



The Daily Progress/Matthew Rosenberg

University of Virginia professor Wladek Minor (left) examines a protein alongside instructor

Maks Chruszcz. Minor will receive the Inventor of the Year Award from UVA on Monday.

UVA's inventor award goes to physicist Minor

BY BRIAN MCNEILL

bmcneill@dailyprogress.com | 978-7266

A University of Virginia professor who invented groundbreaking 3-D imaging tools will be honored Monday by UVA's Patent Foundation with its Inventor of the Year Award and a \$10,000 check.

Wladek Minor, a professor of molecular physiology and biological physics, developed with his colleagues computer modeling systems — the most recent version of which is called HKL-3000 — that reveal the structure of protein crystals.

"Why this matters is that we are doing things that can change your life because the end result is new discoveries," said Minor, who emigrated from Poland more than 20 years ago.

By mapping out the structure of proteins, Minor's research allows his fellow medical scientists and pharmaceutical companies to develop drugs that specifically target symptoms on a molecular level.

May lead to further breakthroughs

Once a protein's structure is mapped, a drug can be designed to fit it perfectly, said Matt Zimmerman, who is part of Minor's research team.

"Imagine that if you know the shape of a lock, you can design a key to fit into that lock," Zimmerman said. "That's the main idea here."

On Friday afternoon, Minor's team of 14 researchers showcased several recently "solved" protein structures, including proteins involved with leukemia, malaria and stomach ulcers.

Minor's computer programs have been commercialized and are distributed by HKL Research Inc. on Ivy Road. Founded by Minor and his research partner, Zbyszek Otwinowski, the company has generated nearly \$1 million in sales and royalties paid to the UVA Patent Foundation.

Years of protein mapping

Minor's lab is part of the Midwest Center for Structural Genomics, a leading center of the National Institutes of Health's protein structure initiative, which has solved the 3-D structures of more than 600 proteins over the past seven years.

In 2005, a paper co-authored by Minor was recognized by "The Scientist" journal as the second-most cited scientific journal article of the past decade, having been referred to 9,871 times. Since then, Minor said, the number has jumped to more than 15,000 citations.

"His work has been quite revolutionary," said Robert MacWright, executive director of UVA's Patent Foundation. "These insights will ultimately be of great importance to the development of new drugs that may be far more effective than the drugs we have today."

The Patent Foundation will give Minor the Edlich-Henderson Inventor of the Year Award Monday at Boar's Head Inn. The annual award recognizes UVA inventors who have developed technology of notable value to society.

The foundation, which was established in 1977, works with faculty inventors to protect and license inventions with commercial potential. Royalties earned from the sale of products and services go to the foundation, UVA research programs and the inventors.