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Human Systems Integration Newsletter October 2009

San Antonio HSI Stakeholder Meeting - Mission Accomplished!

In our September HSI Newsletter, we reported that planning was in full swing for the stakeholders' meeting. That meeting took place in San Antonio on 23 October 2009 following the Annual Meeting of the Human Factors and Ergonomics Society (HFES).

By all measures, the meeting was a success! All of our stakeholders were represented. Attendees included representatives from the Army, Navy, Air Force, Marine Corps, Coast Guard, and NASA.

Items on the agenda included a review and assessment of the current educational skill requirements (ESRs); an examination of the required courses for the Masters degree program; and, a



Dr. Nita Miller (3rd from left) reunites with her former NPS HSI thesis students Navy LT Pam Maynard (NAVSEA), Petra Alfred (ARL HRED), and USAF Capt Derek Read (USAFA).

progress report on the four-course HSI Certificate. The stakeholders were very impressed with the growth of the HSI Program since the last stakeholders' meeting in 2007. Minor changes were suggested for both the ESRs and the required courses for the MS degree.

Just prior to the stakeholder's meeting, HSI representatives of Navy SYSCOMS met to discuss the number of authorized Officer billets with the 4600 (HSI) Subspecialty Code. Representatives included **Bob Smillie** (SPAWAR); **Gretchen Lizza** and **Dennis White** (NAVSEA); **John Owen** and **Jim Pharmer** (NAVAIR); and, Larry **Shattuck**, **Nita Miller**, and **Paul O'Connor** (NPS). **Rick Etheridge**, N-151, called in to the meeting in San Antonio and reviewed the current billet status. All agreed that there need to be more HSI-coded billets in the Navy. Discussions to make those billets a reality are ongoing.

We would like to express our sincere appreciation to the stakeholders for attending the meeting and for their suggestions to improve the HSI Program. We also want to thank: HFES for providing us the meeting room at no cost; our own **Diana Kim** for making all the arrangements with HFES and the Grand Hyatt Hotel; and, **Bob Lindberg** for providing us with audio visual support!

The next step in the curriculum review process is to make the



Bob Lindberg (left) and Larry Shattuck on the Riverwalk after the Stakeholders' Meeting.

changes recommended by the stakeholders and to send out the updated ESRs and course list to the stakeholders for review and comment.

The formal review is slated for 13 - 14 January 2010. Invitations have been sent to senior HSI personnel in DoD, DHS, and NASA. **Scott Lutterloh**, N-15, will chair the formal review which is expected to culminate with a meeting between Mr. Lutterloh and NPS President **Dan Oliver**.

San Antonio Much More Than Just Stakeholder's Meeting!

In addition to the HSI Stakeholders' Meeting, there were several other activities in San Antonio that involved NPS HSI faculty. Both **Paul O'Connor** and **Larry**

Shattuck presented papers at the annual meeting of the Human Factors and Ergonomics Society (HFES). Both papers were co-authored with their former thesis students.

O'Connor, on behalf of his former HSI student **LCDR Doug Jones**, presented a paper entitled "The crew resource management (CRM) attitudes of U.S. Naval aviators." The purpose of the paper was to describe the development of, and findings from, a survey designed to measure the CRM attitudes of U.S. Naval aviators. A comparison of the responses to the questionnaire suggested that tactical jet squadrons may benefit from training on recognizing, and addressing, the effects of stress. A more important finding, and counter to expectations, was that senior aviators were significantly more supportive of an open cockpit climate than junior aviators.

Shattuck stood in for **Nita Miller** and **LT Kacey Kemmerer** to present their paper entitled, "Tactical decision making under conditions of uncertainty: An empirical study." The study examined how different categories of uncertainty (ambiguous/missing, conflicting, baseline) affect response time and type of decisions made in a low-fidelity tactical decision making task. The results indicate that the category of uncertainty and scenario difficulty were significant factors in response time and type of decision made.

The week following the HFES Annual Meeting and the Stakeholders' Meeting, **Nita Miller** was in San Antonio once again, this time for a meeting of the Defense Safety Oversight Committee (DSOC) HSI Task Force. The Task Force is headed by **Maj Gen Tom Travis** and **Col Lex Brown**. The three Working Group Chairs, including Miller, discussed the progress their groups have made over

the past year.

According to its charter, "*The purpose of the HSI Task Force is to reduce mishaps by applying evidence-based strategies derived through the HSI process... The Task Force exists to bring actionable proposals to the DSOC based on user feedback, combat, accident and HSI data to preserve lives and assets, reduce accidents and combat losses, and enhance human performance.*"

An additional item on the agenda was to consider the five year goals for the HSI Task Force and its Working Groups. The DSOC Task Force will hold its second annual meeting this spring at NPS.

LT Val Spencer Closing in on Completion of Thesis

LT Val Spencer is one of several students set to graduate in December. Prior to that milestone, however, she must complete her thesis. Her advisor **Dr. Michael McCauley** is pleased to report that she is on track to finish on time! Here is the abstract from her thesis.

"The U.S. Navy will build and commission two DDG 1000 Zumwalt Class Destroyers. These two ships are consistent with the Navy's goal to reduce manning onboard surface vessels by 60-70% from that of the DDG 51 Class Destroyer. The use of automation is said to replace the watchstanders associated with bridge watchstations on legacy ships. However, automation will not relieve the remaining operators of their tasks, but is more likely to change the nature of the work and add to their overall workload. This thesis developed a preliminary task workload model using IMPRINT PRO to predict the workload associated with the performance of a Three Person Bridge Team on the DDG 1000 during an Underway Replenishment (UNREP) scenario. This model is not intended to dispute the current watch plans for the DDG 1000, rather it is a demonstration of IMPRINT's ability to be used as a tool in the design of future U.S. Navy

vessels to address manning and related HSI issues."

Prof McCauley Attends Two Meetings in Sweden

While the other HSI faculty were in San Antonio, Professor **Michael McCauley** went to Sweden! There he attended the Maritime Science and Technology (MAST 2009) Conference and a preliminary workshop, the ABCD Working Group on Human Performance at Sea.

Dr. McCauley was a co-author with MOVES PhD student **LCDR Panagiotis Matsangas**, Hellenic Navy, on papers presented at both events regarding U.S. and international standards relating ship motion to human performance. Analyses of topic coverage was based on 14 standards, selected from a total of 49 reviewed.

The outcome of the analyses was conveyed in concept maps. A gap analysis determined that the standards provide either no coverage, or inadequate coverage, linking ship motion effects to motion sickness (other than z-axis motion), motion induced interruptions, sopite syndrome, and manual material handling.

The paper concluded by warning that increased automation capabilities will not be sufficient to overcome inadequate human performance capabilities that may result from the combination of reduced manning levels and deleterious ship motion effects.

Veterans' Day

We conclude this newsletter by expressing our appreciation and admiration for all of the men and women who are now serving—or have served—in the Armed Forces of the United States of America. Thank you for your service!