



## Human Systems Integration Newsletter September 2009

### High Level Visitors at NPS in September

The Vice Commandant for the Air Force Institute of Technology, **USN CAPT Tim Duening**, visited with NPS

Human Systems Integration faculty to explore how AFIT and NPS can team more closely to deliver HSI edu-



cation to the DoD workforce. Ongoing discussions between AFIT and NPS include sharing AFIT's case studies and existing HSI course materials developed by NPS for the four-course HSI Certificate Program.

Also in September, US Army **Major General Gregg Martin**, Commander, Maneuver Support Center, Fort Leonard Wood, Mis-



souri, visited NPS to meet with HSI faculty members **Dr. Larry Shattuck** and **Dr. Nita Miller** to discuss ongoing efforts to

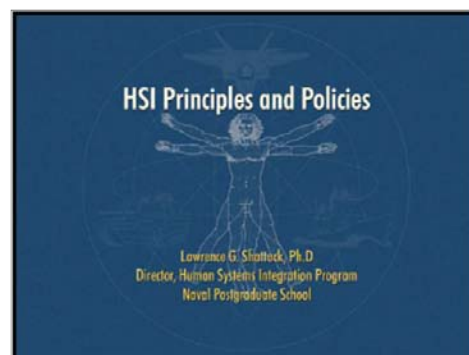
improve the training effectiveness of US Army Basic Combat Trainees. At his invitation, Miller and Shattuck are studying Army Basic Combat Trainees as they go through nearly 10 weeks of training at FT Leonard Wood. The study will be completed by 1 November and preliminary results will be available by mid-December. While he was here, MG Martin also delivered the Secretary of the Navy's Guest Lecture to the entire NPS student body.

### Course 1 of Certificate Program Completed

### Course 2 Set to Begin on 5 October

Course 1 of the HSI Certificate Program was completed on 25 September. The course, entitled, "**Introduction to Human Systems Integration**," began with 31 students and finished with 30 students.

The course was a great experience for both faculty and students. The lead instructor was **Dr. Larry Shattuck**. He was ably assisted by **LCDR Paul O'Connor**, **Dr. Nita Miller**, and **Dr. Michael McCauley**. All of the faculty were extremely impressed with the professionalism, and dedication of the students. The quality of their work was quite impressive! Teaching them was an extremely rewarding experience.



(Opening slide for a Module 2 Presentation)

Student feedback was collected in several ways throughout Course 1. The students completed surveys after each module. In addition, students provided numerous comments via email. And, at the end of the course, a telephonic after action review (AAR) was conducted. The AAR was facilitated by **Ms. Ali Rodgers**, the NPS Director of Faculty Development. Ali has worked with NPS faculty in the development and assessment of both resident and distributed learning courses for many years. As such, she is uniquely qualified to provide a critical and unbiased assessment of the course.

Here's one of the comments we received from a student: "*The program...you have executed thus far is very stimulating. This program is exactly what I've been searching for....*" And here's another: "*I teach several graduate classes at the University of Phoenix and have taken online courses at Walden, Regent, and Villanova and this course is by far the best I've taken. The content, videos, and*

exercises really help make the material engaging and relevant." Not bad for the first offering!

Course 2, "**Human Systems Integration in the Acquisition Process**," begins on 5 October. Twenty-eight of the thirty students in Course 1 are continuing on to Course 2. The 2nd course begins with a module on the Systems Engineering process and a module on cost estimation. The remainder of the modules (3 - 11) will step the students through the acquisition process, keying in on the activities of HSI practitioners.

### *Two Students Recently Complete Their Theses*

LT Derek Mason's thesis, "**A Comparative Analysis Between the Navy Standard Workweek and the Work/Rest Patterns of Sailors aboard U.S. Navy Cruisers**" was completed after LT Mason began Department Head School at Newport, R.I. Here is the abstract from his thesis.

"In March 2008, two U.S. Navy ships failed their Inspection and Survey (INSURV) assessments with deficiencies ranging from inoperable equipment to inadequate housekeeping practices. The question of why these problems exist must be addressed. A study to determine the total number of hours Sailors actually work in contrast with the Navy Standard Workweek Model is extremely important. Previous research regarding this topic



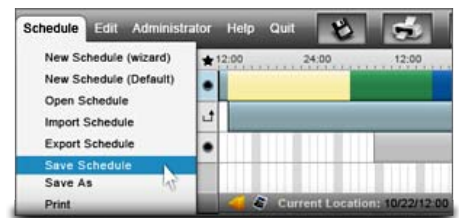
has indicated that the Navy Standard Workweek does not accurately reflect the daily activities of Sailors. In fact, re-

sults from a recent study on USS CHUNG HOON by Haynes, showed that a majority of the Sailors received much less sleep and work longer hours than allocated in the Navy Standard Workweek Model. This research aims to widen the scope from the Haynes study on U.S. Navy destroyers to determine if similar conditions exists onboard U.S. Navy cruiser vessels. The results indicated that 85% of the participants within the study exceeded the 81 hours of Available time allotted by the Standard Navy Workweek. On average, Sailors in the current study, excluding Officers, worked 9.90 hours per week more than allotted in the Navy Standard Workweek."

LT Ryan P. Beshany's thesis was entitled "Analysis of Navy Flight Scheduling Methods Using FlyAwake." Here is his abstract.

"Sleep-related fatigue has negative effects on both human performance and decision making. Pilots are particularly vulnerable to these adverse effects due to the environment and operational requirements, which entails both long and irregular duty cycles. The Air National Guard received funding from Office of the Secretary of Defense, Defense Safety Oversight Council to create FlyAwake, a software application that predicts aircrew fatigue based on circadian cycles. FlyAwake uses the Sleep, Activity, Fatigue, and Task Effectiveness (SAFTE) Model and calculates predicted effectiveness.

Recently, contract modifications have permitted integration with U.S. Navy's Sierra Hotel Aviation Readiness Program (SHARP) as an Operational Risk Management (ORM) tool. Naval Aviation does not currently use fatigue modeling as part of operational flight scheduling, and it is the intent of this thesis to provide a proof of concept analysis of FlyAwake for Com-



mander, Navy Air Forces (CNAF). In order to validate FlyAwake, flight schedules from February 2008 were collected from the Helicopter Antisubmarine Squadron Light Four Two (HSL-42) SHARP database. A statistical analysis compared fatigue levels of aircrew using conventional scheduling methods against those with fatigue modeling, and showed improved fatigue-based performance effectiveness with the utilization of FlyAwake."

NPS theses are available from the Dudley Knox Library at <http://www.nps.edu/Library/>

### *HSI Stakeholders Curriculum Review Update*

The HSI stakeholders meeting is scheduled for Friday, 23 October 2009 in San Antonio, TX. The meeting will be held in the Grand Hyatt Hotel, Bowie C Meeting Room, from 0800 to 1200. Approximately twelve stakeholders have committed to attending, including representatives from the Army, Navy, Air Force, Marines, Coast Guard, DoD, and NASA. A read-ahead packet has been sent to all attendees. The packet will be updated just prior to the meeting.

