Wang’s behind-the-scenes work key to UAB researchers

UAB’s Department of Nutrition Sciences has been involved in a collaborative research project with investigators in the Department of Biostatistics/Section of Statistical Genetics for more than a year. In these studies, researchers are categorizing the differences in the patterns of gene expression in skeletal muscle in patients with diabetes. Their goal is to refine the molecular defects in muscle that lead to insulin resistance in muscle — the process that causes Type 2 diabetes.

W. Timothy Garvey, M.D., professor and chair of Nutrition Sciences, is happy to report that his department has identified some targets for developing new drugs to help patients. But without Jelai Wang, systems programmer lead in the Department of Biostatistics, Garvey says finding those targets would not have happened.

“Jelai has been instrumental in data analysis and computer programming to support this project,” says Garvey. “I want to emphasize that these aren’t routine analyses or programming, but activities that required creativity to solve new problems that had not been encountered previously.”

Whether it’s nutrition sciences, nutritional genomics, biostatistics, mathematics or statistics, Wang is someone investigators rely on to give them the tools to conduct their research. For his efforts and unflagging positive attitude toward his job, Wang has been selected as September’s Employee of the Month.

David Allison, Ph.D., professor and head of the Section on Statistical Genetics (SSG), says Wang has developed vital computing software for UAB, jointly serving the SSG and the Enabling Technology Lab in Mechanical Engineering. Wang designed the novel microarray Power Atlas, which enables investigators to determine optimal sample sizes for experiments as well as other cutting-edge software for the university.

“Jelai Wang is a technical genius,” Allison says. “He has been instrumental in our securing numerous grants, both by helping to write grant applications and by developing a cutting-edge computing lab that gives UAB an advantage over other grant applicants.”

Wang takes all of credit bestowed upon him in stride and with a touch of humor. After all, “I’d rather be employee of the month than not,” he says.

But Wang also goes out of his way to thank his colleagues for their support in nominating him for the award and his co-workers for their tireless effort. “That’s the only reason I look good, because of their dedication,” Wang says. “I can’t say enough about our team. Vinodh Srinivasasumudra, Amit Patki, Tapan Mehta, Mikako Kawai and Ramprasad Venkataraman are absolutely top-notch. We’ve got a good team and a great leader in Dr. Allison. It’s a killer combination.”

Others on campus who rely on Wang for his expertise agree. “Not being a computer person myself, I am continuously amazed at the beautiful and accurate work he produces,” says Nancy Boll, financial associate in the Clinical Nutrition Research Center.

Wang says he is flattered to know his peers think so highly of him and the work he does. And Garvey wants to make sure everyone knows exactly how important Wang’s work is to UAB.

“To the extent that UAB is recognized for its scientific contributions and is recognized in our community for the economic benefits of our research, we have people like Mr. Wang to thank for this,” Garvey says. “Our investigators get plenty of credit, but they could not have done this without Mr. Wang.”

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$165,000 for the first classroom and on-the-job training. The long-term goal is for the program to be funded by local industries looking for certified research assistants.

Research assistants in demand throughout state

Researchers at UAB always are looking for research technicians. Finding, training and retaining them is a constant struggle. Unilab says, and the turnover rate can be maddening. “Many of the research assistants at UAB come in with a bachelor’s degree and are going on to medical or graduate school,” he says. “It takes six months to train someone in the lab. Then you may keep them for only one or two years and they’re gone.”

Hips says local industry faces some of the same problems. And, he says, the lack of certified, ready-to-work research technicians hurts some of local businesses and also is costing the state of Alabama opportunities to entice companies to bring their well-paid research jobs to the area.

“Industry leaders are quick to point out that national and international biotech companies are looking at our state with keen interest in its scientific assets, but find some major weaknesses in our workforce capacity,” Hips says. “Unless we can meet the demand for high-skilled workers, the biotechnology industry in Alabama is unlikely to grow beyond its current size or lose its gains due to industry attrition.”

Birmingham is quickly gaining a critical mass of biotechnology companies. According to the Biotechnology Association of Alabama, Birmingham is home to more than 70 biotechnology companies. Boyd Company, a national consulting firm, also recently named Birmingham one of the most attractive cities in the world for biotechnology companies to locate — largely because of UAB.

Barbara White, project director for Workforce and Development, says it’s not just industries that could benefit from the BioTek Works training program. UAB stands to gain, as well.

“I’m looking at the current and future workforce needs, both staffing and competencies, and there is a definite need, especially knowing the research division at UAB will be expanding,” she says. “We want to develop a trained workforce that can support the incoming personnel.”

Classroom, lab training

Unilab will teach the first group of students this fall, using the book he authored, Basic Biotechniques: A Training Manual for Research Assistants. Classroom work is in the morning Monday through Friday and consists of 45-minute lectures on scientific principles, followed by practical application of principles through three hours of experimentation. Students will go to a laboratory on campus for hands-on training in the afternoon.

UAB also is working closely with Lawson State Community College, Bessemer City Schools and Alabama Industrial Association of Alabama, Bessemer City Schools and Alabama Industrial Development Training on this project. All involved hope those individuals who join the class eventually will go to college, either starting at one of the community colleges before transferring to UAB or beginning their collegiate careers here on campus.

The program will also target displaced workers, particularly those skilled in math and English.

Anyone interested in applying to be a part of the program should contact Hips at the Heritage Center for Human and Community Development at 365-2280.

“UAB is a juggernaut in biotechnology, and now it’s going to lay the foundation for developing the workforce,” Hips says. “UAB is literally blazing the trail that will help our state be very competitive in attracting industries to locate their companies in the Birmingham area and in reaching out into our own community to provide that workforce.”

Jelai Wang, systems programmer lead in the department of biostatistics, is September’s Employee of the Month. Know someone who should be Employee of the Month? Send correspondence to Richard Helling at helling@uab.edu or via campus mail to AB-360. You can also nominate through the new Employee of the Month Web site at www.uab.edu/estm.