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Job opportunities in genetics research on rise

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Research associate Ashley Diaz works at the John P. Hussman Institute for Human Genomics.

If working in genetics research is in your DNA, the job opportunities are on the rise.

The University of Miami's John P. Hussman Institute for Human Genomics, which opened in January 2007 with 40 to 50 employees, has grown to 200 positions. And it's looking for lab technicians and clinical workers.

"We always have job openings," said Marc Royster, director of human resources for the institute, part of UM's Miller School of Medicine. "We're always growing, because we get more grants and expand our studies."

Entry-level research associate posts, which require a minimum of a bachelor's degree, pay in the mid-\$30,000s, Royster said, and include health insurance and a retirement plan. The pay for more experienced research associates is in the high \$40,000s.

"This definitely has more of a future than other fields," said Anat Aviram, 24, who began working at Hussman in July as a research associate involved in genotyping, or testing that determines individual genetic makeup. She earned a master of science degree in biomedical engineering from Florida International University in December 2008.

ON THE HORIZON

The demand for workers -- even amid the worst unemployment in decades -- underscores the upbeat outlook for careers in genetics research. And not just in university settings.

Jobs related to genetics research -- especially those beyond the traditional stronghold of academia -- have begun to explode in recent years, according to Michael J. Dougherty, director of education at the American Society of Human Genetics, a professional organization based in Bethesda, Md.

One big growth area is in forensics. The use of DNA in criminal investigations, once limited to a few jurisdictions, is expanding rapidly.

Another area that is taking off is genetic counseling, which draws on a combination of genetics expertise and counseling skills.

Genetics counselors provide guidance to families and patients, such as prospective parents considering the risks of giving birth to a child with a genetic disorder or dealing with a child with a genetics disorder.

Testing covers a range of genetic disorders from cystic fibrosis to hemophilia. More than 2,000 syndromes and disorders have been tied to genetic makeup. Genetics counselors "understand the cultural, social and emotional impact of having a child with a genetic disorder," Dougherty said. "It's a nondirective type of counseling," which lays out the possibilities and consequences without making judgments about what a couple should decide.

Genetics counselors often work in a hospital or doctors' offices, though some work for a company or as independent entrepreneurs.

A master's degree is the typical minimum educational requirement for someone pursuing a career in genetic counseling, Dougherty said.

Of course, moving up in the field requires significant advanced studies. Many people working in genetics research devote a lifetime to honing their skills to keep up with the fast-breaking science. Those who've risen in the ranks often have Ph.Ds, M.D.s, or both.

Anybody who is interested in biology is certainly a candidate, said Dougherty, but increasingly people with skills in mathematics, statistics and computer programming are entering the field of genetics research.

For instance, William Cade, 30, who joined Hussman in November as a research analyst, said he can draw on his statistical savvy and knowledge of genetics as part of a team project related to how genetic makeup may influence age related macular degeneration.

A TEAM EFFORT

"It doesn't get any better than this," said Cade, who has a master's degree in public health and biostatistics from the University of North Carolina at Chapel Hill. "We work under the tutelage of Dr. Margaret Pericak-Vance. That's huge." Pericak-Vance, the institute's director, is a preeminent researcher in human genomics.

Human resources director Royster said the Hussman Institute looks for candidates who have a serious interest in science. "The ability to collaborate and work well with others is crucial," Royster said. "You don't have to be a people person, but you have to be able to collaborate and work well with others, because so much is at stake."

It's also important to be detail oriented, he said. "Tests are sometimes \$4,000 and \$5,000 a pop. There are protocols and if you forget one step, the data can be ruined or unreliable."

"Working in a team is very important. You always have to cross check each other," said Aviram, who plans to pursue a Ph.D. "You have to be very precise," she added.

While the Institute continues to expand its staff, Royster said, openings are also created as lab workers who've worked for two or three years leave to attend graduate school or medical school. "We're always hiring. We have plenty of positions open," he said. "The people move on."