

Master of the Universe

After eight years of teaching at CU, astronomy professor Erica Ellingson is on top of the world pursuing the most exciting research of her career

By Lindsey Hurwitz
Campus Press staff writer

CU astronomy professor Erica Ellingson just embarked on an estimated three-year mission to map out the structure of 50,000 new galaxies in our Universe.

Her attempt is, as she puts it, "bigger than us...discovering things on the edge of the unknown."

Ellingson and a team of professors from the University of Toronto are uncovering how the universe accelerates and what role gravity plays in the acceleration.

"It's 10 times more exciting than anything I've ever done; we don't even know if it will work, which is why it's so exciting," said Ellingson with a grin stretched across her face.

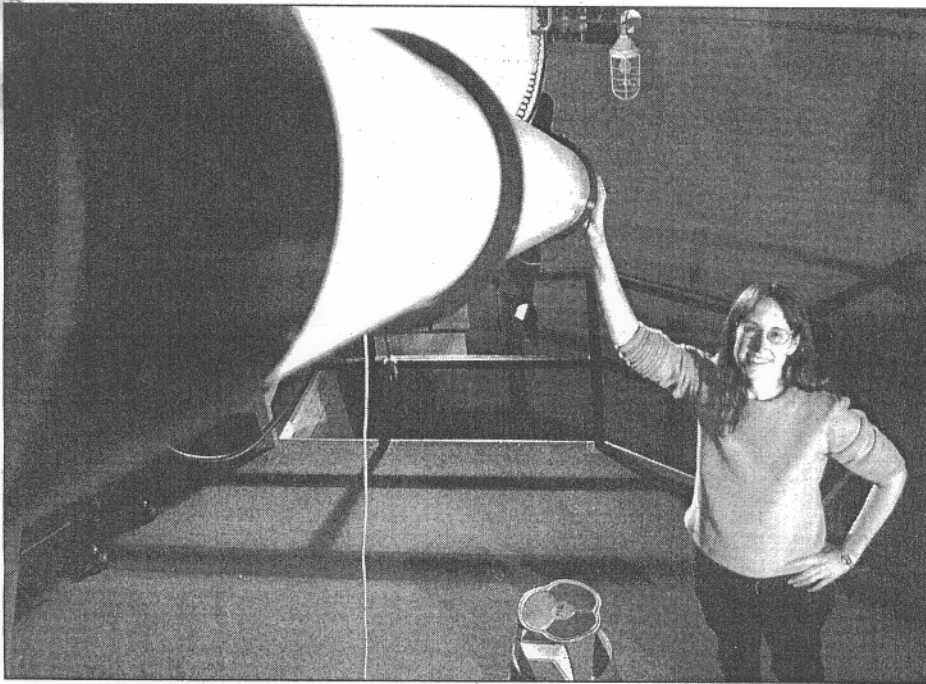
Ellingson has had her fair share of excitement, including finding one of the most distant galaxies ever seen by the human eye. She was also the first scientist to understand how quasars, star-like objects that emit massive amounts of radiation, change throughout time.

"It was one of those 'aha' moments...what if I look at the data from another angle," she said she realized while she was on an afternoon bike ride.

Racing back to the research lab to test her hypothesis, she said that she found the answer she was looking for after spending months trying to uncover it.

"It was the middle of the night, no one else was in the building, except the janitor," she said. "I was so excited, I ran into the deserted hall and showed him!"

Ellingson realized in her high school chemistry and physics classes that "this is the key to everything ... by understanding physics and science, I was understanding everything." Ellingson found her way into astrophysics. She chose astronomy for its combination of all the sciences and because it has such deep history and connection to society.



Professor Erica Ellingson stands next to CU's "24" telescope at Sommers-Bausch Observatory on Oct. 24. Ellingson uses telescopes in different states via "remote observing" to study galaxies.

Kent Conklin/Campus Press

But Ellingson's interest in science spanned early.

"My parents took me to see a show at the planetarium when I was five or six," she said. "I was in awe and I remember thinking, 'Wow, that was really something.'"

Ellingson's parents influenced her aspirations in her younger years, though in different respects. Her curiosity and embrace of the sciences can partially be credited to her father, an engineer.

However, Ellingson's mother, a housewife with strong family values, found it difficult to accept her daughter's goals.

"I guess that's why my mom is confused with my career choice. She didn't understand my goal to be an astronomer instead of a mother like herself," she said. "The night I got my Ph.D. my mom sent a huge chocolate cake and a bottle of champagne to my house. She doesn't understand my dreams, but she wanted me to know that she supported

me." An intricate part of Ellingson's success was her grandfather, or rather what

gave her a sense of belonging in the science field. At MIT, where Ellingson began her college studies and

Nick Schneider in 1992. They met at the University of Arizona, where Ellingson received her Ph.D in 1989 in astronomy, while spending nights together on the mountains in an observatory staring through telescopes.

The two were torn apart when Ellingson got a job in British Columbia, Canada, at the Dominion Astrophysics Observatory.

"It was a great experience, but I found myself missing Nick so much that I decided to move back to where he was," she said.

Schneider was working as a professor at CU at the time, so Ellingson "followed him to Boulder, and it really solidified everything." Ellingson joined the CU faculty in 1995 as an associate professor of astrophysics.

"Because we are both scientists, we understand the value system of each others work and how to live together with a family," she said.

received her bachelor's degree in physics in 1984, she was in the minority.

"There was a five to one ratio of men to women," she said. "I felt that I belonged there because of my family ties with my grandfather."

Continuing strong family ties to her profession, Ellingson married fellow CU astronomy professor

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he left behind. He was a college math professor, and Ellingson's father would share many stories about him with her.

She jokingly added: "I got his textbooks and notes to study from in college, so I guess you could say that my dead grandfather taught me differential equations."

In addition to teaching her, Ellingson's grandfather

Ellingson and Schneider have two kids, a six-year-old girl, Emily, and a three-year-old boy, Nathan. Ellingson was the first woman in her department at CU to have a baby, remarking that not too many female scientists have kids.

While it was always Schneider's dream to go into space and be an astronaut, he never could make it. The couple has a flicker of hope that their children will go to space, although they acknowledge it as silly, it still lingers in the back of their minds. A Gypsy fortune teller told Schneider years ago that one day his children will make it into space.

"Having two scientists as parents, my children are doomed to like it. We'll just have to wait and see," Ellingson said.

For now, Ellingson is happy teaching astronomy at CU. She says it is a privilege to be able to share her knowledge.

"Teaching is a way to keep things in perspective," she said. "When you spend so much time working on things that only five people in the world know about, you become too narrow. Teaching helps me reach out further, it's sort of a reality check."

Struggling to find a comfortable balance between being a mother, a wife, a teacher and a scientist constantly challenges Ellingson. She is trying to cut down on traveling because it takes such a toll on family life.

During the years, Ellingson has traveled to Hawaii countless times, Chile eight times, Taiwan twice, and numerous trips throughout Europe.

Besides traveling to use the various high-tech telescopes and equipment for her research, Ellingson is in demand in the science community to speak and share her research at conventions worldwide.

"In my free time, I read literature and art history texts. I just want to learn because when you think about it, it's all connected. It's bigger than us."