HUNTER'S LEAP FORWARD

AN UNPRECEDENTED PARTNERSHIP

Hand in hand with Weill Cornell

> 'Hunter is now moving into the science revolution of tomorrow.'
>
> — Editorial, New York *Daily News*

There's still a whiff of that new building smell, but the Belfer Research Building, opened more than a year ago, is up and running—humming with the excitement of brilliant scientific minds working together to solve enduring medical mysteries—and confirming the foresight of Hunter's purchase of the fourth floor of the $650 million facility built by the Weill Cornell Medical Center on East 69th Street.

The new building is drawing rave reviews from the Hunter scientists who occupy its labs and offices and mingle with their peers from Weill Cornell, who occupy the rest of the building. "It's so well designed, it makes science easy," says Brian Zeglis, a Hunter professor of chemistry, "and it makes collaboration with the other people in the building easy."

Indeed, Belfer is an unprecedented collaboration between a public university and an Ivy League giant. And in its labs and conference rooms, scientists and students, from juniors to post docs, and from all genders and ethnic backgrounds, work together to create the medicine of the future.

In an editorial in April 2015 hailing the acquisition of the floor in Belfer, the New York *Daily News* hit the nail on the head. Hunter, the paper said, "is now moving into the science revolution of tomorrow."

Spearheading Hunter's contribution to that revolution are 11 professors/principal investigators and their associated labs; a total of more than 115 faculty, postdoctoral candidates, graduate and undergraduate students, and technicians occupying the 21,000-square-foot space.

Many of the Belfer scientists are members of Hunter's Center for Translational and Basic Research, part of a larger research consortium—the Clinical and Translational Science Center. Hunter's partners in this consortium include both Weill Cornell Medical College and Memorial Sloan Kettering Cancer Center, which is across the street from Belfer.

Translational science, a fast-emerging field, is best defined by the consortium's stated mission: "Advancing research from lab to bedside to community." Essentially, Hunter scientists and their Cornell colleagues seek breakthroughs that can swiftly be "translated" into improved medical care. They are aided in this quest by the doctors, nurses (many of them graduates of Hunter's School of Nursing), social workers, and other clinicians who work directly with patients. This public-private partnership—a unique marriage of very different institutions—holds great promise for the future.

As they work together to find solutions to some of humanity's most intractable killers, the scientists at Belfer, their research propelled by a series of grants from the National Institutes of Health, also pass on their knowledge to a new generation—Hunter student scientists who reflect the great, diverse city that surrounds them.

▲ **At the Belfer ribbon-cutting: Andrew H. Tisch, a member of Weill Cornell's Board of Overseers, with Hunter College Foundation board member and Cornell University alumna Helen Appel, who celebrated the partnership of the two institutions.**

MANDË HOLFORD: A Killer in the Ocean Could Be a Lifesaver on Land

▲ **The study of venomics leads Professor Holford (right), with Belfer students, into exotic areas of medical research.**

In the group that Mandë Holford calls the killer snails, there's no nastier piece of work than the Cone Sea Snail. Every year, dozens of people, exploring a coral reef or wandering barefoot in shallow water, come to grief in accidental encounters with *Conus Geographus*. Its venomous harpoon-like tooth can penetrate human flesh, and there's no known antidote for its toxins. The fish that are its natural prey stand no chance; instantly immobilized, they are ingested whole.

Holford, associate professor of chemistry and biochemistry, lights up when she talks about the Cone Snail and its relative the Auger Snail (also known as the *Terebridae*). Her area of expertise, venomics (the study of animal venoms using an integrated strategy), leads Holford to the company of creatures others might try to avoid, and to the places where they thrive; she recently returned from a sea snail safari to the Persian Gulf waters off Abu Dhabi and Dubai.

This is all in the service of developing powerful lifesaving drugs. "Drugs developed from sea snail venom," says Professor Holford, "can be very specific and very potent, targeting pain, cancer, and epilepsy." There's already one such drug on the market—Prialt, which is used to alleviate pain in HIV and cancer patients—and several more in the pipeline. The drawback is that, for now, the so-called venom peptides can only be taken via spinal tap. Holford's research is aimed at coming up with a way to deliver them in a noninvasive way. "We are working," she says, "on a Trojan horse strategy."