



RHUMB LINES

Straight Lines to Navigate By



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Naval Science and Technology

We gain tremendous advantage by partnering globally for open-source, unclassified technology that will ultimately benefit warfighters and our Maritime Strategy. We've found science and technology to be a solid and common ground for international collaboration on which to build partnerships, to help keep our Navy out in front and to avoid technological surprise."

– Rear Adm. Nevin Carr, Chief of Naval Research

Staying out in front of technological surprise requires scientific capability, which is enhanced through the building of enduring global partnerships. The Navy maintains its hi-tech edge through the [Office of Naval Research's \(ONR\)](#) highly specialized command, [ONR Global](#). Permanently deployed, a team of Navy scientists partner with foreign researchers and universities to pursue cutting-edge Science and Technology (S&T) that could shape future naval investments. Forming these research partnerships at home and abroad directly supports the [CNO Guidance for 2010: Executing the Maritime Strategy](#), which calls for the Navy to actively leverage S&T to provide Sailors and Marines with a warfighting edge and to sustain that edge into the future.

Partnerships In Action

[ONR Global](#) is deeply engaged in creating international opportunities through the sponsorship of three distinct programs that encourage scientific collaboration:

- The Naval International Cooperative Opportunities Program ([NICOP](#)) encourages S&T teamwork in areas of interest to the Naval Research Enterprise (NRE) by providing seed money to foreign researchers for naval oriented research, typically co-funded by an NRE member.
- The Visiting Scientist Program ([VSP](#)) supports short-term visits of international scientists to plan S&T programs. VSP also identifies issues of interest and maintains ONR Global's link with international scientists working in focus areas defined in the [Naval S&T Strategic Plan](#).
- The Conference Support Program ([CSP](#)) provides financial support for international workshops and conferences that are focused on topics of naval interest, to enhance the level of engagement between the international research community and scientists throughout the Navy.

Successes Through International Scientific Partnerships

Partnering internationally makes scientific discovery and the maturation of technologies for transition to the warfighter possible. Some successful transitions as a result of ONR Global international S&T partnerships include:

- Expeditionary Multibeam Kit – deploys sonar onboard small boat special operations craft to detect objects and map waterways patrolled by U.S. and allied forces in Iraq.
- Pitch-Adapting Propeller – improves efficiency and leads to significant maintenance and life-cycle cost savings.
- Swimmer Detection System – through sonar, this system detects and identifies scuba divers at a range up to 900 meters, and provides alerts of unauthorized entry to secure areas.

Upcoming International Engagements

- Indo-U.S. S&T Roundtable for Alternate Energy and Cognitive Sciences, Bangalore, India, Sept. 21-23, 2010
- 10th International Symposium on Ferroic Domains and Micro-to Nano Structures, Prague, Oct. 20-25, 2010
- EXPONAVAL International Maritime Conference, Valparaiso, Chile, Nov. 30 - Dec. 3, 2010

Key Messages

- Naval S&T investments provide technological advantages for present and future warfighters.
- International science partnerships enhance the Navy's ability to grow basic research capacity.
- International scientific collaboration at an open source level reduces the likelihood of technological surprise.

Facts & Figures

In fiscal year 2009, ONR Global leveraged international S&T partnerships from offices in London, Prague, Santiago, Singapore, and Tokyo to participate in:

- 98 international conferences in 34 countries
- 231 science liaison visits to 40 countries
- 64 visits by international scientists from 24 countries
- 23 NICOPs established in 12 countries