's degree in Solid Mechanics and Material Science from George Washington University. Bart worked at NKF Engineering for 10 years in the field of underwater shock and vibration. After that, he worked for MSC Software for 10 years as an application engineer and engineering consultant. He had been with NEi Software for about a year and a half and an Application Engineer, working extensively with the maritime community.

# NASA's Aerospace Material Information System

*Timothy Polich, NASA*

The Navy and the National Aeronautics and Space Administration (NASA) convened to discuss possible NASA materials that specify when, why and how materials can be used in aerospace that could applied within NAVSEA.

This could lead to a pilot NSRP demonstration to test some customization and implementation of the technology for ship and submarine design use. This specifies preferred materials and is a direct analogy to the Common Parts Catalog.

## Timothy Polich

Tim has over 30 years experience in the nuclear industry starting out in the Navy as a submarine reactor operator he obtained BS and MS degrees in Nuclear Engineering from the University of Illinois. While attending school Tim has worked two summers at Mare Island Naval Shipyard in the Radiological Engineering Division. He obtained a Navy Reserve Commission as an Engineering Duty Officer in 1982. Upon graduation he joined the Nuclear Regulatory Commission as an Inspector later serving as an Operations Engineer and Project Manager. In 1999 he joined NASA and headed up the decommissioning of the Plum Brook Reactor Facility in Sandusky, Ohio. In October 2005 he left NASA for a three year recall to active duty as the Submarine Waterfront Operations Officer at Pearl Harbor Naval Shipyard and Industrial Maintenance Facility. Tim returned to NASA in October 2008 and assumed the duties as Technical Assistant to the Safety and Mission Assurance Director at Glenn Research Center where he currently providing Program Management support to the NASA Headquarters Environmental Management Division. In his Navy reserve career Tim has served three shipyards, AIRPAC, SURFLANT, SUBLANT, NSWC, and NAVSEA units

# Customization of Web-Based Planning and Production Engineering Tools

*Dennis Fanguy, Bollinger Shipyard*

The U.S Shipbuilding and Ship Repair Industry continues to face the challenges of building, modernizing, and repairing ships on-time and at budgeted cost. The cost growth of US Shipbuilding and Ship Repair continues to erode the purchasing power of the Navy shipbuilding and conversion budget. Variation induced into shipbuilding, modernization, and repair systems by design, planning, and production activities combined with disconnected supply chain logistics processes make shipbuilding, modernization, and repair operations vulnerable to escalating costs, long lead times, and schedule delays. While there is no singular culprit that drives the cost escalation, all upstream induced cost drivers eventually surface during execution, resulting in a high degree of project variation, process rework, excessive delay and disruption, and overall reduction in quality. The team has developed and implemented innovative web-based planning and production engineering technologies to improve the planning and execution of design and production work at mid-tier shipyards. The core of the technical approach was to adapt to the shipyard environment as existing web-based tool to integrate planning, design, production control, material control, and daily scheduling with production processes. This tool, Strategic Project Solution's ShipFlow, is used to systematically schedule, control, measure and improve workflow. Its single database aligns workflow from the lowest (production) to highest (master) levels, eliminating the need for multiple schedules and associated coordination problems. This paper will provide an understanding of the implementation process at the various shipyards. The implementation of SPS|ShipFlow employs a "bottoms-up" approach to enable the behavioral modifications needed to ensure long-term sustained improvement. Capabilities are developed and reliability information generated through developing a consistent practice of holding effective daily meetings. Developing the capability to surface reliability issues becomes the prerequisite to enabling the shipyard implementation teams to benefit from the "Project Control" and "Optimization" phases of the implementation process. The paper will also provide an appreciation of the resulting cost benefits associated with the implementation of effective production management principles at each of the participating shipyards.

(It is noted that a majority of the information for this paper was developed from the NSRP ASE project, "Customization of Web-Based Planning and Production Engineering Tools" (April 2008 thru July 2009).)

# Lean Design Processes – Improving Design for Production

*Alok K Verma, Ph.D. – Old Dominion University*

Lean Manufacturing is a powerful philosophy, which advocates minimization of waste throughout the value stream both within the organization and outside in the supply chain. Majority of shipbuilders in United States have adopted the Lean Manufacturing philosophy to reduce cost and increase efficiency. However, attaining the goal of becoming a lean enterprise is still a utopia for majority of shipyards. Implementing lean principles in all facets of an organization's activity can only create a true lean enterprise.

For many industries, the design process often constitutes a critical link in product realization process. Streamlining this process can result in improved flow in the value stream and reduction of the overall lead time. This simulation tool was developed under a grant from NSRP, and in partnership with Old Dominion University, Northrop Grumman Newport News and South Tidewater Association of Ship Repairers. Results of lean implementation show dramatic reduction in lead-time for the design process. The presentation will highlight the implementation of Lean and Six Sigma philosophies within the Design for Production processes and highlight cases of Design of Production that increase waste and create inefficiencies within the system.

## Alok K. Verma

Dr. Alok K. Verma is Ray Ferrari Professor and, Director of the Lean Institute at Old Dominion University. He also serves as the President of the International Society of Agile Manufacturing (ISAM) and the chief editor of the International Journal of Agile Manufacturing (IJAM). Alok received his B.S. in Aeronautical Engineering from IIT Kanpur, MS in Engineering Mechanics and PhD in Mechanical Engineering from ODU.

Prof. Verma is a licensed professional engineer in the state of Virginia, a certified manufacturing engineer and has certifications in Lean Manufacturing and Six Sigma. He has organized several international conferences as General Chair, including ICAM-2006 and ICAM-1999 and also serves as associate editor for two International Journals. His scholarly publications include 27 journal papers and 49 papers in conference proceedings. Dr. Verma has developed and delivered training program in Lean Enterprise & Design for Manufacturing for Northrop Grumman Newport News, STIHL and several other companies in U.S. He has developed simulation based training programs for shipbuilding and repair industry under a grant from the National Shipbuilding Research Program (NSRP).

He is an internationally recognized expert in the area of Lean and Agile manufacturing and has been invited to deliver keynote addresses at several national and international conferences. Dr. Verma has received the Alumni Award for Excellence for contribution to Lean Manufacturing research from IIT Kanpur Alumni Association, the International Education Award at ODU and Ben Sparks Medal from ASME. He is active in ASME, ASEE, SME, IIE and SNAME. Dr. Verma continues to serve the Hampton Roads community in various leadership positions.

## **A Fragmented Industry: Who will design, build and repair government, commercial and luxury yacht vessels in 2015?**

*Larry Gebhardt, Crosscut Panel Chair & Don Bewley, Vice-Chair*

A Fragmented Industry? Who will design, build and repair government, commercial and luxury yacht vessels in 2015? This is proposed to be a presentation-feedback covering current gaps in professional and production labor demographics, industry needs and their supply. Thinking about creating a more cohesive, compelling shipbuilding and repair industry image to attract employees and investors while meeting customer requirements. Larry Gebhardt, Chair and Don Bewley, Vice Chair, Crosscut Initiatives Panel (possibly with Shipbuilders Council of America and/or American Shipbuilders Association support).

## Best practices to help you manage and train

*Maura May & Sharon Huntley*

Connections to resources beyond the shipbuilding and repair industry.

Part 1 – Current publications to help you develop, manage, and retain a lean workforce. Maura May, Publisher, Productivity Press

Part 2 – Shipbuilding and repair courses for business value and academic credit. Teaming between educators and industry. Sharon Huntley, Director of Continuing Education and Outreach Programs, University of Wisconsin - Marinette

## Maura May

Maura May, Publisher at Productivity Press/CRC Press, Taylor & Francis Group, has more than twenty years' experience publishing books and training materials in the field of lean production and business improvement. In her current role as publisher for Productivity Press, a leading publisher of books and learning tools on lean enterprise and Toyota Production System, she focuses on publishing practical information that helps organizations improve productivity and competitiveness. In addition, she is publisher for several academic and professional book series in the fields of supply chain management, engineering innovation, and public administration at CRC Press/Taylor & Francis Group.

Prior to joining Productivity Press, Maura was the director of Quality Resources, a publisher of books and learning tools on quality improvement. She earned her BA from Yale University.

## Sharon Huntley

With a background in education, business development and public relations, Sharon Huntley currently serves as the Director of Continuing Education for the University of Wisconsin – Marinette. Under her direction, the department acts as the liaison between industry and education in creating professional training and business development programs.

Sharon believes that lifelong learning is the key to success. Just as the shipbuilding industry continues to evolve in response to a changing world, education will continue to respond with new and innovative training and development opportunities for its workers.

## We know where your future employees are

*Dr. Richard Boutwell, NGSB Newport News*

Closing production and professional employee gaps

Part 1 Career Pathways – national industry-schools connection project. This is aimed at K-12 learning and doing interventions.

Part 2 Shipbuilding Engineering Education Consortium (SEEC). This is the program designed to recruit, train, retain science-technology-engineering-mathematics professionals at BS, MS, PhD levels.

## Richard Boutwell

Dr. Boutwell, currently serving as Major Initiative Team Lead for the Crosscut Initiatives Team, is Manager of Training Services at NG Newport News. Dr. Boutwell founded and has managed the Training Services Department for over 22 years. He manages multiple training, evaluation, process improvements and continuous improvement projects.

He provides technical leadership across all projects and serves as the Senior Instructional Designer and Educational Consultant to company management and senior staff. He developed a Trades Modernization Program for over 20 trades and is a three-time winner of the Model of Excellence Award for training innovation.

Dr. Boutwell has been a member of the Crosscut Initiatives Panel for 10 years. He holds a Doctorate in Cognitive Psychology.

## Old dogs teaching new tricks

*Larry Gebhardt & Doug Ward, Alaska Ship and Drydock*

How to help your senior experts pass their knowledge and wisdom to younger people. Learn about methods and tools that are at the foundation of lean production. Presentation and handout about the Training Within Industry program for job instruction, job method improvement, and job relations. Crosscut Project – Leadership 2010 – Larry Gebhardt and Doug Ward.

## Doug Ward

Before moving to Ketchikan in 1994, Doug owned and operated a utility contracting firm in Portland, Oregon providing innovative and alternative wastewater collection, treatment, and disposal technologies to industrial, commercial, and residential clients.

In 1994, Doug moved to Ketchikan to assist Alaska Ship & Drydock, Inc. with environmental permitting to re-open the Ketchikan Shipyard in Ketchikan Alaska. Today, Doug is the Director of Shipyard Development and works in government and community affairs, market development, and workforce expansion and improvement. Doug's current focus is to implement the NSRP Crosscut Initiative Panel Model Shipyard Training Plan and Skill Standards at Alaska Ship & Drydock, Inc.

Doug served as the Ketchikan Chamber of Commerce President from 2002 to 2004, chaired University of Alaska – Ketchikan Campus Advisory Council and currently sits on the Alaska Workforce Investment Board chairing the Workforce Readiness committee and is an active participant in the National Shipbuilding Research Program's Crosscut Initiatives

## Current Status of Steel Industry

*Joe Doerflinger, Metals USA*

This presentation will provide an in-depth and detailed look at the factors affecting steel prices including: raw materials pricing and availability, production data, transportation costs, global steel production, the effects of mill consolidation, and a look at the current market price trend.

## Joseph A. Doerflinger

Joseph A. Doerflinger is the Marine Products Manager for *Metals USA Plates and Shapes Southeast* and is assigned to the New Orleans service center located in Waggaman, Louisiana. Joe has over thirty-five years of experience in metals-oriented manufacturing and service industries. He has been employed with Metals USA since 1995 and has served in a variety of management positions throughout the Plates and Shapes Southeast region. He was instrumental in helping to establish the New Orleans service center as one of the top performing facilities within the Metals USA organization. Joe has been an key participant in securing approval for the past three capital improvement projects at the New Orleans site; including a structural blast and prime line in 2004, the introduction of laser plate-burning equipment in 2005; and the introduction of a marine-grade aluminum plate inventory, and a 1500-ton, 45-foot press brake in 2008.

In his present capacity, he represents Metals USA to the Gulf Coast operations of *Northrop Grumman Shipbuilding*, to *General Dynamics – NASSCO* facility, and to *Textron Marine and Land Systems*. As part of his responsibilities, he authors monthly market intelligence reports for management review; and actively monitors the projects and initiatives of the ONR (through NSPR and ShipTech) in an effort to assure that Metals USA remains at the forefront of processing capability and technological innovation.

# Developing a Mobile, Climbing Robot Welding System for Shipbuilding

*Stephen Canfield, Ph.D. and James Beard, Ph.D.*

Robotic Technologies of Tennessee (RTT) and its partners, Bath Iron Works (BIW) and Tennessee Technological University (TTU), are conducting a project to significantly advance automation of the ship building process through the development of an autonomous, climbing robotic welding platform. This project will demonstrate how ship manufacturing processes, including welding, surface machining and inspection, can be automated with a mobile, climbing robotic platform.

RTT's Mobile Robotic Welding System (MRWS) consists of a magnetic, track-based mobile robot weighing approximately 40-60 pounds. The robot can climb any ferrous (steel) structure in any orientation (vertical, horizontal, even upside down). The robot has a payload of up to 200 pounds, and its basic payload is a wire feed and welding torch. The torch is controlled with a 4-degree-of-freedom manipulator to create any weld desired. The robot has onboard sensors, processor and control algorithm that allows it to operate in an autonomous fashion. This core technology is applicable to many other industries and many other applications within the shipbuilding industry.

The autonomous system is created through a combination of vision, ranging and pedometric sensors. The system can maintain tolerances of < 0.02 inches during welds and meet and exceed all Navy weld requirements. A weld operator is responsible for defining the weld parameters prior to welding, and monitors the process through one or more onboard cameras. With this system, weld set-up and take down times are virtually eliminated, and weld efficiencies are greatly increased over systems that require continuous operator control.

This presentation will briefly describe the objectives of this project and present the current development and status of the mobile climbing robotic welding system. Results of early stage demonstrations will be provided.

## Stephen Canfield

Dr. Stephen Canfield is a professor and TVA Chair in the Department of Mechanical Engineering at Tennessee Technological University and a partner in Robotic Technologies of Tennessee. He received his Ph.D. in Mechanical Engineering at Virginia Tech in the field of parallel architecture robotics. His teaching and research activities span the areas of robotics, mechanism design and mechatronics, while his current research includes dynamic modeling of space-tether transportation systems, topology synthesis of compliant manipulators and development of mobile climbing robots for remote inspection and manufacturing.

## Jamie Beard

Dr. James Beard is the Chief Manager and President of Robotic Technologies of Tennessee (RTT). He received his M.S. and Ph.D. degrees from Tennessee Technological University (TTU) where he performed research in the areas of mobile climbing robotics and miniature compliant spatial mechanisms. Upon completion of his Ph.D., Dr. Beard continued in a post doctoral position as a research associate for the Center for Energy Systems Research at TTU where his research focused on development of mobile robotics specifically targeted for harsh environments. In 2007, Dr. Beard co-founded RTT to continue the developments of his past research beyond the university setting. Currently he leads several research and commercialization projects focused in the area of mobile climbing robotic platforms for use in highly unstructured and harsh environments for manufacturing and inspection operations.

# Virtual Reality Welder Training System

*Dr. Jerry Jones, N. A. Tech, Inc.*

N.A. Tech Inc. and its partners, Bender Shipbuilding and Repair and General Dynamics Electric Boat, are conducting a project to reduce welder training costs by as much as 50%. This project will develop an affordable virtual welding system for training and personnel evaluation through innovative uses of a robust artificial intelligence technology, a new real-time processing system which was developed partly under previous NSRP work, and new low-cost wired and wireless sensor technology. This system will be able to “teach” various weld styles and positions by virtually providing visualization and sound, and will provide immediate quality feedback through LED lights inside the welding hood.

## Jerry Jones

Dr. Jones is the Chief Technology Officer at N.A. Tech. Inc. He received an M.S. Degree in Mathematics, and a Ph.D. in Metallurgical Engineering, as well as completed all of the coursework for a Ph.D. in Mathematics. Dr. Jones was on the faculty of the Colorado School of Mines for 17 years and Director of the CSM Center for Artificial Intelligence. He has held positions of Visiting Researcher at the National Bureau of Standards, Fracture and Deformation Division, at the U.S. Army Construction Engineering Research Laboratory, and he was Visiting Research Scientist at the Ford Research Laboratory and earned both the 1995 and 1996 Ford Technical Achievement awards. Over the past three decades he has been a keynote speaker and invited lecturer in the United States, Canada, Mexico, Europe, and Japan on the subject of control of manufacturing processes and equipment.

Dr. Jones started a national advisory Committee on Computerization of Welding Information. This committee was transitioned into an American Welding Society Technical Committee (A9), which he chaired for six years. He has published more than 150 technical papers and 15 patents. He has received the AWS Awards for Outstanding Engineering Educator and for Innovation in Welding Technology. His company N.A. Tech., has been twice cited in the Navy Small Business Success Stories Publication.

## Jim Miller

Mr. Miller joined Aker Philadelphia Shipyard as President and CEO in June 2008. Before coming to the shipyard, Mr. Miller was President of Aker Solutions Process & Construction (P&C) Americas, where he was responsible for financial operations of seven business units which generated approximately 8 - 9 billion NOK in revenues per year. During his tenure, Aker Solutions P&C Americas became a leading provider of global engineering and construction solutions with 7,500 employees, including 4,500 construction trades personnel. Prior to joining Aker Solutions P&C Americas, Mr. Miller held the position of President Aker Solutions Songer which is one of the largest union construction companies in the North America and is recognized as one of the top three largest employers of the Boilermaker/Pipefitter/Welders Union.

Mr. Miller graduated from the University Of Edinboro in Pennsylvania with a BA. He is a lifetime resident of Pittsburgh, Pennsylvania.

# Safety and Environmental Regulatory Impacts – State of the Art in Navy Hearing Protection

*Kurt Yankaskas, NAVSEA 05H*

This presentation will focus on recent advances in hearing protection at Navy shipyards to comply with OSHA requirements and reduce workers' compensation claims

Kurt Yankaskas is currently assigned to Office of Naval Research as the technical manager for noise induced hearing loss. He is leading the Navy's efforts on advanced hearing protection for Sailors and Marines, engineering solutions and related medical research.

## Kurt Yankaskas

Kurt Yankaskas is currently assigned to Office of Naval Research as the technical manager for noise induced hearing loss. He is leading the Navy's efforts on advanced hearing protection for Sailors and Marines, engineering solutions and related medical research.

The, Naval Sea Systems Command (Human Systems Engineering Group), Washington, DC is his parent command. He has 30 years of practical application in acquisition, design, test and evaluation of US Navy ships. His projects have included acoustic signature control features, design integration, and threat assessments against U.S. Naval Surface Ships. Mr. Yankaskas has provided the technical direction for all acoustic matters pertaining to surface ship design and fleet support projects utilizing state-of-the-art acoustic control for ship silencing. In this capacity, he has authored or co-authored numerous technical reports and journal articles. He has presented at numerous local and national forums, including the Institute of Medicine and Harvard School of Public Health. He was a Special Assistant in the Secretary of the Navy's Office of Safety and Survivability.

Mr. Yankaskas earned his BS in Ocean Engineering from Florida Atlantic University and his BS in Biology from Rensselaer Polytechnic Institute. He received a Meritorious Civilian Service Award for his work on SWATH acoustics and integrated testing. Mr. Yankaskas was the recipient of the 1995 ASNE Jimmy Hamilton Award, the 1998 RADM James Lisanby Award for Professionalism and the best paper at the 23<sup>rd</sup> International System Safety Conference 2005.

## Developing Emissions Factors for Electrodes Commonly Used within the Shipbuilding Industry for use in Regulatory Reporting Procedures

*Joe Jackens, Concurrent Technologies Corporation*

In accordance with the Clean Air Act, the U.S. EPA is evaluating the need for new regulations to control hazardous emissions from welding operations performed in the shipbuilding and ship repair industry. The decision to promulgate new regulations is based in part on the U.S. EPA's assessment of the risk these emission present to public health and the environment. Shipyard representatives are concerned that the risk associated with the industry may be overestimated due to limitations that exist within the current U.S. EPA AP-42 data set.

It is critical for the shipbuilding industry to have high quality emission factors that industry and the U.S. EPA can confidently use for reporting emissions. Potential low quality and inaccurate emission factors could result in shipyards overestimating their emissions leading to elevated risk results and the unnecessary promulgation of additional more stringent regulations and increased fines for non-compliance. This project identified electrodes that are commonly used for welding in all types of shipbuilding activities (repair, new construction, submarine, surface vessel, etc.), and prioritized them based on a) their overall use, b) lack of current high quality emission factors and c) potential for emitting Hexavalent Chromium and Manganese, the primary constituents driving shipyard offsite public health risks. The overall objective of the project will be to develop high quality emission factors for the selected electrodes that can be used for regulatory reporting purposes.

## Joseph Jackens

Mr. Jackens is an Environmental Analyst at Concurrent Technologies Corporation (CTC). He plays a key role in the technical task development for a variety of projects related to environmental, safety, and occupational health. The main focus of his work includes developing sampling strategies to collect and analyze environmental data. Currently the majority of his work is focused on quantify emissions from various military and industrial activities.

Mr. Jackens holds a Bachelor of Science degree in Environmental Health Science, and is currently continuing additional graduate studies toward a Master of Science degree in Safety Sciences.

## Environmental Issues Affecting Shipyards

*John L. Wittenborn, Partner, Kelley Drye & Warren LLP*

Congress and the new Administration have embarked upon an ambitious environmental agenda that will impact shipyard operations for years to come. The signature environmental issue is climate change. While Congress struggles to enact a comprehensive “cap and trade” and energy policy bill, EPA has separately initiated a regulatory approach to control emissions of green house gas (“GHG”) from ships, motor vehicles and stationary sources. Shipyards need to understand the status and implications of the legislation and regulatory activity on future operations.

The Obama Administration inherited several pending environmental regulations, including the Vessel General Permit for discharge of wastewater from ships, the Residual Risk Rule for control of hazardous air pollutants from shipyards operations such as painting, welding and blasting and the Definition of Solid Waste (recycling). Each of these rules will affect shipyard environmental compliance, and each of these appears to be evolving in different ways. The presentation will describe the rulemaking activities and how each appears to be impacted by the new Administration.

## John Wittenborn

Mr. Wittenborn is a distinguished graduate of the United States Air Force Academy (1971) and holds a J.D. Degree from Indiana University (*cum laude*, 1974) and an L.L.M. Degree in environmental law with highest honors from George Washington University in 1980. Formerly, Mr. Wittenborn served as Chief of the Environmental Litigation Division for the U.S. Air Force and Assistant Chief of the Environmental Enforcement Section, Environment and Natural Resources Division, United States Department of Justice.

## The Economic Benefits of Greenhouse Gas Emissions Reductions through Energy Conservation

*Parikhit (Ricky) Sinha, Ph.D., O'Brien & Gere*

Through a recent endangerment finding, the USEPA has formally recognized greenhouse gases (GHGs) as a new class of pollutants, and the United States Congress is in the process of establishing a GHG cap-and-trade program to dramatically reduce emissions by mid-century. Greenhouse gas regulation poses a fundamental challenge to the way that organizations use energy and resources. As facilities become subject to or are faced with increased utility costs from cap-and-trade regulation, a GHG mitigation plan will help to manage competing priorities for environmental stewardship and financial performance. In conjunction with facility audits, the mitigation plan will identify projects and behaviors that will reduce the consumption of energy and water and minimize waste generation in order to reduce operating costs and GHG emissions. Project types include demand-side management, retrocommissioning, waste-to-energy, waste heat recovery, recycling, and water reuse. Projects can be prioritized based on a cost-benefit index that considers both financial and environmental benefits and provides a business case for GHG emissions reductions. Early successes and high-visibility projects can be used to promote culture change in the organization towards waste minimization and conservation

## Dr. Parikhit (Ricky) Sinha

Dr. Parikhit (Ricky) Sinha is a Technical Director at O'Brien & Gere, where he leads the firm's greenhouse gas (GHG) practice. Dr. Sinha has managed GHG projects for industrial and institutional clients, including development of baseline inventories, mitigation plans, regulatory risk analyses, and impact evaluations for new facilities. He is a former study director at the National Research Council's Board of Atmospheric Sciences and Climate. He has a Ph.D. in atmospheric sciences from the University of Washington, Seattle, and a B.A. in environmental engineering from Harvard University.

## **Design for Production during Early Stage Design – An integrated approach utilizing Paramarine**

*Dr. Hamish Fowler, QinetiQ*

Paramarine is the world's only integrated naval architecture design and analysis product that can deal with the complexities of ship and submarine design and analysis. Used in the early stages of design, the Design for Production module allows the design team to critically examine build strategy and build cost to ensure that the designs are affordable and optimised to minimise build costs and through life costs. This presentation will illustrate Paramarine Design for Production using a modern surface combatant example to illustrate the capabilities and will highlight the benefits to adopting an integrated approach to Design for Production during Early Stage Design.

## Hamish Fowler

Dr. Hamish Fowler, Eur Ing, BEng CEng MIMechE, is Managing Director of QinetiQ GRC. He was brought up and schooled in Edinburgh, Scotland and subsequently graduated with honours from the University of Glasgow in Mechanical Engineering. Following this, he attended the University of Bristol and completed a PhD in Fracture Mechanics of Reactor Pressure Vessel Steels, examining the effects of prior loading on cleavage fracture toughness.

In 1996 he joined Frazer-Nash Consultancy, a systems engineering business based in Bristol where he served for 12 years ultimately running the Naval Nuclear Business focussing on supporting the UK Submarine Fleet including SSN and SSBN, and was responsible for the delivery of Independent Safety Auditor advice to the in service submarine fleet and the new Astute Class Submarine. During this time he achieved Professional Engineer Status in the UK and Europe.

In 2007 he joined QinetiQ GRC as Managing Director, who provide Paramarine to the UK MOD, which forms a central part of the UK Stability and Structural Certification process for in service ships and submarines. He is also charged with growing this business globally and exploiting the technology within Paramarine worldwide.

He is married to Lisa, has three children and is a keen sailor and swimmer and enjoys the odd triathlon.



**NATIONAL SHIPBUILDING RESEARCH PROGRAM**  
**ADVANCED SHIPBUILDING ENTERPRISE**

*Reducing Naval Ship Construction & Repair Costs*

# Panel Breakout Agendas





# Business Process Technologies

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

### AGENDA

September 17, 2009

<b>8:00AM</b>	<b>Greetings / Introduction</b>	Ken Clarke
8:15 AM	SPARS: Past – Present – Future	Richard Bolton
9:00AM	BPT Panel Project Whitepaper Solicitation <ul style="list-style-type: none"><li>• <i>Advanced Materials – Low cost, light weight, low maintenance, low signature</i></li><li>• <i>Reduced Total Ownership Costs</i></li></ul>	Ken Clarke
<b>9:30AM</b>	<b>Break</b>	
10:00AM	BPT Panel Future meetings/plans <ul style="list-style-type: none"><li>• <i>How do we generate greater participation and panel meeting attendance?</i></li></ul>	Ken Clarke
10:30AM	Call for Nomination of Officers <ul style="list-style-type: none"><li>• <i>Election of new panel chairman and vice chairman will be conducted at the December, 2009 panel meeting</i></li></ul>	Bill Brill
<b>11:00AM</b>	<b>Wrap-Up / Adjourn</b>	Ken Clarke





# Shipyard Production Process Technologies

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

**Thursday, September 17, 2008**

### **Shipyard Production Process Technologies Break-Out**

8:15AM- 8:20AM	<b>Welcome by SPPT Panel Chair</b> <i>Tonya Boney, SPPT Panel Chair</i>
8:20AM-9:00AM	<b>WorkSim™ Overview</b> <i>Patrick Cahill, Knowledge Bases Systems, Inc.</i>
9:00AM-9:30AM	<b>Automating Ship Assembly Planning and Simulation (Phase II SBIR Update)</b> <i>Bryan Miller, Atlantec Enterprise Solutions</i>
9:30AM-9:40AM	<b>BREAK</b>
9:40AM- 10:20AM	<b>Asset Inventory Management</b> <i>Joe Hellmers, General Dynamics IT</i>
10:20AM- 11:00AM	<b>Large Scale Computer Simulation Modeling System for Shipbuilding</b> <i>Jeff Schaedig, General Dynamics NASSCO</i>
11:00AM- 11:30AM	<b>Expansion Bolts for Line Shaft Coupling Application</b> <i>Larry Burda &amp; Stephen Busalacchi, Superbolt Inc.</i>
11:30AM-Noon	<b>Ship Production Rigging Planning Guide (Final Report)</b> <i>Lucas Gray, General Dynamics NASSCO</i>





Systems Technology

Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

## AGENDA

<b>7:30AM – 8:00AM</b>	<b>Continental Breakfast Provided</b>	
8:00AM – 9:00AM	STEP Shipbuilding Interoperability Forum	Dr. Gerald Radack
9:00 AM – 9:30 AM	NSRP Modeling & Simulation Project Status Report	Stewart Moore
9:30AM – 11:45AM	Presentations on Proposed Panel Projects for 2010	
11:45AM – 12:00 Noon	Panel Project Voting & Selection	Dr. Burton Gischner





# Product Design & Materials Technologies

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

### AGENDA

Thursday, September 17		
0815 - 0845	Materials Stress Analysis	Asan Igbal, Boeing
0845 - 0915	Approaches to reduce cost of aluminum ship structures	Brett P. Conner, Ph.D. , Alcoa
0915 - 0945	Advanced Design, Advanced Materials, Advanced Technology: Achieving Breakthrough Performance in Ship Design and Construction	Paul Blomquist, Applied Material Sciences
0945 - 1000	<b>BREAK</b>	
1000 - 1030	Advanced Hybrid Joining Technology	Dr Yakov Khodorkovsky, Beltran and Vladimir Shkolnikov, CTC
1030 - 1100	Army seamless CAD design software	Walter Roy, Army Research Laboratory
1100 - 1130	Panel Business	
1130	Adjourn	



## Abstract and Speaker Biographies

### **Materials Stress Analysis**

Asan Igbal, Boeing

### **Rapid Parts Re-Design for LCS and JHSV and other Programs and the Alcoa - Shipyard Interface**

Brett P. Conner, Ph.D., Project Leader Sea Systems, Alcoa Defense

### **Advanced Design, Advanced Materials, Advanced Technology: Achieving Breakthrough Performance in Ship Design and Construction**

*The progress of incorporation of new alloys and welding processes for two ship classes, resulting in weight reduction, schedule improvement, and cost savings for both the DDG-1000 and CVN ship classes.*

Paul A. Blomquist, Principal Technologist, Laser Applications, Applied Thermal Sciences, Inc.

### **Advanced Hybrid Joining Technology**

*The presentation is to summarize results of a recently completed STTR Phase I investigation dedicated to advancement of a joining technology pertinent to large hybrid (composite-metal) ship structures. While beneficial for weight saving and other key performance parameters, composites application for large hull structures has certain limitations for seamless structural components. A hybrid hull that consists of both metal and composite structures potentially enables the sought enhancement of structural/functional efficiency, but robust joining between those heterogeneous structures must be employed. The reported project is targeted to investigation of an opportunity to implement a novel joining technology concept devised by CTC for large primary metal vessels. The core of the technology is an advanced preparation of metal surface that pins the composite to the metal adding a mechanical component to the adhesive bonding that increases structural performance of the joint. The reported project has resulted with improved manufacturing process potentially applicable for construction of large hybrid structures and proven structural efficiency of the hybrid joint subjected to tensile and transverse impact loading. The repair process suitable for in-fleet execution is demonstrated. The weight and cost benefits are estimated showing a great potential regarding a large hybrid hull application.*

Dr. Yakov Khordorkovsky since 1991 is Director of the Research and Development Division of Beltran, Inc and has been PI or within key personnel for 27 research projects for Navy, DARPA, Army, Air Force and NASA. Dr. Khodorkovsky has extensive experience in the field of Mechanical Engineering and Naval Architecture. Before his immigration to the U.S. in 1991, he held a Professor position in Naval Architecture, Fluid Dynamics and Hydrodynamics in State Marine Technical University, St. Petersburg, Russia, Visiting Research Professor in the Ship Hydrodynamics Department of Rostock University in Germany. Dr. Khodorkovsky holds a Masters Degree in Naval Architecture, Ph.D. in Fluid Dynamics, and Dr.Sci. in Ship Hydrodynamics, all from the State Marine Technical University, St. Petersburg, Russia.

Dr. Vladimir M. Shkolnikov, Principal Composite Scientist at *Concurrent Technologies Corporation (CTC)*, Johnstown, PA, has over 35 years of a combined Russian-American experience in Composite Science and Engineering. That includes analytical and experimental research on service behavior, fatigue, and failure of composite materials and structures, specification of design requirements, criteria, and allowances, structural optimization, analysis, and design reconciliation, service life prediction, selection of rational material compositions and manufacturing processes, and author's guidance for the structures prototyping and in-fleet/in-field trials. Dr. Shkolnikov was among key personnel for most R&D projects relevant to composites application for the Russian/Soviet Navy performed in 70s-90s being a Senior Research Scientist in the Krylov Shipbuilding Research Institute and then (in 1991-1995) in the Institute of Transportation Problems of the Russian Academy of Sciences, both in St. Petersburg, Russia. After his immigration to the US in 1995 he has conducted several challenging projects for the U.S. Navy and other Federal Agencies. Currently, he is leading the development of advanced hybrid (composite-to-metal) joining technology. Dr. Shkolnikov received his MS degrees in Mechanical Engineering and Naval Architecture from the State Marine Technical University (St. Petersburg, Russia) and Ph.D. in Structural Mechanics of Ships from the Krylov Shipbuilding Research Institute. He has authored 50+ scientific/technical papers, 50+ inventions, and many scientific-technical reports and design guidelines.

## **Army Seamless CAD design Software**

*Reuse of Model Based Enterprise Data to Support Sustainment and Rebuild.*

*The Army is funding an ongoing Mantech program directed to upgrading the work planning and shop floor instructions for repairing, rebuilding, and resetting its weapon systems such as HMMWV, Bradley, M113, et al. The objective of the project is to introduce the capability into Army Organic Arsenals and Depots to reuse or create MBE data to feed discrete event simulations to model rebuild lines and work stations, to produce visual based work instructions rather than verbiage based work instructions, and to produce visual based weapon system documentation such as Operator's manuals, Maintenance Manuals, and Depot Maintenance Work Instructions.*

Mr. Walter Roy worked for 34 years within the Army R&D community in a variety of positions. His last position was Chief of the Survivable Materials Branch at the Army Research Laboratory. He retired in 2006 and has been working in a contract position since then. Mr. Walter Roy currently provides support in many areas of materials development and materials processing as well as program management. Mr. Roy was instrumental in developing the Affordable Armor ATO-M program and was initial program manager for it. He continues in a supporting role for it and several of its individual projects including development of a Model Based Enterprise approach to FCS design and manufacturing, encapsulation of medium caliber armor, and semi-continuous processing of SiC ballistic tiles. Mr. Roy has played an important role in establishing a light metals program, Al and Mg, for next generation armor development, and an NDE program directed toward FCS armor. In performing these activities, Mr. Roy works closely with the prime contractors and subcontractors for Army weapon systems including BAE, GDLS, Boeing, and others. In December 2007, Mr. Roy was part of a DOD and Industry team to be awarded a Mantech Achievement Award for Semi-Continuous Processing of Ballistic SiC ceramic tiles. This was the fifth Mantech Achievement Award that Mr. Roy has won.



# Facilities, Tooling, Risk Management

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 15, 2009

1:00PM – 5:00PM

### AGENDA

- Opening Remarks - *Jack Shea*
- Update on Shipyard Benchmarking Initiative - *Committee members*
- Preservative Coating Removal Project Report - *Dan Nadeau/Consultant*
- MACOSH/Regulatory Update - *Jim Thornton*
- NSRP/OSHA Alliance Agreement Renewal - *Thresa Nelson*
- Incident Data Sharing (IDS) Web Site Update - *Committee members*
- Ultra High Solids Coatings/Eye Protection - *Committee members*
- NFPA Requirement for Explosion Vents in Dust Collectors - *Yaniv Zagagi*
- Ultra High Pressure Water Blasting/PPE - *Committee members*
- Panel Project Discussion for FY2010 - *Committee members*





### AGENDA

September 17, 2009

Beginning at 8:00 AM

1. Call to order
2. Minutes of last meeting
3. NSRP Panel SP 7 membership report
4. Chair report
5. Panel Project reports
  - a. Prequalified PQR/WPS (Harvey Castner)
6. Technical Reports
  - a. Aluminum marine structure weld inspection (Tom Hay)
  - b. Capabilities of AET (Cindy Jiang)
  - c. Dual Electrode Welding (YuMing Zhang)
  - d. Intelligent Control for Circumferential Welding of Pipe (YuMing Zhang)
  - e. Monitoring of Arcing Condition in GMAW (YuMing Zhang)

Recess at noon





Environmental Technologies  
 Panel Breakout  
*in conjunction with the All Panel Meeting*  
 September 17, 2009

AGENDA

September 17, 2009

<b>7:30</b>	<b>Continental Breakfast</b>	
8:00	Call To Order, Introductions	
8:15	Panel Business Meeting <ul style="list-style-type: none"> <li>• Budget Review</li> <li>• By-Law Update</li> <li>• Steering Committee Update</li> <li>• New Action Items</li> <li>• Panel Projects Whitepapers</li> <li>• Future Agenda Recommendations</li> </ul>	Wayne Holt, Panel Chair Donna Elks, Steering Committee Chair
<b>10:15</b>	<b>Break</b>	
10:30	Environmental Issues Discussion	Shaun Halvax, Vice Panel Chair
<b>12:00</b>	<b>Adjourn</b>	





# Crosscut Initiatives

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

### AGENDA

September 17, 2009

<u>Time</u>	<u>Activity</u>	<u>Presenter</u>
<b>7:30 – 8:00</b>	<b>Continental Breakfast</b>	
8:00 – 8:15	Welcome & Introductions; Meeting Overview Housekeeping Announcements	Larry Gebhardt, Chair Don Bewley, V-Chair
8:15 – 9:15	Adapting industry-supporting courses to achieve academic certification and/or degree credit. Seeking project funding for Modern Ship Design and TWI	Sharon Huntley, Director of Continuing Education and Outreach Programs, University of Wisconsin – Marinette; Larry Gebhardt – Alaska Ship & Drydock, Inc.
9:15 – 10:15	Crosscut projects for panel and larger ASE-RA versions. Planning or movement toward voting and selling depending on funding availability	Group discussion – Larry Gebhardt (Note: candidate topic list will be circulated to Crosscut Panel e-mail list.)
<b>10:15 - 10:30</b>	<b>Break</b>	
10:30 – 11:00	Crosscut SBIR project status: Knowledge and Experiences of Expert Labor (KEEL)	Michael Paley – Aptima, Inc.
11:00 – 11:30	Training assessment, certification – validity, practices, tips and traps.	Don Bewley, V-Chair & Dick Boutwell - NGNN
11:30 – 12:00	Next meeting planning, topics to consider for professional development, panel leadership, etc.	Group discussion – Larry Gebhardt
<b>12:00</b>	<b>Adjourn</b>	





# Surface Preparation & Coatings

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 17, 2009

### AGENDA

September 17, 2009

<b>7:30 AM</b>	Room Opens for Registration	
8:00-8:30AM	<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Chair's Report</li> </ul>	Steve Cogswell, Panel Chair
8:30AM	NAVSEA update	Mark Ingle, NAVSEA, 05P23
9:00AM	<ul style="list-style-type: none"> <li>• ManTech, SBIR, funding Update</li> <li>• Flash Rust, Final report</li> </ul>	Tom Hite, CTC Steve Cogswell, Atlantic Marine Pete Ault, Elzly Technologies
9:30AM	Retention of PCP, update	Pete Ault, Elzly Technologies
<b>Break</b>		
10:00AM	Discussion of Design for Production Track	TBD
10:15AM	Discussion of Workforce Training and retention Track	TBD
10:30AM	Discussion of Automation Track	TBD
10:45AM	Final report: Assessing the 50% RH, 009-32 Requirement for tank painting	Pete Ault, Elzly Technologies
11:00AM	<ul style="list-style-type: none"> <li>• Group discussion, moving forward 2010</li> <li>• Painting Center of Excellence</li> <li>• Whitepaper topics for 2010</li> </ul>	Panel Members
12:00PM	Steering Committee, working lunch	
1:00PM	Panel Idea results	
2:00PM	Panel Elections	
<b>2:30PM</b>	<b>Adjourn</b>	

**Please pre-register for the meeting on the web site!**

Regards, Steve

Steve Cogswell- NSRP  
 Chair, Surface Preparation and Coatings  
 Atlantic Marine Florida, LLC  
 Office: 904-251-1573  
 Cell:904-361-8012  
 Fax: 904-251-1731





# Electrical Technologies

## Panel Breakout

*in conjunction with the All Panel Meeting*

September 16-17, 2009

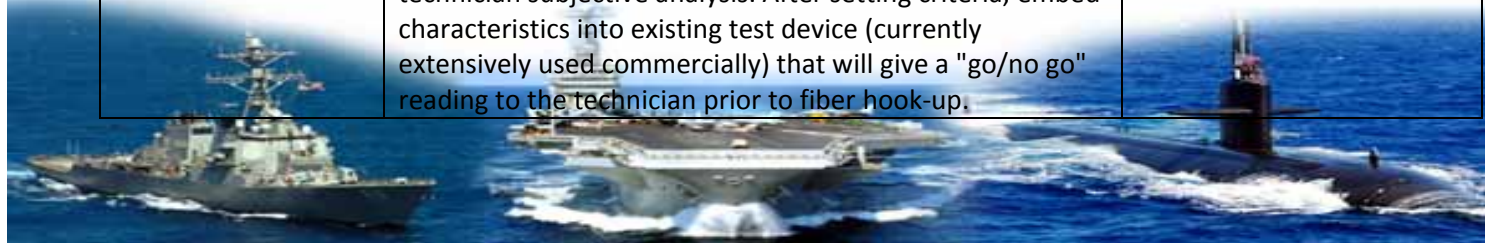
### AGENDA

#### September 16, 2009

<b>7:30AM – 8:00AM</b>	<b>Welcome / Breakfast</b>	
8:00AM - 9:30AM	Switchboard EMI Discussion	
9:30AM - NOON	<p>Open discussions with what we accomplished in the June Meeting:</p> <ul style="list-style-type: none"> <li>•General Discussion Topics from June: <ul style="list-style-type: none"> <li>➤ FO Tester</li> <li>➤ EMI/EMP</li> <li>➤ Connectors</li> <li>➤ Hand Held PC</li> </ul> </li> <li>•More Detailed review: <ul style="list-style-type: none"> <li>➤ Review of the status on the FO White Paper</li> <li>➤ Discuss the overview of Cable Routing – various methods being utilized by the industry</li> <li>➤ Connectorization / Plug &amp; Play – The scope and possibilities</li> <li>➤ Composite Design for Electrical</li> <li>➤ Cable Tagging – Is it needed today?</li> <li>➤ Oasis</li> </ul> </li> </ul>	
NOON	Lunch	

#### September 17, 2009

<b>7:30AM – 8:00AM</b>	<b>Welcome / Breakfast</b>	
<b>Vendor Presentations</b>		
8:00AM – 8:30AM	Nancy Nunn - Elumenus LLC	
8:30AM – 9:00AM	Ken G. Riley - Physical Optics Corporation	
9:00AM-9:30AM	Fred Loomis - RISE	
9:30AM – 10:00AM	ShipConstructor USA (Electrical Module) Erik working on confirmation	
<i>Times may vary depending then number of vendors who will be participating.</i>		
<b>10:00AM-10:15AM</b>	<b>Break</b>	
10:15AM -10:30AM	<p><b>Review Fiber Optic White Paper</b></p> <p>Improved tooling for fiber optic cable connection quality: Work with government warrant holder to set objective (vice visual) criteria for connection point quality to remove technician subjective analysis. After setting criteria, embed characteristics into existing test device (currently extensively used commercially) that will give a "go/no go" reading to the technician prior to fiber hook-up.</p>	Lead - Gary Zimak



<b>11:30AM - Noon</b>	<b>Lunch</b>	
12:30PM – 1:45PM	<p><b><i>Review Connectorization White Paper</i></b></p> <p>Increased use of electrical cable connectorization to drive earlier cable installation and testing. This is in-line with many discussions we've had on this topic over the last several months.</p>	Lead - Joe Cochran has lead with Joe English and others supporting.
1:45PM – 3:00PM	<p><b><i>Review Enhanced Composite Design White Paper</i></b></p> <p>Enhanced composite design to mitigate rework costs. Consider increased levels of detailing in design including local stud run volumes, pipe hangers, etc. Purpose would be to lessen ad hoc craft deck plate local lay-out decisions which can cause unintentional interferences and subsequent rip-out and other rework costs. I will be lead on paper development and I've asked Gary for a NN counterpoint.</p>	Lead – Erik Bjorkner
<b>3:00PM-3:15PM</b>	<b>Break</b>	
3:15PM – 4:30PM	<p><b><i>Review of Cable Tags White Paper</i></b></p> <p>Review the history of cable tags to compare the original purpose of cable tags to the purpose and need today. There are thousands of cable tags installed on Navy ships costing tens of thousands of dollars. Throughout the life of the ship, the tags fall off, get painted, are installed on the wrong cables and are sometimes difficult to read. There is an opportunity to review the current cable tag requirements to determine if the cable tags are adding the value in comparison to their cost.</p>	