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- [Home](#)
- [Nanotechnology](#)
- [Physics](#)
- [Space & Earth](#)
- [Electronics](#)
- [Technology](#)
- [Chemistry](#)
- [Biology](#)
- [Medicine & Health](#)
- [Other Sciences](#)
  
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- [Software](#)
- [Business](#)
- [Engineering](#)
- [Semiconductors](#)
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## ONR-guided tech tracks what's inside ships

April 1, 2010

**The Office of Naval Research (ONR) is funding emerging technology that will allow wireless surveillance not only of ships and aircraft, but also the tracking of people and high value assets inside the ships.**

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To help the Navy keep thorough tabs on its environment, ONR is sponsoring work in advanced electronics that ratchets up the Navy's ability to do just that. Precise At-Sea Ship System for Indoor-Outdoor Navigation (PASSION) enables wireless position tracking of both the external and internal environment of naval vessels.

The concept is the brainchild of Dr. John Kim, ONR program officer for Navigation and Timekeeping. PASSION is being developed and reviewed under Kim's oversight by navy civilian Dr. Bereket Tanju, and carried out by the Navy's Carrier and Air Integration program office and partners.

PASSION meets a need, recommended by a Navy Research Advisory Committee (NRAC) study, for positioning systems aboard aircraft carriers and other vessels to reduce on-board manning, for damage control and maintenance, and for locating personnel and equipment.

According to the NRAC study, "The ability to remotely and reliably determine the real time status of the ship

and crew must be expanded far beyond the current capability. In virtually any damage control scenario, knowledge of the location and status of crew members is essential." The committee also said, "[Electronic](#) dog tags or communication through a wireless sensor telemetry system could easily provide crew location information and could report a general summary of individual status."

ONR invested \$600,000 over three years to develop and demonstrate the technology. Now that its capabilities are proven, the Navy is looking to introduce PASSION capability into the fleet working within the acquisition framework.

"Based on successful simulations, and integrated indoor hardware tests conducted at George Washington University and on board USS George H.W. Bush (CVN 77), we [envision](#) that PASSION technologies will be introduced in all Nimitz (CVN 68) class ships as a part of their wireless networks," Kim said.

The PASSION project is being managed by the Navy's Carrier and Air Integration Program Office, with assistance from the Space and Naval Warfare Systems Center Atlantic, and Pacific.

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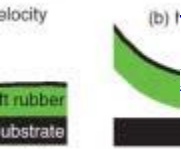
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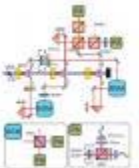
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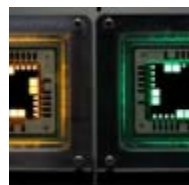
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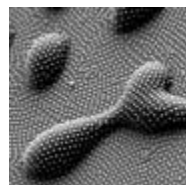
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