UMass Medical School quietly gaining star quality

Teamwork, funds draw top talent in research

By Carolyn Y. Johnson | GLOBE STAFF | MAY 04, 2012

Craig Ceol worked in his laboratory at the UMass Medical School in Worcester, where he and his team are studying skin cancer using zebrafish. The school has been gaining more recognition.

WORCESTER - Cancer researcher Craig Ceol has a stellar résumé, built in Boston and Cambridge: He earned his graduate degree at MIT, worked with one of the world’s foremost stem cell biologists at Children’s Hospital Boston, and played a leading role in identifying a gene implicated in deadly skin cancer. His work won him a federal grant early in his career.

Ceol applied for jobs nationwide and said he received more than a half-dozen offers or
callbacks. But his first choice among those was clear: the University of Massachusetts Medical School in Worcester.

In a state that prides itself on its medical and scientific prowess, UMass is perhaps its best-kept secret. The medical school is undergoing a tremendous growth spurt that has been little noticed by the general public but has caught the attention of those at the cutting edge of scientific research.

Ceol is one of the newer recruits to the Worcester campus - part of a hiring spree that is adding 100 faculty to fill a $400 million biomedical research building set to open this year.

“If it was transplanted to Kansas it would be world-renowned,” said Phillip Sharp, a Nobel laureate and professor of biology at MIT. “The only issue is that it happens to be in Massachusetts, where MIT, and Harvard, and other great universities are, and it’s overshadowed somewhat by that. It’s a very remarkable story, and the state should be quite proud of it.”

UMass - established by the Legislature just 50 years ago - had one big moment in the limelight. It came when biologist Craig Mello shared a 2006 Nobel Prize, gaining the school recognition that helped trigger its current sharp ascent. But the medical school, which graduated its first class of 16 doctors in 1974, still glows dimly next to the blaze of Boston’s and Cambridge’s world-renowned institutions.

Meanwhile, its research funding has exploded from a scant $2.5 million in 1980 to more than $300 million last year. An analysis by the Blue Ridge Institute for Medical Research, which tracks the amount of National Institutes of Health funding that medical schools receive, ranked UMass at 32d nationwide out of 138 in 2011 - below Harvard Medical School, but above Boston University and Tufts University medical schools.

UMass Medical School financed the new building with $90 million from the state’s Life Sciences Center and borrowed the rest. Less than 5 percent of the medical school’s operating budget comes from a state appropriation.
Another measure of the quality of the research program is the number of scientists supported by the prestigious Howard Hughes Medical Institute, a nonprofit biomedical research organization. With five senior investigators and two early-career scientists funded by Howard Hughes, Philip Perlman, one of the group’s senior scientific officers, said UMass Medical School sits in a class of research institutions with real heft - such as Massachusetts General Hospital, the University of Michigan, and Princeton University.

“Biological sciences move very fast and there are fields that didn’t exist 10 years ago, so UMass has as good a chance in those fields as Harvard does,” he said.

Its researchers dominate the emerging field of understanding the basic biology of how genes are regulated by genetic elements called RNA. UMass has also been pushing toward translation of biology into the clinic - focusing on the development of RNA-based drugs, gene therapy, and neuroscience.

Ceol was attracted to UMass by the caliber of its scientists and their teamwork.

When reading the journal Cell, he began to notice that seemingly every issue of the top-tier research publication had a paper from UMass in it. And many of the papers would have multiple labs from the same institution working together on a problem, a sign of a collaborative spirit that he found exciting.

When he was a postdoctoral fellow working in the Longwood Medical Area in Boston, he said, “you’d have some collaboration. And your closest competitors were right across the street, so you have to be careful, too.”

UMass has recruited scientific stars to complement Mello, and that has made it easier to hire other top talent. Four years ago, Dr. Robert Brown Jr., a leading researcher who focuses on ALS, or Lou Gehrig’s disease, left Mass. General for Worcester. Victor Ambros, who won the Albert Lasker Basic Medical Research Award, a prize often called America’s Nobel, left Dartmouth Medical School for UMass in 2008. And last year, Dr. Jeremy Luban, a prominent HIV researcher from Switzerland, joined the faculty.

“The only problem I saw was deciding who I would not work with - everyone was so amazing,” Luban said in an interview. “There were probably a higher percentage of really young, dynamic people there than I’ve seen anywhere else.”
When Marian Walhout and her husband, Job Dekker - rising stars in the young field of systems biology - were doing postdoctoral research at Harvard Medical School and Harvard University, they had not heard much about UMass. But they were brought on board in the last burst of hiring, when about a decade ago the university hired 75 new faculty during four years. Walhout said the couple have turned down offers, largely because the science they are doing now is so exciting and dynamic.

Melissa Moore, a Howard Hughes scientist who left Brandeis University to join UMass in 2007, said her only fear is that as the medical school grows in size and recognition, the community spirit - in which colleagues drop into each other’s office with questions that can lead to major new collaborations that yield insights into biology - might be diminished.

“Since we are the up-and-comer and are the underdog, it’s so much easier to get people to row together, to beat Harvard and MIT,” Moore said. “My fear is we will become them.”

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