

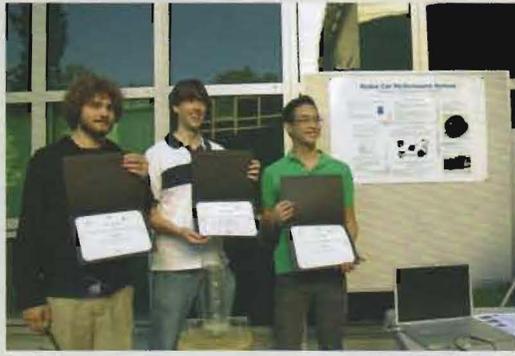
UVic Students Win Awards in Emission Control System

In August 2007 Dan Dinsmore (yacht captain, marine electrical engineer) of Serinamar Marine Services, Ltd., and his wife Marlene suffered carbon monoxide poisoning while crewing aboard an 85-foot yacht. After this near-death experience, they returned home to Victoria, B.C. Marlene (Mar) has always been interested in hydrogen energy and this experience moved her to begin research in earnest for a product that could reduce or eliminate the amount of emissions that collect on yachts while underway or at anchor.

After three years of research and testing systems already on the market, they still found nothing strong enough for a marine vessel.

So, finding nothing suitable on the market, they determined to design their own solution: the Hydra Cat Performance System. This is a Hydrogen Injection System for combustion engines. The control system was the difficult part of the design. The Hydra Cat separated the water mixed with an electrolyte into a hydrogen and oxygen gas. The hydroxy

gas is injected into the air intake where it mixes with the fuel. The hydrogen and oxygen creates a cleaner burn, whereby reducing the emissions. The control system was needed to handle the high amperage and to control the amount of hydrogen and oxygen going into the air intake.



Then, Dan developed a constant current pulse with modulator that was water resistant and shock proof, able to withstand the rigors of open sea or commercial vehicle use. Good, but it needed to be developed into a computerized system.

The University of Victoria asked to become involved with the research and development of the design and help computerize the new control for the Hydra Cat.

The team of graduating mechanical engineering students: Chris Chow, Brent Reynolds and Lee Adams, took the project on. Their hard work paid off – at the Science Fair at the University of Victoria on July 23rd, they came in first with the IDC Award for Innovation and Commercialization Potential and won the UVic Mechatronic System Design award.

Since then, Dan and Mar Dinsmore have been approached by a Camosun College group that is also interested in becoming involved in the project.

Says Mar: "We are excited to have our schools involved in the development of the hydrogen injection and control system. Our next great challenge is to develop a system large enough to handle the largest of our marine vessels, reducing their emissions dramatically and increasing fuel efficiency. With the help of UVic and Camosun we believe this challenge can be met."

For more information on Dan and Mar's latest developments, visit www.hydrogen-electric-energy.ca.



Murray Coell

MLA Saanich North and the Islands

Office: F-2412 Beacon Avenue
Sidney, BC V8L 1X4

Toll Free: (866) 655-5711

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