



Bulletin

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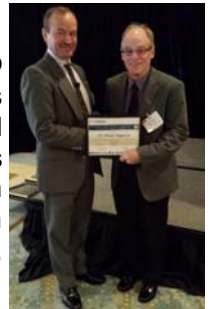
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THE MSIAC IM AWARDS



To acknowledge and encourage progress and achievements in Insensitive Munitions technology and Munitions Safety, MSIAC again presented Awards for IM and MS excellence at the 2013 NDIA IM/EM Technology Symposia.

The **2013 Award for Technical Achievement** was presented to **Dr Philip Pagoria**, from the US Lawrence Livermore National Labs based on his significant contributions to research and engineering. His award nomination primarily cited his synthesis accomplishments on LLM-105, a highly insensitive explosive. In addition to synthesis of LLM-105, Dr Pagoria has worked to transition the technology to the next level; further developed the synthesis, scale up and production of the material.



There were two awards presented this year for **Career Achievement**. This award recognizes individuals who have made consistent contributions in research, engineering, production, procurement, fielding, standardization, policy, etc. related to MS, over an extended period. Each of these nominees are eminently qualified for this award.

The first award was presented to **Dr Pai Lu**. This award recognizes his significant technical contributions over the last 45 years while his nomination referenced some 60 papers and publications. His work is widely referenced and ranges across the fields of propellants, explosives, less vulnerable munitions design, and vulnerability / IM testing.



The second Career Achievement award went to **Mr Ken Graham**. Sadly, more of his peers could not be at the conference this year to witness Ken in a once-in-a-lifetime state of "speechlessness" upon winning the award. His nomination cited some 60 IM and MS publications Ken produced after he was awarded the NIMIC IM award in 1999. The award recognizes his enthusiastic and vital contributions to the IM and MS community for over 40 years.



Please join us as we congratulate and thank each of these gentlemen for their exceptional support to our community. Further, MSIAC and the Steering Committee would like to thank all those that took the effort to recognize the hard work and commitment of others by submitting nominations, and in particular all those who were the subject of a nomination.

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THE PM'S PERSPECTIVE

As the new Project Manager at MSIAC I want to take the opportunity to say how much I am looking forward to working with the MSIAC member nations in my new role. I believe MSIAC has a great deal to offer its customers and we have an excellent and diverse team waiting to help you with your munition safety needs.

At this time of year it is useful to reflect on some of the achievements from over the course of the year.

- ✦ AIMS and SASO tools were brought online;
- ✦ Cyprus Accident investigation was expanded to include preventative measures;
- ✦ Review of the Bullet Impact test and IM Response Descriptors were conducted;
- ✦ And we continued to support AC326 SG C with the Repository and Support for AASTP-1 and AASTP-5

Many of our efforts require input from our member nations and we are very grateful to all those that have contributed.

In the last Quarter we have supported the IMEMTS meeting, Parari, and the UK OME symposium. We also undertook country visits to Australia and Finland. The latter providing an opportunity to:

- ✦ Promote MSIAC products and services to ensure exploitation
- ✦ Develop an understanding of evolving priorities and needs within the nations
- ✦ Provide training

We are also working to improving our website to increase the content and create a better experience for users. Currently, password management is cumbersome for all and we are piloting a new tool to allow users to change their own password. A single sign on web page will be introduced early next year which will mean that you only input your password once to gain access to the products and services for which you have permission.

In addition to this we are increasing the technical content of the database that MSIAC members can have access to and can search.

New for next year are two new work elements. The first is to look at the environmental impact and assessment of munitions, which is essentially a scoping study in the first instance. We will also be looking at the implementation of in-service surveillance NATO AOP-62 and AOP-63 to develop practitioner's guidance. A major work element will be the SCJ assessment workshop (see announcement).

Finally, we look forward to involving you in the programme of work for 2104. Please feel free to contact us to make best use of our products and services



Yours, Michael Sharp



SHAPED CHARGE JET ASSESMENT WORKSHOP

MSIAC will be hosting a Shaped Charge Jet (SCJ) Assessment Workshop in 2014. This workshop will focus on developing an advanced assessment methodology for determining munition response to Shaped Charge Jet Attack. The intent will be to utilize the whole body of evidence approach to include

- ⇒ Identify small scale testing and modelling capabilities to be used along with all-up-round test results in order to improve confidence in the assessment.
- ⇒ Review of the SCJ hazard protocol in AOP-39 to improve our knowledge of munition response mechanisms.

By developing an improved understanding of the underpinning science of munition response to SCJ, an improved AUR test will be proposed.

The workshop is scheduled for the week of 13-16 May, 2014 in Brest, France. Mark your calendars and make plans to attend. More information will be forthcoming.



CLARIFICATION OF HD STORAGE SUB-DIVISIONS (A TECHNICAL SESSION PAPER)

Author: Thomas N. Taylor
Presenter & Contributing Editor: LCDR Christopher McGregor

Much discussion and debate on the benefits of storing munitions with reduced hazard classifications have been heard over the last couple of years. This is often connected with attempts to quantify the benefits of implementing an Insensitive Munitions policy.

Recent questions at MSIAC probed the benefits of NATO's storage sub divisions associated with HD 1.2 and 1.3 particularly the impact that these might have on quantity distances. Our research revealed some remaining issues or inconsistencies with the QDs derived using the current rules, which can lead to SsD 1.2.3 munitions being treated more conservatively or equivalent to SsD 1.2.1 and 1.2.2.

As a consequence, storage benefits from the introduction of Insensitive Munitions may not be fully realized. This paper will address what appears to be inconsistencies with the standard and attempt to clarify the changes that are currently proposed for the next edition of NATO AASTP-1. Some examples are provided to highlight the changes and to illustrate the

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challenges a user will have in determining the proper quantity distance.

[Click on this hyperlink to read the full article!](#)

MSIAC STEERING COMMITTEE MEETING IN WALDORF, USA!

This year's second Steering Committee meeting was held in the lovely Hilton Garden Inn Hotel in the city of Waldorf, MD, about 1 hour south of Washington DC, USA. As is customary, it cannot be all work and no play so after a hard day's meeting, presenting and discussing, we gathered in the evening for a well earned meal, a good drink, and a relaxing chat.



The second day started with a morning of meetings but in the afternoon we had the great pleasure of visiting the Naval Surface Warfare Center at Indian Head. When our "missing member" finally caught up with the rest of the group at NSWC, our visit started with a welcome address and a command brief by **Mr Darrin Krivitsky**, Manufacturing Department Head.

Before the entire group had the pleasure of going on a tour of the facility, we (unfortunately) had to first conform to the local dress code :



Along the way, we had the pleasure of meeting **Stu Richman, Rich Muscato, Robert Beagley and Armen Malkasian**, who gave us a very warm reception and briefed us enthusiastically at every stop of the tour. Our members really enjoyed the sights and the informative briefs.

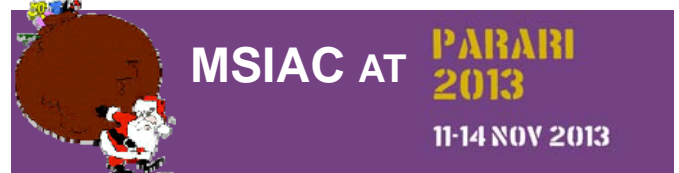
We would like to extend our thanks to each one of them again and to NSWC for allowing us to visit, but most of all to **Dr Kerry A. Clark**, Deputy Director, Explosive Ordnance Engineering at NSWC, for all the effort she put into the organization of this visit. The day passed without a hitch thanks to her help!

At the end of our Steering Committee meeting, our Chairman and all the members also said their farewell to Roger L. Swanson, MSIAC's Project Manager for the



last 3 years. Roger said he would first enjoy some well earned rest and would then look for the next challenge in his career.

We wish Roger and his family all the best!



The 11th Parari took place at the Hyatt Hotel from 12th to 14th November 2013 in the capital city of Canberra, ACT. This symposium is a biennial event co-ordinated by Thales Australia and the Australian DoD Directorate of Ordnance Safety. The overarching theme of this year's symposium was "integrating new technologies for explosive ordnance safety".

The symposium was very well attended with 300+ delegates; a large percentage of which were non-Australian. The three keynote speakers, Rear Admiral Clint Thomas (RAN), Kevin Wall (Vice-President, Thales Australia), and Air Commodore Mike Quigley (UK MoD) all highlighted the reduction in personnel, budgets and the technical challenges facing the international energetics community.

Over the three days, in ten sessions, 83 technical papers were presented covering EO Safety Policy, Environmental, Design Safety, Storage & Transport, EOD, Testing, Insensitive Munitions and Lifting.

The conference dinner was held inside the auspicious surroundings of the Australian War Memorial with tables situated around a Lancaster Bomber. The guests were piped into the dinner and treated to a performance by a 1940's radio operator. The guest speaker was Mr Bronson Hansen from Solider On, a charity for veterans of recent conflicts, who gave a moving account of his first hand experiences of conflicts and their effects on the modern war fighter.



Like two years ago MSIAC was happy to participate at Parari. Representing the team were **Emmanuel Schultz** (TSO Propulsion Technology), **Manfred Becker** (TSO Warhead Technology) and **Dr Matthew Andrews** (TSO

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Energetic Materials). As in previous years MSIAC staff could be found throughout the symposium at their booth in the exhibition area. This provided MSIAC with a focal point for attendees to discuss their requirements and discover where MSIAC could help them.



would take home the basket of Belgian goodies.

Our Chairman Gp Capt Wade Evans had the pleasure to announce MSIAC's raffle winner during his closing address.



This year's lucky winner was **Mr Bill Wilson** from DSTO who was overjoyed to receive it, as were his colleagues.



Mr Bill Wilson has been involved in the Australian Energetics Community for over 25 years so it seemed fitting that he won the basket.

The next Parari conference will be held in Sydney, 2015.



As well as manning the booth MSIAC was heavily involved in the symposium, chairing two sessions and giving seven presentations on:

- ⊕ IM State of the Art
- ⊕ MSIAC SCJ Workshop
- ⊕ AIMS: Advanced Insensitive Munitions Search
- ⊕ Accident in Cyprus, July 2011 – Part II (Preventative Measures)
- ⊕ MSIAC Safety Assessment Software Online (SASO)
- ⊕ MSIAC – Supporting the Munitions Safety Community
- ⊕ Forward from In-Service Surveillance to Integrated Health Management of Munitions

MSIAC's presentations were very well received and our organization was often mentioned by others in their presentations, for which we are very grateful. MSIAC was also acknowledged in the Hutchinson/Page keynote address by Rear Admiral Thomas.


A highlight of the MSIAC contribution because of the high attendance was the presentation on the Cyprus Accident – Part II (Preventative Measures), authored by Thomas N. Taylor and presented by Emmanuel Schultz. The first paper on the subject was MSIAC's Open publication O-150 entitled "Ammunition Accident at the Evangelos Florakis Naval Base, Zygi, Cyprus" by Dr Michael Sharp, Thomas Taylor and MSIAC Staff, January 2013.



Special mention should be made to the **Australian NFPO Lt Cdr Christopher McGregor** who, on behalf of MSIAC, presented a paper authored by Thomas Taylor entitled "Clarification of Hazard Classification Storage Sub-Divisions".


A big attraction to the MSIAC booth was the business card raffle and on offer this year was a selection of Belgian beers, waffles, chocolates and cake. For this raffle, we asked attendees to drop off their business card in the box at our booth. At the end of the conference a card would be picked from the box and that person



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 **All PUBLICATIONS, can be found in the Technical Reports section on our website via this [hyperlink!](#)**



Did you know that...

- ⊕ ... Emmanuel Schultz, our TSO Propulsion Technology, married his sweetheart Joanna Szymańska on 28 September 2013! Congratulations to the lovely couple!



- ⊕ ...the MSIAC vacancy of **Technical Specialist Officer Munitions Systems**, has been successfully filled! More on that in our next issue!





The MSIAC team wishes you a very Merry Christmas and a Happy New Year!



*Have a splendid 2014!
Enjoy the Holidays!*



Q: What do you call people who are afraid of Santa Claus?
A: Claustrophobic !

Q: What does Santa bring naughty boys and girls at Christmas?
A: A pack of batteries which at the bottom says "toy not included"!



Q: What do you get when you cross a snowman with a vampire?
A: Frostbite.

Q: What do you get when you cross an archer with a gift-wraper?
A: Ribbon Hood.

Q: What do you get when you deep fry Santa Claus?
A: Crisp Cringle.

