

Monday April 7th, 2008

## Local facility on cutting edge of aeronautics research

[Thomas J. Monigan](#), Business Editor, Northwest Florida Daily News

EGLIN AFB — To the untrained eye, what they're working with at the University of Florida's Research and Engineering Education Facility looks a little bit like model airplanes.

But the toy-sized units, known as Unmanned Aerial Vehicles and Micro Air Vehicles, are not involved in any game.

"We've gone from a sleepy little campus to a place where cutting-edge research is being done," said John Rogacki, director of the facility.

He and the university were hosting a ribbon-cutting for the new wind tunnel laboratories that represent an investment of about \$4.5 million in the past four years.

REEF is expected to be the cornerstone of the proposed Emerald Coast Technology and Research Campus. The University of West Florida has also come on board in recent years. Most of the research funding comes from the Air Force Office of Scientific Research in Washington, D.C., and the Air Force Research Laboratory/Munitions Directorate and the Seek Eagle Office at Eglin.

Friday's event showcased the latest development in REEF's study of precision flying. Scientists have been studying how dragonflies and birds change the shape of their wings to adapt to the wind and how they turn sharply. Using models with bat membranes, lasers measure the reaction of the fluid wing to air flow and adapt it digitally.

Just a few years ago, a testing unit might have featured a fixed-wing model measuring 18 inches long. Today's units can have a wingspan of 4<sup>3</sup>/<sub>4</sub> inches.

Then there are the wind tunnels. The big one is known as a low Reynolds number tunnel, or a low air-speed tunnel. It is used to study how air flow and aircraft interact. The low speed would apply to landings. The smaller high-speed unit across the hall is used to study strong wind flow over open cavities and external aircraft structures such as bomb bays, wheel wells and missiles hanging under a wing. The air flow changes and can become very turbulent.

"It brings together in an integrated way the laboratory, military munitions, university expertise and the engineering department," said retired Air Force Gen. Gordon Fornell, the facility's first

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director. “It’s been a real partnership from the very outset.” Rogacki seemed particularly pleased that college students had roles in programming the computers that run the wind tunnels. On the high end, researchers from MIT, Russia and Romania work there, too.

Engineers from all over the world have been participating in workshops at REEF. “They’re coming here to be involved in very good work,” Rogacki said, “and they bring a lot to this community.”

Want more info?

You can contact the Economic Development Council of Okaloosa County at 850-651-7374, [www.florida-edc.org](http://www.florida-edc.org) or by sending an e-mail [info@florida-edc.org](mailto:info@florida-edc.org)

Military Publications Editor Noel Getlin contributed to this story.