



THE RESEARCH FOUNDATION
The State University of New York

Licensed Innovation

“FROM INNOVATION TO REALITY”

University at Buffalo Swimsuit that Improves Swimming Performance

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TYR Aqua Shift™, performance swimwear developed for the 2004 Olympic Games, uses patent pending swim technology based on a University at Buffalo innovation that improves swimming performance by altering the fluid dynamics of water as it flows over and around the swimmer.

How drag acts on a body moving through the water plays an important role in the amount of energy a competitor must exert to swim at a specific speed: with less drag, less energy is required, and thus the swimmer can swim faster and cover the competitive distance in less time.

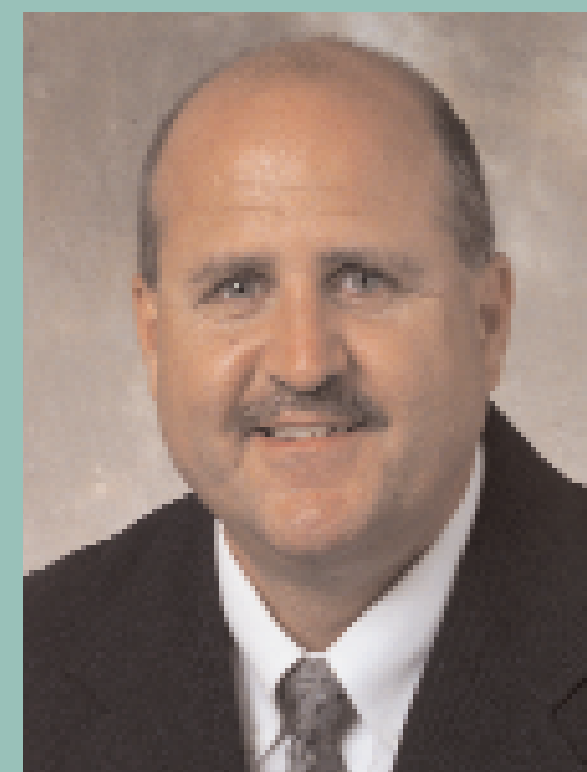
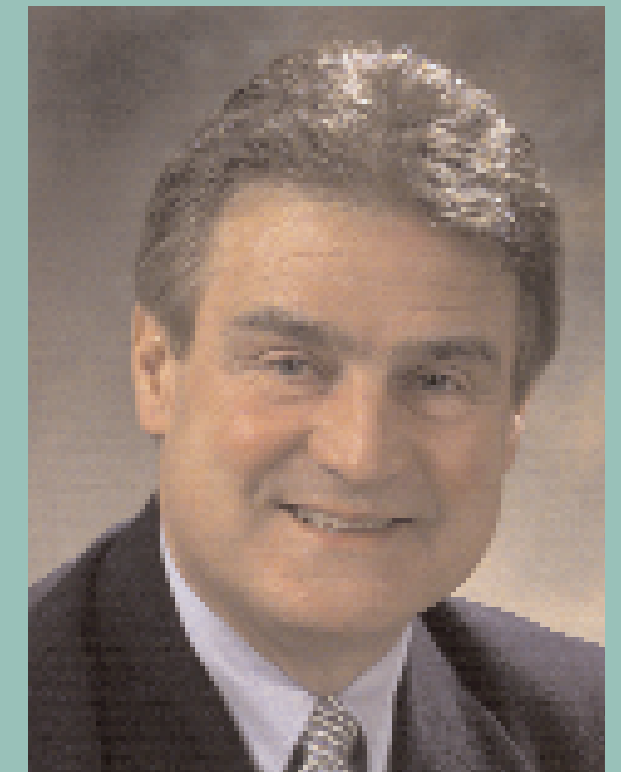
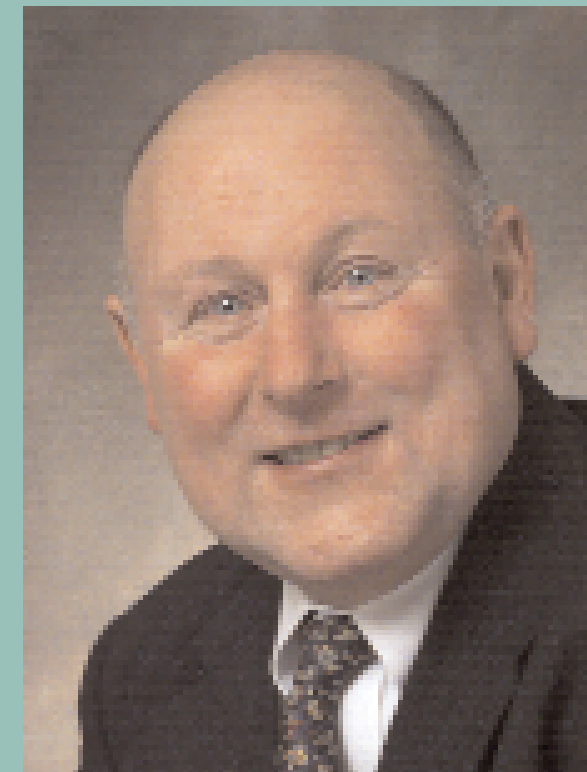
The University at Buffalo inventors, for the first time, decomposed drag into friction, wave and pressure drag. This unique swimsuit design incorporates a specially designed and positioned ridge, or “turbulator,” to alter the fluid dynamics of water as it flows over and around the swimmer.

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TYR Sports Inc., headquartered in Huntington Beach, Calif., is part of Swimwear Anywhere Inc., the second largest branded swimwear manufacturer in North America.

Market

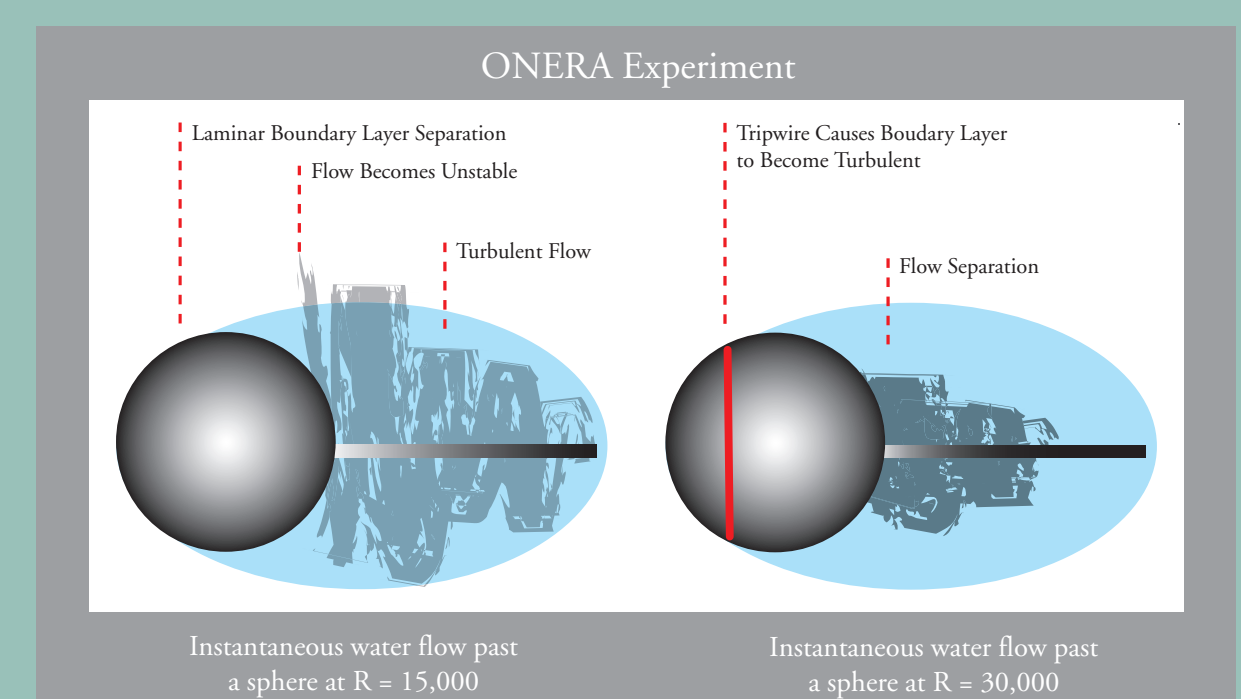
Competitive swimmers throughout the world.



DR. DAVID PENDERGAST (TOP LEFT)
Professor, Physiology and Biophysics
University at Buffalo

DR. JOSEPH MOLLENDORF (TOP RIGHT)
Professor, Mechanical & Aerospace Engineering
University at Buffalo

ALBERT “BUDD” C. TERMIN II
Head Men’s Swim Coach
University at Buffalo



“When water hits the head and shoulders of a swimmer, it separates from the body, which creates drag. By adding turbulators, we cause water to follow the contour of the body, instead of separating from it. This change increases friction drag, but reduces pressure and total drag, thus giving the swimmer a competitive advantage.” — Dr. David Pendergast, University at Buffalo