



Human Systems Integration Newsletter *November/December 2009 (Graduation Edition)*

HSI Students Set to Graduate!

December is an exciting month here at NPS. It marks the end of the Fall Quarter and the onset of the holiday season. But in addition to those things, it's the time of year when our HSI students graduate! On 18 December, nine students will graduate from NPS with Master of Science degrees in Human Systems Integration. All of them have successfully completed their course work and their theses on time! Needless to say, we're proud of all of them.

Here are the names of the students (in alphabetical order) who are graduating, their assignments, and their thoughts about the HSI Program as they depart NPS.

LT Alicia Cartertrahan: "I am going to be the OPS on board USS THACH located in San Diego. I am headed to DH school right now. Being a part of the HSI program was a good experience for me because it allowed me to become more knowledgeable on the acquisition process of how naval vessels are built. Take care and stay blessed."

CDR Shawn Cowan: "Next job: Mini-Boss, USS George H.W. Bush (CVN-77) home ported in Norfolk, VA. The HSI program at NPS offers a broad education into the consideration of human characteristics and needs in system design."

LT Kim Green: "Next duty station: Navy Recruiting District, Atlanta,

GA. Position: Enlisted Program Officer (EPO). HSI is a great program! The classes focus on the integration of the human into a system early and throughout the DOD AT&L process to improve overall performance, minimize total cost ownership, and ensure the system accommodates the user population that will operate, maintain, and support the system. This program taught me that we should build the system to fit the user and not the other way around!"

LTJG Brian Grow: "After this I will be going to Baton Rouge, LA for officer recruiting duty. I thought the HSI program was a unique and very rewarding experience. I really learned a lot."

LT Jeanine Lang: "I'm going to the NAWC TSD in Orlando, FL and my title is TRADEV PC/PROJ DIR." Being a student in the HSI program has been a unique experience. It has been interesting being a part of a program that is at the beginning stages of development. Although HSI has been around for many years, the momentum seems to be in full swing now and it was a great experience being apart of that. I thoroughly enjoyed all the different aspects of HSI and being able to branch out into many of the different schools here at NPS. I look forward to my next job and applying what I've learned at NPS while continuing to gain knowledge and experience."

LT Rob Linn: "I am going to Naval Recruiting Command (CNRC) in Millington, TN to be the operations officer of Event Marketing. In short, I

feel the HSI program is on the right track, and future students may benefit greatly. This tour has been great for me and my family, and I've enjoyed the extensive variety of educational experiences."

LT Pam McLaughlin: "I am going to Navy Personnel Command (PERS-8) in Millington, TN. HSI has been a great learning experience. The friendships during the time here at NPS will last a lifetime. The educational tools that I have learned will be useful for all future jobs!"

LT Val Spencer: "My next duty station is Surface Warfare Officer School Command in Newport, Rhode Island. I will be an Instructor for the Junior Officer's 3 week Surface Warfare Officer Course. The HSI program was an exceptional program that allowed me to get a wide range of knowledge and perspectives of the Acquisition Process. My Master's Degree in HSI coupled with my Bachelor's Degree in Mechanical Engineering is a great match that will afford me many opportunities during my transition to the civilian sector upon completion of my Naval Service."

LT Matt Sullivan: "After NPS I am headed to the Office of the Chief of Naval Personnel at the Naval Annex in Washington, D.C. I will be working in the Total Force Management Office. Regarding the HSI program, I enjoyed it. I think that it is developing well and provided me with excellent training in a number of important areas that will no doubt benefit me during the rest of my career."

Dr. Kip Smith Joins the HSI Faculty

We are very pleased to announce that **Dr. Kip Smith** has joined the HSI faculty as a Senior Lecturer. Kip received his Ph.D. in Information and Decision Science at the University of Minnesota where he did his post-doctoral work in Human Factors. Since 2003, he has been a Guest Professor of Cognitive Systems Engineering at Linköping University in Sweden. Kip has a wealth of experience in mentoring students and in coordinating experimental, microworld, and observational studies. Over the last 15 years he has obtained more than \$3 million in research grants.

Kip will teach initially on an as-needed basis. His addition to the faculty will free up **Larry Shattuck** and **Nita Miller** to concentrate on developing and teaching the four HSI courses that were recently added to the MS in HSI program and that make up the HSI Certificate Program. **Welcome aboard, Kip!**

HSI Certificate Program Update

Forty-one students (27 distance learning and 14 resident) are in the last week of the 2nd course of the Certificate Program. Similar to the 1st course, their feedback has been overwhelmingly positive. Final course development is underway for the January start of **OA3413 – Tools, Tradeoffs and Processes for HSI**. It builds on knowledge acquired during the previous two courses.

Course 3 walks students through the **How of HSI**. The course is being developed by a team of NPS faculty and staff and focuses on the multitude of **Tools**,

Techniques, Approaches and Methods (TTAMs) available to conduct HSI within the context of the DoD Acquisition Framework. It will rely on a combination of media elements to show students how various TTAMs can be used to influence key activities and decisions in Defense Acquisition. Due to time constraints, we will not be able to cover every TTAM—or have the time to explore any activity in great depth. But we hope this overview will whet the appetites of our students and make them eager to learn more about TTAMs that could be used in the practice of HSI!

During the course, students will hear first-hand interviews with sponsors, designers and users of some of the more widely used HSI TTAMs. If you have a story to share about how you used some TTAM for an HSI-related effort, please contact the course design team!

HSI Thesis Spotlight

LT Kim Green's thesis is entitled, **"A Comparative Work Analysis Between the Navy Standard Workweek and the Actual Work/Rest Patterns of Sailors Aboard U.S. Navy Frigates."** Crew fatigue is a major factor in mishaps aboard ships. Despite empirical evidence that fewer personnel and longer working hours are primary factors of crew fatigue, U.S. Navy budgeting constraints and increased automation on ships has resulted in reduced manning onboard Navy vessels. Haynes (2007) and Mason (2009) compared the Navy Standard Workweek (NSWW) Model to Sailors' self-reported activities onboard U.S. Navy destroyers and cruisers. Their research showed that a majority of Sailors worked longer hours and received less sleep than allotted in the NSWW model.

The objective of this study was to determine if similar patterns would exist onboard U.S. Navy frigates. Results indicated that 61% of the participants exceeded the 81 hours of Available Time (work) allotted by the NSWW. On average, Sailors in this current study, excluding officers, worked 20.24 hours more per week than in the NSWW, while sleeping 8.98 fewer hours per week than in the NSWW. Results suggest that the NSWW does not accurately reflect Sailors' work/rest patterns onboard ships.

"An Examination of the Human Factors Attitudes and Knowledge of Surface Warfare Officers" by **LT Alicia Carter-Trahan** evaluated the attitudes and knowledge of Surface Warfare Officers (SWOs) regarding human factors issues that have been identified as causal to mishaps in high-risk organizations. Attitudes to the human factors that are critical for safety were assessed using a 36-item survey (116 responses) based upon the naval aviation version of the cockpit management attitudes questionnaire (CMAQ).

No effects were found in the attitudes of respondents based upon experience, type of ship on which they had last served, or whether they had attended the Navy's Bridge Resource Management training (BRM; human factors training designed to improve safety and performance). Human factors knowledge was evaluated using a 10-item multiple choice test. No effects were found in the knowledge of the 116 respondents based upon the type of ship on which they had last served, or whether they had attended BRM training. However, a significant effect of experience was found. On the basis of these findings, recommendations are made on how the effectiveness of the Navy's BRM program could be improved.