

THE UNIVERSITY OF TEXAS AT AUSTIN
TEXAS ADVANCED COMPUTING CENTER **TACC**

Scientific Computing Curriculum

TACC's Scientific Computing Curriculum Enables Young Researcher to Excel in Astronomy



In the Parallel Computing for Scientists & Engineers course, graduate and undergraduate students learn from Dr. Kent Milfeld, TACC Research Associate.

In the class, Gatlin learned how to use the Linux operating system, how to write code in Fortran and C (the dominant programming languages of HPC), and how to operate a supercomputer — crucial steps towards becoming a bonafide astronomer.

He secured a competitive summer internship at the McDonald Observatory in West Texas. Leading public tours of the observatory, Gatlin explained what astronomers do with telescopes and how they use HPC to study the universe. "I never went a day without talking about the role of computing in astronomy," Gatlin said.

Guided by professors and senior scientists, students like Austin Gatlin will enter the job market with the knowledge and skills needed to accelerate science in the 21st century. "I am unbelievably fortunate to have taken this class," Gatlin said. "I feel like I have an edge over the competition now — all thanks to scientific computing."

Astronomy is a field driven by profound questions, powerful telescopes, digital detectors, and high-performance computing (HPC). But for Austin Gatlin, an undergraduate student at The University of Texas at Austin, the connection between today's astronomy research and HPC was as murky as dark matter.

Gatlin's undergraduate advisor explained that astronomers use HPC to understand the physical nature of what they observe via telescopes. She recommended a new computing course, Introduction to Scientific Programming in Fortran95/2003 & C, developed by the Texas Advanced Computing Center (TACC).

"Before the class, I didn't know anything about high-performance computing," Gatlin said. "But HPC is a prerequisite for any science research position. If you don't know how to write code, you don't get research jobs."

"My perspective of astronomy and astrophysics has changed since I completed the scientific computing course. I've learned so much about the relationship between HPC and scientific research, and the inseparability of the two."

*Austin Gatlin, undergraduate student,
The University of Texas at Austin*

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More at: <http://www.tacc.utexas.edu>