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Wayne E. Meyer Institute of Systems Engineering

Meyer Institute Logbook

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Wayne E. Meyer Institute of Systems Engineering



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THE LOGBOOK

A Publication of the
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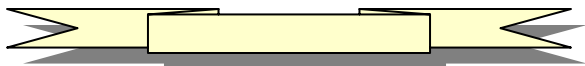


Turnover Time

The Meyer Institute position of Associate Director for Education has been filled by Professor Chuck Calvano (Capt, USN, Ret.) for the last two and a half years. One of Professor Calvano's major duties in the Institute had been the planning for and conducting of integrated campus projects; he was also responsible for oversight of the Institute's other educational curricula. For the last 12 years, Chuck led the Total Ship Systems Engineering program which has served as a model for several facets of the Institute's work. Chuck has accepted a position with the Office of Naval Research in their Global field office, in London, UK. He will be departing for England in mid-July.



We're fortunate that Prof. Dave Olwell of the Operations Research Department, who has served for the last two years as the Academic Associate for the very successful Systems Engineering and Analysis (SEA) curriculum, has agreed to step in as Associate Director for Education. Dave will bring his energetic, results-oriented style to the Institute and we look forward to benefiting from his presence.



Master of Science in Systems Engineering (MSSE)

The MSSE Program will graduate its second cohort in June of '04. Students from NAVSEA-Port Huemene (PHD), Surface Warfare Division will travel to Monterey to participate in graduation activities. A third cohort from PHD is currently in session, and there are plans to begin a fourth cohort of students this Fall.

Other MSSE news includes plans to initiate a sixth cohort this Summer Quarter. The new cohort will have an emphasis on Space Systems.

Joint Executive Systems Engineering and Management Program (SEM-PD21)



The Joint Executive Systems Engineering and Management Program (SEM-PD21) held an industry visit for all of its students during the week of April 20-24. Students and faculty from the Naval Postgraduate School Program were joined by students and faculty from another consortium school member, the Rochester Institute of Technology. During the week-long schedule of activities, students and faculty toured NPS facilities and labs and discussed issues related to completion of a thesis, the final requirement of the NPS Program. The following Silicon Valley organizations were visited as well: Apple Computers, Adobe Systems, VISX, Northrop-Grumman Marine Systems, and PARC.

In addition to a two-week kick-off at the beginning of each SEM-PD21 Cohort, two industry visits are scheduled during the two-year program. Industry visits expose students to current practices and standards, and they also provide opportunities for members of a cohort to bond as a unit. Studies of distance learning programs consistently illustrate this as a best practice of successful programs.

Integrated Campus Projects and the Meyer Institute

A major product of the Meyer Institute is integrated studies using systems engineering methods. These projects provide valuable educational experience to students in several curricula and programs as well as providing a talented pool of faculty and students with a variety of analytical skills to bear on real DOD/Navy problems. The Board of Advisors of the Institute, chaired by VADM J. B. Nathman, OPNAV N7, assists in identifying areas of study which are of significant concern to the Defense community.

Benefits of project studies:

- Many students exposed to open-ended, demanding analytical and design studies;
- Faculty/student teams combine
- Produce results of interest to Navy/DOD by
- Providing insights
 - * Identifying trends and sensitivities
 - * Suggesting solu-

In 2002, institute students performed a top-down, bottom-up, system-of-systems evaluation of Expeditionary Warfare capabilities for the 2015 timeframe. The 92 students and 18 faculty members who participated identified capability gaps which were likely to exist by that timeframe. The five major teams involved (with several smaller supporting groups) produced conceptual designs to address five of the identified gaps. A major model of the logistic flow through a Sea Base to support a brigade of Marines towards an objective was a centerpiece of the study. The Systems Engineering and Analysis (SEA) students who coordinated the project produced a consolidated report, which is now posted at their web site <http://www.nps.navy.mil/sea/>. An accompanying briefing has been widely presented to NPS visitors and to numerous commands off-campus. An unaddressed capability gap, Protection of the Sea Base, became the follow-on 2003 study.

The 2003 campus-wide study focus had three parts – protection of the sea base, protection of the airborne connectors between the base and the objective, and protection of the surface connectors between the base and shore. Approximately 50 students and 12 faculty members contributed to this study which involved several simulations and in-depth analyses of sensor and weapons architectures and employment concepts. Among other things, this study highlighted the potential utility of unmanned vehicles.

A third study, due to be completed this June, continues with the unmanned vehicle focus, exploring the role and effectiveness of unmanned vehicles of all kinds in establishing maritime dominance in the littorals in support of Sea Strike. A fourth study is presently being scoped and will address Joint Expeditionary Logistics, with significant US Air Force and Army involvement.

The NPS campus-wide integrated projects are a useful way to explore issues in depth and in a continuing way, as illustrated in the graphic. These projects are meeting the learning objectives for the students, increasing inter-disciplinary and inter-departmental cooperation and awareness on campus, and are proving effective in stimulating discussion of Defense needs.

