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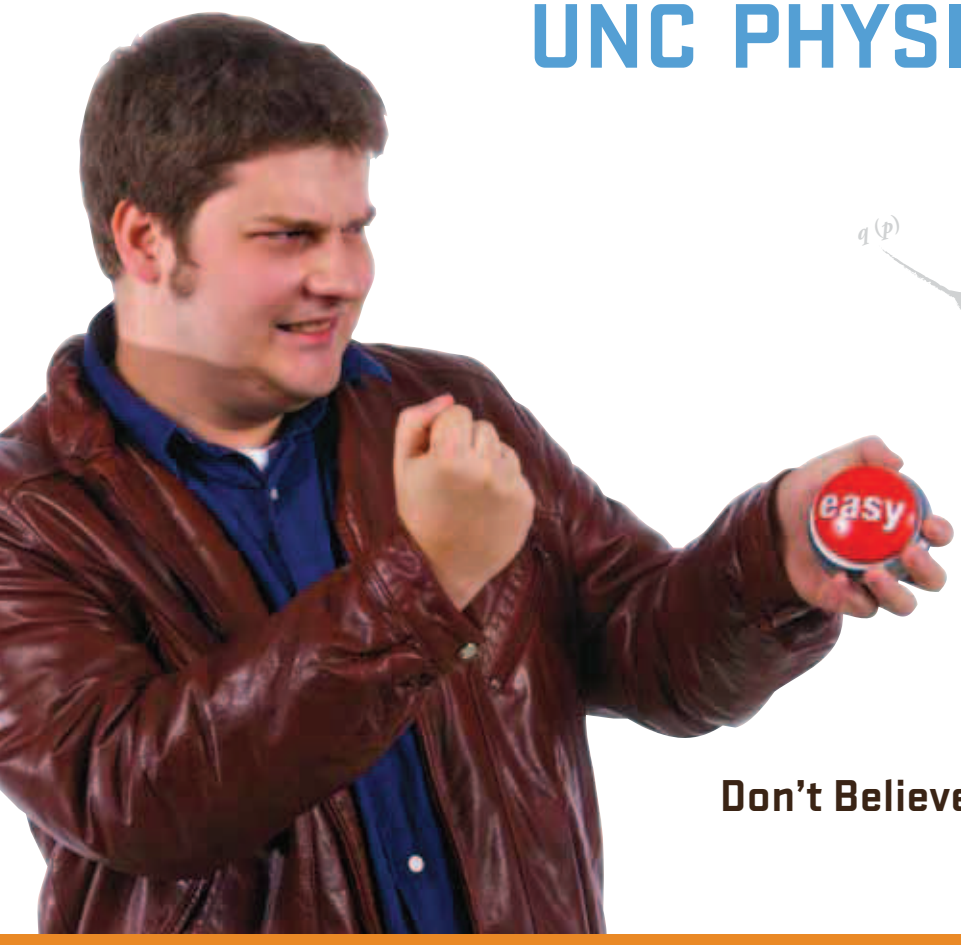

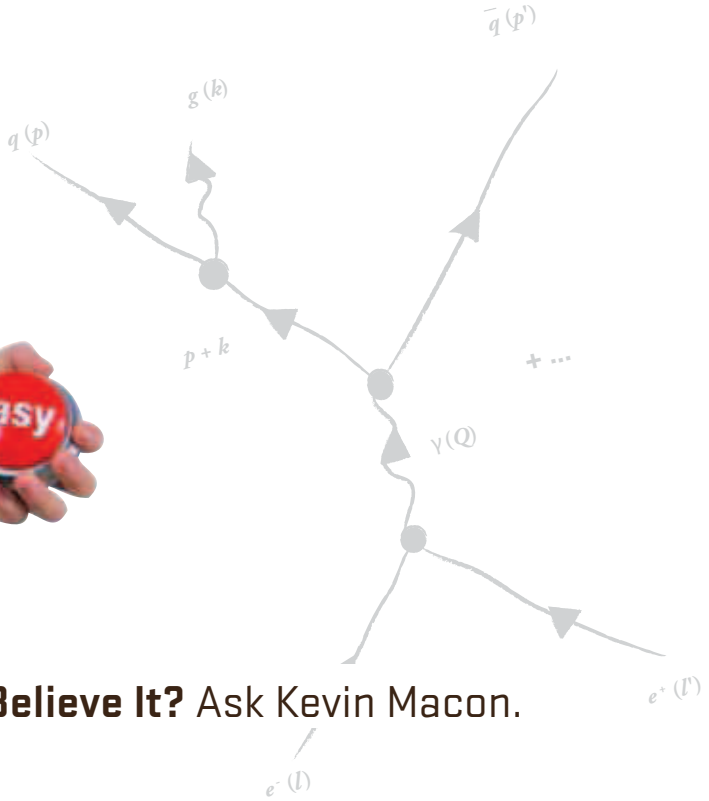

Don't Believe It? Ask Kevin Macon.

Kevin Macon came to the University of North Carolina to study chemistry. But it gave him a bad reaction.

Now, nuclear medicine—that is the ticket. But what led him there was physics.

"I did research with (UNC professor) Dr. Reyco Henning at a nuclear laboratory where I got to see and be around accelerators," Macon, a senior physics major, said. "Understanding nuclear physics leads directly to medical treatments and how you can use big giant particle accelerators to improve people's health."

The proton beam accelerator, which is used at M.D. Anderson in Houston and other medical centers for the treatment of cancer patients, was born out of the development of physics principles by physicists. Macon says it's the development of those physics principles that is important. He says that is what makes physics-based discoveries boundless.

"If physics is easy, you're doing it wrong," Macon said. "But the point is what you get out of it. Understanding how complex the laws of nature can be and then breaking them down so you can almost predict how things will turn out, that's beautiful."

If you want to talk to Kevin about what it's like to major in physics, you can contact him at **mokevin@email.unc.edu**.

If you're interested in knowing more about the relationship between particle physics and medical treatment, check out:

http://news.bbc.co.uk/2/hi/health/6403737.stm

and **http://health.howstuffworks.com/proton-therapy.htm/printable**

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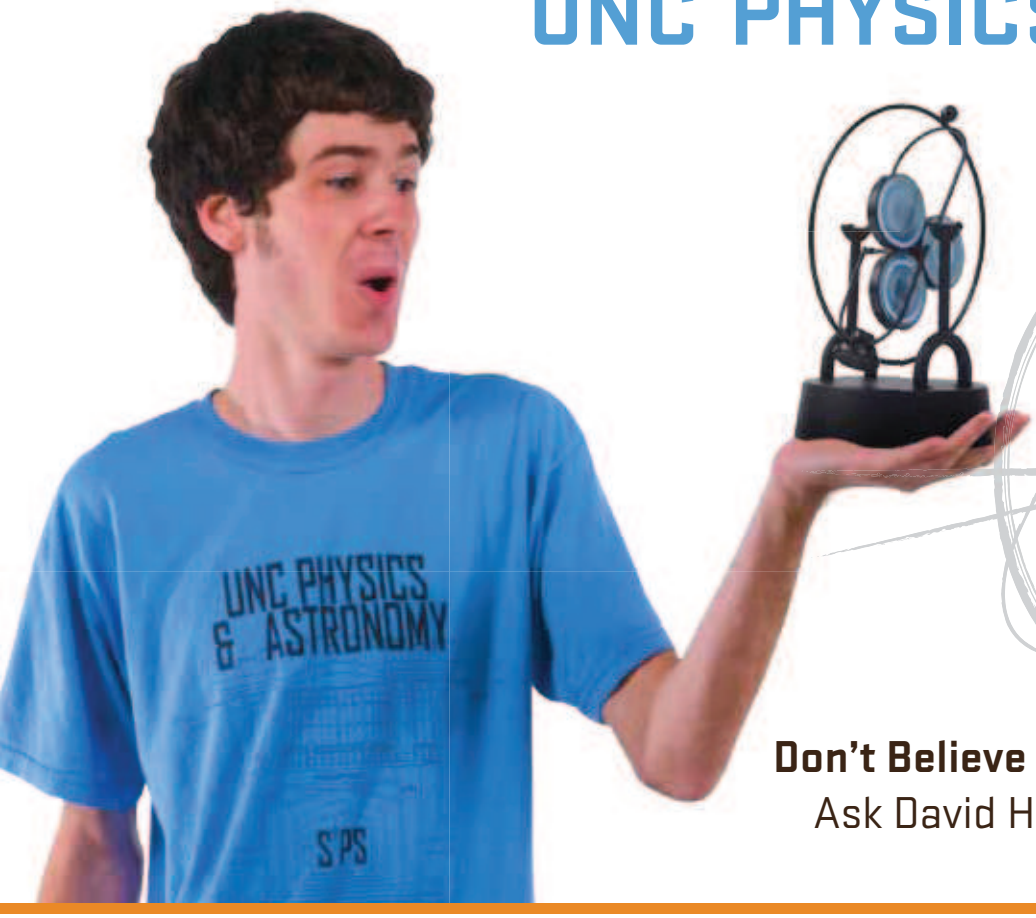

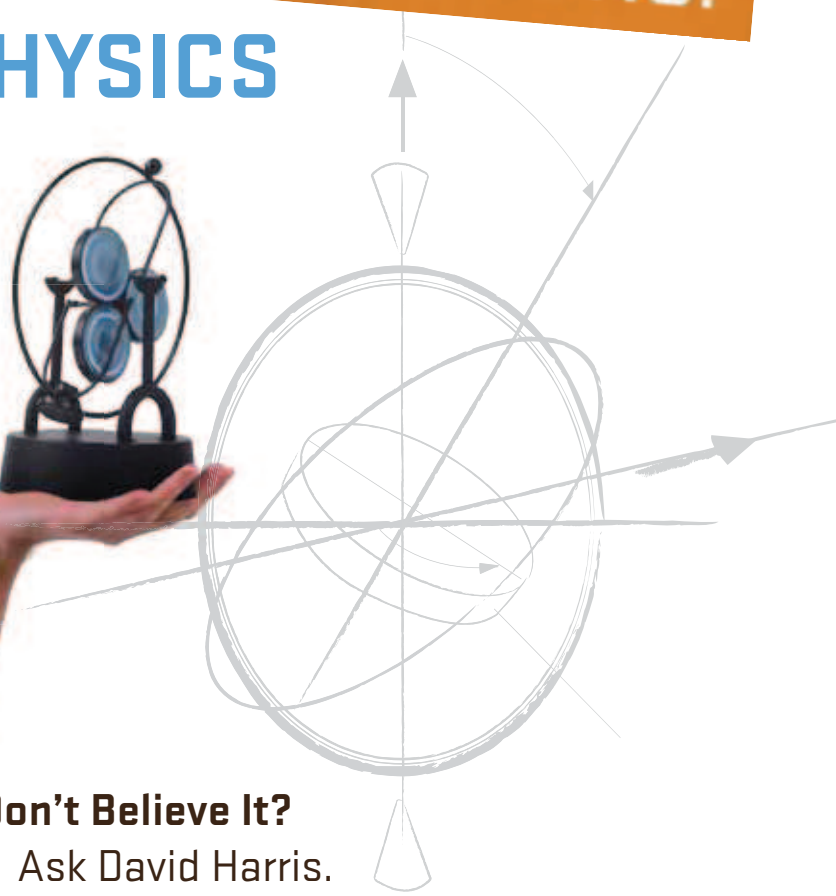

Don't Believe It?
Ask David Harris.

For most people, sitting and watching a spinning top is boring.

For David Harris, a University of North Carolina senior physics major, there's wonder, understanding and technological application.

"A spinning top — when you do the math, you can take a gyroscope and see all the different motions that the math predicted," Harris said. "That particular system is used to model satellites and it is used in airplane stabilization systems."

Harris said he is leaning toward pursuing a graduate degree in material science and engineering.

"I would not be able to problem-solve as well if I had pursued engineering from the beginning," Harris explained. "I also think I learn quicker and better because of the problems solving I learned from physics."

So where will the problem solving lead him? Possibly to pursue a master's in materials science.

"I want to be able to look at a product and say I helped make that or helped make it cheaper, faster or better," Harris said. That's what I really want to do."

If you want to read more about physics and gyroscopes, leave it to a toy company to explain it well.

Check this out at:

http://aetoy.com/science-of-gyroscope.html

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Think Physics is Too Abstract?

Just Look at That Flying Cow Or Ask Nicole Estrich

Diffraction patterns in water, flying cows, computers and food processing. It all makes sense to Nicole Estrich because physics makes sense of it all for her. Even if at first, it doesn't.

Estrich remembers becoming intently interested in physics in high school when something unexpected happened in a water tank.

"It had a bar you could lift up and down to make waves," Estrich said. "There was a wall with two slits in it. Water went out the slits and the waves interfered with one another to create a pattern of different amplitudes on the back wall different than what you'd expect from two slits. It's not intuitive that it would do that. If I can figure out these non-intuitive things for a reason and use math to do it, then I can figure out a lot of things. "

Like the trajectory of flying cows.

"If you have a spherical cow flying through the air, and you want to map his motion and figure out something that will happen to the cow, then you can do that with physics," Estrich said. "You just need your brain and math."

Don't make assumptions about Estrich based on her affinity for airborne bovines. She has her serious side.

"You are so dependent on your computer, but you don't know how it works," Estrich said. "Think about all the food processes we use, but you don't know how they work. We are so dependent on these things that if they break, it could be a life or death situation. If you don't have people who understand how technology works, it will not continue to exist."

Estrich plans on pursuing a career as an experimental physicist, because she has to have a real reason for tackling a problem. Like figuring out why a spherical cow would even want to fly in the first place.

If you encounter a flying cow and need help, contact Nicole Estrich at **enicole@email.unc.edu.**

If you want to see the exact water tank demonstration that Nicole described, go to:

http://www.youtube.com/watch?v=DfPeprQ7oGc

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Randy Martin wants to know everything. Physics is his ticket to get there.

"I have a desire to understand everything about everything" Martin said intensely. "I really want to know everything. I am very curious by nature. In other fields you observe and write it down and speculate why things happen. In physics, we observe things and do experiments and see why things happen."

Martin says it's one thing to think about Einstein's theory of special relativity, but it's another thing to see it and touch it. A turning bicycle wheel, displaying "angular momentum," he said, is just one example of how theories that most seem as mysterious and only for geniuses can manifest themselves into something understandable.

"When you go into the labs and see the stuff you've been studying in class and all the laws and actually observe them happening and see why it happens that way, that's what it's all about," Martin said. Martin ponders many of the "big questions" associated with physics theory. However, he seems to always bridge way back to practical applications.

"I think a lot about unified theory and string theory," Martin said. That would be the Holy Grail if we fundamentally understood those things," Martin said. "It could have implications as far as solving the energy crisis, quantum computing, we could maybe do space exploration better."

And then there's wormholes.

"If they exist it would allow us to reach further distances with time travel and it might be possible to go far distances in a short amount of time," Martin said. "And all of these things are examples of what fascinates me about physics – the stuff that doesn't matter right now, might matter a lot one day."

If you want to know what it takes to major in physics and talk to someone who has been there and done that, email Randy Martin at **martinrt@unc.edu.**

And if you want a really different and unusual take on relativity and special relativity theory, check out:

http://journeybystarlight.blogspot.com/2007/07/relatively-weird-how-to-get-younger.html

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