

Nobel-winning physicist returns to Ohio roots

By Mike Lafferty
THE COLUMBUS DISPATCH

In the world of astrophysics, George Fitzgerald Smoot III is a rock star.

Groundbreaking work on the big-bang theory. Countless publications. And last fall, the Nobel Prize in physics.

The award led to a whirlwind trip to Sweden, dinner with royalty and invitations to speak at institutions worldwide.

Smoot, who left Columbus in 1962, and John C. Mather split the prize for their work in measuring the oldest light in the universe. Even skeptics signed on to the theory after



George Fitzgerald Smoot III, a 1962 graduate of Upper Arlington High School, is to speak there today.

seeing their work.

Before he flew into town to talk today with Upper Arlington students and to speak at Ohio State University, Smoot answered a few questions.

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after the phone call?

A: It could have been a joke. People have been known to play jokes. ... I have.

I was pretty sure it was right but still you want to check. ... You don't want to wake up your relatives and your lab unless it's the real thing. They won't forgive you.

Q: How did you celebrate?

A: I got to go to Washington, D.C.; meet (Supreme Court Justice) Ruth Bader Ginsberg, got to go to the Swedish Embassy and to Stockholm. ... There's a sequence. You go to the Swedish consulate, then to the Swedish Embassy in Washington. You're hopping from Swedish territory to Swedish territory.

Q: Do the job offers increase after winning the Nobel? (He works at Lawrence Livermore National Laboratory in Berkeley, Calif.)

A: I have talked to one or two places. There are only a couple of places I'd be interested in because it's a big deal to move.



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... What really has happened in a major way is I have an unbelievable number of invitations to go places. I could be out every night.

Last night (Tuesday), I did two fundraisers — one for science and math education, one for the Bancroft Library (at the University of California at Berkeley). ... As part of that, I got auctioned off.

Every week it's been a couple of different things.

Q: You have five grad students in your lab and three are foreign nationals. What's that say about American interest in science?

A: That's why I have more of my retirement money in overseas funds. ... If Berkeley let in everyone who was qualified to apply, it probably would be 40 percent local. ... In general, quality is declining. ... The foreign kids come prepared.

Q: Teaching seems as important to you as research. Has

winning the Nobel Prize had an impact there?

A: I think I have to do research and teaching and public outreach. ... You have to, sort of, balance it. I'm worried about preparing the next generation. Even though I will continue to do research, it's time to start bringing the next generation on.

Q: In that regard, you're spending two hours at Upper Arlington High School during your visit. What message do you want to get across?

A: I don't know. They keep changing who I'm going to meet. ... It's good to talk to the students and say 'I'm from your high school. I got to go to college.' ... I was turned down by Ohio State because I didn't have my high-school diploma, but MIT (the Massachusetts Institute of Technology) didn't mind.

Q: You graduated in 1962 from Upper Arlington. Did you ever get your hands on your diploma?

A: Eventually, some years later. I think I was a junior (at MIT).

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An interview with Nobel Prize winner George F. Smoot

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BY MIKE LAFFERTY
THE COLUMBUS DISPATCH

Former Columbus resident George Fitzgerald Smoot III won the Nobel Prize in Physics last fall. He and John C. Mather split the prize for their work in measuring the oldest light in the universe.

Smoot lived in Upper Arlington from seventh grade until his 1962 graduation from Upper Arlington High School. Before he flew into town to talk today with Arlington students and to speak at Ohio State University, Smoot answered a few questions.

Q: It seems to be the habit of the Nobel committee to call prize recipients as early in the morning as possible. Is it true you got on the Internet to confirm the prize after the phone call?

A: It could have been a joke. People have been known to play jokes. ... I have. ...They we're late reaching me. I was pretty sure it was right but still you want to check. ...You don't want to wake up your relatives and your lab unless it's the real thing. They won't forgive you.

Q: What did you do to celebrate?

A: I answered a bunch of telephone calls. ... Went in and had a press conference. ...There was a reception at the lab, and on campus. I got to go to Washington D.C.; meet (Supreme Court Justice) Ruth Bader Ginsberg, got to go to the Swedish embassy and to Stockholm ... there's a sequence. You go to the Swedish consulate then to the Swedish embassy in Washington.

(Smoot and Mather also eventually went to Stockholm to receive the prize.)

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Q: Do the job offers increase after winning the Nobel?

A: I have talked to one or two places. There's only a couple of places I'd be interested in because it's a big deal to move. ... What really has happened in a major way is I have an unbelievable number of invitations to go places. I could be out every night. Last night I did two fund raisers ... one for science and math education one for the Bancroft Library. ... As part of that, I got auctioned off. Every week it's been a couple of different things.

Q: You have five grad students in your lab and three are foreign nationals? What's that say about American interest in science?

A: That's why I have more of my retirement money in overseas funds. ... If Berkeley let in everyone who was qualified to apply it probably would be 40 percent local.

I'm cynical about no child left behind. It seems that when it was clear it wasn't working they just

lowered the standards. ... In general, quality is declining ... standards are not high enough, parents ... don't understand rest of the world followed the (old) American model. ... The foreign kids come prepared.

Q: Teaching is very important to you, it seems as important as research. Has winning the Nobel Prize had an impact there?

A: I think I have to do research and teaching and public outreach. ... You have to sort of balance it. I'm worried about preparing the next generation. Even though I will continue to do research, it's time to start bringing the next generation on. We're trying to set up a teachers academy (here) to get them involved. ... Just teaching the students science isn't enough. They have to teach them the excitement too. ... People (students) start (in science) because there's some key piece of science they like to study.

Q: In that regard, you're spending two hours at Upper Arlington High School during your visit. What message do you want to get across?

A: I don't know. They keep changing who I'm going to meet. ... It's good to talk to the students and say 'I'm from your high school. I got to go to college.'

I was turned down by Ohio State because I didn't have my high school diploma, but MIT didn't mind.

Q: You graduated in 1962 from Upper Arlington High School. Did you ever get your hands on your diploma?

A: Eventually, some years later. I think I was a junior.

Q: The COBE satellite bearing your microwave measuring equipment was lifted into orbit on a remaindered Delta rocket booster finished off with rusty spare parts. ... Watching the launch, did you share the engineer's view that everything fits so it's got to work?

A: It was sitting in a warehouse. There were parts that had dirt and pigeon droppings on them. ... It looked pretty on the launch pad.

They painted it. ... We have a homemade video a person in my group took. He's videotaping. You can hear us talking in the background. Someone says if it (crashes) I will kill myself and I said I'd be real mad at somebody else.

Q: The evidence for these tiny fluctuations in cosmic background radiation, it was apparent nearly from the first transmissions that you had something. Why did it take two years to prove the data were correct?

A: Six months of data before we started to have evidence. ... The reason it took so long, you have to be sure you're not fooling yourself. ... You have to try all these different things. ... It's a lot of just being careful. ... You have to prove it's not the equipment, software or the procedures.

Q: You detected the traces of the beginning of the formation of the first galaxies and called it tantamount to like looking at God. Is that still an apt description?

A: I said, 'If you're religious, it's like seeing God.'

Q: Are you religious?

A: I try not to answer that question and the reason is there are a lot of people so desperate to believe but they don't want to figure it out for themselves and they want an authority to tell them the correct answer. I think that is not right. It's a personal relationship people should have with God.

Q: But, is it still an apt description?

A: It's pretty good. ... One my colleagues on the experiment said, 'I wished to Hell he hadn't said that.' ... That's the part I thought was ironic. ... You say an hour's worth of stuff and they pick that up (to quote) ... It's because it's something everyone can relate to.

Q: Science moves between theory and experiment. In physics, is experiment leading theory now?

A: Were getting data in at a pretty fast rate, the observations may be coming in faster than we know how to deal with them. ... It's like the Lilliputians tied down Gulliver even though he's bigger than they are. ...The Lilliputians of observation have Gulliver tied to the ground. ...Then theorists have to go through the eyes of many needles.

Q: You also described the discovery as indicating there's gold to be discovered ... has it been found?

A: Now we're mining ... quite a lot.

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