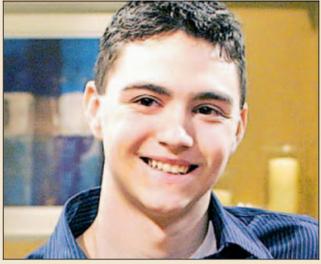


**THEY SAID IT**

LAST WEEK IN QUOTES



**“I told myself a long time ago I never wanted any kid to go through what I went through.”**

— 15-year-old **Shawn Hornbeck**, on being held captive for four years by accused kidnapper Michael Devlin

**“I had a choice to make. Do what we’re doing — and one could define that maybe (as) a slow failure. Secondly, withdraw out of Baghdad and hope for the best. I think that would be expedited failure. And thirdly is to help this Iraqi government with additional forces.”**

— **President Bush**, defending his new Iraq policy.

**“I am cursed with the responsibility gene. ... You’ve got to be very careful in how you proceed with any combat situation in which American lives are at stake.”**

— Sen. **Hillary Rodham Clinton**, D-N.Y., carefully staking out her Iraq stance, which includes a troop cap, and laying more groundwork for an expected White House run.

**“I am struck by how hungry we all are for a different kind of politics.”**

— Sen. **Barack Obama**, D-Ill., announcing he has formed a presidential exploratory committee. He also plans to push for a troop cap.

**“We may have to do without guacamole for a while. And we may be drinking our Coronas without limes.”**

— Pasadena teacher **Joseph Vasquez** on the damage to California citrus by icy weather.

**“I’m not a bad mom. I did make some mistakes, but I don’t agree with child abuse in the second-degree.”**

— **Elizabeth Dillon**, of Sand Lake, on the accusation she left her young boys unattended in a running pickup for three hours in Lowell.

**“I’m scared of needles, and I am scared to death that I would hurt someone. I feel like I was disposed of like a piece of garbage.”**

— Roosevelt Elementary principal’s aide **Laurie Jordan**, fired by Zeeland Public Schools after refusing to train for giving insulin shots to students.

**“It was a Monday morning ritual gone horribly wrong.”**

— **Sharon Boeve**, mother of Curtis Boeve and grandmother of Emma and Zachary, who died as a result of a crash on a slippery M-40 in Holland while headed for the children’s schools. Two other grandsons were hospitalized.

**“Sure enough, I’m not going back into society to cause any other families any hurt or harm.”**

— **Nathaniel Abraham**, speaking to the judge who released Abraham from all state supervision, more than nine years after the then-11-year-old used a rifle to shoot and kill a man in Pontiac.

**WINNERS & LOSERS**

**WINNERS**

**HOUSE DEMOCRATS:** Six easy pieces in less than 100 hours makes legislating look like cake, with bipartisan frosting.

**CONGRESSIONAL PAGES:** House learns painful lesson from Mark Foley episode, votes 416-0 to overhaul how it supervises young people entrusted to it.

**MICHIGAN TAXPAYERS:** Spectrum and partners pledge \$70 million to build MSU-Secchia med school. More clutter on Pill Hill, but hey — it’s free, tax-wise.

**LOSERS**

**MICHIGAN TAXPAYERS:** Pill Hill aside, auto economy still stuck in neutral, or reverse. Sign in rear-view, larger than it appears: \$800 million deficit

**PRESIDENT BUSH:** To poll respondents, “surge” sounds like “escalation.” When dice of history stop rolling, will he look like LBJ or General Ike?

**KENT COUNTY 911 SYSTEM:** Latest mixup would be considered wake-up call, if so many others hadn’t preceded it.

# Shooting the moon

## WITH U.S. AIMING AS FAR AS MARS, CHAFFEE SCHOLARS PONDER RISKS, REWARDS

BY BEN BEVERSLUIS  
THE GRAND RAPIDS PRESS

Jake Bourjaily is studying “dark matter cosmology” at Princeton University.

Kelly Steelman has spent years studying the interaction of humans and systems, with interdisciplinary graduate work in engineering and psychology.

In Atlanta, Scott Burba is a consultant specializing in business processes.

And near Seattle, David J. Finton thinks about how intelligent behavior can be implemented in machines.

Different people, different places — but something in common: Each is a past winner of the Roger B. Chaffee Scholarship here in Grand Rapids.

And another thing: Each sees a future in space, a need to explore, a belief that the cost and risk is worth it.

The Chaffee scholarship is given to a top local math and science student in honor of the Grand Rapids man who was among the first astronauts chosen for the Apollo moon program but was killed Jan. 27, 1967, when fire swept through his space capsule in a launch-pad test.

Now, 40 years after the 31-year-old Chaffee was killed, along with space veterans Gus Grissom and Ed White, in what was called “the first great spacecraft tragedy,” the United States is debating the most significant “giant leap for mankind” since Neil Armstrong’s historic footstep onto the lunar surface.

President Bush three years ago proposed sending humans back to the moon by 2020, as a base for a possible leap to Mars. Debate continues, particularly on the issue of manned versus unmanned flight. Computers and robots can do so much. But while unmanned travel is significantly cheaper



NASA PHOTO

**First crew for Apollo:** Gus Grissom, Ed White and Roger Chaffee at Kennedy Space Center during training in Florida. The words are Grissom’s. The crew was killed in a capsule fire 40 years ago this week.

**“If we die, we want people to accept it. We’re in a risky business ... The conquest of space is worth the risk of life.”**

and allows for more research, manned travel gets the spotlight. The cost of manned flight, of course, goes toward minimizing the risk to life.

That debate is particularly timely as the 40th anniversary of that Apollo fire approaches, followed within days by anniversaries of the Challenger and Columbia shuttle disasters. For the occasion, The Press sought out past Chaffee scholarship winners to see what they’re up to — and explore their thoughts about again sending people beyond Earth orbit.

“Going back to the moon, to Mars, is important to the human race,” said Bourjaily, a doctoral student in parti-

cle physics and cosmology. But the 2002 Chaffee winner and Forest Hills Central grad lusts for more information from space, and, given limited funding, comes down on the side of unmanned missions.

“In the short term, the amount of science you can do with a human in space is not substantially more than you can do without a human in space, and the cost is enormously more,” he said.

Steelman, now working on a doctorate in psychology at University of Illinois, brings to the discussion an emphasis on human nature.

SEE MOON, F4

**MORE**



Meet the Chaffee scholars, F4

**TIMELINE**

**The 40th anniversary of a Grand Rapids astronaut’s death falls within days of two other space disaster dates:**



**Apollo 1 fire**  
Jan. 27, 1967

**What happened:** An electrical fire fed by pure oxygen filled the command module during a test run on the ground. Astronauts were bolted in.

**Who died:** Virgil I. “Gus” Grissom (commander), Edward White IV, Roger Chaffee (Grand Rapids’ first astronaut).

**What changed:**  
• Module wiring was redesigned,

rerouted and sheathed to reduce the chance of another short circuit.

- The cabin ratio was altered to 60 percent oxygen, 40 percent nitrogen.
- Spacesuits were made with fireproof cloth.

The bolted-on hatch was changed to a hinged door.

**Return to flight:** Apollo 7, in Earth orbit, October 1968 (21 months later).

**Challenger disaster**  
Jan. 28, 1986



**What happened:** A booster rocket seal failed and burning fuel breached the external tank, which disintegrated, as did the shuttle. The crew cabin slammed into the ocean from about 12 miles up.

**Who died:** Francis R. “Dick” Scobee (commander), Michael Smith (pilot), Judith Resnik, Ronald McNair, Ellison Onizuka, Gregory Jarvis, Christa McAuliffe (teacher in space).

**What changed:**  
• Boosters were re-engineered  
• Launch protocol was revised.

**Return to flight:** Shuttle Discovery (STS-26), to deploy a satellite, September 1988 (32 months later).

**Columbia breakup**  
Feb. 1, 2003

**What happened:** Hot gases on re-entry entered the left wing, which was damaged by a piece of foam insulation that hit the heat-shielding during liftoff.



The shuttle burned up.

**Who died:** Rick Husband (commander), William McCool (pilot), Michael Anderson, David Brown, Kalpana Chawla, Laurel Clark, Israel’s Ilan Ramon.

**The changes:** The external tank was redesigned to reduce foam; NASA developed ways to monitor damage and make orbital repairs on heat-shielding tiles.

**Return to flight:** Shuttle Discovery (STS-114) to test of repair tools, July 2005 (30 months).

SOURCE: Press files and research

**SUNDAY ESSAY: BY ERIN FETTIG, GRATEFUL GRANDDAUGHTER**

## Memories, love woven into sweater

A child’s sweater arrived in the mail today. It’s hand-knitted with small buttons and loopy yarn. It’s adorable.

I hold the sweater close and smell it. What I’m looking for isn’t there. It smells only of a recent ride through the wash. I never knew it was mine, and yet I’m happy it’s home. As soon as I hold it, I feel close to her, and it takes me back to my childhood

*I walk upstairs and slowly open the door to the spare bedroom. It’s empty. The bed is neatly made. I open the dresser drawers, hoping I might find one little item accidentally left behind. Nothing. The vanity is bare. Gone are all the little bottles of perfumes, powders, nail polish and makeup. The well-worn hair curlers knotted in a scarf are missing, too.*

*I carefully open the closet door. The empty hangers clink lightly together. All is gone.*

*My nose is stuffed and my face feels hot and swollen. We’re just back from the airport, and I’ve quietly wept in the back seat of my parents’ Chevrolet Caprice Classic. I wished my grandmother didn’t have to board the plane that would take her back to her home in London. I wished she could stay with us.*

*I sit on the little vanity stool and look into the oval antique mirror. I close my eyes and breathe in. The table is empty, but I still can smell the scents of my grandmother’s lotions. It’s a scent that’s a part of her. It lives in her home in England, too. I’ve always known it. It’s a comfortable scent that gives me*

peace.

The summertimes of my childhood were filled with my grandmother. After my grandfather died in 1984, she made the trip to our home every summer. Usually, she stayed for six weeks. It was what I looked forward to all year.

She was proper. She was modest. She was slim and always dressed flatteringly. She knew the rules of being a lady. And she shared them with me, a tomboy who liked to climb trees. She showed me how to put on nail polish and encouraged me not to bite my nails.

When she put on her makeup, I would watch. She would tell me makeup shouldn’t be seen. It should

SEE ESSAY, F5



PRESS PHOTO/JOLIE MYERS

**The essayist:** A sweater made for Erin Fettig when she was 2 brings back memories of her grandmother’s summer visits. **For more about her, see F5.**

# NASA's lunar base concept: realistic or pie-in-the-sky?

As always, down-to-earth question remains: funding

BY FRANK D. ROYLANCE  
THE BALTIMORE SUN

NASA's concept for a permanent base on the moon goes far beyond a mere habitat where people can live for extended periods, such as today's international space station.

The space agency's detailed Lunar Exploration Objectives provide a soup-to-nuts sketch for a 21st century settlement of a vast and remote new continent — only one without air.

It's great news for science fiction buffs and other space enthusiasts who have dreamed for generations of a lunar base.

"This is NASA making plans for a long-term human settlement off the planet. That is a big deal. That's historic, and I think it's great for the country," said George Whitesides, executive director of the National Space Society, a nonprofit advocacy group whose stated goal is "the creation of a space-faring civilization."

The 200 U.S. and foreign experts NASA enlisted last April to brainstorm the non-fiction realities of lunar colonization considered the obvious prerequisites — safe places to live and reliable transportation home.

But they also tackled the mundane: how to recycle human and manufactured waste, regenerate the outpost's air and water and establish lunar agriculture to provide both food and oxygen for residents.

Members of a lunar colony will also need ground and "air" transportation, fuel depots, power generation and storage, telecommunications and a lunar positioning and tracking system, the planners said.

The NASA document even proposes the creation of lunar regions protected from development — lunar parks and reserves — and for preservation of historic places such as the 1969-1972 Apollo landing sites.

"This is the best estimate of the smartest possible people, as of 2006, of what we'll do on the moon," said John Logsdon, director of the Space Policy Institute at George Washington University and a participant in the deliberations.

Absent from the discussion, how-

## FOR EXAMPLE

### Four major risks

How living and traveling outside Earth orbit can hurt:

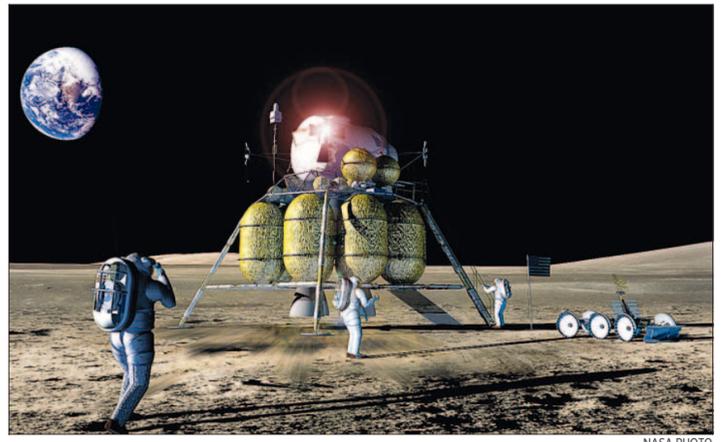
**Lack of a medical facility** could turn a mundane injury into a life-threatening situation.

**"Psychosocial" pressure** could build to high levels in a small group isolated for months or years.

**Zero or reduced gravity** causes bone and muscle loss.

**Solar storms, cosmic rays** and other bursts or waves of radiation, both electromagnetic and ultraviolet, pass right through the body, damaging tissue and heightening long-term risk of cancer and cataracts.

SOURCE: space.com



NASA PHOTO

**There to stay?** This artist's rendering shows how a new lunar lander might look — not too different from the 1960s model.

ever, was anyone who thinks that sending people back to the moon is a needless, ruinously expensive thing to do.

"The goal was set by President Bush on Jan. 14, 2004," Logsdon said. "This process was not about whether to go back to the moon, but to state for the public — and for NASA — the top-level reasons why we're doing it."

It also engaged the experts on what must be done to make it happen.

Still unresolved is the question of whether the United States and other countries that choose to participate can muster and sustain the political

will — and the cash — over the decades required to carry out the project.

"That's the question that's on everybody's mind in this meeting," said Logsdon, who spoke from the Space Exploration Conference, in Houston.

"It's a totally serious concern, and there's nothing we can do about it except convince the public and the political community that this is such an obviously correct thing to do and develop enough forward momentum that it has the look of a fait accompli by the time the next president gets around to the decision."

NASA's lunar plans carried no

price tag. But estimates already run to the hundreds of billions of dollars.

"The fundamental question you have to ask is whether this will be something that can be sustained as being in the public good," said Roger Launius, chairman of the division of space history at the National Air and Space Museum.

"What's the compelling rationale for it? I have not seen that articulated," he said. "Until there's a conviction a buy-in by the public that this is a good thing to do, it's probably not going to gain much in the way of funding, if any at all."

## THE LIST

### About the scholars

Four Roger B. Chaffee scholarship winners bring different perspectives:



**Jake Bourjaily**  
Age: 22  
**Chaffee scholarship:** 2002, Forest Hills Central  
**Current:** Princeton University, Ph.D. program in high-energy particle physics and cosmology

**Quote:** "Until we're doing something like going to Mars, or doing another similar scale achievement, I'm not sure (the space program) will get that much attention.... If we had another national effort, to go to Mars, that would get people excited."



**Kelly S. Steelman**  
Age: 27  
**Chaffee scholarship:** 1997, Northview  
**Current:** University of Illinois at Urbana-Champaign, Ph.D. program in psychology with emphasis on visual cognition and human

performance.  
**Quote:** "It was those space, NASA-related disasters that caused me to shift my attention from more of the engineering side to the human side of technology."



**Scott R. Burba**  
Age: 36  
**Chaffee scholarship:** 1989, East Grand Rapids High  
**Current:** Business operations consultant, Atlanta.  
**Quote:** "It's the human-nature piece of the equation that allows you to do so much more."



**David J. Finton**  
Age: 46  
**Chaffee scholarship:** 1979, East Kentwood  
**Current:** Machine learning technologist, Boeing Phantom Works.  
**Quote:** "The '60s were a very different time because we were in the

middle of the Cold War, and were competing with an adversary that was already ahead of us in the new frontier of space. There was much at stake in terms of national security and national pride."

### And the scholarship

The Roger B. Chaffee Scholarship Fund awards a \$2,500 college scholarship each year to an outstanding high school senior, in the Kent Intermediate School District, who intends to pursue a college career in engineering, math, or sciences relating to space technology.

**Applications** are available at high school counseling offices and must be postmarked by Feb. 28.

**Mail or deliver to:** Kent Intermediate School District 2930 Knapp St. NE Grand Rapids, MI 49525

The winner will be selected in the second week of March, with the award dinner set for April 19.

**Questions?** Call Kathy Stratton at 616-365-2217.

## MOON CHAFFEE UNDERSTOOD THE RISKS IN BEING FIRST

CONTINUED FROM F1

"I know there are those camps of people that would say, 'Don't take the risk of sending humans, don't waste the money, the manpower, the effort to make strides into space.' I completely disagree with that," said Steelman, the 1997 Chaffee winner and a Northview graduate.

"People invest when there are heroes, where there's a face you can put on stuff. They don't get as excited when there's little tiny robots doing the job."

Finton holds a doctorate in artificial intelligence from the University of Wisconsin and is with Boeing Phantom Works, the company's advanced research unit. He won the Chaffee scholarship in 1979 as a senior at East Kentwood.

"My opinion is that robots provide by far the biggest bang for the buck when it comes to science and exploration," he said.

Burba, the 1989 winner and East Grand Rapids graduate who went on to Duke University, is a consultant in business processes and operations. He sees past space failures in terms of poor practices.

"I've experienced in the business world, when you placed unrealistic expectations on teams and individuals and don't give them the right tools, you encounter failure."

### Identifying with Chaffee

Roger B. Chaffee understood the risks facing the first crew in the moon program.

His nephew, Dave Pequet, recalls a talk between the astronaut and his parents, Donald and Blanche Chaffee, on a beach near the Florida space center.

"I remember back to that summer of 1966, they had a specific conversation with Roger, that the risks were high," said Pequet, who lived part of his youth in the same house with his uncle. He remembers Chaffee telling his father to not "turn negative" if something happened.

Indeed, after the accident, Donald Chaffee, a real estate broker who lived in Wyoming, wrote and spoke widely in support of the space program. He had been a barnstorming pilot in the 1930s who infused his son with a love of flight.

"He took the high road on just the whole space program. He kind of kept a promise to Roger to be very positive," Pequet said.

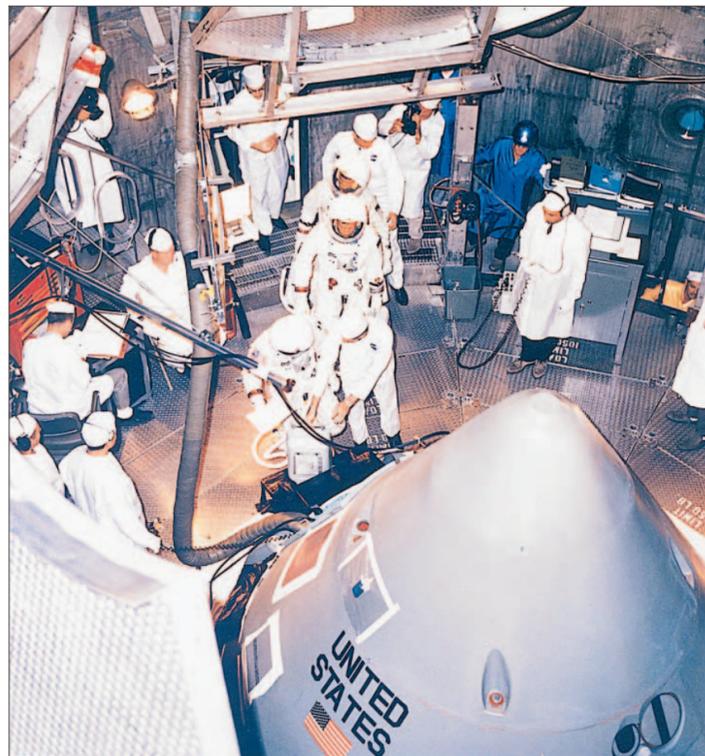
Blanche Chaffee kept detailed scrapbooks on the scholarship winners she dubbed "our kids."

Pequet, of Chicago, and a half-brother, Dale Young, of Sparta, continue family involvement in the scholarship fund, launched by friends shortly after his death. The fund is one demonstration of the family belief that young Chaffee's death was not without value, that the risk was acceptable.

"Roger put his life on the line, he knew it. It was an unfortunate accident, but at least we learned from the accident, a lot of benefits for the space program," said Young, who nearly enlisted in the Navy himself and dubs himself a space buff.

"Unfortunately, but yes, absolutely, just that accident probably enabled us to get to the moon still in the '60s. A tremendous amount of technological advances occurred after that, good things," Pequet said.

Pequet, who was a Navy flier like his uncle and also is a space buff, said risk was inherent as flight moved from jet aviation to rockets. "It was a whole different risk profile, and ev-



NASA PHOTO

**Getting to work:** The crew of Apollo 1 enters the command module for training in this undated photo. The mission originally was known as Apollo 204 but was redesignated as a tribute following the fire.

## BIO BOX

### About Grand Rapids' Roger B. Chaffee

#### His timeline

- He was born Feb. 15, 1935, in Grand Rapids to Donald and Blanche Chaffee.
- The son of a barnstorming biplane pilot also was an Eagle Scout.
- He graduated from Grand Rapids Central High School and Purdue University.
- He was married to Martha Horn Chaffee, and had two children, Sheryl and Stephen.
- He was a Navy pilot with the rank of lieutenant commander.
- Chaffee was one of 14 men chosen in October 1963 for NASA's third group of astronauts and was at the time the second-youngest.
- On March 21, 1966, he was selected as a pilot for the first flight in the Apollo moon program.
- Chaffee's primary responsibility was in-flight control, communication and instrumentation systems.

#### Named in his honor

- Roger B. Chaffee Planetarium, Grand Rapids
- Roger B. Chaffee Memorial Drive, Wyoming
- Roger B. Chaffee Lodge at Gerber Scout Camp, Twin Lake
- Roger B. Chaffee Park, Fullerton, Calif.
- Chaffee Island, an artificial island in Long Beach (Calif.) harbor
- Roger B. Chaffee Elementary School, Huntsville Ala.
- Roger Chaffee School at the Naval Air Station, Bermuda
- The Chaffee Crater, on the far side of the moon
- Chaffee Hill, on Mars, one of three named for the Apollo 1 crew near the Gusev landing site of Spirit rover.
- The star Regor (Roger spelled backwards) was used to navigate Apollo spacecraft during moon missions

everybody was aware of it. And everybody aspired to it. Anybody who flew wanted to get into it."

### Scholars assess space travel

Growing up with the Chaffee legacy in Grand Rapids brought the concept of space exploration "a little bit closer to home" for Steelman. Then while she was studying aerospace engineering, a sociology professor talked about how the Apollo 1 tragedy was a function not just of engineering problems, but also of human factors.

That led her research interest into "how humans and machines interact," and how "we have to look not just at technology but at the interface of technology and humans," particularly in averting disasters.

She sees the value of human space travel, citing the trickle-down technology from space development, for

instance, and adding, "It's important to have something as exciting as space travel to push that forward."

But, she noted, it should be done with an eye towards safety by balancing what jobs people do and what jobs machines can do.

"A piece of technology can only do what it's programmed to do. No more, no less." If something goes wrong with the technology, the mission is lost. But, "Humans are amazingly versatile. They can problem-solve," such as the Apollo 13 crew jerry-rigging their spacecraft to make it back from the moon.

After winning the scholarship, Burba dug into Chaffee's story, to understand the ideals he lived by.

"The biggest one (for me) was his desire to do something different, to seek the unknown, to take a different path," Burba said.

"I believe in taking the next step, and that comes back to courage. You have to have courage to take a risk."

That said, the business operations consultant said risk can be addressed with proper planning and funding, giving the right tools.

"I would hope if we continue from a government perspective to move forward in manned exploration, that we would have the means to carry out and reach the objective in a proper, safe and efficient fashion," he said.

Finton said being a Chaffee scholar helped open doors in graduate school and for a later NASA fellowship, and said he is honored to be associated with the astronaut.

"I think there's a place for both manned mission and robotic exploration," said the man who works with artificial intelligence. "I hope we never give up on the goal of humans on Mars, but I'm less sure of the timing. Robots have come a very long way." And he points out the failure of Mars probes as a reason for not rushing human exploration.

Like the others, he noted that astronauts understand the risks they take. But he pointed out how the '60s were a different time, with the Cold War. National security and pride were at stake.

"Like the other early astronauts, Roger B. Chaffee was a military pilot who understood the risks of his job, and willingly went forward for his country," he said. "His loss is tragic, but not without meaning or purpose. Men like Roger Chaffee paved the way for the moon landing, the International Space Station and our current successes on Mars."

The rub in the current debate, of course, is that the expense of minimizing that human risk cuts deeply into the research that could be done by unmanned craft, the kind of knowledge craved by a student like Bourjaily, with his eye fixed deep in the recesses of the universe.

Bourjaily was familiar with the Roger B. Chaffee story after working during high school in the Chaffee planetarium.

"He seemed like a really passionate adventurer, looking to push the limits," Bourjaily said. While his research is not as adventurous as being a test pilot, he said it's similar in "pushing the limits of what we can do, understanding the universe."

But while manned space travel to the moon and Mars is important to the human race, he said given the realities of funding, he leans toward the most cost-effective robotic mission.

Bourjaily gets excited about the amount of science that could be done with unmanned missions, given the huge money required for manned flight. But don't think he's not excited about human travel, too.

"If I had a chance to go up into space, I wouldn't think twice about the possibility of disaster, because the experiences would be well worth the risk."

E-mail: bbeversluis@grpress.com