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'Industry has a crying need for these [analytical] skills. But there is a misunderstanding of what philosophy students can do in a practical sense.'

GARY MERRILL, GLAXOSMITHKLINE SCIENTIST, WHO IS ASSISTED BY NCSU PHILOSOPHY STUDENTS

Researcher Gary Merrill runs a brainstorming session with colleagues who call on their philosophy backgrounds to organize data for drug development, production and safety.

STAFF PHOTO BY SHER STONEMAN

It's a matter of philosophy

BY TIM SIMMONS
STAFF WRITER

When it comes to developing prescription drugs at the pharmaceutical giant GlaxoSmithKline, biologists, chemists and even statisticians impose an obvious order on the process.

But when Gary Merrill needs someone who can really think a problem through — someone who can do the heavy lifting of analysis — he turns to his philosophers.

These are not wizened old men contemplating the meaning of life. They are young undergraduates from N.C. State University who work for Merrill as part of an internship program with GSK.

This makes perfect sense to Merrill, a scientist with a strong background in philosophy. His job overseeing part of GSK's research and development requires him to analyze an overwhelming amount of health care data to better match a patient's needs with new and developing drugs.

He knows that philosophers are trained in formal logic. They are taught to conceptually analyze a problem, compare large systems, break things down and determine likely outcomes.

He believes that, if companies want to successfully attack the complex task of research and development, a bit of philosophical thinking is in order.

"Industry has a crying need for these skills," Merrill said. "But there is a misunderstanding of

SEE **PHILOSOPHY,** PAGE 7B

PHILOSOPHY

CONTINUED FROM PAGE 1B

what philosophy students can do in a practical sense."

Jamaal Pitt, who was Merrill's first intern in the Logic and Cognitive Science Initiative at Centennial Campus*, is well aware of that misunderstanding. When he graduated in May with degrees in mechanical engineering and philosophy, people just assumed he would be an engineer.

"Nobody ever says anything about jobs in the industry when you are a philosophy major," Pitt said. "You are assumed to be doomed to a life of academia."

What do they do?

Ask the young philosophy students what they do all day and the answer is predictably complex. They talk about things like genetic ontologies, the National Library of Medicine and set theory. They even sneak in a quick reference to artificial intelligence.

But in everyday terms, they think.

They think about the best ways to organize data stored on computers. They think about better ways to identify and cross-reference medical databases.

They gather in overstuffed chairs and watch as Merrill rapidly fills a whiteboard with various ideas — not far from a statue of "The Thinker."

Intern Jeff Painter, right, exchanges ideas with GSK scientist Gary Merrill, left, and statistician Alan Menius at NCSU. Merrill applies philosophical logic to research problems.

STAFF PHOTO BY SHER STONEMAN

What really matters

What you know matters to these students. What you do with what you know matters more.

When Pitt was asked to help improve the usability of something called the Gene Ontology, he used his analytical skills and applied them to data-mining, rather than relying on any specific knowledge of gene theory.

Students Jeff Painter and Kristoph Kleiner don't need to fully understand the thousands of entries in the Unified Medical Language System. But if they can better understand the structure and logical relations of categories within that system, their work could eventually make it easier for GSK to match specific drugs with patient conditions.

Merrill has a natural inclination to assign these tasks to students such as Painter and Kleiner.

A winding path

A former professor with a doctorate in philosophy, he left a tenured teaching position in 1982 to join a software company.

His ability to organize and analyze led him to several different companies over the next 15 years, including a long stint at SAS Institute, the big Cary software company.

While he hired one philosophy student before at GSK, the group at NCSU is the first to take part in a formal program.

Their skills are not used in place of programmers' or statisticians' skills. They are there to complement.

A good intern, he explained, should have a broad background in areas such as calculus, programming and abstract algebra as well as philosophy.

"What I'm really looking for aren't the students with the best grades," he said. "I'm looking for the students who understand. Students who can think."

It's only logical.

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*This is a bit misleading. The NC State Department of Philosophy and Religion's Logic and Cognitive Science Initiative supports the Undergraduate Internship at GlaxoSmithKline's Centennial Campus Lab, but it is also concerned with several other important academic developments. For further information see http:www.ncsu.edu/chass/philo/phil_lcsi.html.