Earthlike planets aren’t as rare as you think p. 34
NEW! Inside buzz: Astro Confidential p. 10

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Astronomy
The world’s best-selling astronomy magazine

WHY THE UNIVERSE HAD NO BEGINNING

The Big Bang may not have been the instant of creation, but a single event in an infinite cycle p. 28

Find your way through the spring sky p. 54

Is the Big Bang in trouble? p. 48

HYPERSTAR: Lens system allows quicker imaging p. 62

If we live in a cyclic universe, the galaxy-rich cosmos we see today happened before and will happen again in an infinite cycle created by colliding “branes.”

HOT PORTFOLIO: New galaxy shots, Milky Way panoramas, and star clusters p. 56

Bob Berman on why astronomy setbacks may be good p. 16

NEW: Telescope Insider p. 74

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Lisa Randall

Professor of Physics at Harvard University and author of Warped Passages: Unraveling the Mysteries of the Universe's Hidden Dimensions (ECCO Press, 2005)

What got you interested in hidden dimensions — those that go beyond the three dimensions of space we can see?

I didn't start off interested in what would have seemed like a wacky science-fiction topic when I first entered the field of particle physics. I was interested in questions that I thought might have some relation to what is seen in the universe. Many years after I entered the field, these interests converged in the subject of extra dimensions. We now have ideas about how extra dimensions can explain some perplexing puzzles that are difficult to address in a world with only three dimensions of space. We don't yet know if these ideas are the correct description of the world, but they are suggestive and promise some elegant solutions.

On February 13, 2008, you appeared on The Colbert Report. What was that like?

It was fun. The people were very professional — careful to prep me and studious about the interview's logistics. (Stephen's comment after it was over was, "Nice interview, but we'll have to cut 20 seconds.") The only thing I regret is taking seriously their advice to not be funny — even though it was probably good advice!

Where do you see yourself in 5 years?

In some respects, I will be in a similar place to where I am now: thinking about difficult questions in particle physics and cosmology — how to connect fundamental theoretical ideas with the superficially mysterious phenomena that we observe in the universe. By then we should have more data, so I'll have new stuff to explain and many new clues about the right directions to be thinking about, both from the Large Hadron Collider (LHC) and a number of astronomical and cosmological missions that are out there observing the universe.

Why do you feel cosmology and particle physics are important?

I believe it's important to know there is something larger than ourselves and something more permanent than what I ate for dinner today. It's exciting that there are facts about the world out there that we can discover.

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What fascinates you most about multiwavelength astronomy?

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And, of course, in the process of asking and answering difficult questions and making discoveries, people have changed the face of the world we live in — usually in entirely unforeseen ways.