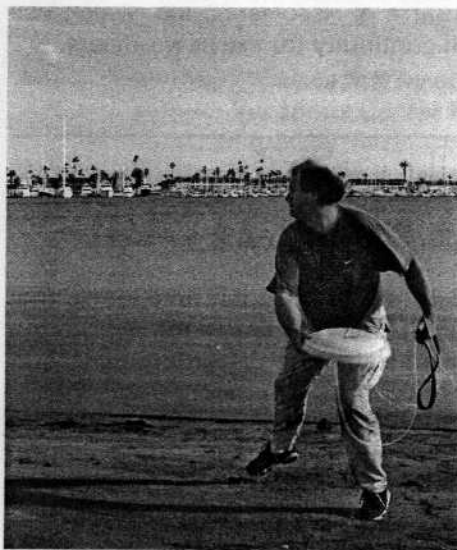


## Federal Laboratory Consortium for Technology Transfer

# The Retriever Project

*Navy to provide Hi-Tech Help for a Low-Tech Solution*

Every year 150,000 people around the world drown. The United States has lost an average of 5000 citizens each year since 1978.



"Reach, Throw, Don't Go" has been the predominant intervention philosophy during this period due to the loss of life often experienced by those at-

tempting a water entry rescue. What is implied is to await professional response. The problem is that in unguarded waters professional response arrives too late. A drowning is often a sixty-second event and the best response time reported by professionals is eight minutes. What has been needed for years is an effective device that can deliver adequate buoyancy out to the death zone of 30-70 feet off shore and facilitate rapid recovery of the victim. Lack of performance exhibited by traditional tools often leaves would-be rescuers feeling compelled to dive in after the victim leading to additional deaths. Few are trained or conditioned to make "water entry" rescues. Traditional response agencies, such as Police, Fire and EMS groups that have lost officers are enacting mandates against "water entry" rescue attempts. A group of former rescue professionals began the Retriever Project to address this situation.

The Retriever Project pinpointed the causal factors and designed a unique rescue device named the Personal Retriever that has the potential to significantly reduce these drowning deaths worldwide. A two-part program has been developed to bring this Rescue Device to the marketplace to provide people around the world a safe and effective means of drowning intervention. Step one is the tool design phase and is almost complete. The Personal Retriever's current design will handle the event's demands in the hands of a trained professional and should enable a more proactive response program to be established.

### From the Regional Coordinator's Desk



I have enjoyed working with the Regional (Laboratories) over the past four years as the Regional Coordinator. There have been some positive changes made in strengthen-

ing, the Regional Labs' presence on the Internet. The database information now linked to each lab will ensure an international presence and hopefully increase technology transfer opportunities for all the ORTAs.

The outreach program, Core 21 Project, brought opportunities for the Laboratories to work with academia. The ongoing outreach program, Federal Resource Access Program (FRAP) will continue to match the needs of companies in the metropolitan areas of Seattle, San Francisco, Los Angeles, San Diego, Phoenix and Tucson with the resources of the laboratories. We are working with the Department of Commerce to coordinate the feedback from the surveys. I strongly encourage all ORTAs to use the survey in identifying partnership opportunities in their areas of interest. The survey will help pin point the marketing potential for individual ORTAs by targeted area and location. The survey is available to download from the FW Internet site: <http://www.zyn.com/flcfw>

We are in the process of making a CD-ROM card for the Region. The card will be used to market the FLC FW Region's service. The card will also be a useful tool for all ORTAs

## INSIDE

- NASA "Cocktail Party Effect" ..... page 2
- Lab Profile: Navy ESC ..... page 3
- Detection of Chemical Agents ..... page 4
- PNNL Scientists Honored ..... page 5
- What's that Technology Worth? .....page 5
- Unclassified Supercomputer ..... page 6
- Throw Another Rock on the Fire .... page 6
- NASA Improves Wine Quality ..... page 7
- Upcoming Events ..... page 8
- Did You Ever Wonder ..... page 8

*Continued on page 7*

*Continued on next page*

*continued from page]: The Retriever Project*

Step two is to test and evaluate a series of protocols that would lead to standard uses widely accepted by Rescue Professionals for their use as well as the general public. This is where the Navy and others are being solicited to help.

The simplicity of the Retriever's appearance belies the extent of the effort it has taken to arrive at the current generation device. Feedback from professionals throughout the rescue community exposed to the device has been critical to the evolution of our device from the crude prototype to the current generation device that has seen the project's worse critics turn into ardent supporters. During this process, a number of dual use applications where our device provides options otherwise not available, were identified. Our final hurdle remains how, to improve our current generation tool from one that is well received by professionals who have little difficulty deploying the device due to their physical conditioning and training, to one more suitable for widespread use by the public.

The Retriever Project hopes that by entering into a CRADA with the Naval Air Weapons Center Point Mugu, the Personal Retriever can quickly be refined to the level necessary to be used effectively by a grandparent, a child or a pregnant mom witnessing the drowning of a loved one. To achieve this goal performance gains of 10-15% will be required by determining the optimal design of the de-

vice leading/trailing edges through analysis of the laminar flow over a rotating disc as opposed to a fixed wing; and how to best create and exploit micro vortices along the surfaces of the device.

The long-range vision is to improve and test the device and then develop mass production capability for countries around the world, countries where rescue resources are scarce to non-existent. Project financial and physical limitations have made progress to date slow. Cooperative support from the Navy will provide the expertise necessary to accelerate the development work to move the device to a commercial reality.

The improved design will keep rescue professionals safe during drowning interventions. With government support, the Personal Retriever may become the first generation of rescue devices with a level of performance suitable to provide our national policy makers the means of equipping the general population with a solution to this historic loss of life. What has kept the Search & Rescue professionals committed is the sense of reward and satisfaction that comes from knowing there are people still on the surface and breathing because of a good team effort.

**TO: The Rescue Professional - Your Invitation**

**Subject: the Personal Retriever Research and Development Project**

The article you've just read concisely describes the Retriever Project and its goals. In this next phase, we'll be marketing our device exclusively to rescue professionals and seeking their feedback on design parameters, performance and protocols of use. If you believe that our device would enhance the effectiveness and the safety of personnel within your organization, please contact us using the information below. We are requesting assistance in determining if you individually, or your agency collectively, would want to participate in this project as a formal member of our development group in the upcoming cooperative R&D agreement we're about to enter with the Navy's Federal labs. Your participation will be within current guidelines and legislation as promulgated under existing Federal Small Business Innovation Research laws and directives. To those who have participated in the past, thank you for your efforts and we look forward to your continued assistance.

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