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**ROCHELLE BRYANT**, a senior at Spelman College in Atlanta, Georgia, talks about the "Measurement of Relative Electron Impact Excitation Cross Sections for the Rydberg Series Resonance T" project she worked on while interning at the Lawrence Livermore Lab.

# Livermore lab scholars wrap up work

■ For 600 undergraduate and graduate students, it's been a successful summer

By **Sophia Kazmi**  
TIMES STAFF WRITER

**LIVERMORE** — Students now working at Lawrence Livermore Laboratory will have a definite edge on the "how I spent my summer vacation" conversations back at the dorm this fall.

Creating a way to detect the plague in humans before symptoms appear, improving the accuracy of the atomic clock and thinking of new ways to detect

nuclear materials are all part of their summer research work.

For the 600 or so undergraduate and graduate students at the lab, it has been a very successful summer.

On Thursday, 134 students got to share with lab scientists what they have learned so far in their 40-hour weeks researching fields from computer science to biology to homeland security. Each participant at the lab's student research symposium created a poster to outline their summer project and was present to answer questions about their research.

The student turnout was the

highest ever for the lab. The previous record for the voluntary show-and-tell was 75, said Edie Rock, the lab's university student program coordinator.

Student Andrea Kritcher spent her summer figuring out a way to make the atomic clock — the most precise timekeeper in the world — more precise. The nuclear engineering and radiological sciences senior at the University of Michigan believes it can be achieved by using the energy emitted from the nucleus of the element Thorium 229.

"With nuclear physics, there are so many applications," she said

about her studies. "I wanted to do something that has a purpose."

For Nate Chongsiriwatana, a graduate student at Northwestern University, biological science is in his blood. His parents are medical doctors.

As a Homeland Security fellow, Chongsiriwatana spent his summer figuring out whether small changes in blood proteins could help determine if someone has been infected by the plague bacteria, well before symptoms show up.

"There are a lot of pathogens

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