# Community News

## RC instructor joins NASA research team

### *Lauren Novatne selected for elite team of educators*

**By Lindsey Jones**
*Reedley Exponent Correspondent*

Lauren Novatne's curiosity about space started when she was 4 or 5 years old growing up in New Jersey. Standing outside on a hot summer day with rays burning into her back, Novatne remembers asking her dad how the sun works.

Novatne's father, a rocket scientist himself, gave his daughter a very technical and lengthy answer in hopes of humoring her. Fifty years later, Novatne recalls how her father feared he had created a smaller version of himself as she coolly gave him an "OK" reply after listening intently.

Now a physics and astronomy instructor at Reedley College, Novatne has adopted her father's same passions. Chosen from nearly 50 applicants nationwide, Novatne was picked to participate in a NASA-funded project that partners teachers with professional scientists to conduct original research projects.

Novatne, along with 13 other teachers, comprise the NASA/IPAC Teacher Archive Research Program's 2012 team. Now in its eighth year, the program selects scientists and educators to carry out research projects for a full year. Then they present results at the semi-annual meeting of the American Astronomical Society, the professional organization for astronomers in the United States.

Novatne's program initiation kicked-off at a conference in early January in Austin, Texas. The team of 14 teachers braved 12 hours of intense lessons briefing them on everything from research methods to program expectations.

Novatne said she lost all hope of note-taking and merely tried to retain any bits of information she could as one scientist after another took the floor, hour upon hour.

"The conference was great. Not fun, but great," Novatne said.

Lauren Novatne

As the only college instructor on the 2012 team, Novatne initially thought she may have an edge over the other program participants, all secondary education teachers. However, after meeting the other teachers she realized the playing field couldn't be more even: "These guys are gonna make me work!" Novatne said. "I feel like I'm really evenly matched."

Prior to applying for the program, Novatne consulted with Reedley College administrators about her interest in the project. Jan Dekker, Reedley College dean of instruction, said he supported Novatne's opportunity completely when she approached him.

Dekker said the program will aid Novatne in her development as a teacher and also enhance her students' learning experience as well.

"Everything she does with NASA she'll bring back into that astronomy class," Dekker said.

Novatne introduced the first astronomy class at Reedley College in 2006. Since the fall of 2008 Novatne said it has been offered every semester and is always full.

Dekker said Novatne's interactive teaching style matched with her enthusiastic personality make her the perfect instructor for courses like astronomy and physics.

"Lauren is a real propo-

Contributed

**Reedley College physics and astronomy instructor Lauren Novatne is part of a NASA-funded research team that partners teachers withscientists to conduct research projects. In 2006, she was the first teacher to introduce astronomy classes to Reedley College.**

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# NOVATNE

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nent of hands-on instruction," Dekker said. "She likes to bring gadgets to her classes."

Sharon Wu, one of Novatne's colleagues in the physics department, said she has learned a lot about teaching from Novatne in their 14 years together at Reedley College.

"The way I learned was very rigid and traditional," said Wu who grew up in Taiwan. Rather than struggle through pages of math problems like she herself did as a student, Wu said Novatne's methods get students excited about science.

In July, Novatne will attend her next program conference in Pasadena, Calif. She has the option of taking two students along to participate in the research. Because there are so many interested and qualified students, Novatne said she plans to create an online application to help determine who she will take.

> *"It is already making me feel more fulfilled to take on something extra."*
>
> **– Lauren Novatne**

Aside from showing her students the thrilling side of NASA research, Novatne said this program allows her to also prepare them for the harsh realities of academic research.

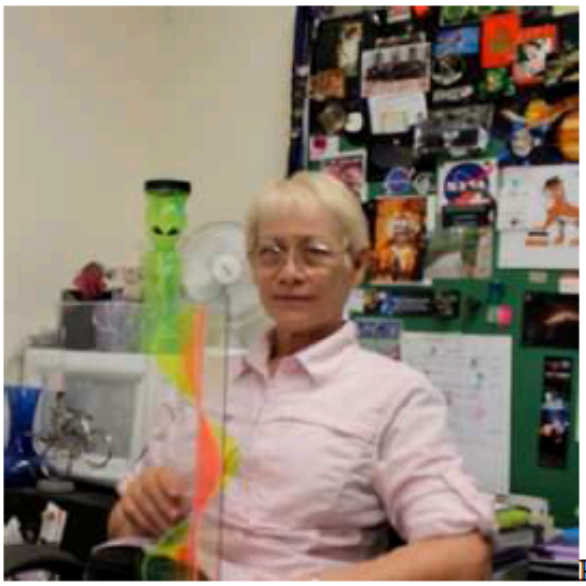
"It's like digging ditches in the heat," Novatne said. "It's not glamorous."

As part of the project's professional development, instructors are encouraged to promote program awareness in two ways:

Get the word out to other teachers in the area about this opportunity;

Incorporate their findings into classroom teaching material.

"It is already making me feel more fulfilled to take on something extra," Novatne said. "I have realized this doesn't have to be a one-time-only thing."

 Reedley college instructor Lauren Novatne has been very busy. Aside from teaching both physics and astronomy, she has been taking part in NITARP, a national research programmed funded by NASA.

NASA/IPAC Teacher Archive Research Program (NITARP) is a partnership among teachers and research astronomers. The program provides a unique opportunity for teachers and students to work with professional astronomical archival data and to present their findings to rest of the scientific community.

"This is hardcore NASA research," says Novatne, "not water down baby research."

Novatne was chosen among 14 other educators from across the nation, and she in turn chose three Reedley College students to aid in her research: Garrett Mattrocce, Trista Milan, Alex Quinonez

Her research began in January with an intense conference in Austin, Texas. Her work continued over the summer at Cal Tech in Pasadena, analyzing data from two satellites: the Spitzer Space Telescope and the Wide Infrared Survey Explorer.

By spring of 2013, she and her students will present their findings at the America Astronomical Society conference in Long Beach, California. Their work and names will also be published in the astrophysical journal.

Novatne has done a great deal from Reedley College. "Reedley College will be listed as being published in the astrophysical journal and I am certain that is the first time ever. It is really a great honor for us to be published in such a prestige scientific journal."

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Doug Hoagland / The Exponent
**Reedley College instructor Lauren Novatne with her space-related collectibles.**

# RC instructor does real star search

**By Doug Hoagland**
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Reedley College instructor Lauren Novatne spent a week this summer searching the heavens for "young stellar objects" in a program sponsored by the space folks at NASA.

Young stellar objects? They're stars-in-the making and they give off light that the eye can't see.

This is serious science, and it thrilled Novatne, who teaches astronomy and physics.

"It's sort of like living a dream," she said. "I always wanted to do hardcore science. I feel personal fulfillment from it. For me, it's like being able to sing on TV or go to the Olympics."

Novatne did her star search in a national program that matches teachers with scientists to conduct original research for one year. It's a NASA-funded program and it's exclusive: Novatne is one of 14 educators from across the nation participating in 2012.

She did her research at Cal Tech in Pasadena. Her research involved analyzing data from two satellites: the Spitzer Space Telescope and the Wide Infrared Survey Explorer.

The satellites provided data from space, and then Novatne worked to determine whether the invisible light came from other galaxies, old stars or new stars.

This talk of "invisible light" might sound other world-

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## STARS

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ly. It's not, which Novatne explains: "Our eyes can only see a tiny amount of light, but our cell phones, microwaves, radios and X-rays all use light that we can't see. They're all different bandwidth on the electromagnetic spectrum."

Reedley College students Alex Quinonez of Selma and Trista Milan of Sanger went with Novatne to Pasadena.

Novatne got this summer's opportunity as a member of the NASA/IPAC Teacher Archive Research Program.

In January, the 14 participants attended an intense conference in Austin, Texas where they learned about research methods and other subjects. Since then, there have been weekly teleconferences and assignments through NASA's website.

The assignments cover the basics of astrophysics and software applications.

Novatne believes the work has made her a better teacher. "When we get to stellar evolution in astronomy, I won't just be saying, 'This is what the textbook says.' I will be using specific examples from what I learned this summer. My students will be getting cutting-edge information."