

# 2013

## NAVAIR Fellows Induction Ceremony and NAWCAD Patent Award Ceremony

1300-1515, Thursday, 29 August 2013  
Building 2272 Atrium - Patuxent River, MD

### Agenda of Events



#### Fellows Induction Ceremony

- 1300-1310 Welcoming Remarks:**  
(Will include overview of both the NAVAIR Fellows Program & Patent Awards Program)  
Dr. James Sheehy, Chief Technology Officer
- 1310-1325 Opening Remarks for NAVAIR Fellows:**  
Vice Admiral David Dunaway, NAVAIR, Commander
- 1325-1400 Presentation to Fellow Inductees:**  
Vice Admiral David Dunaway, NAVAIR Commander
- 1400-1405 Transition Remarks:**  
(Closing remarks for NAVAIR Fellows and Intro to Patent Awards)  
Dr. James Sheehy, Chief Technology Officer

#### Patent Award Ceremony

- 1405-1415 Opening Remarks for Patent Award:**  
Rear Admiral Mark Darrah, Commander, NAWCAD,  
Assistant Commander, Research & Engineering
- 1415-1455 Presentation to Patent Award & Disclosure Recipients:**  
Rear Admiral Mark Darrah, Commander, NAWCAD,  
Assistant Commander, Research & Eng (AIR-4.0)
- 1455-1500 Transition Remarks:**  
(Closing remarks for Patent Awards and Intro to Delores M. Etter Awards)  
Dr. James Sheehy, Chief Technology Officer
- 1500-1510 Presentation to Delores M. Etter  
Top Scientists and Engineers of the Year Award Recipients:**  
TBD (Ms. Mary Lacey, DASN RDT&E or Vice Admiral David Dunaway,  
NAVAIR Commander)
- 1510-1515 Closing Remarks:**  
Dr. James Sheehy, Chief Technology Officer
- Reception to Follow - Light Refreshments Served**  
Dr. James Sheehy, Chief Technology Officer

# Record and Disclosure of Inventions

Recipient Name	Invention Title
Matzdorf, Craig; Nickerson, William	Oxide coated metal pigments & film forming composition
Matzdorf, Craig; Nickerson, William	Coated aluminum alloy pigments & corrosion resistant coatings
Peter Seidenberger; Reason, William; Dillon, Patrick; Thull, Zachariah	Retention harness
Silbert, Mark	Constrained grid-based filter
Slick, Daniel	Enterprise architecture design & implementation
DiCola, John	Tactics development system
Jacob, Robert; Lynn, Scot	Geographic position enabled weapons launch safety system and method
Muja, Oliviu	Wire splice crimp tool expanding positioner
Zaita Anthony; Frazier, William; Kittur, Madan; Pagett, Malinda	Intelligent Rapid Part Insertion Technology (I-RAPID)
Fainman, Yeshaiahu; Sugrim, John; Verma, Suresh	Button size fluorescence spectroscopy for bomb detection
Borcicky, Richard	Ergonomic shirt / vest
Johnston, Tracy; Anderson, Jon; McMaster, John; Mrozowski, Leroy; Reed, Dennis	Architecture Management Integration Environment (AMIE)
Han, Young; Hanson, Dane	Paint striping composition
Arafat, El Sayed; Meilunas, Raymond; Hanson, Dane	Development of environmentally friendly cleaner for removal of hydraulic fluid from composites
Anderson, Thomas; Beamon, Kathleen; Jones, Warren; Stanley, Christine	Terrain Awareness Warning System (TAWS) for rotary wing aircraft
De La Cruz, Leonard; Tabet, Saad	Signal carrier modulation using a polarization switchable antenna
Capps, Daniel	Detachable hex head wrench
Mann, Thomas	Recoilless bucking bay system
Chapman, Michael	Modeling & Simulation analytical replay algorithm
Sugrim, John; Berry Jr, Rollie DeWayne; Ferguson, Gerald	Distributive transmissometer
Farrell, William	Torque tool
Smith, Desiree; Sieveka, Edwin; Hall, Brandon	Improvised explosive device (IED) test fixture
Hoskins, Robert	Method for helicopter rotor identification using radar signals
Lellevold, Hans; Keller, Kevin; Masters, Joshua; Singer, Charles Michael Goodnow	Arbitrary programmable SCR firing system
Stanley, Christine Carlisle, Adam	Laser based lens analysis

# Issued Patents

## **Active Aluminum Rich Coatings Patent #8,262,938**

Inventor(s): Craig Matzdorf & William Nickerson

**Patent Abstract:** Chromate-free corrosion-inhibiting coating compositions comprising film-forming binders and galvanic aluminum alloy powders prepared in an oxygen (oxidizing), nitrogen (inert) or nitrogen-hydrogen (reducing) atmosphere having particle sizes ranging up to 100 microns. The aluminum alloy powders having the formula: aluminum-zinc-X (AlZnX) wherein X is an element selected from the group consisting of indium, gallium, tin and bismuth. Improvement in corrosion protection is obtained by the addition of chemical inhibitors such as an azole or talcite clay to the coating which further inhibits the self-corrosion of the aluminum alloy and extends the corrosion protection of the metal substrate being protected.

## **System and Method for Depth Determination of an Impulse Acoustic Source by Cepstral Analysis Patent #8, 264,909**

Inventor(s): Donato Russo & Ronald Buratti

**Patent Abstract:** A system and method for making an accurate estimate of the activation depth for an impulse acoustic source includes recording sounds produced by the activation of the underwater impulse acoustic source over a time period sufficient to capture reverberation, performing a cepstral scan of the recording to determine a quefrequency corresponding to the impulse from the underwater impulse acoustic source and deriving a depth estimate from the quefrequency corresponding to the impulse from the underwater impulse acoustic source.

## **Siloxane compositions comprising an alkylated cyclosiloxane and linear alkylated siloxane mixture Patent #8,273,698**

Inventor(s): El Sayed Arafat

**Patent Abstract:** The present invention relates to siloxane compositions having a VOC of about 19 g/l, a flash point above 140.degree. F., and a vapor pressure of less than seven millimeters of mercury (7 mm Hg). The siloxane compositions consist essentially of unsubstituted and/or alkylated cyclicsiloxanes having 5 or 6 silicon atoms, an alkylated cyclicsiloxane having 3 or 4 silicon atoms, a linear alkylated siloxane fluid, at least one alkylene glycol alkylether and an alkylene glycol having at least six carbon atoms.

## **Aluminum Alloy Coated Pigments and Corrosion-Resistant Coatings**

Patent #8,277,688 Inventor(s): Craig Matzdorf & William Nickerson

**Patent Abstract:** This invention relates to galvanic aluminum alloy powder-pigments coated with a semi-conducting corrosion inhibiting oxide and the process for preparing said coated powder-pigments in combination with film-forming binders for coating metal substrates to inhibit corrosion. The coated aluminum alloy powder-pigments are electrically active and prevent corrosion of metals which are more cathodic (electropositive) than the aluminum alloy pigments.

# Issued Patents Continued

## **Gradient Magnetometer Atom Interferometer Patent #8,289,018**

Inventor(s): Frank Narducci & Jon Davis

**Patent Abstract:** Measuring a magnetic gradient according to the present invention includes generating a beam of like atoms with magnetic sublevels, applying a first pulse of electro-magnetic radiation to the beam of atoms to create a coherent superposition of the magnetic sublevels in the atoms in which the superposition results in a plurality of beams following separate paths and in which at least two of the paths are arms of an interferometer, applying a second pulse of electromagnetic radiation to both beams of atoms a time  $T$  later with characteristics substantially similar to the first pulse and in which the product of the Rabi frequency and  $T$  now must equal  $\pi$ . (versus  $\pi/2$  in the first pulse), whereby the states of the atoms in the two arms of the interferometer are coherently interchanged and are redirected towards each other. The beams of atoms are then recombined by apply a third pulse of electromagnetic radiation a time  $T + \Delta t$  after the second pulse with characteristics substantially similar to the first pulse such that the paths form a closed loop. Then, a detecting pulse of light is used to detect the number of atoms in one magnetic sublevel versus another magnetic sublevel.

## **Integrated Net-Centric Diagnostics Dataflow for Avionics Systems**

Patent #8,306,689

Inventor(s): Craig Koepping, Russell Shannon & Thomas Richardson

**Patent Abstract:** A net-centric avionics diagnostics and automated maintenance environment system includes a storage medium on which is stored diagnostic data concerning the operation of systems of an aircraft and diagnostic data of aircraft systems, including BIT data, an organizational level automated maintenance environment server to transport maintenance and diagnostic information throughout the automated maintenance environment. The system also includes an organizational level diagnostics avionics tester that has a processor to execute diagnostics software for gathering, storing, and processing avionics diagnostics information. The tester is linked to an interface device that includes data acquisition hardware, standard interfaces for an avionics unit under test, and instrumentation for troubleshooting the unit under test. The organizational level diagnostics avionics tester is in network communication with the organizational level automated maintenance environment server. The system also includes a common intermediate level tester for testing a plurality of avionics modular assemblies, and an intermediate level maintenance environment server that stores historical maintenance data for use by the common intermediate level tester and by the organizational level diagnostics avionics tester.